The London School of Economics and Political Science

The role of founder experience in industrial development: firm entry, growth and diversification in Pakistan's textile industry during trade liberalisation

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Declaration

I certify that the thesis I have presented for examination for the Ph.D degree of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

Abstract

Firm entry, growth and diversification are central drivers of industrial development. However, firms often perform very differently when facing the same institutional environment. Using original data from field research in Pakistan, I find evidence of diverging firm performance in Pakistan's textile industry during trade liberalisation in which only two thirds of Pakistan's textile firms maintain their pre-liberalisation level of exports and market share is gained by better performers. Using data on firm origins and growth, I show how firm performance is related to pre-founder (or Director) experience which includes education, industry-related employment and industry exposure. Representative case studies show that this experience is manifested in the firm's entry strategy, its initial production and organisational capabilities, and persists via its procedures to improve productivity, quality and marketing. In particular, higher managerial quality results in effective recruitment and incentives which enable workers to improve shop-floor performance. Further, I analyse Pakistan's broader industrial diversification to date and show that an increase in competition during trade liberalisation encouraged firm diversification as profitability of the textile sector fell. However, I find that most textile firms and business groups enter protected domestic industries while, in contrast, the founders of firms in higher value-added sectors such as pharmaceuticals and information technology have greater industry-specific education and experience. This further highlights the role of founder experience in shaping industrial diversification and the firm-level roots of growth. In conclusion, I suggest how policy measures to accumulate industry-related experience and increase firm competition could enable low-income countries to break out of the equilibrium of poor industrial development.

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Chapter 1 The role of founder experience in industrial development: firm entry, growth and diversification in Pakistan's textile industry during trade liberalisation

1.1 Theoretical framework and research design

The exposure of Pakistan's textile industry to trade liberalisation between 1994 and 2004 provided a unique opportunity to identify determinants of firm performance and industrial development in an emerging economy.[1] As price and quality competition increased during the phase-out of the Multifibre Arrangement, a large shakeout occurred in which only some firms survived and market share was gained by better performers. In this thesis I investigate the determinants of this heterogeneity in firm performance and its implications for development theory and policy. In particular, I examine the role of pre-founder experience – including education, employment and industry exposure – in shaping a firm's entry strategy, its initial production capabilities and organisational design, and its subsequent ability to improve productivity, quality and marketing during liberalisation. I argue that it is high quality, industry-related education and employment experience among founders that is at the root of high achieving firms and can deliver equilibrium-breaking industrial growth in low-income countries.

The entry, growth and diversification of firms is central to industrial development and has been a focus of policy work and academic research within development studies. The quality of the institutional environment, for example, including macroeconomic stability, the regulatory framework and the quality of governance, is recognised to shape the incentives for entrepreneurship and firm growth (see for example Acemoglu, 2009; Nelson, 2007; World Bank, 2007, Branstetter et al, 2006; Khan, 2004).[2] Investment in physical and human capital is recognised to provide the

[1] Throughout this thesis I use 'textiles' and 'textiles and clothing' interchangeably for brevity. Both industry segments are the subject of the research.

[2] The private sector strategy of the World Bank Group, for example, places emphasis on enhancing the investment climate. The activities of the International Finance Corporation of the World Bank include the development of financial markets and the provision of advisory services to improve the regulatory

infrastructure and skills to support firm formation and industrial diversification (Caselli, 2008; Arora and Gambardella, 2004; Lall, 1999; Young, 1995). There has also been a focus on how firms acquire technological capabilities and 'upgrade' into higher value-added products through interactions with buyers, suppliers and joint venture partners (Blalock and Veloso, 2007; Altenburg et al, 2007; Schrank, 2005; Schmitz, 2004; Pack, 2000; Gereffi, 1999, Lall, 1987). Further, in some cases industrial policies such as public sector research and regulated licensing are argued to have spurred firm formation and the accumulation of these capabilities (Breznitz, 2007; Wade, 2004; Amsden and Chu, 2003; Stiglitz, 2002; Amsden, 1992).

However, there is often variation in the performance of firms facing a similar institutional environment. Only a small number of firms typically dominate exports in many industries, drive industry growth or provide the roots of further industrial diversification. In Pakistan, for example, the top 25 exporters in the textile and clothing industry in 2006 represented 20 percent of its total exports, while in the United States only 8 per cent of surviving manufacturing firms diversified into more skill- and capital-intensive industries in response to increased low-cost competition (Bernard et al, 2006a).[3] Empirical studies of international trade have also found that exporters tend to be more efficient and that more productive firms actually self-select into export markets (Bernard and Jensen, 2004; Clerides, Lach and Tybout, 1998; Aw and Hwang, 1995). Further, there is evidence that heterogeneous performance persists over time within industries as measured by market share, productivity and profitability (see for example, Sutton, 2007a; Dosi, 2007; Klepper and Grady, 1990).

Studies within the industrial organisation literature have examined the factors shaping this persistence of firm heterogeneity. The probability of entry, exit and firm performance are found to have been associated with characteristics such as firm size, age and location which shape production efficiencies and learning effects (Dunne et al, 1988; Evans, 1987). Firms are seen to vary in their production efficiencies, ability to devise effective organisational structures, and to innovate (see Dosi, 2007 as well as Sutton 2007b, Bloom and Van Reenen, 2007; Teece et al, 2002, Argote, 1999;

environment in developing countries. See World Bank Group Private Sector Development Strategy: Implementation Progress Report, June 2003 and http://www.ifc.org, Accessed 23 March 2009.

[3] Source of export data in 2006: Pakistan Federal Board of Revenue, own analysis.

Nelson, 1991; Nelson and Winter, 1982). There is also evidence that the diversification prospects of a firm depend on the scope of these industry-related capabilities (Brandt et al, 2008; Sutton 2007c; Teece, 1980). The underlying determinants of heterogeneity in firm performance are often hard to observe empirically, but pre-founder experience among diversifying firms or new entrants – including education, employment experience and industry exposure – has been shown to be an important proxy for the capabilities which shape long-run firm performance (Klepper and Sleeper, 2005; Thompson, 2005; Klepper, 2002; Burton, 2001; Klepper and Simons, 2000).

There have been some applications of this type of industry study to development and growth in poorer countries. Heterogeneity in firm productivity has been found within several industries in emerging economies (see Verhoogen, 2007, Sutton 2002a and 2000; Pavcnik, 2002; Tybout, 1996; Roberts & Tybout, 1996). Small and less formal firms are often seen to have differential access to factor markets, information and policy makers (DFID, 2006; Lall and Rodrigo, 2001; Shadlen, 2004) and by location poor education or infrastructure can discourage entrepreneurship and make many activities uneconomic (OECD, 2004).[4] Access to capital can also differ by firm type (such as a business group or less formal firm) (Zia, 2008) or by social ties (Banerjee and Munshi, 2004), and the misallocation of capital is an important concern within development research and policy (World Bank, 2005). Firms have also been recognised to differ in their technological and production capabilities: Amsden and Chu (2003) found, for example, that in Taiwan it was new entrants with industry-related education and experience that drove the move into higher value segments such as electronics; incumbent business groups opted for industries such as retail, real estate and services. Further, large business groups are often recognised to have a disproportionate impact on the development process due to their dominance in many industrial sectors either as 'paragons or parasites' (Khanna and Yafeh, 2007; Morck et al, 2005).

[4] The United Kingdom Department for International Development (DFID) (2006) argues that small firms face constraints in the business environment which affect them more seriously than larger firms such as access to finance and policy, the payment of bribes, unreliable infrastructure and contract enforcement. However, the presence of many small and less formal firms can also often be the result of the structure of industries in which developing countries are active such as textiles and clothing, rather than due to any growth constraints per se (see Tybout, 2000 for a discussion).

However, while academic work has begun to drawn attention to the explanatory power of this heterogeneity in understanding economic growth (see Nelson, 2007; Sutton, 2007b and 2002b; Nelson and Pack, 1999; Nelson, 1998; Dosi et al, 1994), the analysis of firm performance in low-income countries has often been focused on 'winners', the accumulation of capabilities at the level of the representative firm, or on industrial change at the aggregate level.[5] Instead, there has also been a strong focus on the heterogeneity in institutions, investment climate and policy across countries. Consequently, there has been a failure to robustly identify which firms drive industry growth and diversification, how they accomplish it, and whether aggregate diversification into new industries is mostly conducted by incumbents or new entrants.

Further, most empirical studies of the relationship between pre-founder experience and firm entry and performance have been focused on industries in developed economies, typically as a result of the high quality of data available.[6] In countries such as Pakistan, institutions which collect such data are typically less developed, demand for data for policy and planning is weak, much business administration is still being done by hand, and written accounts of business history are scarce.[7] As a result, there has been limited empirical work on how pre-existing capabilities shape the entry strategies and design of new firms within low-income countries, and on its implications for development theory and policy.

As a result, I offer a case study of Pakistan's textile industry which exploits an external shock which took place during trade liberalisation from 1994 to 2004 in order to identify the determinants of heterogeneous firm performance and diversification. In particular, I investigate how pre-founder experience – including education,

[5] While change in the industrial composition of a country is clearly associated with aggregate economic growth – as in the East Asian economies – and is a source of interest in itself, here I focus on the firm-level drivers of this aggregate industrial transition. I will assess its interaction with institutional context in Chapter 8.

[6] Firm performance in highly developed economies is recorded at intervals by government agencies or private sector institutions and histories can be traced using popular books and widespread media. The electronic recording of data also creates opportunities to study industry evolution and firm behaviour in detail (see Thompson, 2004; Klepper 2002, Klepper and Simons, 2000, Hounshell and Smith, 1988).

[7] Pakistan's Securities and Exchange Commission, for example, still works with a paper system in which men are employed to carry thick paper files around the office. The organisation was attempting computerisation during my fieldwork, but expected it could be some more years before all the data is held on computer. Further, a leading IT entrepreneur in Karachi estimated that 70 per cent of businesses in Pakistan had yet to implement any IT system within their business.

employment experience and industry exposure – shaped firms' entry strategies, initial production capabilities and organisational design, and their subsequent ability to improve productivity, quality and marketing practices as competition increased. I then assess how these capabilities have shaped the diversification prospects and choices of firms during this period. Further, in contrast with the composition of the textile industry I assess the origins of firms in high growth sectors in Pakistan such as pharmaceuticals and information technology (IT), and assess the implications for development theory and policy.

Pakistan itself has also been relatively under-researched in comparison with other developing countries, yet the particularities of its political, macroeconomic and business environment make an interesting case to study in its own right.[8] The country is young enough, for example, for the history and evolution of industry – which started from a low base at the time of Partition – to be in living memory. In addition, while civil conflict and macroeconomic instability have led to a difficult operating environment for business, it is also an opportunity to uncover how firms have often prospered in this challenging economic environment.[9]

The textile and clothing industry has historically played a central role in the economy of Pakistan. From 1962 to 2007 the sector grew from 20 per cent to 63 per cent of total exports (with a peak at 75 per cent in 1997).[10] As late as 1996 it also represented 23.5 per cent of gross domestic product.[11] In fact, the history and evolution of Pakistan's textile industry since the country was created in 1947 tells the story of Pakistan's industrial development itself: most firms which have prospered in other economic sectors have at one time been involved in the textile industry, either as a 'seed' firm or as a target of later diversification. Pakistan also relied heavily on the quotas in place under the Multifibre Arrangement (MFA) and the Agreement on

[8] Academic work on Pakistan's economic and business history is sparse. Publications which address these topics directly or indirectly include Siddiqa-Agha (2007), Cohen (2005), Nadvi (1999), Hasan (1998), Talbot (1998), Ahmed and Amjad (1996), Khan (1995), Weiss (1991), Lamb (1990), Kochanek (1983) and Lewis (1970).

[9] This includes high costs in obtaining educated workers, lack of reliable energy supplies, and access to finance as a result of a politically-influenced banking system until the post-2000 period. This will be explained in more detail in Chapter 2.

[10] Source: United Nations International Trade Merchandise Statistics (UN Comtrade), Standard International Trade Classification 1 (SITC1). Note: Dataset commences in 1962.

[11] Source: United Nations Industrial Development Organization (UNIDO), Industrial Statistics 2001. 1996 is the latest year for which such data has been reported from Pakistan.

Textiles and Clothing (ATC), accounting for 40 per cent of its total textile and clothing exports between 2000 and 2004.[12] The MFA and ATC regulated global trade in textiles and clothing from 1973 to 2004 through a system of bilateral quotas but was phased out gradually between January 1994 and December 2004. As a result, Pakistan's textile and clothing industry was subject to increasing external competition during this period.

Firm entry in the first few decades of Pakistan's independence was limited by a licensing system which often allocated permission to operate to the best connected firms rather than to the most efficient. Liberalisation of firm entry in the late 1980s led to a rapid increase in firm formation and greater local competition. However, from 1973 to 2004, firm composition and performance was also shaped by the ceilings on exports in place under the MFA and ATC. While some quotas were openly auctioned, many were allocated to firms already operating in the local market (such as the older business groups), making quota export more difficult for newcomers. In fact, many of Pakistan's best firms were often limited in their growth as a result of aggregate quota ceilings that were in place at the country-level until the end of 2004. Protected firms often gained from interactions with international buyers compelled to source from Pakistan, while others sharpened their competitive edge by participating in unrestricted markets.[13] This mix of protection and competition meant that firms in Pakistan's textile industry differed in capability and market access at the time of quota abolition, which presented both a challenge and an opportunity in the liberalised trading environment after 2004.[14]

As Sutton (2007b) has outlined, trade liberalisation often leads to an increase in price competition and quality competition. Within this framework, firms produce goods

[12] Because textiles represented 60 to 65 per cent of total exports from Pakistan in this period, sales under quota were equivalent to one quarter of Pakistan's total foreign sales.

[13] In principal, a firm could pay up to the equivalent of the benefit gained by exporting under the quota. As a result, the most efficient firms would be able to pay the most and exporting under quotas would still be profitable. Many firms felt the quota premium was too high in some years and chose to target non-quota markets such as Australia or less restricted segments such as home textiles instead. However, as the MFA was phased out between 1994 and 2004 many firms purchased quota in order to develop relationships with key buyers who were compelled to source textiles and clothing through the quota system.

[14] Of course, additional tariff restrictions were in place between countries both during and after the MFA/ATC which benefitted some textile exporting countries over others. This will be discussed further in Chapter 3.

with different combinations of price and quality – in the case of the textile industry cheap, low-quality clothes versus expensive, high quality garments, for example – and consumers purchase the goods with the best price-quality ratio according to their income level. However, firms must always operate within a specific 'window' in which they must meet a minimum level of quality and productivity to remain in the market.[15] During trade liberalisation, however, the level of price competition increases and a greater number of producing firms enter the market. This leads to a rise in the lower bound of the window in which firms must operate and a 'shakeout' effect in which firms that cannot compete on price exit from the industry. This process often results in increased concentration as "the relative output levels of more efficient, versus less efficient, producers begin to shift" (Sutton, 2002b:16). Firms must either raise capability in order to remain in the market or exit by investing in quality and productivity improvements. As a result, "the primary driver of growth is the gradual build-up in firms' capabilities" (Sutton, 2002b:9).

Using original data collected during fieldwork in Pakistan, I examine this effect within Pakistan's textile and clothing industry during trade liberalisation and the association between founder experience and firm performance. Firstly, I measure the extent of shakeout using five quantitative datasets as measured by firm survival, growth and ability to maintain quota exports. These datasets individually contained 3,610, 791, 724, 194 and 87 firms and represented approximately 62 per cent of textile and clothing exports between 2000 and 2004 and 56 per cent of exports in 2006.[16] Secondly, I assess the statistical relationship between founder experience and firm performance using a survey of the origins of 210 representative firms. Thirdly, using 48 representative interviews I examine how pre-founder experience (PFE)

[15] This is the case because when raw materials are independently traded, the cost of the raw material sets a lower floor to unit cost and price that is independent of the local wage rate and thus "a floor to the firm's quality level below which it cannot survive even in a very low-wage economy" (Sutton, 2007:471). In the textile and clothing industry, for example, raw material inputs include cotton, yarn and cloth, for example. There are transport costs in the international trade of cotton, yarn and cloth that may offer a cost advantage to local producers of these products (clothing or home textile manufacturers in Pakistan, for example, that is a large producer of cotton and yarn), however, in principle I argue that the basic principle applies that firms can source the cheapest yarn or cloth on the world market.

[16] These datasets include: all exporters under quota (source: Trade Development Authority of Pakistan, 3,610 firms), 2006 export data for quota exporters incorporated with the Securities and Exchange Commission of Pakistan (SECP) (source: Federal Bureau of revenue, 528 firms), knitwear exporters (source: Pakistan Hosiery Manufacturers Association, 791 firms), publicly-listed firms (source: Karachi Stock Exchange, 194 firms), and unlisted public firms (source: SECP, 87 firms). From 2000-2004, the KSE, SECP and TDAP samples represented a share of total textile and clothing exports of 61.6, 64.0, 63.0, 60.6 and 61.7 per cent respectively.

shapes the firm's entry strategy, its initial production capabilities and organisational design, and how firms subsequently adjusted productivity, quality and marketing practices in response to increased competition.

Firstly, I find evidence of a rapid shakeout of firms during the phase-out of the MFA. I find that while the industry as a whole manages to maintain its total level of textile and clothing exports, at best 86 per cent of individual firms survive two years into the liberalisation and one third fail to maintain their pre-liberalisation value of exports.[17] Firms also diverge in size between 1994 and 2004 and then more rapidly between 2004 and 2007, during which time market share is gradually reallocated to better performers as weak firms exit. There are also differences in the speed of shakeout in local and export markets which I suggest is the result of enduring political and personal relationships among domestic firms. Further, firm performance does not appear to be related to quota reliance *per se* given that many firms who purchased quotas in order to access North American and European markets subsequently show positive sales growth.

Secondly, I find evidence of a strong association between PFE and firm performance in which industry-relevant PFE is associated with increasing firm survival during liberalisation and firm size (while controlling for age). I classify founder experience by industry background including those from Experienced backgrounds (such as existing textile units), Textile-related (such as spinoffs of existing firms or those from textile trading or cotton ginning sectors), Other manufacturing (such as leather, shoes) and Inexperienced. Case studies show that PFE shapes the firm's entry strategy (such as choice of product, market niche and physical capital) and organisational design: textile traders, for example, often entered the manufacturing sector having identified

[17] I have chosen to focus on export performance rather than the domestic segment for several reasons. The first is that accurate measurements of domestic market size are not available, nor is data on all firms selling in the local market. Secondly, while some firms may be able to obtain higher profits in the local market, the local market is less subject to the intense competitive pressures of the export sector. There are signs that being a domestic producer has, until recently, offered a form of protection to less efficient producers given the tight social and cultural networks that exist. One interviewee commented, for instance, that it was common among families in the industry to be given "a guarantee" that some of their yarn would be purchased by a relative. The export sector avoids this problem as multinational buyers are only concerned with the price and quality of the product, creating a stronger selection effect. Pakistan also has a large informal textile sector – in powerloom weaving, for example. However, the existence of informal firms is often undocumented – making them also hard to access – and performance data is hard to obtain. As a result, I have also focused on more formal firms in this thesis.

market opportunities, while existing textile manufacturing units often create new mills to develop new, higher-value products requested by their existing buyers. PFE also shapes the firm's initial production and organisational capabilities, which are revealed in the firm's initial size and growth trajectory. I also find that this quality of management persists over time and is revealed in the firm's investments in productivity, quality and marketing practices during trade liberalisation. As competition is increase, learning occurs through effective recruitment, in-house imitation and innovation, and is particularly effective when technical managers have the autonomy to innovate and improve shop-floor performance.

Thirdly, I show how trade reform induces diversification across Pakistan's industrial landscape. With the use of additional case studies, I show that while the removal of protection spurred attempts to diversify into higher value-added products, most textile firms and business groups have only been able to enter local, protected sectors. I argue that this is as a result of their underlying capabilities, most of which in this context are transferrable organisational practices. In contrast, I trace the origins and evolution of firms in sectors such as chemicals, pharmaceutical and IT. While it is recognised that trade liberalisation can often lead to a redistribution of economic activity across sectors and within firms as a result of an increase in competition (see Bernard, Redding and Schott, 2007; Bernard et al, 2006a, for example), I show that new entrants into higher value-added sectors such as pharmaceuticals and information technology have more industry-specific education and experience.

Finally, I assess the implications of these findings for development theory and policy. I suggest that it is heterogeneity itself which can offer new insights into the development process. While institutional and state-led accounts go a long way in understanding Pakistan's limited industrial development to date, the presence of high-ability firms formed by experienced founders has allowed upgrading in the textile sector into branded products and retail and increasing entry into sectors such as chemicals and pharmaceuticals. I therefore suggest that the formation of high-ability firms by educated, experience founders can help break the equilibrium of limited industrial development in low-income countries. In particular, increased competition can break down informal barriers to the accumulation of experience among workers and raise the likelihood of new firm formation. This process can also be supported by

focused policy initiatives to help accumulate this experience through education, industrial work experience and mentoring. As a result, I make explicit the role of education, founder experience and competition in driving industrial development and economic growth in low-income countries.

1.2 Explaining heterogeneity in firm performance: formal approaches

The persistence of heterogeneity in firm capabilities and performance

Heterogeneous firm performance as measured by rates of growth and exit has been widely observed in the evolution of a number of industries and is usually represented by the 'industry life cycle' (Klepper, 2008). In the analysis of 46 industries in the United States (including automobiles, tires, televisions and penicillin), for example, Klepper and Graddy (1990) find that after a build up in the number of firms when the industry is established, the number of producers decline sharply before levelling off, with exit as high as 80 per cent in some industries. This shakeout and rise in concentration is often driven by changes in technology, competition on the basis of product and process innovation, as well as random shocks.

Differences in industry concentration have also been observed across industries and are seen to be the result of industry structure, technology and price competition. In industries that are research and development- or advertising-intensive, for example, incumbents have an incentive to escalate spending on research and development or advertising in order to increase their market share, which can lead to tight concentration (Sutton, 1998). In contrast, increasing market size in a homogeneous product industry can lead to firm entry up until the point that profits of the last entrant covers the sunk costs, leading to low firm concentration (Sutton, 1991:8). The duration of leadership or dominance of a firm in a sector can also depend on the volatility of market shares by industry (Sutton, 2007a) while the distribution of firm performance can vary across countries as a consequence of the level of product competition (Bloom and Van Reenen, 2007).

As a result, there is a tension within the industrial organisation literature over whether firm heterogeneity is a "result or cause" of these general economic (or industry) differences (Nelson, 1991:72). There is also debate over whether industry leadership comes to individual firms by chance (the result of whether consumers adopt one product or technology over another, for example) or from purposive activity given that firms make decisions faced with uncertainty.

A strong case has been made, however, that heterogeneity in long-run performance exists and is associated with persistent differences in firm capabilities. Sutton (2007a), for example, has found that dominance in market share in certain industries is not random and clearly persists over time. In an overview of empirical literature within industrial organisation, Dosi (2007) has also shown persistent differences in performance across several industries as measured by growth and profitability. Further, as Nelson points out, nobody can ignore the dominance of firms such as IBM, General Motors, or Toyota in their respective industries (1991:65). This heterogeneous firm performance is seen to be driven by differences in production efficiency, organisational capabilities and innovative capabilities, all of which are interrelated (Dosi, 2007:172).[18]

There is much empirical evidence, for instance, that differences in production capabilities are associated with performance. In the auto-components industry, Sutton (2002a) found that firms in China and India varied in labour productivity, the defect rates of components (quality) and in their ability to move towards higher level capabilities such as partnership in design activity, all of which were important determinants of performance. In the machine tools industry in India, Japan and Taiwan, Sutton (2000) found that firms differed in the quality of their cutting tools (as measure by reliability and post-sale customer service) and were the most important firm capabilities shaping performance. According to Teece et al, initial production

[18] Capabilities have been defined in a number of ways but are summarised by Teece et al as competitive advantage which rest on a firm's "idiosyncratic and difficult to imitate resources" which can include costs, technology or rents from scarce firm-specific resources (2002:334-335). For a contrasting definition see Sutton (2007a) and to see how understandings of capabilities have changed over time, compare with Nelson and Winter (1982) with Nelson (1991). Classical explanations for this heterogeneity in performance also include the vintage of the capital stock, capital-labour ratios, inperfect factor markets (by location or scale), and organizational and managerial efficiency (Lall and Rodrigo, 2001). Variations in productivity can also be explained by learning effects that are associated with age and by managerial skill (Tybout, 1996).

capabilities also shape the likelihood of entry as firms identify the markets where these unique resources or assets can earn the highest rents (2002:336).

There is also evidence that firms differ in their organisational capabilities. This concept refers to the way tasks are coordinated in the firm, and is closely related to its design or 'structure': "how a firm is organized and governed, and how decisions are made and carried out" (Nelson, 1991:67).[19] There is a clear link with performance: in a recent cross-country empirical study, Bloom and Van Reenen (2007) showed that variation in the quality of management practices such as recruitment, incentive structures, operational targets, and monitoring was strongly correlated with financial performance.

Firms also differ in their capacities to innovate or adopt innovations developed elsewhere (Dosi, 2007:172) and this applies to both production and organisational practices. Companies can improve productivity and quality, for example, by devoting research and development spending to product innovation or process innovation, or they can invest in advertising (or more broadly marketing) in order to enhance the demand for its product (Sutton, 1991:11) They can also reduce costs through the transfer of technologies, the transfer of codes and procedures, the movement of personnel and the use of consultants (Argote, 1999; Levitt and March, 1988).[20] Learning itself can lead to persistent heterogeneity in performance: according to Dosi et al (1994), a general feature of innovative learning is that it involves trials, errors and sometimes unexpected successes. In turn, this leads to a persistent heterogeneity among firms, revealed also by wide and persistent differences in input productivities, product performances, costs and profits. However, Dosi (2007) notes that a small number of firms are often responsible for "a good deal" of innovation output, while Argote (1999) has recognised that firms often differ in the speed at which they learn, reduce their cost curves and improve performance.

[19] This idea was made explicit by Nelson and Winter (1982) who revealed that firms are structured by routines in which organisational knowledge is embedded.

[20] This learning can take place at the level of individual workers, via coordinated activity within the organisation, and by leveraging knowledge accumulated by others (Reagans, Argote and Brooks, 2005). Sutton has found, for example, that communication directly with foreign buyers can "induce major changes in product variety and design" as he says took place in many leading clothes suppliers in the 1990s (2007a:484). Sako (2004) also examines how tacit knowledge moved across boundaries between a company and its suppliers in automotive supply chains.

Pre-founder experience and firm performance: methodology and evidence

The underlying source of this heterogeneity in firm entry and performance within industries has often been understood to be either a function of underlying unobservables or modelled as a random process. This is because it is very difficult to measure the determinants of underlying entrepreneurship or managerial quality, or distinguish it from 'natural ability', even if only for methodological rather than theoretical reasons.[21] Hopenhayn (1992), for example, treats firm productivity as being drawn from a distribution that is exogenously determined by a Markov process, while Javonovic has argued that selection occurs after firm entry when "firms learn about their efficiency as they operate in the industry" (1982:649).

However, a powerful framework has emerged to explain persistent heterogeneity in firm capabilities and performance: that of pre-entry or pre-founder experience (PFE). PFE can be understood to originate from the founder's education, previous employment experience and industry exposure[22] and shapes firm entry and performance in several ways including its technical capabilities, organisational knowledge and access to markets.[23] The analysis of founder experience can also be applied to the analysis of the diversifying firms or *de novo* entrants which typically compose an industry. In short, PFE acts as a proxy for accumulated knowledge upon formation of the firm.[24]

Founder experience has been measured and classified in empirical research a number of ways. Klepper (2002:42-43), for example, classifies a firm as an experienced entrant "if they produced the new product in the same organization (with the same

[21] Note that this problem has many similarities with the academic literature on returns to schooling, in which it is difficult to separate out the effect of schooling on future employment performance and earnings from underlying student effort or ability, see Angrist and Krueger (1991) for a discussion.

[22] With reference to the wine industry in Australia, Roberts, Klepper and Hayward (2006) have shown that 'industry exposure' (working in a wine firm, for example, rather than managing one) can be an important determinant of subsequent spinoff performance in terms of size and scope. I argue that this concept is related to that of Guiso and Schivardi's (2005) idea, for example, that entrepreneurial talents may be acquired by watching other entrepreneurs in action.

[23] This idea is also reflected in the literature on the impact of management on the long-run performance of a firm: Bertrand and Schoar (2003:1169) find, for example, that a significant extent of the heterogeneity in investment, financial, and organisational practices of firms can be explained by the presence of manager fixed effects.

[24] It is important to note that many firms are created by a team of founders rather than by individuals. Further, staff play a central role in building the structure and routines of a firm. However, I will argue that the tone of the firm as set by the founder(s) – its initial entry strategy and design – sets the long-term path for firm performance.

name) in which they produced other products prior to entry, enabling them to tap into the physical, human and organizational capital of their firms". Thompson (2005) classified pre-entry experience by the type of industry the firm was involved in prior to entry. Similarly, Klepper and Sleeper (2005) have examined the performance of spinoffs which are new entrants founded by employees of firms in the same industry which "inherit general technical and market-related knowledge from their parents that shapes their nature at birth" (2005:1291).[25]

Several empirical papers have shown PFE to have a strong relationship with subsequent firm entry and performance. In an examination of the evolution of 46 industries in the United States mentioned above, Klepper and Grady found that early entrants are "typically small and have experience in related technologies" (1990:35) while Klepper's (2002) analysis of the automobile, tire, television and penicillin industries also found that experienced entrants entered earlier and had higher survival rates to old age. In a study of the 500 fastest growing private enterprises in the United States in 1998, Bhide (2000) found that 71 per cent of all founders had chosen an idea originating out of previous employment experience. Intra-industry spinoffs have also been identified as a particularly important driver of entry where firms are formed by employees of incumbent firms in the same industry, bringing technical, organisational and market knowledge (Klepper and Thompson, 2007). In short, experience shapes the likelihood of firm entry as "firms require a certain expertise to enter an industry, which implies that the number of firms that could potentially enter a specific new industry is limited" (Klepper and Grady, 1990:36).

PFE also shapes the production capabilities of new firms. Holbrook et al (2000), for example, found that differences in firm performance in the early semiconductor industry (including Motorola, Fairchild Semiconductor, Shockley Semiconductor and Sprague Electric) stemmed from pre-entry and early post-entry experience, including the firm's prior development of technologies, its established information networks, and the founder's management practices. Klepper and Simons (2000) found that more experienced radio firms were more likely to enter television manufacturing and that

[25] To date the PFE framework has not been applied within the content of a developing country, hence it requires adaptation to the content in which where family-owned business groups have a greater role in industry than formal spinoffs. This will be introduced below.

on average these firms entered earlier, survived longer, and had larger market shares than non-radio producers due to more effective product and process innovation (2000:998). Walsh et al (1996) also found that firm founders with industry-specific experience – particularly in materials technology – were more successful in the semiconductor silicon industry (using data from Japan, the United States and Europe) than founders from other backgrounds.

Founder experience also shapes the organisational structure of new firms. Using a dataset of high-technology companies in Silicon Valley, Burton (2001) found that one-third of the 154 firms studied relied on an 'engineering model' of firm organisation that includes peer-group control and selection on task-based abilities resembling the organisation of the universities and laboratories from which many of the staff were recruited. As a result, she argues that "[i]n starting a company, entrepreneurs pursue courses of action that, intentionally or unintentionally, embody different assumptions about the nature of work, the nature of people, the appropriate bases for attaching people to organizations, and the best methods for controlling and coordinating work" (2001:13). Using a dataset of inventions patented by the Massachusetts Institute of Technology between 1980 and 1996, Shane and Kharuna argue that career experience helps firm founders overcome challenges of 'newness' via access to resources that help them start organisations as well as adapt to the role of entrepreneurs (2003: 520). Nelson and Winter have also explored how traits and routines are established and transmitted over time within a firm, arguing that these traits are "heritable in the sense that tomorrow's organisms generated from today's (for example, by building a new plant) and have many of the same characteristics" (1982:14).

Empirical work has started to identify which types of experience were most relevant in the new firm. In a study of the United States shipbuilding industry between 1825 and 1914, where firms entered from the manufacture of iron and steel products, wooden vessels, or shipping, Thompson (2005) found that different backgrounds offered different advantages: "[m]anufacturers of iron products were skilled in handling and shaping a relatively new industrial material. Builders of wooden vessels were experienced in hull design [and] marketing vessels... Entrants from the shipping industry had a clear understanding of buyers' needs, extensive contacts in the using

industry, and in some cases they provided a market for their own output" (2005a:13).[26] Using the case of the rigid disk drive industry, Franco and Filson argued that spinoffs 'early-mover know-how' is a good predictor of spin-out survival, but that technical know-how is not, perhaps because it is often hard to imitate (2006:859). Chatterji (2009) also found that in the medical device industry, ventures started by employees of incumbent firms perform better than new entrants, but via the ability to identify market opportunities rather than by inheritance of technical knowledge.

Some of these themes of the PFE analysis are present in the literature on economic development. At the macroeconomic level, for example, the accumulation of human capital has been associated with growth in East Asia, and the role of externalities and knowledge spillovers in is an increasing area of study (Caselli, 2008; Klenow and Bils, 2000; Young, 1995, Romer, 1994). Easterly, for example, cites the case of garment spinoffs from Desh Garment Ltd in Bangladesh in the 1980s following a collaborative agreement with Korea's Daewoo Corporation: from 130 workers trained by Daewoo, 115 left Desh to set up their own garment firms, a phenomenon Easterly describes as a result of leaks of knowledge and human capital externalities (2001:147-150). At the microeconomic level, returns to education have been analysed empirically as well as the development impacts of poor quality education, and barriers to accessing education and poverty traps (Hanushek and Wößmann, 2007; Duflo, 2001; Krueger and Lindahl, 2001; Pritchett, 2001; Bardhan and Udry, 1999).

Industry-related development research has also touched on founder experience. Schrank's work on industrial growth in the Dominican Republic, for example, gives evidence of textile firms founded by employees as spinoffs from existing textile and leather units and finds that successful exporters had often previously worked in the needle trade export-oriented (2005:50-54). Lall draws attention to the origins of well known Indian industrialists such as Dhirubhai Ambani – the founder of Reliance Industries who started out as a synthetic yarn importer (1987:41) – and to the role of joint ventures, consultants and research and development in the rise of firms in sectors such as automobiles and engineering. Founder and worker education as well as

[26] Thompson also finds that managerial quality has a large and persistent effect on firm survival and that "the effects of pre-entry experience do not decay even over a very long horizon, and they are not diminished by controlling for size" (2005:26).

founder experience have also been used explanatory variables in studies of productivity and firm capability, as illustrated in two Pakistan case studies (Burki and Terrell, 1998; Romjin, 1997).[27]

However, to date there has been limited robust empirical work on the impact of education and employment experience on heterogeneous firm performance in emerging economies. In particular, there is little research on how pre-entry experience varies by quality (such as the innovative capabilities of the spawning firm), how it shapes the organisational and production capabilities of the new entrant, and how it is related to firm learning and growth. As a result, it holds much potential to explain industrial development in emerging economies. It is this framework that I will develop and apply in order to analyse firm performance in Pakistan's textile industry during liberalisation.

Firm diversification and industrial development

Industrial diversification is widely considered a driver of economic development. In the economies of East Asia the movement from textiles and light manufacturing into sectors such as electronics, shipbuilding, software and services have been associated with rapid economic growth. This process has been named as 'upgrading', where firms move further up the value chain (see Schmitz, 2004; Amsden and Chu, 2003; Gereffi, 1999), as 'technological leapfrogging' (see Breznitz, 2007) and as the move into a 'new economy' (Harriss, 2003). Export diversification in particular is seen to contribute to an acceleration of growth through dynamic learning and spillover effects (Herzer and Nowak-Lehnmann, 2006). It can also dampen sector-specific shocks in a country which is reliant on natural resource endowments (Imbs and Wacziarg, 2003). Even in developed economies product switching is a driver of development and productivity growth: Bernard et al found that nearly one third of the increase in real US manufacturing shipments between 1972 and 1997 is the result of net adding and dropping of products by continuing firms "a contribution to aggregate growth that dwarfs that of firm net entry" (Bernard et al, 2006b:2).

[27] Although in these particular studies the sample sets are small and there are a large number of explanatory variables such as founder general education, technical education, industry- and non-industry specific work experience. The presence of such variables may affect the coefficients and explanatory power and hence limit identification.

The distribution of economic activity across industries is shaped by a country's relative capital, labour and skill endowments (which determine the scope of viable industries), its market size (which shapes the viability of certain industries) and its economic policies. In the presence of trade, the composition over a country's industries is dynamic and continually responding to changes in relative costs of production, changes in communication or transport costs and patterns of consumer demand. Patterns of specialisation or diversification in the economy can change over time as economies accumulate different relative proportions of capital and labour and as the outcome of investments in research and development and sector-specific learning (Redding, 2002:302).

At the level of the firm, aggregate diversification can be driven either by the entry of an existing firm into new product markets or by new firm formation. Pre-existing firms can change their product mix through research and development (Brandt et al, 2008; Klette and Kortum, 2004) and most commonly in developing countries this is seen as the result of imitation and learning (Amsden and Chu, 2003). Incumbent firms can also expand their range of products through the acquisition of other firms or through partnerships (see, for example, Hounshell and Smith, 1988). Similarly, new entrants can also enter a sector with a range of educational and industry experience.

Accumulated capabilities shape the likelihood and direction of diversification within incumbent firms.[28] It has been recognised, for example, that there are cost advantages to firms providing a number of diversified products instead of specialisation (through the sharing of inputs), otherwise known as economies of scope (Bailey and Friedlaender, 1982:1025). There may also be economies of scope based on technology, coordination and information in which those from one industry can be easily utilised in another, examples including freight and passenger transport on railways or the application of geological expertise to petroleum and geothermal energy recovery (ibid). Teece (1980) has also argued that diversified firms emerge

[28] The industrial organisation literature has long observed large numbers of firms active in different products and explains the involvement of firms in multiple products in terms of efficiency and economies of scope. In the United States, for example, firms that manufacturing more than one product comprise more than 90 per cent of total manufacturing shipments, and more than 95 percent of total exports (Bernard et al, 2006b).

when accumulated know-how inside a firm (which could be profitably exploited outside) cannot take place due to contracting and information problems.[29]

Evidence suggests that this experience shapes the success of diversification into new sectors. Klepper notes, for example, that "[f]irms that diversify into new and existing industries typically outperform de novo entrants" (2002:645), while Dunne at el found that diversifying firms that enter an industry with a new plant are generally initially larger than new firms and are less likely to fail than new firms or those switching products within an existing plant (1988:513-514). It is also the "underlying know-how" that determines whether firms are able develop products not currently made and that "enhance the firm's ability to take advantage of new opportunities over time, as shifts occur in the underlying pattern of technology and demand which it faces" (2008:16). By way of illustration, in a study of industrial development in China, Brandt et al find that China's Haier Group "used its expertise and reputation in refrigerators as a springboard to enter markets for air conditioners and televisions" (2008:108).

Only a few studies have identified the origins of firms that have driven industrial diversification in developing countries. In Korea, for example, Amsden found that textile firms did not drive the movement into sectors such as shipping and electronics, but instead the business groups that gained learning-intensive experience in heavy industries (Amsden, 1992). In India the 'new economy' has been driven by a mix of established business groups as well as new entrants and international firms where education and industry experience have played an important role (Fuller and Narasimhan, 2007; Harriss, 2003). Similarly, Amsden and Chu (2003) found that in Taiwan it was new entrants with industry-related education and experience that drove the move into higher value segments such as electronics; incumbents opted for industries such as retail, real estate and services.

[29] Diversification can also be seen as the outcome of changes in the external environment, such as shifts in demand and competition. Johnson and Myatt (2003), for example, suggest that firms selling quality-differentiated products alter their product lines in response to both demand and entry of competitors into the market, citing examples in products such as watches and mobile phones. According to Klepper and Thompson (2006), firms expand when they are able to exploit new opportunities that arrive in the form of submarkets, but then contract and exit when the submarkets in which they operate are destroyed.

Within the developing country context, the presence of diversified business groups has often been seen as particularly problematic by exhibiting 'too much diversification'. According to Khanna and Yafeh, business groups can be seen as either 'paragons or parasites' in economic development either through their positive role in replacing weak institutions (by internalising risk and creating venture capital) or their detrimental impacts on social welfare as a result of rent seeking and monopoly power (2007:334).[30] Morck et al suggest that "entrusting the governance of huge slices of a country's corporate sector to a tiny elite can bias capital allocation, retard capital market development, obstruct entry by outsider entrepreneurs, and retard growth" (2005:657), what they call 'economic entrenchment'.

I draw on the above concepts to analyse industrial diversification in Pakistan over the study period from 1994 to 2007. Firstly, I establish wider patterns of industrial development in its institutional context and identify recent high-growth sectors which include cement, automobiles, chemicals, pharmaceuticals and IT. I then investigate the motivations for diversification among textile and clothing firms into sectors such as real estate and cement, and how accumulated capabilities shape the firm's diversification choices. I then contrast these patterns with the origins of new entrants in knowledge-intensive sectors such as pharmaceuticals and IT in order to assess the impact of education, employment experience and competition on firm capabilities and wider industrial development.

1.3 Research design

Firm shakeout and performance

A total of five quantitative datasets were collected in Pakistan during 14 months of fieldwork (from 2004-2007) in order to measure firm performance and shakeout during the phase-out of the Multifibre Arrangement.[31] Together, these firms

[30] One particular challenge of this study is the dominance of business groups in Pakistan. According to Khan (1995), for example, large business groups had a disproportionate impact on industrial policy in Pakistan to the detriment of new entrants and smaller firms. There has been an increase in competition to these groups since the end of the 1980s, but they are still present in Pakistan's economy. An advantage of the research design, however, is that an increase in competition for exporters will separate poor from good performers, even among the business groups (regardless of status or 'entrenchment').

[31] Fieldwork took place in December 2004, October 2005-June 2006, and February-April 2007. This allowed the research to take place before, during and after the ending of the ATC.

represented approximately 62 per cent of total textile and clothing exports from 2000 to 2004 and 56 per cent of the total in 2006. A survey conducted with the help of with trade associations established pre-founder experience in 353 firms. I also conducted 48 interviews with a representative sample of firms from these data in order to assess firm entry strategies, production capabilities and organisation design, and how firms addressed productivity, quality and marketing practices during trade reform.[32] Contextual interviews were conducted with other actors in economic institutions and business observers in Pakistan in order to provide historical and institutional context.

The first dataset was taken from the annual reports of 194 public companies listed on the Karachi Stock Exchange (KSE). These data represented between 20 and 35 per cent of Pakistan's total textile and clothing exports between 1994 and 2007 – including many of Pakistan's best exporters – as well as approximately 50 per cent of yarn exports in the same period. It was the first set of data available for this research project and was therefore used as the initial sampling frame for firm interviews. Financial data were collected by hand in Karachi with the permission of KSE management for all textile firms listed on the KSE between 1994 and 2007 (but dating back to 1990) and included information such as local sales, export sales, costs (by inputs such as raw materials, salaries, power, and depreciation), capital expenditure and production output.[33] The KSE sample captures important periods of entry in the 1960s and 1990s, however, many of the firms listed on the exchange are established business groups rather than newer entrants and the sample over-represents yarn and cloth producers.[34] As a result, additional attempts were made to collect firm data from unlisted public, private and less formal (sole proprietor and partnership) firms as will be discussed below.

[32] In this way, a research design was developed which combined the strengths of quantitative and qualitative approaches common in the industrial organisation literature: a large enough sample as to be representative of the industry, with representative in-depth interviews to draw out the meanings of these shifts and how firms actually acquire capabilities for growth.

[33] Annual report data for firms listed on the KSE was not available electronically so individual observations for each year and variable were entered into a laptop by hand at the KSE in Karachi and the Lahore Stock Exchange. This took four weeks in total.

[34] The mean export share of the KSE has fallen from 30.1 per cent in 1996 to 24.6 per cent in 2007. This reflects an important shift in the composition of the textile export sector from public to privately held firms and will be explored further throughout the thesis. For detailed data on this fall by year, and the evolving exporting activity of the KSE's firms, see Appendix 1-1.

In order to measure the extent of diverging performance in the industry as quotas were removed I analyse the coefficient of variation of sales per firm (1994-2007), revenue per employee (1999-2005), and revenue per unit of production capacity of the firms in the KSE sample (1994-2007).[35] During trade liberalisation I expected firms to diverge in performance in terms of size – showing a rising coefficient of variation – followed by a fall in the coefficient as poorer firms exit the industry and firms converge in mean size. Further, I assess the reallocation of market share from poor to better performers. I also use gross profit as a measure of performance: a firm can be small but still perform well with high gross profit, and given that gross profit in most remains inversely correlated with the mean cotton price in Pakistan in any one year the ability to outperform mean industry gross profit is an important measure of firm performance.[36] I also assess capital expenditure at the firm level to assess how companies prepared for the ending of the quota.

The second dataset is a sample of 87 unlisted public firms taken from the Securities and Exchange Commission of Pakistan (SECP), an organisation that monitors the accounts of all public limited companies. This sample includes similar information to the KSE annual reports and represented up to 7 per cent of export sales between 1999 and 2006 as well as several leading textile firms. Again, these data were collected from paper reports by hand from SECP offices in Lahore, Karachi, Faisalabad and Multan drawn from the top 100 unlisted public firms by paid-up capital. This sample captures a less traditional type of entrant into textile and clothing, however, the data is poorer quality than that of the KSE as information on production capacity, employees and detailed exports is often omitted (these firms are typically seen as less organised than listed firms in terms of financial reporting, as well as quality of corporate offices, for example). The sample also does not include many garment manufacturers as these firms are typically engaged in yarn, cloth and home textile production.

[35] The coefficient of variation is defined as the standard deviation of a distribution divided by its mean. Brandt et al (2004), for example, use the coefficient of variation for sales per worker to measure the dispersion in productivity of 270,000 Chinese firms.

[36] As in any industry, profitability is a problematic indicator as firms typically misrepresent cost data in accounts for tax avoidance purposes. Pakistan is no exception with several interviewees commenting on extent of double book keeping in the industry and the misrepresentation of costs for various reasons. However, gross profit is often used by the CEOs of firms to compare their performance to others as it is considered more reliable. Further, in this study I am concerned with the relative performance of firms to mean gross profit over time assuming that firms would 'consistently misrepresent' their cost data over time too. Cross checking performance by other measures with gross profit is important to ensure that measurement of firm performance is robust.

The third sample collected is a database of all 3,610 firms who exported under the MFA/ATC between 2000 and 2004 as recorded by the Export Promotion Bureau of Pakistan (now renamed the Trade Development Authority of Pakistan, TDAP). This sample represented 40 per cent of total textile and clothing exports from Pakistan between 2000 and 2004.[37] It includes the following information: name of exporter, product exported (by category), volume (in kg, square metres), value (in nominal USD) and the name of the quota market (the EU, USA, Canada and Turkey). In contrast to the first two samples above, these firms represented a large percentage of garment and home textile exports: 1,237 woven garment and 1,095 knitted garment firms made up 64.6 per cent of the total, while the sample as a whole represented 66.5 per cent of total woven garment exports by value (including non-quota exports), 63.0 per cent of knitwear, 56.2 percent of home textile exports and 37.8 per cent of towels. To find the age and location of firms, the sample's 724 publicly and privately-held exporters (representing 70 per cent of quota exports) were matched with the list of SECP-incorporated firms.[38] Further, the remaining 30 per cent of exports, which covered approximately 2,900 firms, gave an insight into the size and distribution of less formal firms (partnerships and sole proprietorships). This dataset was provided electronically in 2006 by the TDAP in Karachi, however an initial lack of performance data post-quota (not obtained until 2007) meant that it could not be used as a sampling frame for interviews in the first period of fieldwork (from September 2005 to June 2006).

In order to measure the performance of quota exporters, a fourth set of data were obtained from Pakistan's Customs Collectorate through the Federal Bureau of Revenue (FBR) in 2007. The FBR was provided with the list of 724 public and private quota exporters from which they attempted to locate their export sales in

[37] While the dataset held 3,610 firms in total, not all of these firms exported in each of the five years. This issue is addressed in the analysis of firm survival outlined below.

[38] I chose only those public and private firms that had exported in three out of the five years on which I have data. This was to ensure reduce the presence of "opportunist' exporters in the sample who were not manufacturers but rather individuals who obtained a small amount of quota by chance or who purchased quota to make a trading profit. Matching with SECP record was done by cross-checking the names of firms and CEOs with the master list provided by the SECP.

financial year 2006 in order to obtain outcome data of firm performance.[39] Export sales for a total of 528 firms were located, representing 56 per cent of Pakistan's total textile and clothing exports in 2006.[40] These data are likely to be reliable as it records the value of all goods leaving the country. For the response rate in the FBR sample by firm size see Appendix 1-2.

The analysis of firm performance using the TDAP and FBR data was limited because the TDAP figures were only for quota sales rather than total exports.[41] It was therefore necessary to develop indicators of performance which measured performance accurately in this group of firms. I develop two indicators of performance: 'survive' and 'maintain'. 'Survive' is measured as the ability of firms to remain in operation as exporters in 2006 and is measured using data provided by the CBR, KSE and SECP as well as with input on firm survival from trade associations such as the Pakistan Textile Exporters Association (PTEA), the All Pakistan Textile Mills Association (APTMA) and the three regional offices of the Pakistan Hosiery Manufacturers Association (PHMA).[42] A firm has survived if it has positive exports in 2006 – in total I obtained 610 responses on this measure (equivalent to 84.3 per cent of the 724 firms in the TDAP sample). Interview evidence suggests that several firms were able to survive in the local market, but I argue that a measure of firm performance is the ability to perform in the export market as it requires certain levels of product quality, cost and marketing.[43]

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[39] Data on only this set of firms rather than the entire dataset was requested for brevity. It took nearly nine months and until February 2007 to obtain this export data, and only through contact with the head of the FBR provided by a Chief Executive Officer of a leading textile company in March 2006.

[40] This indicates that some firms have failed to register their exports in 2006, or have exited from the export market.

[41] If a firm, for example, showed quota exports of $1 million in 2004, and then $5 million in 2006, this will not automatically mean a five-fold increase in size, but could mean that the firm was only reliant on quota for 20 per cent of exports and maintained its exports exactly. Quota reliance in the KSE sample, for instance, ranged from 0 per cent to 100 per cent. It is only with data on total exports by firm that an analysis of firm growth is possible, and is conducted instead using the data on public firms on the KSE.

[42] This added an additional 61 observations to the "survive" measure. A problem arose occasionally of a firm being identified as a "survivor" even if they did not have positive exports, or as having exited after having only a small amount of exports in 2006. I always took the trade association as having provided the correct survival data due to the dates of data collection.

[43] One printing firm that I interviewed in Faisalabad, for example, explained that they were no longer able to sell in the export market as they did under quota as they could no longer keep up with the quality standards demanded by buyers. This performance is confirmed by his classification as an "exiter" from the FBR data as it showed no export sales in 2006.

I also developed a stronger indicator of performance, the "Maintain" indicator. "Maintain" is the ability of a firm to maintain the level of exports it had under quota measured firstly as the average yearly export sales under quota (from 2000 to 2004).[44] This measure is valid for all firms on which export data were available in 2006 from the FBR, KSE and SECP datasets. Additional observations were obtained from the PHMA which listed the individual firm's hosiery exports in 2006.[45] If this was greater than the mean or 2004 exports, then the firm could be classed as "maintain". I analyse both 'survive' and 'maintain' measures while controlling for firm characteristics such as age, size, location and formality.

Finally, additional data on the performance of partnerships and sole proprietorships (that I name 'less formal firms') were obtained from the PHMA. As a result of a Research and Development Support Grant that was put in place by Pakistan's government in woven and knitted garments on 12 April 2005, data on member firm exports in 2006 were collected by the association as they processed the applications for refund on their behalf.[46] The sample included 791 hosiery companies representing 53 per cent of knitwear exports in 2006, and allows comparison of the performance of less formal firms with their more formal counterparts.

Because of the limitations of data quality, I cross reference these five datasets in order to explore shakeout in Pakistan's textile industry. The coverage of these datasets by product, location and firm type is illustrated in Table 1-1.

[44] I also used firm's sales in 2004 as the baseline since in many cases the firm was increasing its exports over time, but the results remained similar.

[45] However, since many firms produce several products of which hosiery is one, this analysis could only cover those firms who exported 100 per cent hosiery products under the quota.

[46] Export data in 2006 included PHMA members who had applied for refund on R&D expenditures, both incorporated firms and partnerships/sole proprietorships, and included many of Pakistan's largest knitwear exporters. For details of the order see '6% Research and Development Support to the Garments Industry', State Bank of Pakistan, F.E. Circular No. 6 of 2005, Accessed 23 March 2009. These datasets outlined the performance of all their Karachi and Faisalabad members in 2006 (Lahore PHMA only provided data on incorporated firms). Data was provided by PHMA on its 501 members in Karachi in 2006, its 220 members in Faisalabad, and the 70 of its Lahore members incorporated as public or private firms. This dataset also allows identification of many firms that were not exporters under quota (179 firms in Karachi and 110 units in Faisalabad).

Table 1-1 Overview of quantitative datasets

DATASET		KSE	SECP	TDAP	FBR	PHMA
No. of firms		194	85	3,610/724	724 (528)	791
Years		1990-2007	1999-2006	2000-2004	2006	2000-2004/2006
Data available		Sales, costs, capital expenditure, exports/local, finance, employees, production capacity	Sales, costs, capital expenditure, exports/local	Age, location, size, product, formality	Exports	Exports (knitwear) formality
Type	Public listed	194	0	93	93	207
	Public unlisted	0	85			
	Private	0	0	631	631	
	Sole prop/partnership	0	0	2,886	0	584
	Unknown	0	0	0	0	
Location (HQ)	Karachi	85	29	-	341	501 (all members)
	Lahore	73	44	-	205	70 (only plc/pvt)
	Faisalabad	12	7	-	111	220 (all members)
	Other	24	5	-	67	0
Product (main)	Yarn	96	53	86	43	0
	Cloth	14	13	461	119	0
	Yarn/Cloth	19	5	-	-	0
	Home textile	12	5	401	105	0
	Woven garment	12	6	1,095	221	0
	Knit garment			1,237	174	791
	Towel	Unknown	0	262	42	0
	Other (inc mix of above)	1	3 Unknown	68	20	0
Total reliance on quota for exports (2000-2004) (per cent)		Range: 21-27	Range: 26-33	Varies by product	-	-
Mean share of total textile and clothing exports (per cent)		Range: 20-30 (1994-2007)	Range: 3-6 (1999-2006)	~40 (2000-2004)	56 (2006)	53 (knitwear in 2006)

NOTE: In FBR column the figure in brackets refer to the data available in 2006 for the 'maintain' indicator (response rates) from the list of 724 exporters in the TDAP sample.

Founder experience and firm capabilities

In order to assess firm entry strategies and organisational design, as well as how firms improved productivity, quality and marketing practices during liberalisation, I draw on representative interviews with 48 firms. Because data on the 194 KSE-listed firms were the only sample available at the outset of the research in 2005, it was used as the sampling frame for firm interviews in 2006 which resulted in 38 interviews. However, upon receipt of the FBR data in 2007 I attempted to contact the top 25 exporters under quota and obtain firm backgrounds on others with the help of trade associations. I was able secure an additional 10 interviews from this strategy.

Given that the trade liberalisation under the Agreement on Textiles was announced in 1994, I expected a change in firm behaviour immediately and thus selected interviewees from KSE firms that had positive sales in 1994 in order to trace their subsequent performance. However, when attempting to contact firms that were active in 1994 (but had since exited), I discovered that it was very difficult to trace firms that had exited as late as 2002. I also established that it was highly unlikely that these firms were exiting the KSE due to the liberalisation as they were often performing poorly even before 1994.[47] As a result, I excluded the 21 firms that exited the sample before 1999 in order to improve my chances of tracking the fate of the firm, and took only those firms with positive sales in 1999 as my sampling frame for interview.

From a sampling frame of 173 companies I took a random sample of 47, stratified by size (see Table 1-2), and every 7th firm alphabetically was selected for interview.[48] Firms in each category are representative of the wider sample of firms on the KSE by size in 2004, just before the abolition of export quotas (see Table 1-3).

[47] Interviews suggest that the earliest direct response to the MFA in terms of product diversification or capital expenditure was in 1997, and this was one of the market leaders. Most firms responded closer to 2004, as shown by general trends in capital expenditure.

[48] Because the full dataset could not be collected from Karachi until February 2006, firms were actually selected by product rather than by size. However, initial data collected in October 2005 from annual reports held in the Lahore Stock Exchange showed that product was correlated with size on 100 of the 173 firms, and I am confident I selected a representative sample by both size and product (see Table 1-3 and Figure 1-1). Mean firm size is typically increasing in these categories, as shown in Table 1-3. Firms were coded in categories of yarn, cloth and composite on the KSE.

Table 1-2 Selection of firms approached for interview, Karachi Stock Exchange sample

Firm type	Share of total KSE sales in 2004 (per cent)	Number of firms sampled
Yarn	43.5	20
Cloth	5.4	4
Yarn and cloth	21.9	11
Composite	28.8	12
Total firms	173	47

NOTE: 'Composite' is a term that relates to firms that have integrated facilities, most often operating in multiple products or the home textile and garment sectors.
SOURCE: Karachi Stock Exchange, own analysis

Table 1-3 Average size of respondent by product versus mean (nominal Pak Rs million, 2004)

Firm type	Average size (all)	Average size (sampled firms)	Number of sampled firms	Average size (respondents)	Number of respondents
Yarn	566	677	20	829	13
Cloth	501	471	4	718	3
Yarn & cloth	1,387	1,614	11	1,337	5
Composite	1,399	1,501	12	2,732	3
All	765	1,098	47	1,238	24

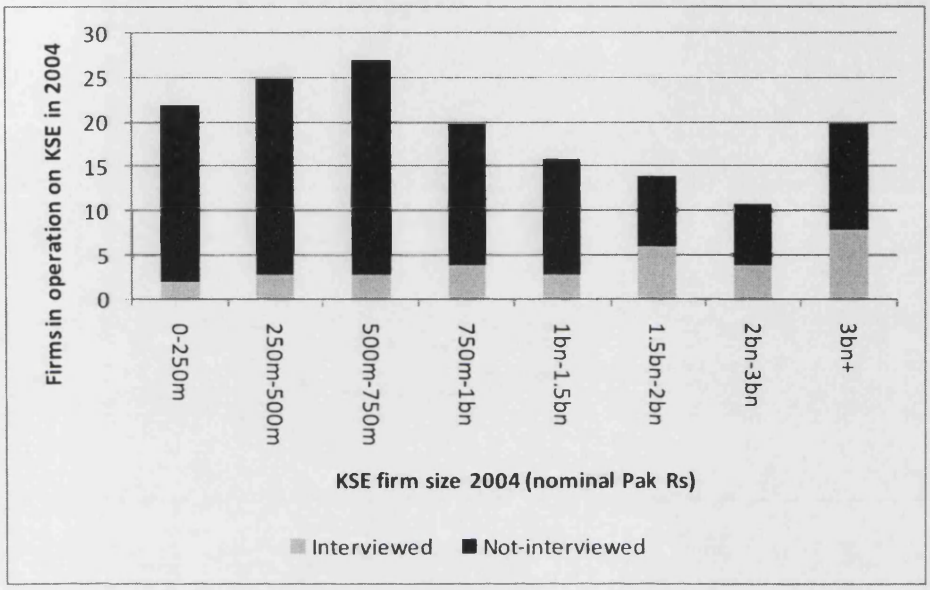
SOURCE: Karachi Stock Exchange, own analysis

To contact firms for interview, I obtained the names of the Chief Executives or Managing Directors and cold called each of them. I did so in order to avoid confusion about my identity, the purpose of my research and to show my lack of local connections (to encourage openness). This often proved very difficult. Firstly, many firms did not have fully operational phone numbers or the CEO was not contactable on the number provided. Secondly, the person typically named as the CEO was usually the company founder and was often retired. Staff often failed to direct me to the appropriate Director instead. Thirdly, there was often a bureaucratic layer in which I had to pass via the secretaries in order to access the Director which took time and persistence.

However, as shown in Table 1-3 above, I obtained a total of 24 interviews with firms from this sample, equal to a response rate of 51 per cent, and it was larger firms in each product category on average that agreed to be interviewed. The response rate rises to 60 per cent when firms that had exited prior to my field research are taken into account. An inability to contact a firm most often meant it had gone out of business or I had not been able to reach the Director directly. The representativeness of this sample by size can be seen in Figure 1-1:

while larger firms that had the highest response rate, interviews were conducted with firms from all size categories, ensuring good coverage of the sample.

Figure 1-1 Representativeness of interviewees (by firm size in 2004), Karachi Stock Exchange sample



SOURCE: Karachi Stock Exchange, firm survey, own analysis

In addition to the interviews with these 24 firms, I also conducted additional interviews with 14 firms listed on the KSE through a pilot study in December 2004 (12 interviews) and through other contacts (2 interviews).[49] This gave additional insights into the activities of firms and filled gaps by product and location. With the additional interviews obtained by conducting leading privately-owned quota exporters (in March-April 2007), in total I was able to interview 8 of the top 25 exporters under quota and 10 of the top 25 quota exporters post-liberalisation in 2006 (see Appendix 1-3).

I sought to design an interview structure that would uncover how PFE informed the entry strategy, organisational structure of the new firm and its performance during liberalisation. As a result, I sought to identify industry specific capabilities by researching production and quality practices in the industry. This included seven factory visits in late 2005 and early 2006 covering two spinning units, two home textile units, one garment unit and two large

[49] When I was in Multan, for example, I was dropped off at the offices of one of the city's leading textile firms by another CEO that was a close friend of the owner. While this was unpredicted, I proceeded to conduct the interview and gain additional information for the study.

integrated factories with yarn production, knitting, dyeing, printing and stitching of garments.[50] During these trips I probed Directors and technical managers about how productivity and quality were measured, how firms conducted marketing, and how they developed new products. I also inquired about the organisation of the workplace: how workers were recruited and motivated to perform, and how performance was measured and monitored. In order to establish industry best practice in textiles and clothing I also consulted many articles in the industry journal 'Textile World' and conducted interviews with textile and clothing buyers. Finally, I analysed of the cost structure of KSE firms in order to isolate the raw material, capital and labour intensity of the industry and confirm the link with firm capabilities.[51]

Three themes were central to the interview structure (see Appendix 1-4). Firstly, I sought to establish the firm's origins – why the founder entered the textile and clothing industry, the first product selected and why, and how the firm secured its first buyer. I also asked about the education of the founder, previous employment experience, and previous 'exposure' to the industry. Secondly, I assessed the organisational design of the firm – recruitment of new staff, motivation of workers, and performance monitoring.[52] In order to test the robustness of management's comments about how the firm and manufacturing process was run, I used eight factory visits to cross-check what the CEO or Director said with the technical directors and other staff. Thirdly, I inquired how firms had either prepared for the ending of the MFA/ATC or experienced the liberalisation, and specifically addressed production, marketing and organisational practices. I structured the questions in a way that would reveal concrete examples of firm responses, such as "Can you give me an example of when you have set and reached a target?" rather than more general questions about how firms address productivity, for example. Using financial data from the KSE, TDAP, FBR and PHMA I match firm performance with the case studies provided by the interviews.[53]

[50] I obtained access for these visits based on contacts I had made during the pilot study in December 2004 and when writing an article on the industry for the BBC in 2005.
[51] Cost data was collected for 115 KSE firms between 2004 and 2007.
[52] Bloom and Van Reenen (2007), for example, asked two different managers in firms for data on incentives, performance and monitoring in order to cross check responses and ensure they were robust measures.
[53] Throughout the thesis I have been deliberately vague about firm-specifics in an attempt to obscure the identity of the firm (for a reader could simply cross check with the annual reports of firms in 2007 to match the data). I have used real values, for example, to describe sales, and use firm numbers rather than names.

In addition, it was necessary to address the family-oriented management structure of many firms in Pakistan which typically involved joint management either between father and sons, uncles and nephews, between brothers or occasionally with female relatives. This is particularly applicable when a relative is appointed the Director of a new mill. While the family may chose the product and overall business direction, the Director often in charge of day-to-day operations, hence both the experience of the founder and the Director mattered. I term this type of firm a *family spinoff* and is characterised by varying degrees of ability and motivation on the part of the new Director.[54] This stands in contrast to conventional spinoffs, where the desire to found the new venture is genuine and voluntary, and under which the risks and motivations are strong. As a result, I examine the education, experience and exposure of both founders and the new Directors who join the management of the mill. In particular, I comment on how the quality of this experience is shaped by the previous performance of the mill. Incentive structures also change in the family business environment, and are discussed frequently throughout this thesis.

In addition to formal interviews, company websites often provided information on the histories of companies. Reports filed with SECP also occasionally stated occupations of directors. Incorporation dates of related group companies found on the Pakistan Board of Investment website also provided additional information.

Given the limited scope of the KSE and SECP sample, and the wider representativeness of the TDAP dataset, I also sought to trace the backgrounds of firms in the TDAP/FBR dataset.[55] Given the difficulty and time required to contact each firm directly, I sought the

[54] In many cases, I found that the motivations of Directors to work in the family business are strong, particularly among young directors who saw an opportunity to become important players in the international textile and clothing industry. However, the appointment of Directors in some firms was less voluntary. The Director of one garment unit for example, had studied finance and wanted to work in banking but was required to manage the family business. In another, the son had secured a top graduate job in the United States but was required to return home after the attacks of 9/11. Academic work has recognised the negative impact on firm performance of primogeniture – the appointment of the first son – in particular, in contrast with the appointment of the most able son (Bloom and Van Reenen, 2007). The impact has been addressed in an innovative way by Bloom and Van Reenen (2007) who use the appointment of the senior son to management as the random draw, and the appointment of the most capable son as the comparison group when examining the impact on firm performance.

[55] This took place on a final visit to Pakistan in March-April 2007. My research interest was met with a mixed response. Two trade associations refused to share with me such information, one on the grounds that it was the private information of the companies, and the same association did not see the point of the exercise when the industry was "struggling". I was also often told that my task was "impossible" or that "you will not get that kind of information". However, three trade associations were very helpful and knew many firms personally: the All Pakistan Textile Mills Association in Lahore; the Pakistan Hosiery Manufacturers Association in Lahore, Karachi and Faisalabad, and the Pakistan Textile Exporters Association in Faisalabad.

help of trade association to provide information on founder backgrounds. Taking the name of the firm, its location, products and the name of the CEO, I matched companies with their respective trade association (which were sometimes multiple). I then arranged meetings with associations in Lahore, Faisalabad and Karachi and sought the background of the units by asking experienced trade association members directly. When meeting with the trade association members, I asked two questions: is the firm still in operation at the time of interview, and what did the founder do before starting the business? The questions were kept deliberately short because it was difficult to secure the participation of trade associations in this exercise and to move through the list in the time allocated for the meeting.

There was some difficulty in establishing PFE through this method. While trade associations were familiar with firms, they may not have known the specific origins of the firm or the backgrounds of the current management. Companies were described, for example, as a 'business family' for generations, but the precise industry or education and experience of the Directors was not specified.[56] Other companies were described as "inspired" by a boom in the sector, "relatives" of existing textile businesses, "old style" in their management practices, or that they "started off in knitting" but without precise identification the degree of previous industry exposure. In many cases, firms were described by their regional or 'biradari' (which can be understood as caste or kinship group) such as "Chiniotis" or "Memons". Often the interviewee would know that the management of the firm had experience abroad (in the UK or Canada) but not in what profession, or that they had experience in marketing or production, but it was not clear if this was in the textile sector or another industry. However, in total I was able to obtain backgrounds on a total of 353 firms from all samples and 241 firms from the TDAP/FBR matched sample.

Finally, I examined firm-level drivers of diversification in the textile industry and contrast these cases with the origins of firms driving wider industrial development in Pakistan. To do so, I draw on interviews conducted with textile firms that have diversified into sectors such as cement and chemicals. I investigate why the founder or Director chose the destination industry, how they entered the sector (selection of machinery or staff, for example), as well as how they have developed production capabilities in the sector. I then contrast these accounts

[56] This description of business in Pakistan is typical of the family structure of industries, however it means that the second generation, who are more likely to have obtained MBA qualifications, be professional textile engineers or have external experience will not be picked up using this method.

with the founder origins of firms in growth sectors such as chemicals, information technology and pharmaceuticals for which I draw on interview data collected from eight firms in sectors such as IT, chemicals and pharmaceuticals in March and April 2007. I also draw on interviews with industry observers, and annual reports and company websites (see Appendix 1-5). I thus establish firm origins and growth patterns which help to explain Pakistan's wider industrial development.

1.4 Structure of the thesis

The analysis of shakeout in the Pakistani textile industry during trade liberalisation offers a unique opportunity to understand the process of industrial development in an emerging economy. The examination of the role of firm capabilities as the ultimate driver of firm, and thus industrial, growth provides new insights for development theory and policy. The thesis is structured as follows.

In Chapter 2, I outline the evolution of Pakistan's textile industry in historical perspective and show how the political and institutional context has shaped the performance of the textile sector and Pakistan's wider industrial development. In particular, I discuss how economic policy in Pakistan has shaped firm entry, growth and diversification in textiles through a licensing system which restricted firm entry until the 1980s, through to the subsequent deregulation of the industry in the 1990s. I also introduce some of the firms in the sector, their entry motivations and the operating challenges they have faced. I do so in order to set the scene for the rapid changes which took place in the sector between 2004 and 2007 after the ending of the Multifibre Arrangement.

In Chapter 3, I examine Pakistan's textile industry as it was exposed to increased price and quality competition from 1994 to 2004 as quotas were gradually removed, and the subsequent performance of the industry from 2004 to 2007. I first outline the evolution of global control over trade in textile and clothing products since the 1950s, and show how the Multifibre Arrangement – in place from 1974 until 2004 – shaped firm entry and performance by guaranteeing markets for some producers while limiting them for others. I also examine how the quota system shaped firm composition and performance in Pakistan by product, size, location, firm type and age. I then examine Pakistan's export performance at an aggregate level between 2004 and 2007 in comparison with competitors such as India and China.

Finally, I assess the performance of Pakistan's firms in the post-2004 period including the ability to maintain their export sales during the liberalisation and gain market share (from 2004 to 2007).

In Chapter 4, I examine the relationship between founder experience and firm performance. I first give an overview of the backgrounds of companies in the textile and clothing industry using data from the firm survey and individual interviews. I classify firm backgrounds as 'Experienced', 'Textile-related', 'Other manufacturing' or 'Inexperienced' in order to identify the founder's technical experience in relation to textiles and other manufacturing sectors, as well as previous managerial experience. I then test whether this experience is associated with firm survival and performance during liberalisation while controlling for other firm characteristics such as age, formality and size. Having established this relationship, I then examine how pre-founder experience shapes the entry strategies of firms. I show how industry-related experience enables firms to identify new market opportunities, leverage existing manufacturing capabilities, or exploit options to develop new products at the request of buyers.

In Chapter 5, I examine the role of pre-founder experience in shaping the organisational structure and production capabilities in new firms. With the use of case studies, I establish the productivity, quality and marketing practices that are important in the textile industry and the particular importance of professional management practices. I then show how firms inherit production and organisational capabilities that are associated with their pre-entry experience. Firms with both managerial and technical experience on average often have better initial production and organisational capabilities which are reflected in the firm's initial size and growth trajectory. In contrast, general managerial capabilities can be inherited by inexperienced entrants but they often struggle with the industry-specific aspects of manufacturing. I show that founder experience persists over time by putting in place learning processes which either succeed or fail in adopting practices developed elsewhere or adapting practices through in-house trial and error. Poor organisational performance can be changed, but case studies illustrate that this is only possible through a radical change of management composition or motivation.

In Chapter 6, I examine how firms responded to increase in competition when the MFA was finally abolished. I establish how firms made investments to improve productivity, quality

and marketing practices in the run up to December 2004, and the association between accumulated capability and firm performance in the post-quota period. Matching managerial and technical interviews with data on firm performance, I show in particular that it is good organisational design – such as effective recruitment procedures and incentives – which enables shop-floor workers to improve performance. The best performers have shown the ability to move into branding and retail and show sophistication in the local market. Constraints to firm growth in Pakistan are also highlighted such as lack of professional management, new product design and infrastructural constraints which affect all firms.

In Chapter 7, I map Pakistan's broader industrial development to date in its institutional context and draw attention to high growth sectors such as automobiles, cement, chemicals, pharmaceuticals, IT and services. I analyse the motivations of textile firms in particular for diversification into sectors such as cement and services, but contrast these patterns with the emergence of firms in the pharmaceutical, chemical and IT sectors. Putting Pakistan's experience within the wider context of the development of other emerging markets since the 1960s, I evaluate drivers and limitations of diversification in this economy. I conclude that it has been difficult to enter into, upgrade within, and diversify from the textile and clothing industry, requiring sophisticated managerial and technical capabilities that have often been scarce in this particular developing economy.

In Chapter 8, I conclude the thesis with an analysis of the contribution of this study to development theory and policy. While institutional and state-led analyses of industrial development go a long way to explain Pakistan's limited industrial development, I also suggest that heterogeneity itself offers new insights into the development process. I argue that industry-related education and employment experience among founders is at the root of high achieving firms and can be the channel through which transition into new industries can occur. Increased competition in particular can break down informal barriers to the accumulation of experience among workers and raise the likelihood of new firm formation. I also argue that this process and can be supported by focused policy initiatives to help accumulate this experience through education, industrial work experience, mentoring and migration. I conclude that future research could use the framework of diverging firm performance to investigate the drivers of industrial diversification and thus offer new dimensions to development theory and policy.

Appendices

Appendix 1-1: Export profile and export reliance of firms listed on Karachi Stock Exchange

The 194 firms included in the Karachi-Stock Exchange sample represented between 20.0 and 30.1 per cent of all textile exports from Pakistan between 1996 and 2007 (see Table 1-4). The sample also represented between 40 and 64 per cent of revenues in yarn exports in the same period. Between 88 and 98 per cent of the firms were exporting some of their output in any one year, however firms varied in their export reliance from 0 per cent to 100 per cent. KSE firms have seen their share of total exports gradually fall over time from 30.0 per cent in 1996 to 24.6 per cent in 2007.

Table 1-4 Observations in Karachi Stock Exchange sample (1990-2007)

Year	Observations	Number of exporters	Per cent exporters	Per cent of total Pakistan textile & clothing exports	Export reliance of total sales in sample
1990	171	-	-	-	-
1991	177	-	-	-	-
1992	181	-	-	-	-
1993	185	-	-	-	-
1994	191	176	92	-	50.2
1995	190	180	95	-	50.3
1996	191	182	95	30.1	49.9
1997	193	183	95	29.8	52.2
1998	194	182	94	27.9	51.6
1999	193	178	92	27.8	51.7
2000	193	176	91	27.7	54.2
2001	193	172	89	26.5	54.2
2002	192	169	88	24.1	50.9
2003	192	171	89	23.2	53.3
2004	191	175	92	25.1	52.5
2005	182	173	95	20.0	54.6
2006	178	174	98	22.9	52.9
2007	137	121	88	24.6	55.5

NOTE: Figures not collected for local or export sales between 1990 and 1993 due to time constraints.
SOURCE: Karachi Stock Exchange, own analysis

Appendix 1-2: Data availability on founder background, incorporated quota exporters

The availability of 2006 export data and founder backgrounds for 724 quota exporters from the TDAP sample is given in Table 1-5 below. Data availability declines as the size of the firm declines suggesting a bias in data availability towards better performers throughout the study.

Table 1-5 Availability of 2006 export data on 724 quota exporters by firm size

Position in list of quota exporters by size (1=largest)	Survival (Observations)	PFE measure (Observations)
0-100	91	62
101-200	85	34
201-300	77	34
301-400	76	28
401-500	65	26
501-600	55	30
601-700	67	19
701-724	12	8
Total 724	528	241
Mean response rate (per cent)	**72.9**	**33.3**

NOTE: Here survival data refers to numerical data provided by the Federal Bureau of Statistics, Karachi Stock Exchange and Pakistan Hosiery Manufacturers Association.
SOURCE: Trade Development Authority of Pakistan, firm survey, own analysis

Appendix 1-3: Interviewees by export position under quota (2000-2004) and in 2006

The position of selected firms interviewed by size among all 3,610 quota exporters from 2000 to 2004 – and from data on 541 exporters in 2006 – are given in Table 1-6. Not all interviewees exported under quota.

Table 1-6 Firms interviewed from 3,610 quota exporters (2000-2004) and 541 exporters in (2006)

Position (2000-2004)	Firm number	Total quota exports 2000-2004 (real USD million, 2000)	Position (2006)	Firm number	Exports 2006 (nominal USD million)
1	36	190	2	36	138
5	12	118	5	3	95
6	41	116	6	10	89
7	3	111	8	35	73
10	46	103	9	35	71
12	42	97	12	12	62
13	11	96	14	46	60
22	39	80	17	1	58
26	28	77	23	41	45
27	35	76	25	11	43
31	38	75	31	22	37
36	45	65	32	5	36
43	37	58	41	37	31
52	1	49	52	42	25
60	9	44	53	39	25
61	35	44	59	7	22
76	8	35	62	40	21
99	10	28	69	45	20
111	28	25	84	24	17
146	5	20	104	25	14
232	40	12	105	18	14
263	48	11	106	8	13
265	20	11	107	38	13
269	27	11	114	27	12
311	14	9	115	9	11
324	22	8	116	16	11
386	16	7	120	20	10
534	24	4	131	28	9
555	7	4	169	13	6
627	43	3	172	26	6
682	47	3	183	2	5
702	23	2	201	15	4
889	25	2	223	19	3
1014	26	1	239	14	3
1045	17	1	294	29	2
1055	18	1	379	21	0.7
1210	44	0.8	442	33	0.3
1784	13	0.2	490	23	0.1
3013	19	<0.1			

NOTE: Some multiple units of firms interviewed are included. In 2006, the top exporter had overseas sales of $232m (nominal USD).

SOURCE: Trade Development Authority of Pakistan, Federal Bureau of Revenue, firm survey

Appendix 1-4: Interview questionnaire (2006-2007)

Company number _____ Date of interview _____

Name of interviewee _____ Location _____

PART I: HISTORY OF FIRM AND MANAGEMENT

Can you tell me about the history of the firm?

Who set up the firm? What was their educational and employment background?

Why did they set up the firm?

Who were the firm's first buyers? How did you find them?

What was the first product produced by the firm? What was the next? Why did you move into this new product?

How did you obtain finance for the operation?

Why did you choose the location for the mill?

PART II: CAPABILITIES

- **MARKETING**

How have you developed your buyer base over the years?

How do you (and the team) keep up to date with market/buyer trends?

Can you give me an example of how you have recently successfully secured a new buyer or developed business with an existing buyer?

(Do you have a separate marketing department? What is your and their role?)

(Do you have any overseas marketing offices? How did you set them up?)

- **NEW PRODUCT DEVELOPMENT**

Can you tell me about how your products have evolved over the years?

Why did you decide to develop this new product in particular? How was the product developed?

(Do you have design abilities/a new product development team?)

- **PHYSICAL CAPITAL AND PROCESS INNOVATION**

How do you measure productivity and quality in production?

How do you go about improving the production process on an ongoing basis?

What is the most significant improvement you have made to improve productivity/ reduce costs?

What is the most important change you have made to raise product quality?

How do you decide which technologies are the best to implement?

(Where did the idea for these changes come from?)

(If there is a weakness in the production procedure, what would you do to ensure it is resolved?)

- **MULTIFIBRE ARRANGEMENT**

Can you tell me how you prepared for the ending of the MFA?

What did you consider were your strengths and weaknesses?

(When did you start doing this?)

Can you tell me how the ending of the MFA has affected your business?

PART III: MANAGEMENT PRACTICES

- **STAFF RECRUITMENT**

How do you attract good quality staff to the company?
What makes it distinctive to work at your company as opposed to your competitors?
(How would you retain a good staff member if they wanted to leave?)

- **INCENTIVES**

How do you encourage staff to work efficiently?/How do you motivate staff?
How do you reward people who perform well?
Can you give me an example how you have developed a staff member with potential?
If a staff member is performing poorly, how would you deal with this?
(What training do you conduct of staff?)
(What is the best thing you did to improve the overall performance of staff?)

- **TARGETS AND MONITORING**

What are your performance targets within the company – for example, in production and marketing?
How do you measure performance against these targets? e.g. How often do you do this?
How are these targets communicated to workers?
Can you give me an example of a target you have achieved and one you have not?
(What do you do if you are not meeting performance targets?)
(Are staff on the shop-floor aware of these targets?)

Additional question
If there was one piece of information which I could discover from my research which would be useful to you in your business, what would it be?

NOTE: These questions were typically used as talking points in the interview, with the aim of covering each area partially. Questions in brackets were asked if time permitted. Interviews usually lasted 1-1.5 hours.

Appendix 1-5: Interviewees from other industries and business observers

Table 1-7 Interviewees from other industries and business observers

Interviewee no.	Industry/Activity
49	Pharmaceuticals
50	Cement
51	Automobiles
52	Chemicals
53	IT
Others (not specifically numbered)	IT Private education Real Estate Large consumer goods company Architecture
Other interviewees (not numbered)	Saqib Sherani, Economist, Royal Bank of Scotland, Pakistan Syed Salim Raza, Pakistan Business Council Mr Sajjad Hassan, former Chairman, Central Board of Revenue Mr Tariq Saigol, Chairman, Kohinoor Maple Leaf Group Nasim Qureshi, Ministry of Commerce, Government of Pakistan Dr Ali Cheema, Lahore University of Management Sciences Partner, leading Pakistani accountancy firm Partner, leading Pakistani accountancy firm Leading international textile buyer Leading international investor Employees of several textile mills Technical consultant, knitwear company in Pakistan Technical consultants, woven garment company in Pakistan Members of several textile and clothing trade associations Members of trade associations from other industries Several other unnamed investors and businesses people

Chapter 2 The emergence of the textile and clothing industry in Pakistan

The history and evolution of Pakistan's textile industry since the country was created in 1947 tells the story of Pakistan's industrial development itself. The textile sector has been the backbone of the economy over this period and many firms which have prospered in other economic sectors have at one time been involved in the textile industry, either as a 'seed' firm or as a target of later diversification. In this chapter I examine the evolution of Pakistan's textile industry in its historical and institutional context, assessing how political change within Pakistan has shaped the performance of the sector as well as wider industrial development. I also examine how the composition of the industry at the time of trade liberalisation emerged out of this context, exhibiting heterogeneous firm capabilities and performance. This sets the scene for the analysis of how trade regulation shaped firm entry and performance between 1973 and 2004, and how Pakistan's textile and clothing firms performed when the Agreement on Textiles and Clothing finally came to an end on 1 January 2005.

Firstly, I examine the physical and human capital endowments of the country after Partition in 1947 and how investment and industry growth has been shaped by institutional and political events in the six decades since the country's formation. I show that Pakistan inherited a limited industrial base at the time of Partition but rich human capital which resulted in early industry growth. However, political instability over time has led to limited investment in infrastructure and education and subsequent patchy economic growth in the country's first sixty years.

Secondly, I examine the emergence of Pakistan's textile industry following Partition and its contribution to industrial and export growth between 1947 and 2007. Firms who drove expansion after Partition into spinning and weaving were often from backgrounds such as leather, cotton ginning, trading and other manufacturing sectors, but firm entry and industry performance was often limited by economic policies. Access to finance and licences, for example, was often determined through political connections which limited firm entry in the

early years. In contrast, the deregulation of firm entry at the end of the 1980s led to a rapid rise in firm incorporation and competition. I show that there has been a modest shift into higher value-added products such as home textiles and garments, while some firms have entered the retail sector in the domestic market.

Thirdly, I examine broader patterns of industrial development and the development challenges Pakistan has faced in the period of study (1994-2007). I examine the constraints to business in the operating environment and the proposition that Pakistan has delivered 'growth without development'. I argue that wider social and economic development has suffered as a result of political instability, lack of investment in physical and human capital and rent-seeking.

Finally, I examine the composition of Pakistan's textile industry as it approached trade liberalisation from 1994 to 2004. I find that the evolution of the industry in this political context has led to variation in firm characteristics by age, location, size, product and firm type. I also find evidence of differing firm performance to be examined throughout the thesis. The performance and capabilities of firms were evidently mixed at the time of trade reform in the textile industry when the sector was exposed to full international competition.

2.1 The foundations of industry growth

Cotton and textiles in the Asian subcontinent

The cotton textile industry has a long historical tradition in the Indian subcontinent stretching from the pre-British period through to the formation of Pakistan in 1947. The discovery of samples of cotton materials at Mohenjo-Daro, Sindh, during archaeological excavations, for example, has established that the growing and manufacturing of cotton in the Indus Valley dates as far back as 3000BC (Sawhney, 1951:66). It was the production of cotton fabrics which induced the East India Company to come in search of Indian calico and muslin with a Royal Charter (ibid), while textiles were also "a catalyst in Europe's trade with India in the seventeenth and eighteenth centuries" (Roy, 1996:11).

India had traditionally a large artisanal textile sector spanning many of the country's regions (Roy, 1996; Roy, 1993). However, the first formal textile mill – the Bombay Spinning and

Weaving Mill – was established in 1851 (Sastry, 1951a). By 1900, India had weaving towns stretching from Sialkot in Punjab to Dindigul in Tamil Nadu (Roy, 1993:136), and by 1947 the country had over 400 textile mills producing cloth, yarn and garments and exporting yarn to countries such as Japan and China (Sastry, 1951b). The area that was to become Pakistan included "the fertile and irrigated areas of Sind and the West Punjab" (Saraiya, 1951:62) and was a supplier of cotton to the textile mills in Bombay, Calcutta and Ahmedabad.

The land mass which became Pakistan in 1947 had also been a centre of trade and commerce for centuries. Barnouw describes how before Partition the major city of Hyderabad "was home to a community of bankers and merchants" with a "traditional role as bankers of the state and financiers of craft products" (1966:30). Markovits described how Shikarpur in Sindh was the centre of a financial network which arose in the second half of the eighteenth century where "the expertise and capital accumulated by the Shikarpuri bankers allowed them to take advantage of a new surge in Indo-Asian trade from the 1840s onwards" (2000:30). The northern city of Lahore in West Pakistan also had well developed legal, economic and political institutions: Kushwant Singh, the well known Indian writer, describes Government College Lahore in the 1930s as "the most sought-after educational institution in northern India" (2002:40) as well as a lively legal scene in which the Delhi courts were under the jurisdiction of the Lahore High Court.

However, a formal textile industry was relatively underdeveloped in the area to become Pakistan in 1947. Out of the 423 textile mills located in undivided India in 1946, only five were in West Pakistan and ten were in East Pakistan (Gandhi, 1951). The majority were located in Ahmedabad, Madras State, Bombay state, and the city of Bombay itself. Only four firms were located in Punjab and only one in Karachi (see Table 2-1).[1] Much of the industrial activity in British India was instead concentrated in Bombay, Calcutta and Ahmedabad. Calcutta, for example, was situated near coal fields while Bombay had an established source of hydro electric power and could import coal easily from abroad (Sastry, 1951a).

[1] For example, Ahmedabad had 74 mills, Madras State had 72 mills, Bombay state had 70 mills, and the city of Bombay itself had 65 mills.

Table 2-1 Characteristics of textile mills in West Pakistan versus All India (1947)

Name and location	Number of spindles	Number of looms	Number of employees
Daulatram Spinning and Weaving Mills (formerly Sind Textile Mills), New Jail Country Club Road, Karachi	2,216	60	151
Lyallpur Cotton Mills, Lyallpur (Branch of Delhi Cloth and General Mills Co Ltd)	32,052	994	1,485
Mela Ram Cotton Mills, Lahore[2]	16,116	148	576
Punjab Textile Mills, P.O. Kot Dunichand, Lahore	5,040	0	196
Sutlej Cotton Mills, Okara	22,800	925	2,874
Location	**Total spindles**	**Total looms**	**Mean number of employees by firm**
Ahmedabad	1,875,340	42,403	1,052
Bombay Island	2,904,138	60,096	1,843
Bombay State	1,303,938	25,020	956

SOURCE: Gandhi (1951)

However, the sizes of the mills located in West Pakistan in comparison with the India mean suggest that at the time production was economically viable (see also Table 2-1). Sutlej Textile Mills, for example, had more employees than the mean in the largest textile producing areas of Ahmedabad, Bombay State and Bombay Island.[3] Lyallpur Cotton Mills also had a greater number of employees than the mean in Bombay State and Ahmedabad. The area of Pakistan also accounted for approximately 20 percent of total cotton production in British India (Saraiya, 1951) and, at the time of Partition, India relied on Pakistan for the supply of 9.8 lakh bales of cotton (Sawhney, 1951:69).

There was also limited development of wider industry in the landmass that became Pakistan. As Zaidi explains, the area constituting Pakistan was the "bread-basket of India" and a net importer of industrial goods and exporter of wheat and jute (2004:86). According to Lewis, "[t]he country had virtually no manufacturing capacity, with the exception of an oil refinery in West Pakistan, a few cotton textile plants, and some capacity in sugar refining, tea processing, and the manufacture of cement" (1970:2). Further, in the view of Kochanek, "the

[2] The only other firm whose fate was traceable was Mela Ram Cotton Mills, whose owner died before partition. Source: Mr Sajjad Hassan, former Chairman, Central Board of Revenue, Pakistan, interview on 18 Apr 2007.

[3] Interestingly, Sutlej Textile Mills was founded in 1934 by the late Mr. G.D. Birla who went on to create the very successful Birla K.K. Group of companies in India that now has interests in fertilizers, engineering, IT and biotechnology. According to the company's website in 2007, Sutlej was "set up with a composite textile mill at Okara, now in Pakistan, but after the partition in 1947, the factory at Okara was seized by the Government of Pakistan. Sutlej is now also a leading Indian manufacturer of home textile products. Source: Sutlej Textiles and Industries Limited website, http://www.rtmyarn.com/sil_profile.htm, accessed 23 March 2009.

Pakistani areas were socially, economically, and politically among the least developed districts in undivided India...ethnically, socially and linguistically diverse, largely illiterate, and overwhelmingly rural and agricultural" (Kochanek, 1983:3).

It was this mixed economic tradition which shaped the physical and human capital endowments of Pakistan at the time of the country's creation on the 14th August 1947.[4] From 1949 to 1950 manufacturing and industry represented only 7.8 per cent of gross domestic product in Pakistan, with agriculture generating 53.2 per cent and services 39.0 per cent (see Table 2-2). This is half the share of industry in the national income of pre-Partition India which was 16.4 per cent between 1940 and 1946 (Roy, 2002:117).

Table 2-2 Breakdown of gross domestic product in Pakistan (1949/1950)

Sector	1949/1950 (per cent of total)
Agriculture	53.2
Manufacturing/Industry	7.8
Others (Services, Trade)	39.0

SOURCE: Zaidi (2004)

The violent upheaval which accompanied the Partition of India and Pakistan also shaped the distribution of human capital in the new country.[5] The political process which led to the separation of a quarter of British India into a Muslim majority area led to severe communal riots, the mass exit of Hindus and Sikhs from the Pakistani areas, and the migration of many Muslims from parts of the subcontinent to Pakistan (Kochanek 1983:17-18).[6] Because pre-

[4] On the 14th of August 1947 a new independent Muslim state was created - The Islamic Republic of Pakistan - following a political struggle for independence in British India against colonial rule. It was located in some of the regions of British India most populated by Muslims: two separate land masses of East Pakistan (now Bangladesh) and West Pakistan (Sindh, West Punjab, Balochistan and the North West Frontier Province) "separated by a thousand miles of Indian territory" (Kochanek, 1983: 3). The new state of Pakistan had a population of 75 million, receiving 18 per cent of the total population of India and 23 per cent of the landmass (Talbot, 1998:95). A majority of the population – 54 per cent – was located in the Bengali-speaking eastern wing (Khan, 2005:63).

[5] Some accounts propose that an independent state to protect India's Muslims was the outcome of the All India Muslim League's concern for Muslims in a "Hindu political order" (Cohen, 2005:5). Other accounts see it as the result of the work of a League created by a 'Muslim elite' from the United Provinces of India who - with the support of the British government – aspired to counter the influence of the Indian National Congress Party (Khan, 2005:64). Kochanek, in contrast, saw partition as the outcome of "years of rising communal tension and bitterness [which] erupted into severe communal riots" and "eventually led to a mass exodus of Hindus and Sikhs from the Pakistani areas to India and a Muslim exodus from various parts of the subcontinent to Pakistan" (Kochanek, 1983:17-18). Nevertheless, its outcome was to have a significant impact on the shape and composition of Pakistan's economy and society in the post-Partition period.

[6] The partition of India and Pakistan was accompanied by a large and violent upheaval of people from on each side of the new borders with approximately 14.5 million people recorded as having migrated within four years (Khwaja et al, 2005). An additional 2.2 million 'missing people' left their homes but failed to arrive at their

Partition economic activity was structured along religious lines it had "a devastating effect on the Pakistani areas...The departing communities had played an especially dominant role in business, trade, commerce and the professions...The middle-class refugees from Uttar Pradesh, Delhi, Bombay, and other parts of north and south India could only partially fill the gap" (Kochanek 1983:18).[7] Yong and Kudaisya note the specific impact of these political changes on the city of Lahore: "[t]he economic consequences of partition for the city were severe too. Many institutions, banks and corporate organizations relocated from the city. The majority of factories closed down and their plants and buildings were destroyed or abandoned in the disturbances...Industrial output, in spite of the authorities' vigorous efforts, stood only at one-third of pre-partition levels" (2000:177).

However, this exit was also accompanied by the arrival of new migrants to Pakistan. Kochanek describes several 'castes' who were Hindu converts from traditional trading castes that migrated to Pakistan after Partition and became extremely important in the industrial life of the country, including the Bohras, Khoja Ismaelis and Memons of Western India (1983:8). In fact, several business groups had been actively involved in the funding of the Muslim League and the struggle for independence such as the Adamjees of Calcutta, a Memon family that was "very successful in building one of the first Indian-owned Jute Mills in a field largely dominated by Europeans" (Kochanek, 1983:20).[8] Analysis conducted by Khwaja et al (2005) also discovered that migrants to Pakistan were more likely to be men, educated and choose non-agricultural professions. The districts which received large migratory flows experienced substantially higher growth in educational levels as shown in the case of

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destinations (Khwaja et al, 2005:8). The state of Punjab in the north west of the Subcontinent was split in half and migration patterns driven by religious grouping. The percentage of Muslims in districts that were to become part of Indian Punjab dropped from 32 percent in 1931 to 1.8 percent by 1951, and the percentage of Hindus and Sikhs in Pakistani Punjab fell from 22 percent to 0.16 per cent in the same period (Khwaja el al, 2005). Those people who arrived in Pakistan were known as Muhajirs, or refugees, and came to make up 20 per cent of the total population (Kochanek, 1983:18). In West Pakistan, Karachi grew disproportionately to other major Pakistani cities, with a population increase of 176 per cent (a total of 681,000 people) in comparison to Lahore's increase of 26 per cent (177,000 people). The next three largest urban destinations for refugees were Faisalabad (109,000 people), Hyderabad (107,000 people) and Peshawar (61,000 people). Source: Table 16.12 Growth of Major Cities from 1901 to 1998, Pakistan Statistical Year Book 2008, Federal Bureau of Statistics, Pakistan, own analysis.

[7] Kochanek describes, for example, how "[a]lthough some Muslims were active in trade and commerce in British India, most of the trade, industry, and banking was in the hands of Hindus, Parsis and Europeans" (1983:19). Barnouw also discusses how "Hindus occupied positions as merchants, shopkeepers, money-lenders, landowners, teachers and administrators" and that "[t]he mercantile specialization of Hindus in Sind was related to the Islamic proscription against taking money at interest" (1966:40).

[8] The Adamjees played a role in "financing [Muslim] League activities and projects and mobilizing Calcutta Memon support for the League" (Kochanek, 1983:21). The Habib family who established the first Muslim-owned bank in 1940 in India and then founded Habib Bank in Pakistan were also important contributors, as well as the Wazir Ali family who established the successful Packages Limited in Punjab (ibid:20-21).

Karachi: by 1951 it had received 600,000 refugees and nearly 91 per cent of the total literates in Karachi were migrants" (Khwaja et al, 2005:3).[9]

Pakistan also inherited several small scale industries in the region. There was a sports goods sector in Sialkot in Punjab, for example. Described by Weiss as "local craftsmen-turned-industrialists" (1991:120) these firms were cottage based, export-oriented and had a long history of manufacturing wood and leather products.[10] A local surgical instruments industry also emerged from links with ironsmiths, and according to Nadvi (1999) the industry was spurred by the presence of a local Mission hospital and the knowledge among local artisans of how to forge and shape metal implements to a high degree of precision.[11] In the emerging steel re-rolling industry, most mill owners were typically from lohari (iron working) backgrounds from cities in East Punjab. They had been working in forging workshops, were native to Lahore in the retail steel trade or from families whose relatives had worked in the industry (Weiss, 1991:112).[12]

Early firm formation and industrial development

As a result of its limited industrial capacity, there was recognition of the need for industrial development immediately after Partition. In the Statement of Industrial Policy of 1948, the Government of Pakistan stated that it will "seek, in the first place, to manufacture in its own territories, the products of its raw materials, in particular jute, cotton, hides and skins" (cited in Zaidi, 2004:85). According to Tariq Saigol, the need for a textile processing industry became particularly acute in 1949 following the devaluation of India's currency along with

[9] Note that some of the content of this paper was later published in Bharadwaj, P., Khwaja, A., Mian, A. (2008) The Big March: Migratory Flows after the Partition of India, Economic and Political Weekly, Vol. 43 No. 35 August, 2008.

[10] Weiss cites several stories surrounding the origins of the industry which relate to the local fixing of sports goods such as tennis rackets and golf clubs during British rule in the late 19th century (1991:121). Initially Muslims performed the manufacturing tasks while Sikhs and Hindus arranged for the raw materials and exports, after partition Sialkot was located inside Pakistan and many new companies were founded by those previously involved in the industry (ibid:123).

[11] Weiss (1991) notes that it was in 1894 when Sialkot's first surgical instruments unit opened.

[12] Iron ore was not traditionally found in areas now in Pakistan with the exception of hills north of Peshawar, but in the pre-British period Punjabi rural lohars made implements for use inside the home and later safes, chests and trunks during the British period based on imported materials (Weiss, 1991:102). Some migrants, such as the founder of the Pakistan Engineering Company, obtained replacement shops for foundries left behind in India, while Ittefaq – five agriculturalist brothers from Amritsar, the family of future Prime Minister Nawaz Sharif – began a unit in 1940 and another in Lahore in 1966 (ibid:105). This unit was later nationalised in 1972.

other members of the Sterling area.[13] Pakistan had refused to do so in order to "achieve better terms of trade with India in the sale of raw jute" (Lewis, 1970:4), but as Talbot explains, "[a]s the Indian rupee floated downwards against Pakistan's currency, New Delhi retaliated by ceasing all trade and thus ending the common market which had existed between the two dominions since August 1947" (1998:137). Under this embargo it thus became necessary for Pakistan to import processed cotton from elsewhere despite being a producer of raw cotton.[14]

According to Mr Saigol, in the late 1940s and early 1950s the government also actively sought out entrepreneurs who could establish new industrial projects. There were three requirements to obtain a license to create a textile mill: firstly, to be an entrepreneur – to show signs of vigour and business spirit; secondly, to have capital available to invest in new industry; and thirdly, to be 'well connected' which included knowledge of the industry as well as connections with decision makers.[15] It was often migrants from British India that drove private firm incorporation in the new Pakistan. Dadabhoy Group, for example, a Memon commercial family from India, established operations in cotton ginning, housing and real estate (and later in cement, papersacks and insurance), while the Dawoods, a Memon family previously engaged in the cotton trade in India, entered into textiles, paper, jute and later chemicals and engineering (Mahmood, 2003). As shown in Figure 2-1 below, close to three-quarters of all new firms in Sindh and Punjab were created in Karachi from 1947 to 1951.[16] Existing residents of Punjab were also among many early entrants to industry. This included Packages Limited which emerged in the paper and paperboard manufacturing sector (in a joint venture with Akerlund & Rausing of Sweden) and later into printing inks, polypropylene films and dairy products with Nestle Milkpak.[17] A number of entrants from trading backgrounds in India found also themselves in new sectors such as pharmaceuticals, forming joint ventures with multinational firms (Weiss, 1991).

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[13] Mr Saigol is the Chairman of Kohinoor Maple Leaf Group in Pakistan. His family have been well-known industrialists since partition and he has been managing the group since 1968. He is well respected in Pakistan's business community and has also been a central advisor to government on textile policy in the past decade. Mr Saigol gave two interviews in 2006, one on the performance of the two textile firms within the business group and one on the history of Pakistan's textile industry.

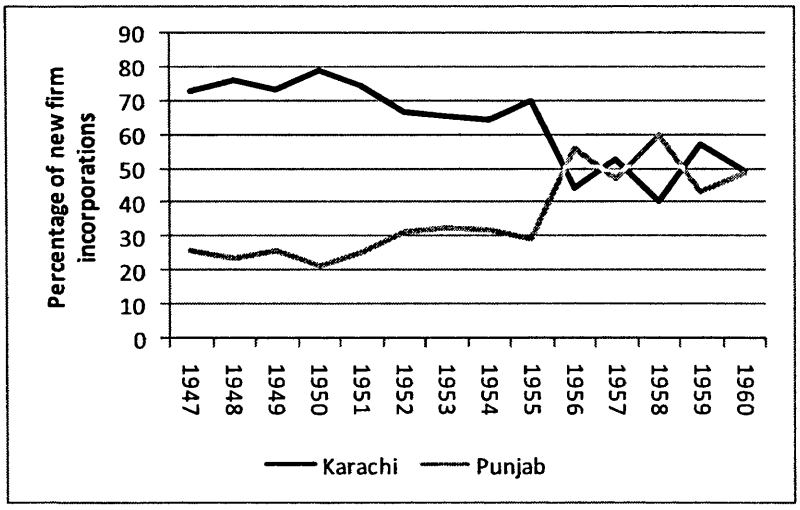
[14] Source: Mr Saigol.

[15] There was also a central role for the state alongside private initiative. The Pakistan Industrial Development Corporation was established in 1950 and set up several industrial projects which were later transferred into the private sector. Several companies remained in state ownership in 2007 – this will be discussed further in Chapter 7. Source: Editorial, 'Privatisation policy', Dawn, 19 Feb 2009.

[16] The Karachi port was also the major export hub for the new Pakistan, with between 36.5 per cent and 62.7 per cent of Pakistan's exports between 1947 and 1955 passing through this route. Source: Pakistan Statistical Bulletin, 1947-1958, Government of Pakistan.

[17] Sources: Packages Limited, Over the years, http://www.packages.com.pk/overtheyears.htm and Packages Limited, Corporate Structure, http://www.packages.com.pk/corporatestructure.htm, accessed 23 March 2009.

Figure 2-1 New firm incorporations in Karachi and Punjab (1947-1960)



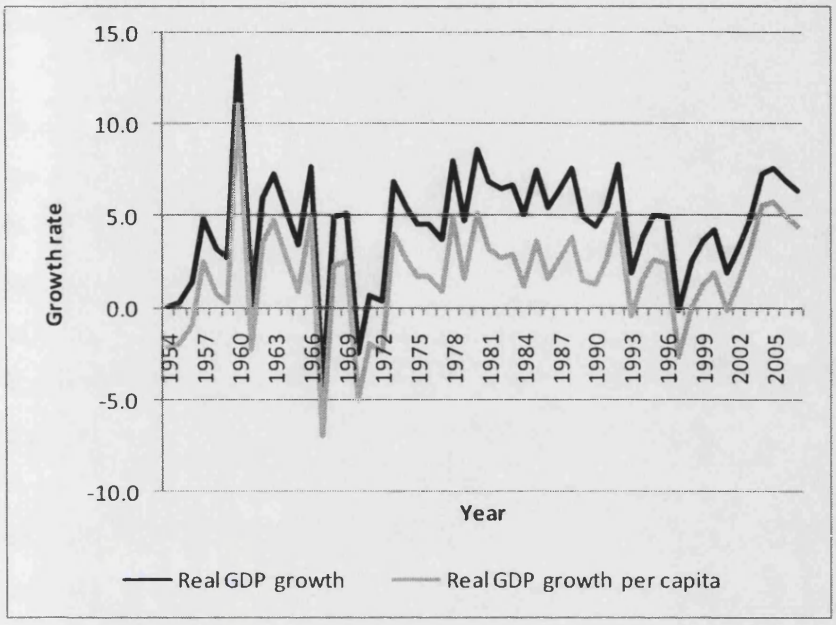
SOURCE: Ur-Rehman (1997)[18]

These patterns of firm formation and industry development were also evident in the evolution of the textile sector. Firm 1, for example, was founded by a family that "was the largest exporter of raw hide in Indo-Pakistan before partition", but later split into separate units in East and West Pakistan after Partition in which they entered the yarn trading business. The founder of Kohinoor Textile Mills had "made his fortune" in the shoe and footwear industry in Calcutta, but "realised he could not stay if India was partitioned".[19] Some residents of West Punjab took over evacuee manufacturing units left behind by Hindus: a Director of Firm 7 explained how his grandfather worked on the shop floor of a ginning unit and in 1947 was given the opportunity to take over the mill. Several mills that were formed in this period went on to dominate the textile industry for decades, such as Colony Textile Mills in Multan, the Crescent Textile Mills, and Kohinoor Textile Mills. Consequently, the growth of large scale industry was deemed impressive in Pakistan's early years. According to Zaidi, "largest-scale manufacturing grew at a phenomenal 23.6 per cent between 1949 and 1954, and afterwards, by the still very impressive 9.3 per cent up to 1960" (2004:85). Figure 2-2 below shows a growth in real gross domestic product (GDP) in the 1950s to a peak in 1960.

[18] The inclusion of this Ur-Rehman (1997) reference is controversial. It was not formally published and frequently includes uncorroborated allegations of corruption among well-known business people in Pakistan. I have only used formal incorporation data from this document as it was the only source available, but have not quoted any arguments from this paper.

[19] The Kohinoor Group split in the 1960s, and Kohinoor Textile Mills now belong to Kohinoor Maple Leaf Group, http://www.kmlg.com, accessed 23 March 2009.

Figure 2-2 Growth of gross domestic product in Pakistan (1954-2007)



SOURCE: International Monetary Fund, International Financial Statistics, December 2008

2.2 Politics and industrial development in Pakistan (1947-1988)

The political legacy of Partition

However, policy and politics was to have a negative impact on the industrial development of Pakistan in its first four decades. According to Cohen, "Pakistan was unstable from the outset" (2005:54): there was a lack of consensus on the 'idea of Pakistan' and the government failed to put a constitution in place until 1956 (ibid:56). Further, the "fledgling state suffered an immediate leadership crisis" following the sudden death of Mohammad Ali Jinnah – Pakistan's first leader – on 11 September 1948, and the assassination of Pakistan's first prime minister – Liaquat Ali Khan – in 1951 (ibid:54). The Muslim league soon 'fractured' as its leaders, "newly arrived from India, lacked a political base in the provinces" (ibid:54).

According to Talbot, a "façade of a parliamentary system was to last for five more years" but real power now lay with the army (1998:142). Following divisions between government and the army over foreign policy, food shortages, unemployment and inflation after the Korean War boom (ibid:141), in 1958 Pakistan's President, Major General Mirza, imposed martial law and dismissed the central and provincial governments (Cohen, 2005:60). General Ayub Khan of the Pakistani army was put in place as Chief Marshall Law Administrator and stayed

in power until 1968. This was to be the start of several periods of military rule within Pakistan in its first 60 years.

Each period of rule in Pakistan brought radical changes in governance and had mixed impacts on Pakistan's polity and economy. Cohen describes the Ayub period, for example, as "a break from the chaos and disorder that preceded his coup" where "Ayub and his colleagues set about creating a Pakistan that was both intellectually coherent and administratively effective" (2005:64). However, a number of tensions built up in the 1960s which eventually led to the exit of Ayub Khan from governance. Social unrest over the distribution of wealth in Pakistan had also increased following the famous speech in 1968 of Mahbub-Ul-Haq – Ayub's former Chief of Economic Planning – in which he stated that there were 22 families in Pakistan who controlled 66 per cent of all industrial assets, 79 per cent of insurance funds and 80 percent of bank assets (Talbot, 1998:181). It was in 1967 that Zulfiqar Ali Bhutto – Ayub's western educated foreign minister – created the Pakistan People's Party, and began to gain support around the country which challenged Ayub's dominance (Cohen, 2005:73).[20]

It was the post-Partition evolution of politics and instability that also led to the breakup of East and West Pakistan in 1972. Several clashes over language and ethnicity since 1947 had left the Bengali population "thoroughly alienated" (Cohen, 2005:75).[21] The Pakistani army "treated the Bengal movement as a counterinsurgency" (ibid:74) and when the Awami Party won a majority in the 1971 elections its leader Rahman was denied power. Following a military crackdown in which India to intervene on behalf of East Pakistan, Pakistan went to war with India in 1971. The Pakistani army, however, was defeated after only two weeks (ibid:8) and Bangladesh gained status as an independent country. At this time the army

[20] Following a series of disturbances in 1968 and 1969, Ayub resigned from his post and martial law was put in place by General Yahya who later attempted to hold Pakistan's first national elections in December 1970 (Talbot, 1970).

[21] The military and bureaucracy in the new Pakistan was dominated by Muhajirs who had made up the Muslim League as well as Punjabis. The army, for example, was composed 60 per cent by Punjabi officers as the state had previously the highest share in the Indian army during British rule in India (over 50 per cent) (Khan, 2005:64). Although Bengalis comprised 54 per cent of the total Pakistani population in 1948, they had 11 per cent share in civil service employment (Khan, 2005:63). Urdu was made the national language of Pakistan and "Bengali legislators were warned that if they used their own language they would be tried for treason" (Khan, 2005:66). The "One Unit" scheme created in 1955 was "an effort by the Punjabi-Mohajir establishment to lump together the smaller provinces with Punjab to neutralise the Bengali majority" and described by Khan as "one of the many black spots in Pakistan's history" (2005:21). According to Cohen, the "notion of a Bengal majority was anathema both to the Punjab-Pathan dominated army and to the most prominent West Pakistani politician, Bhutto, who wanted the prime ministerial position for himself" (2005:74).

instead put in the "most charismatic politician" to unite the country: Zulfiqar Ali Bhutto (Cohen, 2005:9).

Bhutto came to power in Pakistan from 1972 to 1977 and Pakistan's first democratically elected leader and put forward his vision of Pakistan as a socialist and Islamic state based (Cohen, 2005:79). His presence was to continue the level of upheaval within Pakistan. In terms of economic policy, the party's election manifesto has promised the nationalization of "all basic industries and financial institutions" (Zaidi, 2004:99) including sectors such as vegetable oil, cotton ginning, rice milling, banks and insurance.[22] Bhutto also attempted to tackle the concentration of wealth by taking the passports of members of the 22 families and arresting those family members who were more politically active (Cohen, 2005:82).[23] However, Bhutto's moves were often political. According to Lamb, Bhutto's nationalisation of cotton ginning and rice husking mills "were specifically designed to hit political opponents, and it was during his rule that economic activity was really replaced by political activity" (Lamb, 1990:174).[24] Further, towards the end of the 1970s, the army "distrusted Bhutto's demagogic political style, resented his attempt to bypass the army, and were concerned about the chaos that had engulfed the government following opposition-led protests against Bhutto" (Cohen, 2005:84).

The army arrested Bhutto in July 1977 and martial law was introduced by the head of the army, General Zia-ul-Haq, who promised elections within 90 days.[25] Pakistan under Zia-ul-Haq from 1977 to 1988 in the country's fourth decade was the longest period of military rule to date described by Talbot as "authoritarian in political structure" which aspired for Pakistan to become an Islamic state (Talbot, 1998:245). Throughout his rule, Zia-ul-Haq was buoyed by support from the United States for its role in tackling the Soviet occupation of Afghanistan. However, Khan describes the period of his rule as one "marred by public hanging, widespread flogging, sexism and the worst kind of religious bigotry" (2005:75) and

[22] These included United Bank, Muslim Commercial Bank and Habib Bank and according to Cheema nationalisation "extended political control over the entire financial sector" (2002:29).
[23] The Sharif family of future Prime Minister Nawaz Sharif and owner of Ittefaq Group active in steel and textiles, for example, moved to the Middle East and, according to Cohen, the head of the Sharif family "never forgave Bhutto and the PPP" (2005:82).
[24] Further, while respected as "the outstanding political figure of his generation" he was also known for the "cruelty of his feudal background", ego and someone who "regarded all opposition as illegitimate" (Talbot, 1998:216).
[25] Bhutto was hanged on 4 April 1979 in Rawalpindi after being found guilty of conspiracy to commit murder in a "dubious trial" (Cohen, 2005:9).

one which brought sectarian violence, drugs and armed violence to Pakistan. Zia-ul-Haq was still in power when he was killed in 1988 when his airplane crashed after takeoff at in still unexplained circumstances.

Governance and economic development

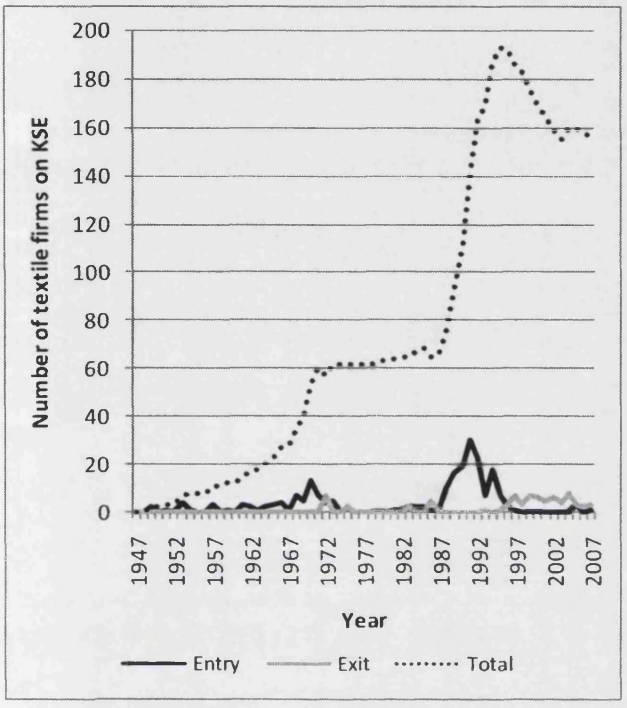
This instability in politics and governance in the first decades of Pakistan's existence had a direct impact on firm formation and growth as well as Pakistan's overall economic performance. Policies under the rule of Ayub Khan, for example, included rehabilitation of refugees, technical assistance to establish agricultural universities, tax holidays for business and expanded credit facilities using World Bank loans (through the creation of the Pakistan Industrial Credit and Investment Corporation and Pakistan Industrial Development Corporation) (Talbot, 1998:170). Pakistan's GDP growth throughout the 1960s was above 5 per cent in 7 out of 10 years of the 1960s (see Figure 2-2 above) and according to the International Monetary Fund (IMF) was stimulated by intensive private investment (including growth of physical capital stock of 13.1 per cent per year) and improvements in the levels of schooling (which resulted in a human capital stock growth of 11.6 per cent per year) (2002:9-10). During this time "[c]ountries such as South Korea and Malaysia saw Pakistan as a model for export-led growth strategies" (Cohen, 2005:65-66).

In contrast, under Bhutto's rule new firm listings in the textile sector on the Karachi Stock Exchange, for example, came to a standstill (see Figure 2-3). According to Zaidi, "industrialists feared lock-outs or outright nationalization. Entrepreneurs were demoralized and unwilling to invest. Capital and capitalists had fled overseas" (2004:102). The IMF (2002) has noted that growth rates in all factor inputs and GDP fell in the 1970s. Cohen describes the six years of Bhutto's rule as "traumatic" and characterised by economic damage and disillusion by business (Cohen, 2005:84).[26] Further, the loss of East Pakistan in 1971 led to several economic problems such as a shortage of foreign exchange due to the loss of jute exports, inflation and shortages of essential goods. According to Talbot "[a] morally bankrupt regime was on the verge of economic bankruptcy" (1998:210). The Karachi Stock Exchange

[26] However, Zaidi contends that while "Bhutto's regime has come in for a lot of criticism for 'destroying' the economy" the 1970s was a period of high inflation and international recession from which Pakistan was not isolated (2004:98). Further, the IMF (2005) stated that Pakistan's three growth booms have taken place: 1961, 1977 and in the post-2000 period. A rise in the investment ratio accompanied the first two booms, including a sharp rise in the investment ratio to 19 per cent of GDP in the two years prior to the 1977 growth acceleration.

also experienced a total of 58 firm de-listings in 1972 immediately after the breakup of the country (including several textile mills such Olympia Textile and Ahmed Bawany Textile), the largest number delistings in any one year in its history.

Figure 2-3 Textile firm listings on Karachi Stock Exchange (1947-2007)



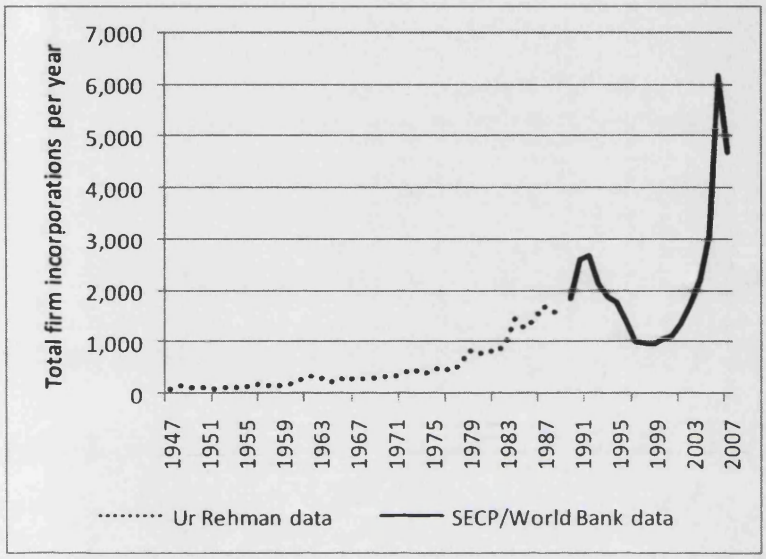
SOURCE: Karachi Stock Exchange, own analysis

Some accounts of economic change during the Zia era state that "Pakistan witnessed the return of high growth rates and an increased role for the private sector" (Zaidi, 2004:105-108). This included denationalization of several industries such as rice husking, flour milling and cotton ginning in 1977 as well as the opening of industries such as chemicals and cement to the private sector (ibid:108). Cohen also states that the recovery of the 1980s was further energized by the economic reforms of Mahbub-ul-Haq (2005:250) who introduced policies for liberalisation, privatisation and deregulation of the economy when appointed finance minister in 1985. Indeed, a rise in firm formation begins in the early to mid 1980s (see Figure 2-4), suggesting a move towards a less regulated entry policy.[27] However, others contend that these shifts "masked a deepening of the long-term structural problem" which included low

[27] Haq was the economist who made the '22 families' speech in the 1960s. However, note that due to protests from bureaucracy, landowners and the business class Haq was removed from office after less than a year although he was to return in 1998 as finance minister in the caretaker government (Cohen, 2005:250).

levels of saving, a growing fiscal deficit, dependence on textiles for development and weakness of infrastructure (Hasan, 1998:235). Mahbub-ul-Haq also stated that Pakistan was 'bankrupt': fiscal deficits approached 7-8 per cent of GDP (Cohen, 2005:250) and external debt rapidly accumulated in Zia's last years.

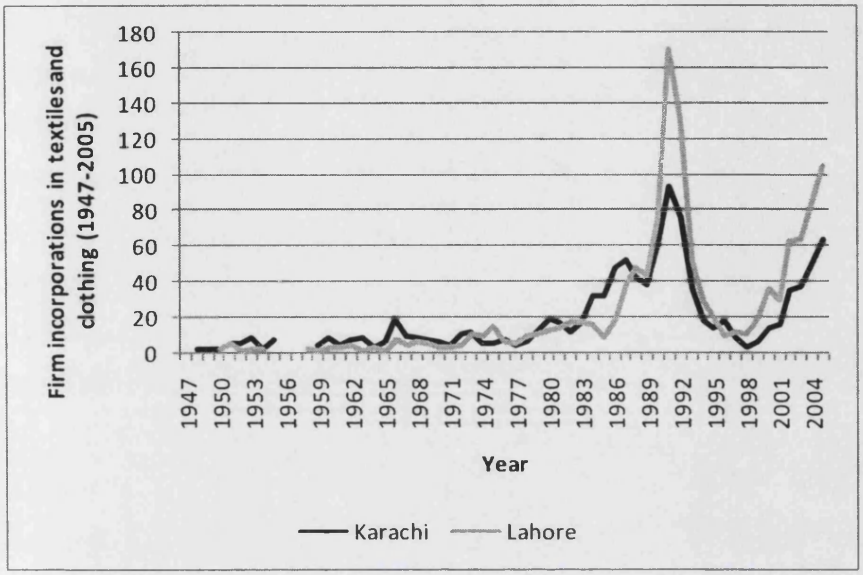
Figure 2-4 New firm incorporations in Pakistan (1947-2007)



SOURCE: Ur-Rehman (1997), Securities and Exchange Commission of Pakistan (Annual Reports), World Bank Group Entrepreneurship Database

It was also during the Zia period that ethnic unrest in the city of Karachi started to increase. The Muhajir community had come to see itself as victimised as both Bhutto and Zia-ul-Haq had increased the role for other groups in the elite level of the bureaucracy. A party emerged to push the Muhajir interests in 1984 – the Mohajir Quami Movement (now renamed the Muttahida Quami Movement) – and riots started in Karachi in April 1985 following the death of a Muhajir schoolgirl in a crash with a Pushtun-driven minibus (Talbot, 1998:265). Soon after the unrest commenced, business began to shift to the calmer areas of Punjab. Figure 2-5 shows that that in the late 1980s new firm incorporations in Punjab exceeded those in Sindh for the first time.

Figure 2-5 Firm incorporation in textile industry by location (1947-2005)



SOURCE: Data supplied by Securities and Exchange Commission of Pakistan, own analysis

The industrial policy of Pakistan in its first four decades also had a direct impact on firm entry, growth and diversification. The main policy instrument adopted by the government to encourage industrialisation, for example, was "an import tariff which gave substantial advantage to domestic producers of import-substituting consumer goods" (Lewis, 1970:4).[28] Manufacturers therefore had to obtain a licence in order to obtain foreign exchange to purchase machinery or inputs which could be granted by an official agency or a bank (ibid:25).

The system was complex and administered by a myriad of agencies throughout the 1950s and 1960s and, according to Tariq Saigol, it was in the 1960s that the first signs of the licensing system being used as a political tool started to show.[29] Money changed hands in order to obtain a licence, while some licences were allocated to politicians who were attracted by the entitlement to foreign exchange. According to Lewis, "[d]ecisions on investment sanctioning...seem to have been done on a fairly ad hoc basis" (1970:33). Mr Sajjad Hassan

[28] Following the 'export boom' of the Korean War between 1950 and 1952, gains from the boom eased and as export prices fell rapidly and as a result "the Government realised a foreign exchange crisis was imminent, and it chose to meet the crisis by using direct controls on imports" (Lewis, 1970:4).

[29] These agencies included the Office of the Chief Controller of Imports and Exports (Lewis, 1970), the Central Permissions Committee, Central Investment Promotion and Co-ordinating Committee and financing agencies such as the Pakistan Industrial Credit and Investment Corporation. Loans provided by organisations such as the Pakistan Industrial Credit and Investment Corporation and the Pakistan Industrial Credit Corporation were often funded by donors such as the World Bank (Talbot, 1998:170).

– in attendance at several of these committees in the 1960s – confirms that members often had little knowledge about the industry or firm they were approving and that that licences were often "given to people with no business acumen". Cohen also contends that in the 1960s during General Ayub's rule, "the industrial licensing system was used to reward regime supporters and punish opponents" (Cohen, 2005:67) and Talbot argues that Punjab rose in economic dominance during the Zia period because Punjabi industrialists gained disproportionate access to loans from government-controlled financial institutions (Talbot, 1998:254). As a result, entry was made more difficult for those lacking such connections or who fell out of favour with the ruling party.

This control over entry of new firms in Pakistan's early decades is illustrated by firm incorporation trends in Figure 2-5 above. Total new firm incorporations were more or less constant in the first ten years of Pakistan's history, and grew only at a very slow pace during the late 1950s and 1960s. It was only at the end of the 1980s when firm entry was liberalised and there was a rise in firm incorporations.

Firm formation and growth in the textile industry

This politics and policy of Pakistan's early years are also reflected in the emergence of the textile industry. A growth in new firm listings was evident on the KSE in the 1960s (see Figure 2-3) and several firms that emerged at this time went on to dominate the industry for several decades. Sapphire Group, for example, set up its first spinning unit in Pakistan in 1966 named Gulistan Spinning and the has since gone on to become a leading producer of cloth, garments and home textiles in the post-2000 period.[30] Textile exports also grew gradually throughout the 1960s as shown in Figure 2-6.

[30] Its companies include Gulistan Textile (1966), Sapphire Textile (1969) Sapphire Fibres (1979), Paramount Spinning (1987), Gulshan Spinning (1979) and Reliance Cotton Spinning Mills (1990).

Figure 2-6 Textile and clothing exports from Pakistan (1962-2007)

SOURCE: UN Comtrade, SITC1

However, there were some negative impacts on of policies in the Ayub period. Import protection, for instance, led to very high profits in the textile sector and "few pressures for moving into areas of greater value added such as garments or mixed textiles and even less for moving into intermediate products or capital goods" (Hasan, 1998:54). The use of specific policy tools such as the 'Export Bonus Scheme' from which an company received vouchers that could be used to import items equivalent to a percentage of its export earnings, could have led to a focus on volume of exports rather than profitable and value-added items.[31] In fact, the timing of the bonus scheme also coincides with the 'bulge' in textile export market share in the 1960s (see Figure 2-7).

[31] Several leading textile firms in the 1960s made much use of these vouchers and represented up to 18 per cent of revenues. Source: Annual reports of several KSE-listed firms dating back to the period 1959-1972.

Figure 2-7 Pakistan export market shares in textiles and clothing (1962-2007)

SOURCE: UN Comtrade SITC1, own analysis

The breakup of Pakistan also led to disruption in the textile industry as several textile firms were compelled to move their operations to West Pakistan. Firm 14, for example, now a large manufacturer of yarn and cloth, had set up a spinning mill in East Pakistan in 1965 following Partition, but left in 1973 to create its first mill in West Pakistan.[32] Firm 23 had built up a brand of shoes in East Pakistan between 1956 in 1971 as well as other interests in West Pakistan, but when the war occurred in 1971 many of the family members decided to stay in the West for good.

As in other industries, several firms in the textile sector discussed how they obtained a licence to operate. A Director of Firm 19, a company now producing yarn for export and the domestic market, described how the firm's "first application for a licence in 1952 was turned down as a result of foreign exchange controls" but a licence was later granted to open a processing mill in rural Punjab.[33] Firm 9, now a well-known producer of yarn, described how "a few banker friends helped get a licence" in the late 1960s. As illustrated in Table 2-3, the textiles and clothing sector was often the most popular segment for which loans were requested. However, some entrants without political connections were able to enter the industry despite these obstacles. Indeed, according to Mr Hassan "good people did not need

[32] Several Muslim business families had moved to East Pakistan following partition because of its proximity to Calcutta.

[33] Another individual involved with this firm stated that the later permit was obtained probably because "the priority of the government was [textile] finishing" at the time.

connections" as they could purchase licences from individuals such as politicians. Certainly, a Director of Firm 1, now a leading producer of yarn, cloth and home textiles, stated that it "purchased the sanction from a politician for a premium" in the late 1960s.

Table 2-3 Loans sanctioned by the Industrial Development Bank of Pakistan (1961-1964)

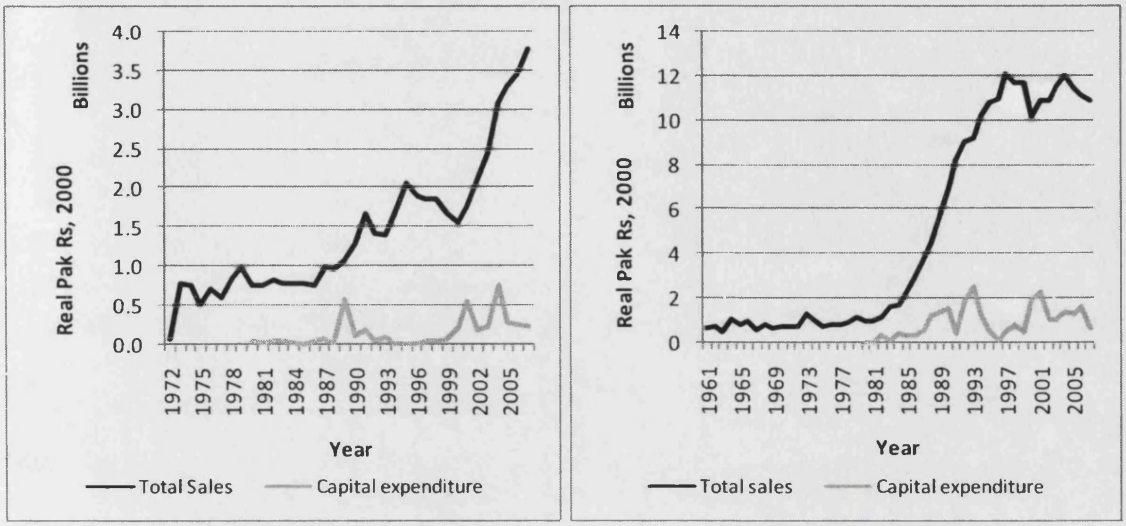
Industry	Number of sanctioned loans
Textiles and clothing	393
Food products (e.g. Sugar)	61
Metals and engineering	46
Non-metallic mineral products	22
Small-scale industry	19
Chemicals	17
Printing and publishing	15
Paper products	12
Miscellaneous manufacturing	11
Wood products	7
Electrical goods	7
Leather goods	6
Rubber goods	3

SOURCE: Lewis (1970)

Many textile firms were badly affected by the nationalisation of Bhutto. Firm 7, for example, was a business group previously active in cotton ginning and production of vegetable oils. Production in a new unit textile started in 1972, but coincided with the period of nationalisation so the expansion was halted. Sales growth stalled throughout the period of Bhutto rule (see Figure 2-8 below) and as the family lost confidence in Pakistan's economy they did not invest again until the late 1980s. The company has since gone on to become one of the best performers in the production of cloth and yarn both during and after the quota period, and owned the 19th and 59th largest exporting unit in 2006. Similarly, one of Pakistan's largest exporters, Nishat Mills, also did not start investing again until the end of the 1970s (see also Figure 2-8).[34]

[34] Nishat Mills Annual Reports, Karachi Stock Exchange

Figure 2-8 Sales and capital expenditure in Firm 7 (1972-2007) (left) and Nishat Mills (1961-2007) (right)

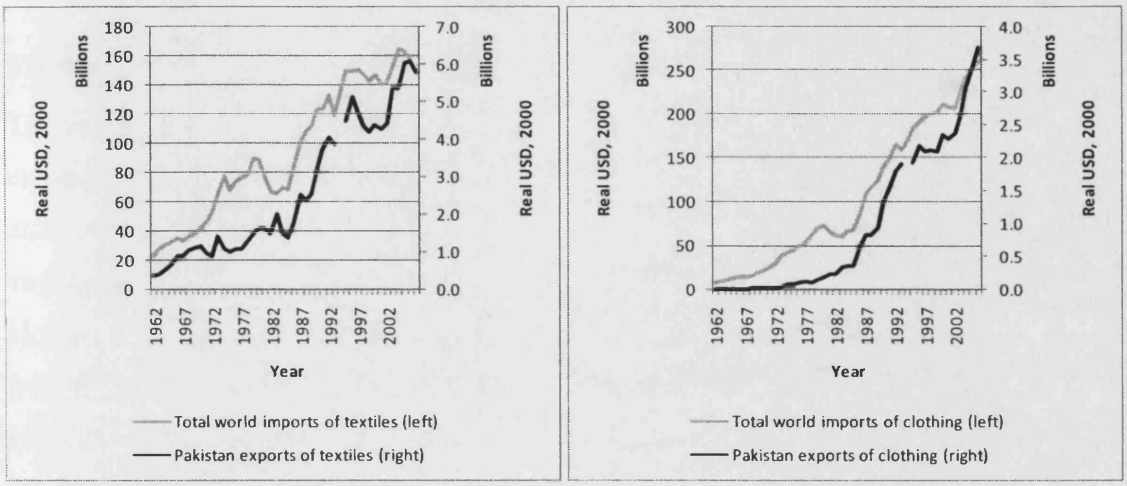


SOURCE: Karachi Stock Exchange, own analysis

However, textile exports from Pakistan continued to climb during the rule of Bhutto and the loss of East Pakistan in line with growth in global demand.[35] In particular, it was in the 1970s that exports in clothing products began to take off, coinciding with the introduction of export quotas under the Multifibre Arrangement in 1974 (see Figure 2-9). Indeed, Firm 1 commented that it received greater market access at this time, partly because quotas were allocated to firms in the market based on their previous year's exports. Interviews with garment producers in Karachi also revealed anecdotes of innovation from the 1960s onwards as informal firms attempted to reproduce garments demanded by buyers. Further, according to a leading accountant in Pakistan, the break-up of the banking sector allowed new entrants in the textile sector to access finance as previously they were prevented from entering due to fear of competition on behalf of textile firms who also owned banks.

[35] In fact Mr Sajjad Hassan, a former Chairman of the Central Board of Revenue, stated that firms were actually growing in that period but few firms wanted to show they were making profits as a result of government policy at that time.

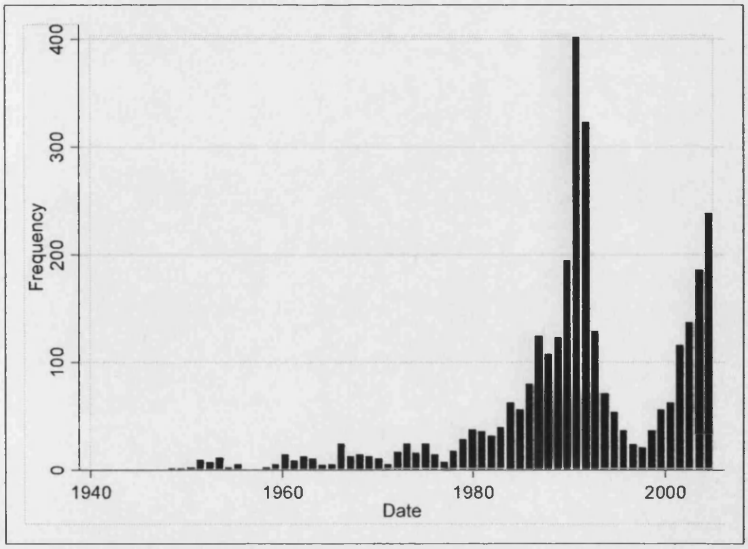
Figure 2-9 Pakistan textile (left), clothing (right) exports vs world imports (1962-2007)



SOURCE: UN Comtrade SITC1, own analysis

During the Zia period Pakistan continued to gain market share in textiles and clothing (see Figure 2-7 above). There was also a rise in the volume of cotton production which contributed to growth in yarn exports (Hasan, 1998) (see Appendix 2-1). Cheema argues that the availability of state credit resulted in significant new entry into the spinning sector from 1981 to 1994 during which time the share of incumbent firms in credit allocation fell from 97 per cent in 1981-1985 to 53 per cent in 1990-1994 (2002:34). Firm incorporations in the textile sector also rose from the early 1980s as entry was de-regulated (see Figure 2-10).

Figure 2-10 Firm incorporations in the textile and clothing industry (1947-2005)



NOTE: This chart refers to firms still active in 2006 hence it is subject partly to survival bias.
SOURCE: Data supplied by Securities and Exchange Commission of Pakistan, own analysis

2.3 Entry liberalisation and industry development (1988-2007)

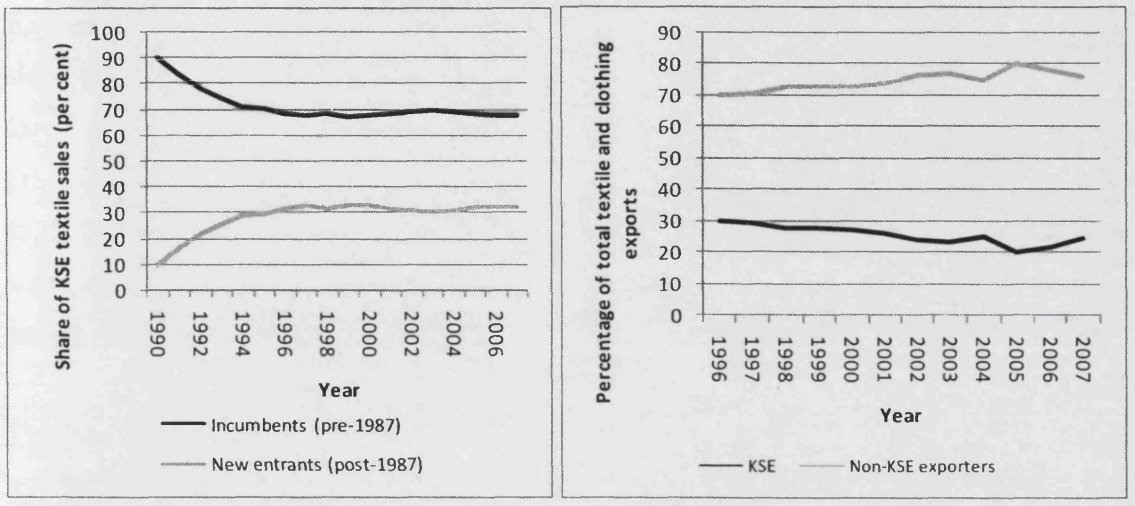
Modern industrial policy in Pakistan

The economic policies which shaped industrial development in Pakistan in the 1980s were extended by both Benazir Bhutto and Nawaz Sharif when they came to power between 1988 and 1999. According to Talbot "[a]s befitted his background in business, Nawaz Sharif embraced economic liberalisation more enthusiastically than the PPP had done" (1998:315). Hasan describes how Sharif "opened almost all areas of economic activity to the private sector" such as power generation, highway construction, airlines, shipping, and banking (1998: 273, 289) and in 1991 ended all controls on foreign currency entering Pakistan in an attempt to encourage foreign direct investment (Talbot, 1998:315). Sharif also introduced a range of reforms which had a direct impact on the textile industry, such as the phasing out in 1992 of the export tax on raw cotton production (Hasan, 1998:274), what Mr Saigol had described as "a resource transfer to the spinning industry".[36] Hasan also states that what Sharif did for the economy was "largely maintained by Benazir Bhutto's second government" (1998:272). Indeed, firm incorporations rose across all textiles and clothing product categories (including spinning, weaving, garments and composite) after 1988 to a peak in 1992.[37]

The stock exchange also saw a rise in firm listings (as shown in Figure 2-3 above) and market share being taken by new entrants. Between 1990 and 1994 new entrants took nearly 20 per cent of the share of total textile revenue on the KSE from incumbents (see Figure 2-11).[38] Examination of the top ten performers among these new KSE entrants (by total size at age 10) shows that seven of them were spinoffs of incumbent firms and two were new entrants, while the background of the other is unknown. Nishat Chunian, for example, was a spinoff from the leading Nishat Mills, while Kohinoor Maple Leaf Group created a new cloth unit, Kohinoor Weaving.[39] Privately-held firms also began to take export market share from the longer-established public listed firms at this time.

[36] Mr Saigol also commented that this removal was inevitable as it had only come under pressure from developed countries since the mid-1980s onwards who were restricting market access in response.
[37] Source: Securities and Exchange Commission of Pakistan, own analysis.
[38] Mean gross profit also declined among KSE-listed firms from a range of 5-18 per cent in the 1990s to between 0 and 5 per cent in the post-2000 period. While it may also be related to global declines in the unit value of cotton yarn (see section 3.3), it also suggests an increase in competition among firms.
[39] Nishat Chunian Ltd, http://www.nishatchunian.com/, accessed 23 March 2009.

Figure 2-11 Market share of textile sales among new entrants on Karachi Stock Exchange (left), share of total exports by firm type (right) (1990-2007)



SOURCE: Karachi Stock Exchange, Federal Bureau of Statistics, own analysis

Textile and clothing exports also continued to grow in line with expansion in global trade (see Figure 2-9 above). Moves towards higher value-added products and wider industrial diversification were particularly apparent. In 1997, Chenab Limited – a leading home textile exporter – created its first local retail store in Pakistan, Chen One, with the slogan 'Changing Lifestyles'.[40] Siddiqsons Denim Mills, established in 1958 and the 41st largest exporter under quota, created the first tin plate manufacturing unit in Pakistan in 1999, Siddiqsons Tin Plate.[41]

However, Pakistan continued to be plagued by political instability which affected the performance of industry. Firstly, ethnic violence continued to be a part of everyday life in Karachi and Sindh and common events included kidnappings of high-profile Pakistanis, bank raids and car theft (Talbot, 1998:323). Bashir Ali Mohammad, a former chairman of the All Pakistan Textile Mills Association, stated at the time that its members had paid out more than 39 million rupees in a six month period and that in Sindh "[t]he highways are so unsafe that for over a year we have not been able to visit our factories" (Lamb, 1990:184). While firm incorporation in Karachi began to rebound in the post-2000 period, is has not recovered its previous dominance: only 27 per cent of new textile firms were incorporated in Karachi between 2000 and 2005 in contrast with levels of 60 per cent in the 1960s.

[40] Chen One Stores Limited, http://www.chenone.com.pk/, accessed 23 March 2009.
[41] Siddiqsons Tin Plate, http://www.siddiqsonstinplate.com/, accessed 23 March 2009.

At an aggregate level, the period between 1988 and 1996 was also marked by slowing economic growth, recurring foreign exchange crises and the failure to create a stable political framework in the country (Hasan, 1998:267). According to the IMF (2002) there was a slowdown in physical and human capital accumulation, a decline in inward investment and a lack of trade openness. There were also countless accusations of corruption in the privatization of several industries: Sharif was accused of allowing business people in Punjab to gain control of one of Pakistan's most important banks, the Muslim Commercial Bank, while Bhutto was also accused of corruption in the privatisation of 28 state-owned companies between 1993 and 1995 (Cohen, 2005:252).

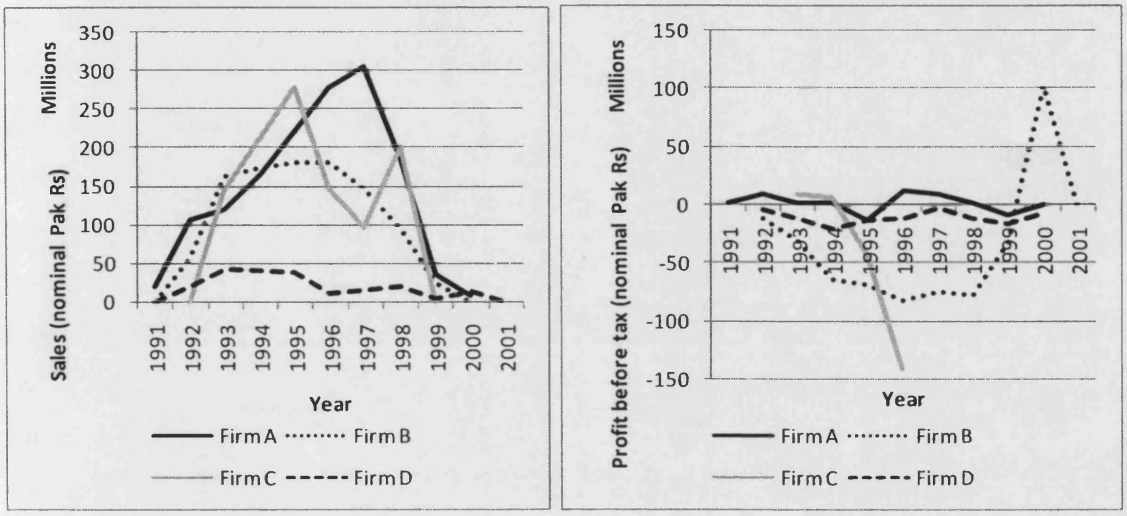
Despite extensive industrial and financial market deregulation and liberalization between 1988 and 1992, political influence over banks also continued to shape firm entry and industry performance. Lamb describes how "[t]he most common way for politicians to supplement incomes or do favours for friends was through bank loans from the nationalized banks" (1990:181).[42] As a result, bank managers did not take lending decisions on merit and many firm founders invested a minimum of their own equity in the venture so entrants were "destined to fail".[43] Khwaja and Mian (2005) found that between 1996 and 2002, politically connected firms (those with a politician on their board) received differential treatment from public banks: they borrowed one and a half times as much as unconnected firms, but had 50 per cent higher default rates.[44] Certainly, many new entrants to the textile sector in this period failed to make a rupee in profit and exited the industry soon after. Figure 2-12 gives the examples of four new entrants that rapidly went into loss and exited the industry by the end of the 1990s.

[42] An account by Lamb – an observer at the time in her role as a journalist – cites the case of one elected businessman: "In room 308 at the Holiday Inn in Islamabad, Farid Jaroon's phone would not stop ringing. Every time he picked it up a wheedling voice would offer him a house, a car, a plot of land, a ministry. Occasionally there would be threats – to stop the licence for his textile mill or to sack one of his relatives in government service" (1991:50).

[43] Source: Tariq Saigol.

[44] Private banks, however, did not respond to political connections. They estimate that the economy-wide loss due to inefficient lending is up to 1.9 per cent of GDP a year.

Figure 2-12 Sales (left) and profit (right) (1991-2001), selected new entrants listed on Karachi Stock Exchange in the 1990s



NOTE: The sudden rise in profit in Firm B in 2000 could be the sale of equipment or land during the winding up of the company.
SOURCE: Karachi Stock Exchange, own analysis

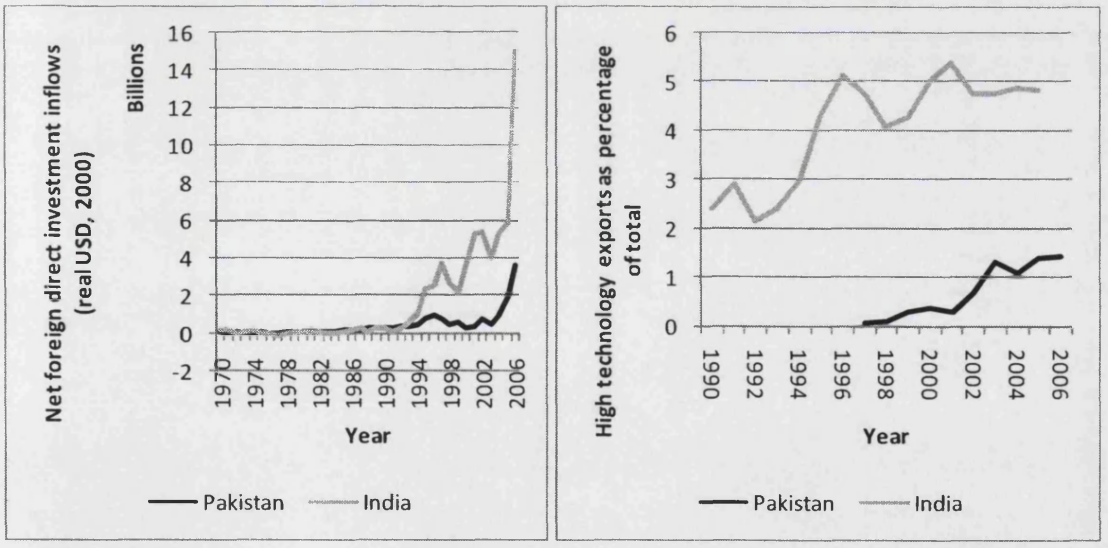
At the time of the coup of Pervez Musharraf in 1999 the military government faced heavy debt, a high fiscal deficit, low foreign exchange reserves, suspension of bilateral and multilateral assistance and nuclear sanctions.[45] Talbot describes how "Pakistani politics had become a zero-sum game in which oppositions denied ruling parties any legitimacy and governments used selective accountability to harry and intimidate their opponents. Parliament was at worst a bear-pit, at best the fountainhead of patronage politics" (1998:287).

The rule of Pervez Musharraf in Pakistan became one of the most controversial political issues following the attacks on 11 September 2001. However, his government was widely praised for bringing economic stability and reform by commentators abroad and at home. In 2007, the Asian Development Bank, for example, stated that "[b]uoyant growth, improved macroeconomic fundamentals, and strengthened international credit ratings have been the economy's hallmarks in recent years".[46] According to the World Bank's 'Doing Business' report (2005), Pakistan was the top reformer in the region and the tenth top reformer in the world due to efforts to make it easier to start a business and register property, as well as strengthening of corporate governance rules and simplification of the export licensing system.

[45] 'Pakistan's economic horizons, 2003 and beyond', Closing remarks by Dr Ishrat Husain, Governor of the State Bank of Pakistan, at The Daily Times Seminar on Pakistan Economic Horizons, 2003 and beyond, held at Karachi, 31 January 2003, accessed 23 March 2009, http://www.bis.org/review/r030220e.pdf
[46] 'Pakistan', Asian Development Outlook 2007, Asian Development Bank

There is some evidence for the positive impact of Musharraf's rule on Pakistan's economy. Levels of GDP per capita begun to rise in 2002 and GDP growth touched previous heights of the 1980s (see Figure 2-2 above). In line with rapid rises globally, foreign direct investment (FDI) into Pakistan had also increased to its highest level in the country's history with popular sectors including telecommunications, energy and financial services (see Figure 2-13 for a comparison with FDI trends in India).[47] Eighty per cent of banking and financial businesses were moved into the hands of the private sector (Aziz, 2003:295) and the level of nonperforming loans dropped between 2001 and 2006 from 23.4 to 7.7 per cent.[48] Exports in high technology sectors were also showing signs of catch-up, reaching 1.4 per cent of exports in 2006 from 0.4 per cent in 2000 (although Pakistan still trails India where these products made up 4.8 per cent of manufactured exports in 2005).[49] Additional gains include an increase in private national saving, a rebound of domestic-led growth (Lorie and Iqbal, 2005) and growth of large scale manufacturing (IMF, 2005).[50]

Figure 2-13 High-technology exports as share of manufactured exports (1990-2006) (left), net inflows of foreign direct investment (1970-2006) (right), Pakistan and India



SOURCE: World Development Indicators, World Bank, December 2008

[47] Telecommunications received half of all FDI in 2005-6 – $10.bn of a total $2.1bn – followed by oil, gas and power with $304m and financial services with $266m. Source: Pakistan Economic Survey 2006, Government of Pakistan

[48] Source: World Development Indicators, December 2008.

[49] ibid

[50] According to the International Monetary Fund in 2005, large-scale manufacturing production increased, cumulatively, by almost 70 percent over the period from 2000 to 2004/05 (2005:54).

In the textile sector there was a rise in the number of new firms following a drop at the end of the 1990s. Clothing as a proportion of textile exports from Pakistan also continued to increase in this period (see Figure 2-14). Buyers such as JC Penney, Nike and Sears increasingly looked to relocate garment production to Pakistan, while home textile retailers such as IKEA, Zara and Marks and Spencer began sourcing bedwear, towels and sheeting. There move towards home textile production was particularly apparent as many firms diversified from a base in yarn and cloth production: from 2000 to 2007 the home textile segment showed the largest gross rise in exports.[51] In 2007, the largest export product was cotton cloth (19.3 per cent), followed by bedwear (18.4 per cent) and knitwear (17.8 per cent) (see Table 2-4).

Figure 2-14 Composition of textile and clothing exports from Pakistan (1962-2007)

SOURCE: UN Comtrade SITC1, own analysis

Table 2-4 Product breakdown of Pakistan's textile and clothing exports (2007)

Product	Share of total textile and clothing exports (2007)
Cotton cloth	19.3
Bedwear	19.2
Knitwear	17.8
Ready-made garments	14.1
Cotton yarn	13.9
Towels	5.6

NOTE: Figures refer to Jan-Dec 2007. Textile and clothing represented 58.7 per cent of Pakistan's total exports.
SOURCE: Own analysis of Monthly Review of External Trade Statistics, Federal Bureau of Statistics

[51] While total textile and clothing exports rose by USD2.8bn (real USD, 2000) in this period, household linens made up 42 per cent of this increase followed by woven cotton fabrics (21 per cent of the total) and men's knitted garments (8 per cent). Source: UN Comtrade SITC3, for categories S3-65 and S3-84 (textiles and clothing categories), S3-6584 (household linens), S3-652 (woven cotton fabrics) and S3-843.

Economic development challenges

However, a number of weaknesses continue to plague Pakistan's economy. The first covers problems at the macroeconomic and institutional level. According to the IMF (2004), while growth has been considerably stronger in Pakistan than in many other low- and middle-income countries, and comparable to that of other South Asian countries, it has been below the growth rates experienced by countries such as Malaysia, Singapore, and Thailand. There is poor provision of physical infrastructure such as roads, rail transport and electricity distribution, and it is often provided at high cost: port charges in Karachi are some three times higher than Mumbai in India (Nadvi and Robinson, 2003:12). Further, Pakistan lags behind India, China, and the Philippines in providing an enabling environment for investors which includes poorly enforced property rights, the enforcement of contracts and corruption (Lorie and Iqbal, 2005:24).

The second is the lack of wider industrial diversification and development. Textile and clothing have continued to dominate industry in Pakistan despite a small drop in its contribution towards total exports since 1997, with textiles representing 63.0 per cent of total exports in 2007 (see Figure 2-15). Pakistan has only seen significant export growth in two sectors since the 1990s, chemicals and fuels.[52] In addition, while services made up between 14 and 26 per cent of total exports between 1980 and 2007, much of this comes from government services (40.9 per cent in 2007).[53] In contrast, Turkey, for example, has reduced its reliance on textiles as a percentage of overall exports from 26.0 per cent of the total in 1990 to 16.3 per cent in 2006 while India's reliance has dropped from 14.2 per cent in 1990 to 9.0 per cent in the same period. Turkey has seen an increasing reliance on machinery in its exports while India has seen growth in the service sector and in automobile manufacture.[54]

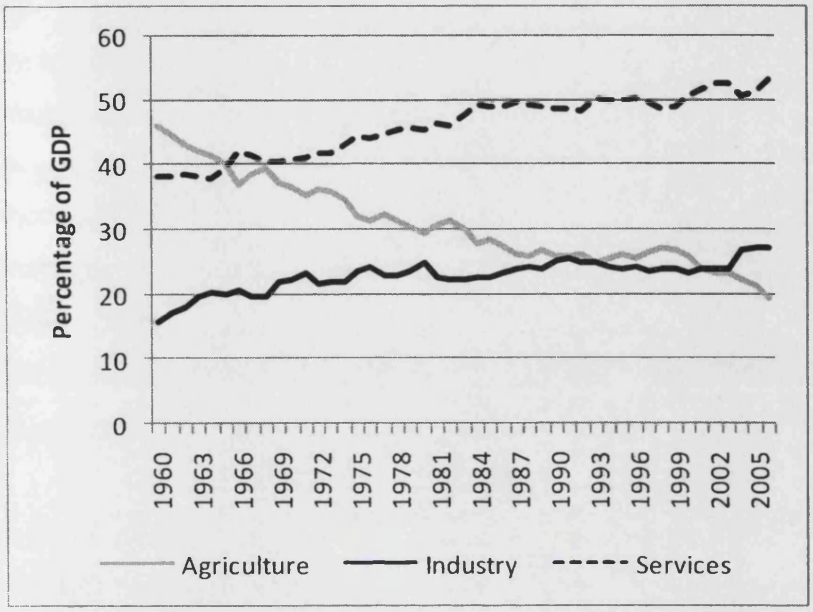
[52] Source: UN Comtrade SITC1, own analysis
[53] Source: For yearly data, World Development Indicators, December 2008. For detailed service data from 2005 to 2007, see State Bank of Pakistan trade statistics. I understand much of this often comes from military officers working on United Nations projects.
[54] Source: UN Comtrade, SITC1

Figure 2-15 Textiles and clothing as share of exports from Pakistan (1962-2007)

SOURCE: UN Comtrade SITC1, own analysis

In terms of domestic GDP, the latest data on domestic industry composition available from 1996 show that textiles represented 30.6 per cent of total value added in Pakistan, followed by food products (20.8 per cent) and other chemicals (6.6 per cent) (UNIDO, 2001). While industry and manufacturing have grown as a proportion of GDP over the years (see Figure 2-16), the economy remains more dependent on agriculture than many comparison countries in 2006. In 2006, Pakistan relied on agriculture for 21.6 per cent of GDP in contrast to 18.3 per cent in India, 12.6 per cent in China and 1.2 per cent in the USA. Further, GDP growth in Pakistan remains correlated with global trends (as well as inward aid flows), and the country has failed to break out of this pattern (see Appendix 2-2). Further, growth in the textile sector has remained correlated with rises in global demand: between 1962 and 2006, for each $1 increase in global imports of textile and clothing products (real USD, 2000), Pakistan exports in these products increased on average by $0.018.

Figure 2-16 Composition of gross domestic product in Pakistan by sector (1960-2006)



SOURCE: World Development Indicators, World Bank, December 2008

The third challenge to Pakistan's economic development is the dominance of business groups in the economy. Khan has argued, for example, that structural failure in Pakistan in the 1960s was the result of the inability of other sets of capitalists to establish alternative institutions and industrial policy (1995:85). Siddiqa-Agha (2007), for example, has also critiqued the economic role of the military since 1977 and the creation of large business groups aligned with the army, navy and air force in sectors such as fertiliser, banking and insurance. There is continued protection of local industry through the tariff system and concerns about local cartels in sectors such as banking and sugar.[55] Further, Khwaja et al (2008) found that a "supernetwork" of 5,295 firms in Pakistan, which represents around seven per cent of all corporate firms connected to each other either directly or indirectly through chains of inter-locked boards, obtain two-thirds of all formal financing.[56]

[55] See, for example, 'CCP seeks data of cement makers from FBR', 12 Sep 2008, Business Recorder, and 'Tareen sees banks' cartel behind currency fall, Business Recorder, 9 Oct 2008'.

[56] Of the total sample of 105,917 firms, almost two-thirds (66,140) of the firms are not linked to any other firm, while the remaining third belongs to multi-firm networks (2008:8). They found that firm presence in the supernetwork leads to a 16.5 per cent increase in a firm's borrowing and a 9.7 per cent lower probability of loan default. They also found that 21 per cent of total bank financing goes to firms which belonging to networks of between 2 and 85 firms, and the remaining 15 per cent goes to singleton firms. It is not possible to discern the economic implications of this data, but gives an interesting insight into the corporate landscape of Pakistani industry.

The fourth challenge facing Pakistan is that of human development. In fact, Easterly (2003) has described Pakistan's case as one of 'growth without development' as the country systematically underperforms on most social and political indicators (such as education, health and gender equality) for its level of income. Government spending in Pakistan on health and education – both as a ratio to GDP and per capita – is among the lowest levels in the world and only five countries out of 177 had lower public spending on health care than Pakistan, and in 2004 only five countries had lower public spending on education or health (IMF, 2004:13).[57] Literacy rates are as low as 22 per cent for women in Balochistan, and Pakistan's workforce often lacks the skills necessary for higher value-added production (Lorie and Iqbal, 2005:24).[58]

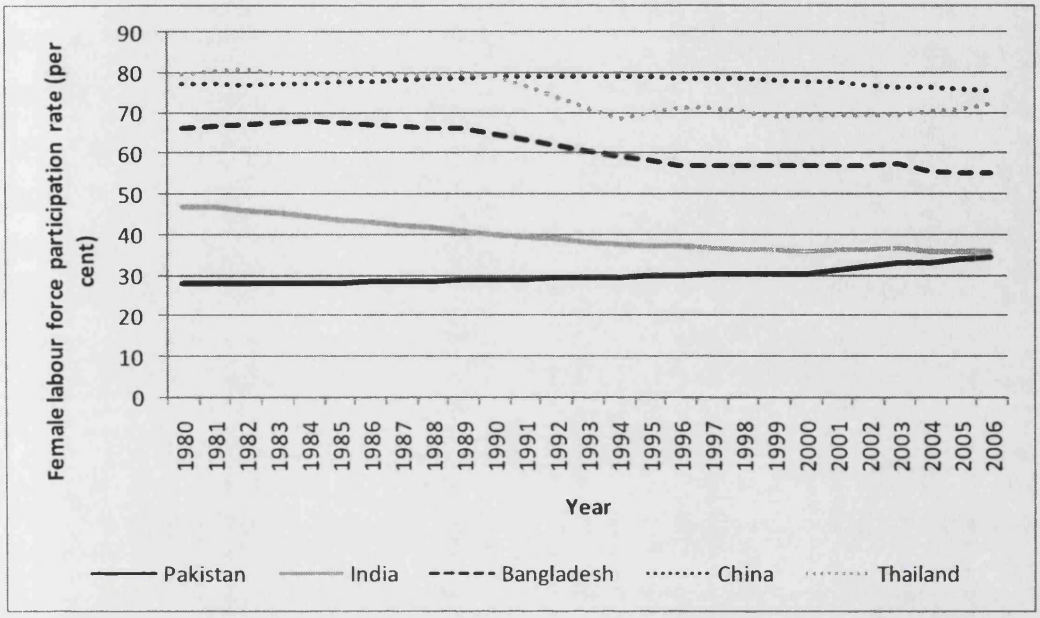
Cultural factors have also mattered for development in Pakistan. While the country has a similar female labour force participation rate to India (34.3 and 35.9 per cent respectively) and it has been increasing in the post-2000 period, it is the lowest among competitors such as Bangladesh (55 per cent), China (75.4 per cent) and Thailand (72.2 per cent) (see Figure 2-17). In contrast, the labour force participation rate of men in Pakistan in 2006 was 85.3 per cent. Aside from the human development implications, the absence of women reduces the available labour pool for firms, labour force competition and the subsequent growth of industry and the economy. Talbot also describes Pakistan's social structure as one with high levels of poverty and a "brutal feudal society of bonded labour" (1998:51). Discrimination between ethnic groups is also prominent: Lamb (1991) has provided an account of the discrimination faced by a rural Sindhi migrant seeking work in one of Karachi's textile mills, while the IMF notes that there are often caste barriers in accessing schools (2002:29).[59]

[57] The IMF report refers to data from the 2004 Human Development Report of the United Nations Development Programme and is measured as a percentage of GDP. As Easterly points out, this stands in contrast to the country's well educated elite and diaspora and despite the fact Pakistan was the third largest recipient of official development assistance in the world over 1960-98 (India and Egypt being the first and second) (2003:440).

[58] Source for literacy rates: Pakistan Economic Survey 2008, Ministry of Finance, Government of Pakistan.

[59] According to Lamb's account, "Nadeem was lithe and strong from his work in the fields and had no doubt he could do the work. But to his surprise the foreman, on taking his name, pushed him away and said, "We don't want any lazy Sindhis here" (Lamb, 1991:150).

Figure 2-17 Female labour force participation rate (1980-2006), selected countries



SOURCE: World Development Indicators, World Bank, December 2008

Finally, political instability and conflict continue to shape Pakistan's development trajectory. In 2007, Islamic groups took control of several parts of the tourist area of Swat, while the assassination of Benazir Bhutto on 27 December 2007 put the country once again into political turmoil.[60] Following Bhutto's assassination in 2007 the All Pakistan Textile Mills Association reported that several textile units in Karachi had been subject to arson attacks or damage and several workers were burned to death in the Maxco garment unit in Karachi.[61] During nationwide protests over the removal of Pakistan's Chief Justice in 2007, widespread riots took place in all major cities and it was reported that not a single export consignment reached the ports during the three days from May 12 to May 14".[62] Further, according to Burki, "Pakistan needs to get off the rollercoaster it has been on ever since its birth, with the economy growing at a respectable rate whenever there were large flows of American assistance to the country (in the 1960s, the 1980s, and the early 2000s)".[63] It is these challenges that textile firms faced in the post-quota trading environment.

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[60] For an overview of the dramatic changes that took place in Pakistan in 2007 such as the military conflict in Waziristan, 'creeping Talibanization' and emergency rule see Khan (2008). The assassination of Benazir Bhutto took place in Liaquat Bagh in Rawalpindi, the same location in which Pakistan's first Prime Minister – Liaquat Khan – was murdered in 1951.

[61] Sources: 'Aptma calls for steps to protect industry', Business Recorder, 1 Jan 2008 and 'Factory arson victims burden on city's conscience', Dawn, 3 Jan 2008. Note: this firm was Pakistan's 77th largest exporter of textile and clothing products in 2006.

[62] 'Strike, violence: textile industry misses orders worth $70 million', Business Recorder, May 17 2007

[63] Burki, S.J. (2009) How to fix the economy, Editorial, Dawn, 17 February 2009

2.4 Heterogeneity in firm characteristics and performance

It was within this political and institutional context that Pakistan's textile and clothing industry emerged. Between 1962 and 2007, textiles and clothing grew to represent over 60 per cent of Pakistan's total exports, peaking at 74.5 per cent in 1997, and making up 30.6 per cent of GDP as late as 1996. The export market is estimated to represent one third of total sales in textiles alone.[64] However, this context also shaped the composition of the industry at the time of trade liberalisation and there is evidence of substantial heterogeneity amongst Pakistan's textile and clothing firms by characteristics such as age, size, product, location and formality as well as by firm performance.

Firstly, firms located in Karachi tend to be the oldest with a mean age of 21 years in 2006, followed by firms in locations such as Multan, Sialkot and NWFP with an average age of 19 years. The youngest firms are located in Faisalabad and Lahore with a mean age of 17 years. It is yarn producers that tend to be oldest on average with an age of 24 years, followed by cloth and home textile firms (20 years), and knitwear and woven garment producers (17 years). The incorporation dates of quota exporters tended to match the profile of all incorporated textile firms (outlined in Figure 2-10), peaking in the early 1990s and showing new entry in the post-2000 period.

Secondly, there was variation in firm size, with quota exporters exhibiting the typical right skewed distribution of firms recognised in most industries (see Figure 2-18).[65] Similarly, in 2004 the sales of KSE firms ranged from Rs2.1m (nominal) to the Rs14.9bn of Nishat Mills, but the mean sales value was Rs1.4bn (see Appendix 2-3).[66] Approximately 68 per cent of firms sold between Rs1.28bn and Rs1.58bn, some distance from the maximum sales of Rs14.9bn.[67] Firms also varied in size by age: among the 724 incorporated quota exporters, each year increase in age was associated with an increase in average exports of USD96,058 (real USD, 2000) (t=5.19, p=0.000).

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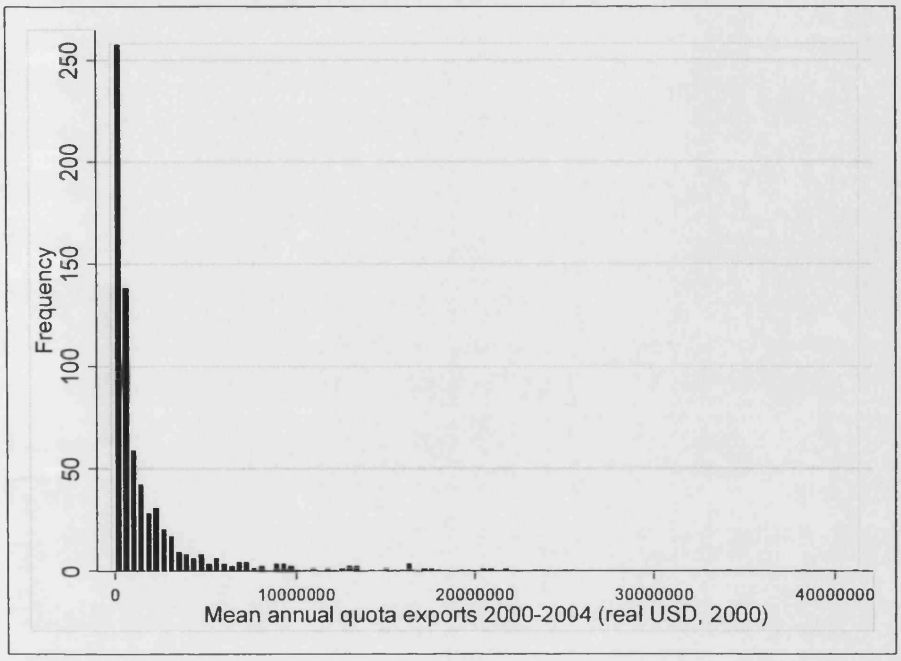
[64] According to data in an IMF report, in the textile industry foreign sales represented 32.4 per cent of the total in 2001, 33.2 per cent in 2002, and 33.3 cent in 2003 as a percentage of total sales (2005:74). It gives the data source as IMF and the State Bank of Pakistan.

[65] Recall that the Trade Development Authority of Pakistan (TDAP) dataset is the best representation of the entire textile industry in Pakistan because it includes firms by firm type, size and product and represented 40 per cent of all textile and clothing exports between 2000 and 2004.

[66] When converting this value to USD at an exchange rate of Rs60/1USD, this is a range of USD35,000 to USD248m. There is also outlier with total sales close to Rs15bn – Nishat Mills – a firm that has become synonymous with the textile industry that will be discussed in more detail below.

[67] In USD, this is the equivalent of USD21.3m-USD26.3m (nominal).

Figure 2-18 Mean annual quota exports by firm (2000-2004)



SOURCE: Trade Development Authority of Pakistan, own analysis

There was also variation among firms by product, reflecting aggregate patterns of export (see Table 2-5). Of the 3,610 exporters under quota, the majority were woven garment (34.3 per cent) and knitted garment (30.3 per cent) producers. Garment firms were smaller on average - woven garment firms, for instance, were one third of the size of cloth and home textile producers.[68] The data also suggest evidence of product specialisation: of the 3,610 companies in the sample, 48.2 per cent were reliant on only one product for their sales.

Table 2-5 Sample descriptive statistics by product, quota exporters (2000-2004)

Product	N	Per cent of firms	Mean yearly exports (2000-4, USD2000 million)	Per cent of total quota exports (2000-4)
Yarn	86	2.4	0.803	2.6
Cloth	461	12.8	1.278	21.7
Home textile	401	11.1	1.155	17.1
Woven garment	1,237	34.3	0.435	19.8
Knit garment	1,095	30.3	0.737	29.7
Mixed	48	1.3	1.277	2.3
Towel	262	7.3	0.696	6.7
Other	20	0.6	0.273	0.2
Total	**3,610**	100	0.752	100

NOTE: A firm is classed by product when more than 50 per cent of its exports under quota are in this product.
SOURCE: Trade Development Authority of Pakistan, own analysis

[68] This smaller size of garment firms is likely to reflect both their business model and performance - there may be lower barriers to entry into garments in contrast with the capital required in textile manufacturing.

The data suggest substantial concentration of market share by firm type. A total of 79 per cent of the textile and clothing firms in Pakistan are held in partnership or sole proprietorship ('less formal firms') in contrast to only 20 per cent of the firms that are incorporated as public or private (see Table 2-6). However, firms less formal firms are much smaller on average than public or private firms. Privately-held firms are 6.4 times larger than these less formal firms and public listed companies 15.6 times as large. As a result, 20 per cent of the firms were responsible for 31 per cent of all quota exports, and a tiny 2.6 per cent of the total firms (public limited) were responsible for 18.5 per cent of the exports under quota.

Table 2-6 Firm data by firm type, quota exporters (2000-2004)

Type of firm	Number of observations	Per cent of sample	Size (mean exports under quota 2000-4)	Percentage of all quota exports
Partnership or sole proprietorship	2886	79.9	325,105	30.0
Private Limited	632	17.5	2,072,326	51.4
Public Limited	92	2.5	5,079,067	18.5

SOURCE: Trade Development Authority of Pakistan, Securities and Exchange Commission of Pakistan, Karachi Stock Exchange

There was also variation in firm location (see Table 2-7). Most companies are located in Karachi (47 per cent), followed by Lahore (28 per cent) and Faisalabad (15 per cent). Karachi dominates exports by value, endorsing its long-held position as the business hub of Pakistan despite the extent of political unrest in Pakistan's capital since the 1980s. Firms in each location are similar in size on average with the exception of 'Other' locations, in which small garment producers of Sialkot are likely to bias the sample mean downwards.

Table 2-7 Quota exports by location, incorporated firms

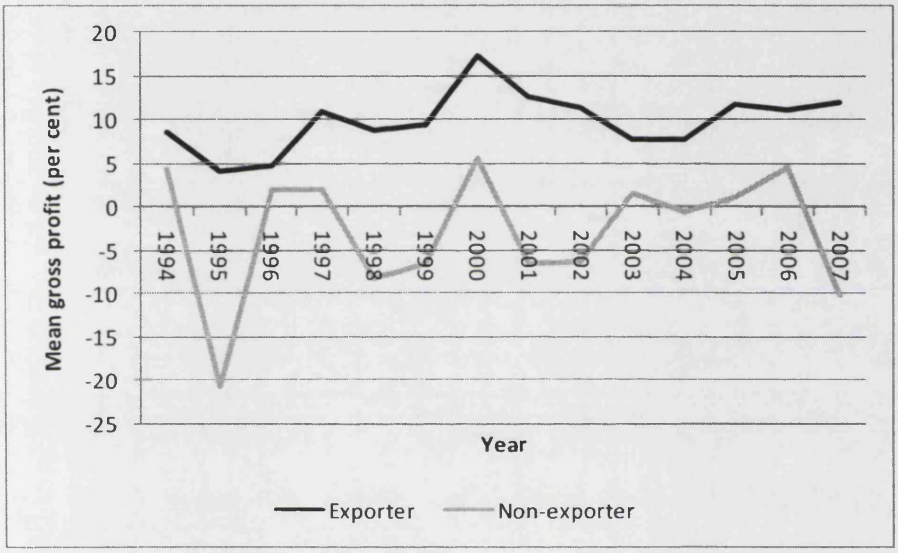
Location of firm	Number of observations	Per cent of sample	Mean exports under quota 2000-4 (real USD 2000 million)	Per cent of total exports of 724 firms by location (2000-4)
Karachi	341	47.1	2.6	49.6
Lahore	205	28.3	2.6	30.1
Faisalabad	111	15.3	2.5	15.9
Other	67	9.3	1.2	4.5

NOTE: The sample of 724 incorporated firms on which location and age information was available from SECP records represented 70 per cent of quota exports between 2000 and 2004. 'Other' locations include Sialkot, Multan, Islamabad and Gujranwala.
SOURCE: Trade Development Authority of Pakistan, Securities and Exchange Commission of Pakistan

There is also evidence of persistent differences in performance across firms over time. Gross profit, for example, has been continually higher among exporting firms by a margin of 2.6 to

21.9 per cent over the period 1994-2007 (see Figure 2-19).[69] Similarly, profitability also varies by textile product and persists over time. As shown in Table 2-8, gross profit levels tend to be much higher sectors such as home textiles and garments rather than for products such as yarn and cloth. This suggests that the performance of a firm rests on its ability to move into higher value-added textile and clothing products or achieve above average performance in basic products such as cloth and yarn.

Figure 2-19 Mean gross profit of exporters versus non-exporters, firms listed on Karachi Stock Exchange (1994-2007)



SOURCE: Annual Reports of firms listed on Karachi Stock Exchange, own analysis

Table 2-8 Mean gross profit by product, public listed firms (2004 and 2006)

Product	Mean gross profit (2004)	Mean gross profit (2006)
Yarn	2.9	7.6
Cloth	5.7	6.7
Yarn and cloth	4.0	10.0
Home textiles	12.2	13.8
Garments	6.7	14.0
Garments and home textile	14.6	17.0

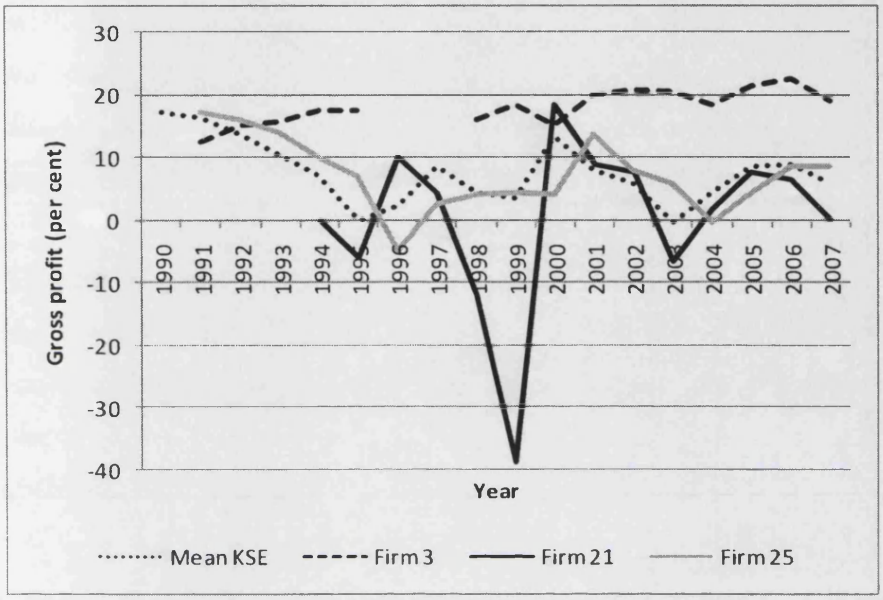
SOURCE: Karachi Stock Exchange, own analysis

Additionally, there is evidence that differences in profitability persist at the firm level. Firm 3, for example, a garment exporter, has continually outperformed the mean gross profit on the

[69] Gross profit among KSE exporters ranged from -20 per cent to 30 per cent, while for non-exporters it ranged from -20 per cent to 18 per cent (1994-2007). This suggests that profit margins can be as high in the local market as for most exporters, but not above 18 per cent. Among KSE firms in 2006, for each percentage point increase in export reliance gross profit increased by 0.12 percentage points (t=7.77, p=0.000).

KSE (see Figure 2-20). Firm 25, a yarn manufacturer, has performed in line with the KSE mean since its inception in 1991. In contrast, Firm 21 – which manufactures yarn for the local market – has mostly underperformed the KSE mean since its founding in 1994.[70]

Figure 2-20 Gross profit of Firm 3, 21 and 25 (1990-2007) versus mean KSE



SOURCE: Karachi Stock Exchange, own analysis

As a result, Pakistan's textile industry exhibited much variation in firm characteristics and firm performance in the approach to the abolition of export quotas on 1 January 2005. It was this group of firms that would determine the industry's performance in the post-quota period.

Conclusion

In conclusion, Pakistan has had a tumultuous political history with patchy, but ultimately limited, industrial and economic development. Firm entry, growth and diversification in the textile sector has been shaped by both government policy and the operating environment. Pakistan continues to under-perform in comparison to regional neighbours and competitors particularly in relation to institutional development, governance and development indicators. As Bray has commented "Pakistan's problems in economic management reflect the weakness

[70] There are some incidences of crossover, when a firm performing well starts to decline in sales and profit. The managerial causes of this change will be explored in Chapter 6.

of its political structure. The political 'game' of patronage, manoeuvres and counter-manoeuvres has taken priority over long-term policy making" (1997:325).

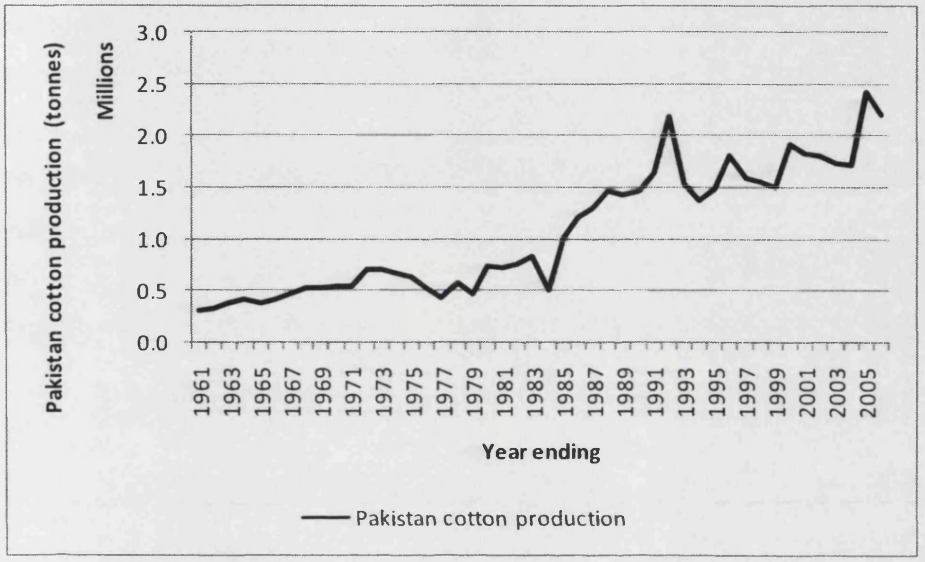
The evolution of Pakistan's textile industry has been shaped by these political developments in the country's sixty years since Partition. Nevertheless, Pakistan has surprisingly kept up with global demand in textile and clothing, and firms have shown some moves into higher value-added products. As export quotas began to be phased out between 1994 and 2004, firms varied in characteristics such as age, location, formality and size as well as in performance.

Consequently, the composition of Pakistan's textile industry was mixed as the Multifibre Arrangement was gradually removed under the Agreement on Textiles and Clothing. It is the examination of performance among these firms during trade reform that is the focus of this thesis. In the next chapter I will now investigate how the design of the Multifibre Arrangement shaped firm entry and growth in the sector, and how the industry performed when faced with increasing competition between 1994 and 2007.

Appendices

Appendix 2-1: Cotton production in Pakistan by tonne (1961-2006)

Figure 2-21 Cotton production in Pakistan by tonne (1961-2006)

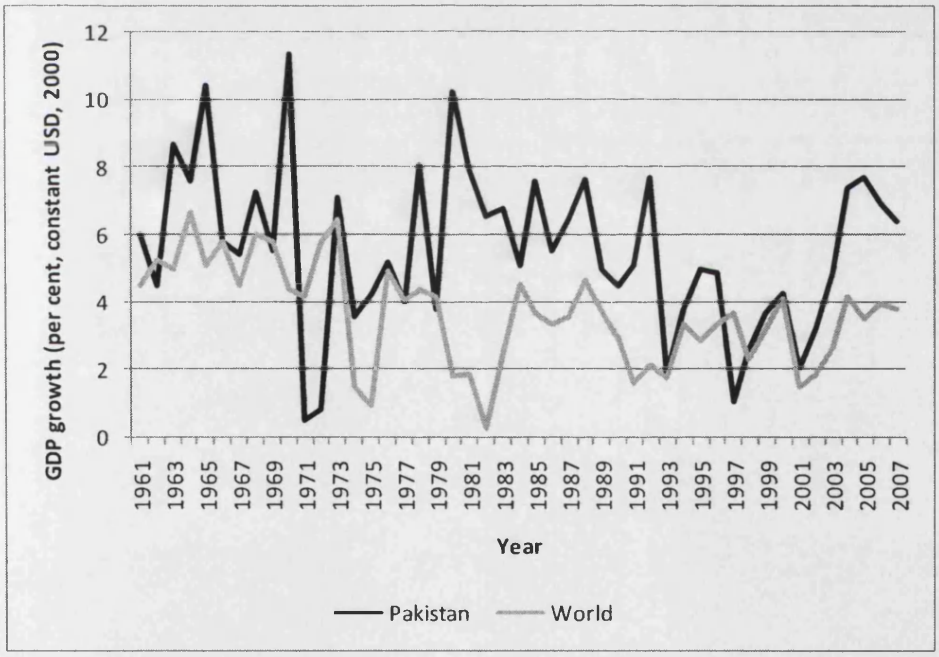


SOURCE: Pakistan Economic Survey 2006, Ministry of Finance, Government of Pakistan

Appendix 2-2: Growth in gross domestic product in Pakistan versus world (1961-2007)

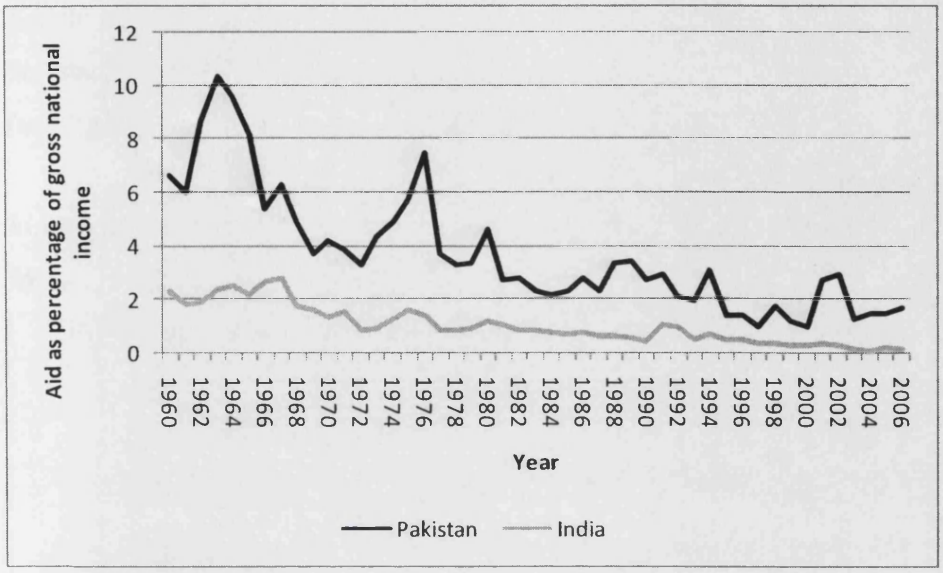
Growth in Pakistan's gross domestic product (GDP) has mostly followed world trends (see Figure 2-22). Exceptions include the fall in growth during the break-up of the country in 1971, and a more rapid dip after 2005. However, rises in GDP also coincide with growth in aid to Pakistan as shown in Figure 2-23, and while the level of aid had dropped from approximately 10 per cent in 2006 to 2 per cent in the post-2000 period, it has continued to be relatively higher as a percentage of gross national income than neighbouring India whose share has fallen from 2 to 0 per cent in the same period. The economy is still heavily reliant on agriculture: the correlation coefficient of GDP growth versus growth in agricultural value added is 0.499 (p=0.000). A linear regression shows that for every percentage point increase in agricultural value added, GDP growth increases by 0.781 (p=0.000) (Source: World Development Indicators, World Bank, 1961-2005).

Figure 2-22 Gross domestic product growth in Pakistan versus world (1961-2007)



SOURCE: World Development Indicators, World Bank, December 2008

Figure 2-23 Aid as percentage of gross national income in Pakistan and India (1960-2006)

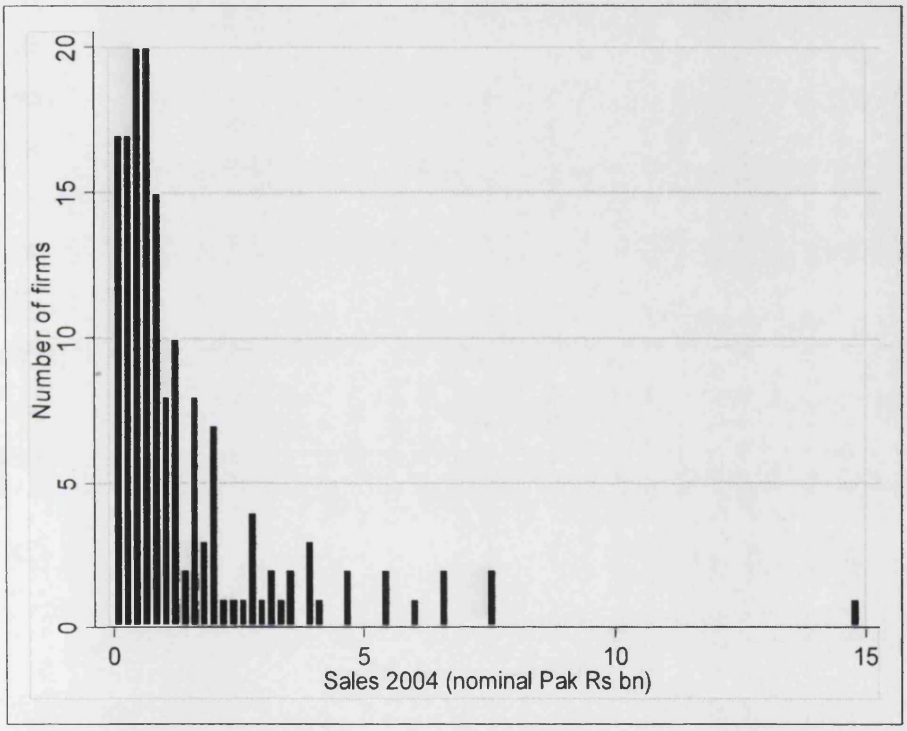


SOURCE: World Development Indicators, World Bank, December 2008

Appendix 2-3: Size distribution of textile and clothing firms listed on the Karachi Stock Exchange

Textile and clothing firms listed on the Karachi Stock Exchange also showed a typical size distribution. This includes a large number of small firms sitting alongside a few larger mills (see Figure 2-24).

Figure 2-24 Distribution of textile and clothing firms listed on Karachi Stock Exchange by size (2004)



SOURCE: Karachi Stock Exchange

Chapter 3 Firm entry, growth and shakeout in Pakistan's textile industry during trade liberalisation

Global trade regulation in textiles and clothing was first introduced in the 1950s and later embedded in the Multifibre Arrangement (MFA) between 1974 and 2004. The MFA regulated global trade through a series of bilateral quotas and often constrained the exports of developing countries through quota ceilings. However, the gradual phase-out of the MFA between 1994 and 2004 – and its final abolition on 1 January 2005 – had a dramatic impact on the structure of the global textile and clothing industry.[1] It led to a gradual divergence in export performance between countries as well as a rapid shakeout among Pakistan's textile firms. In this chapter I examine how the MFA shaped firm entry and performance in Pakistan's textile and clothing industry as well as its aggregate performance following the 'big bang' of the textile universe on 1 January 2005. In particular, I examine patterns of firm survival and growth during liberalisation, as well as associations between firm age, size, location, product and performance.

Firstly, I examine the evolution of global regulation of trade in textiles and clothing from the first agreements in the 1950s through to the introduction of the MFA in 1974. I trace the continuation of this agreement until 1994 when its gradual withdrawal was negotiated at the Uruguay Round of the General Agreement on Tariffs and Trade. Using data from interviews with trade negotiators from Pakistan, I show that firm entry and growth was shaped by access to quotas and that quota ceilings often inhibited the growth of many of Pakistan's best firms.

Secondly, I trace the reorganisation of export shares across countries in the industry as the quota system was phased out. I also assess Pakistan's aggregate performance relative to competitors such as India and China. I find that trade liberalisation has led to an increase in global competition which is reflected in a rise in concentration of production in China, as well as declining product unit values. I find that Pakistan's textile industry has maintained its level of exports between 2004 and 2007 and performed well in sectors such as home textiles

[1] The MFA was actually phased out under the Agreement on Textiles and Clothing between 1 January 1994 and 1 January 2005. However, in this thesis I refer to the entire period as being under the MFA as the system was in effect still in place during this time.

and woven garments. However, exports have failed to grow as fast as those from countries such as China and India.

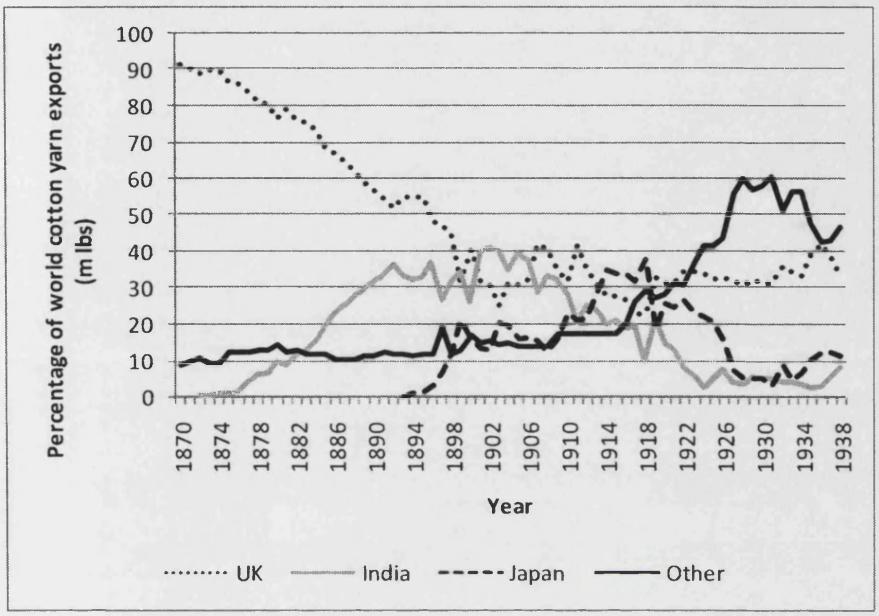
Finally, I assess aggregate performance patterns in Pakistan by firm age, size, location and firm type. I establish that a large shakeout of firms occurred in which at least 14 per cent exited within two years of liberalisation and one third failed to maintain their exports. I find that this shakeout is associated with firm characteristics of location, size, product and firm type, with small and less formal firms performing better than many policy makers might expect. Differences in export and local markets are also apparent: shakeout peaks in the export sector in 2003 but later in the domestic market, which I suggest is related to personal relationships among local firms. This sets the scene for the analysis of the determinants of firm survival and performance in Chapters 4 to 7.

3.1 Trade regulation in textiles and clothing

Textiles and clothing in economic development

Textiles and clothing have always been important industries for both developed and developing countries. Commencing with the industrial revolution of the eighteenth and nineteenth centuries, countries such as Germany, Italy and Russia have all at one time relied on textile and clothing products for economic growth and industrial diversification. The economies of the United Kingdom and Japan, for example, were "fully transformed by its influence" (Farnie, 2004:557). In northern England, complementary industries such as the engineering of spinning machines, printing and dyeing works, and chemical manufacture emerged alongside Lancashire's textile industry (Farnie, 2004). In Japan, the cotton industry was a "seed-bed of innovation" in which Japanese firms adopted and then rationalised spinning production with new techniques such as vertical integration, later diversifying to become the world's largest producer of rayon in 1936 (Farnie, 2004:579). Figure 3-1 below shows the dominance of the UK and Japan in the nineteenth and twentieth centuries in the global yarn trade, later challenged by productivity increases in 'Other' countries such as the USA, France and Germany (Jeremy, 2004:177).

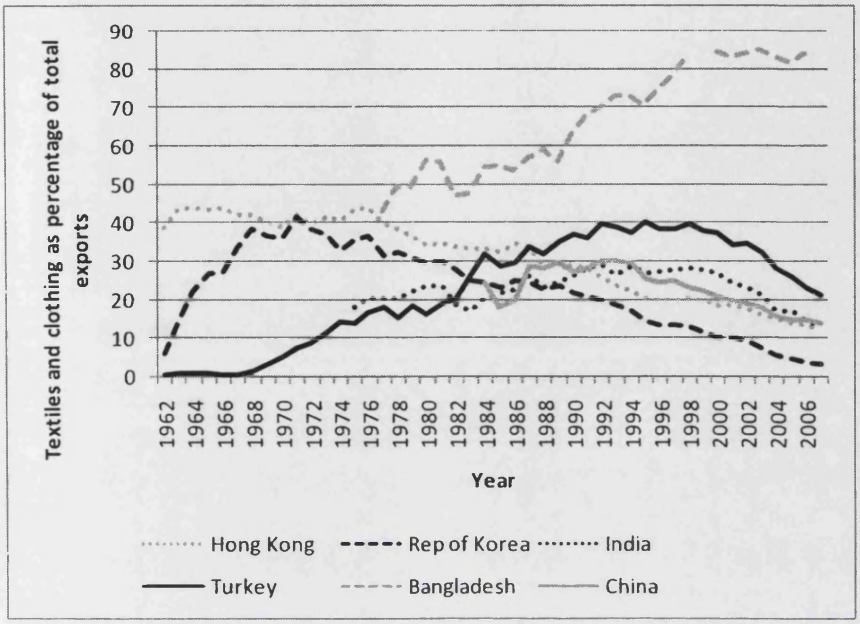
Figure 3-1 Percentage of world cotton yarn exports: UK, India, Japan and new entrants (1870-1938)



NOTE: Farnie does not specify those countries in the 'Other' category in the data.
SOURCE: Farnie (2004)

For many developing countries in the period following the Second World War, textile products have also featured significantly in export volumes. As illustrated in Figure 3-2, textiles and clothing reached 44 per cent of exports in Hong Kong in 1964 and 1976, 41.4 per cent in South Korea in 1971, and 30 per cent in China in 1992. In South Asia, the proportion of textile products in India's total exports peaked at 29 per cent in 1999 and in Pakistan at 74.5 per cent in 1997, while Bangladesh has yet to peak (see also Figure 3-2). Several textile and clothing exporters such as Korea and Taiwan have since gone on to become internationally competitive in advanced industrial sectors such as the manufacture of electronics and shipbuilding, while China has been a net manufacturer of textile machinery since 1969 (Farnie, 2004:582).

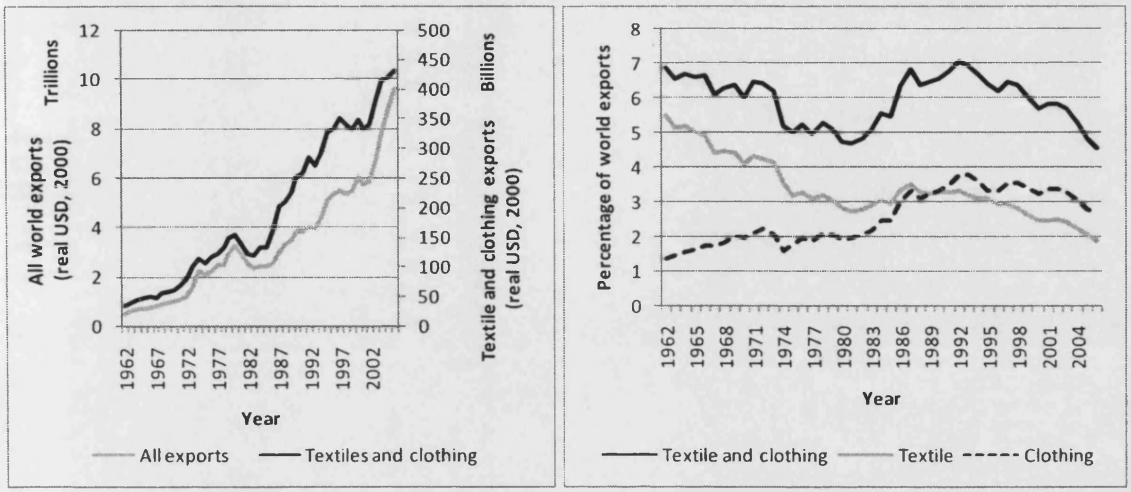
Figure 3-2 Textiles and clothing as percentage of manufactured exports, selected countries (1962-2007)



SOURCE: UN Comtrade SITC1 and SITC3, own analysis

Textiles products have also continued to play a prominent part in world consumption and growth. As shown in Figure 3-3 below, global textile and clothing exports grew 13 fold between 1962 and 2006 (from $34bn to $431bn, real USD, 2000), broadly in line with world trade which grew 19 fold (from $498bn to $9,621bn) in the same period. This has ensured a stable and growing export market for firms in both developed and developing economies. As shown in Chapter 2, Pakistan was one of the many developing countries able to take advantage of this growing market since its formation in 1947.

Figure 3-3 Growth in world and textile and clothing exports (left), proportion of world trade (right) (1962-2006)



SOURCE: UN Comtrade SITC1, own analysis

This increase in textile and clothing exports from developing economies in the post-war period was accompanied by a buyer-led global reorganisation of production in the importing countries.[2] Bair and Gereffi note, for example, that since the 1970s firms such as Walmart, Nike and JC Penney have carried out no production in their country of origin (2002:147). Influencing factors included the recession of the early 1970s which led many manufacturers to seek lower-cost production in countries such as Hong Kong, Taiwan and South Korea, as well as later oil shocks and inflation (Gereffi and Applebaum, 1994:49). Since the 1980s, Pakistan has also become an important sourcing location for companies such as GAP, Nike, Zara, IKEA and several other British and North American retailers. In 2006, the top five exporters of textile products globally were China, Italy, Germany, Hong Kong and USA, while the top five exporters of clothing products were China, Hong Kong, Italy, Germany and Turkey (see Table 3-1).[3] This shows the continued strong presence of both developed and developing country producers in the global textile and clothing trade.

[2] The shift is illustrated by the sourcing decisions of many textile and clothing firms in recent decades. In 1981, Pentland Group – the manufacturer of Speedo clothing - moved much of its sourcing to Asia. In 1997, Ikea announced its decision to build 20 new manufacturing plants over 5 years in the Baltics, Bulgaria, and Romania in order to double its production capacity. In 2006, Springs Global – a leading US home textile firm, founded in 1887 and previously operated yarn and weaving plants in Georgia, USA – merged with Brazilian home textile manufacturer, Coteminas. Source: Pentland Group and Ikea profiles, Hoovers, 2006; Springs Global Corporate Website, http://www.springs.com/, accessed 23 March 2009. This shift in global trade patterns has also been well documented in the development literature, see Gereffi, 1999; Chisolm et al, 1986, for example.

[3] In 2006, Pakistan was the 9th largest exporter of textiles and the 16th largest exporter of clothing. Source: UN Comtrade, SITC1.

Table 3-1 Largest textile and clothing exporters by market share (2006)

	Textiles (yarn, cloth, bedwear)	Export market share	Clothing (knitted, woven)	Export market share
1	China	23.1	China	32.8
2	Italy	7.3	Hong Kong	9.8
3	Germany	6.9	Italy	6.8
4	Hong Kong	6.6	Germany	4.8
5	USA	6.0	Turkey	3.9

SOURCE: UN Comtrade SITC1, own analysis

Trade regulation in textiles and clothing

However, the textile and clothing industry has often been as politically controversial as economically important. The rise of India as a major textile exporter, for example, was driven by the sourcing patterns of its British colonial ruler as well as Britain's monopolistic access to India as a market for its own textile exports.[4] As late as 1980, 14 per cent of manufacturing employment in developed economies was in the textile and clothing industries (Aggarwal, 1985:9). This made low-cost imports a controversial issue for workers and politicians in importing countries. More recently, the sourcing of textile and clothing products from poor countries has brought concern over social conditions for workers (Chisolm et al, 1986; WRAP, 2007) and the environmental impact of textile processing industries.[5]

Following the Second World War, a new set of institutions and agreements were created to avert the "disastrous effects of competitive protectionist trade policies in the 1930s" (Aggarwal, 1985:5). At the Bretton Woods conference of 1944, proposals to create the International Monetary Fund and the International Bank for Reconstruction and Development were put forward as well as a new 'International Trade Organisation' to facilitate freedom in global trade (ibid). Political disputes in the United States over the extent of liberalisation, however, meant that the General Agreement on Tariffs and Trade (GATT) treaty, "originally designed to be a temporary treaty to establish guidelines for tariff negotiations" (ibid) was all that remained to govern international trade.[6]

[4] In 1871, 73 per cent of all British exports to India in 1871 were in cotton textiles (Singleton, 2004:66).

[5] Sources: Worldwide Responsible Apparel Production (WRAP), http://www.wrapapparel.org/, and WWF Pakistan's European Union funded project 'Promoting Better Environmental Practices in the Textile Processing Sector of Pakistan', http://www.wwfpak.org/toxics_bettertextileprocessing.php, accessed 23 March 2009.

[6] The central principle of GATT was non-discrimination among states conducting international trade (Khanna, 1991:22).

Against the backdrop of changing production relations in developed countries, increased competition under GATT and the loss of markets following the independence of colonies, in the 1950s there was a rise in the level of protectionism in the textile and clothing industry. In the United States, for example, there was growing intra-industry competition from the development of synthetic fibres as well as increased unionisation in the North which led firms to relocate to the South (Aggarwal, 1985:11). In the United Kingdom, producers had lost much of their export market since the early 1900s and faced duty-free imports of cotton textiles from India, Pakistan and Hong Kong under the Imperial Preference System (ibid:6;12).[7] Further, countries such as Hong Kong and South Korea had begun to rapidly increase the level of exports in textile and clothing products.

This 'surge' in textile and clothing imports in developed country markets led to concerns among producers located in these countries. In 1953, for example, the American Cotton Manufacturers Association "threatened to block trade bills if they did not obtain restriction on the imports of textile and apparel products" (ibid:11). Domestic pressure was particularly strong from the main textile regions such as Maine, South Carolina, Alabama, Georgia, Louisiana, Mississippi and Massachusetts (Khanna, 1991:22). As early as 1956, the United States senate held its first vote to impose quotas on imports of cotton textile products "without jeopardising US obligations under GATT" although this vote was lost by two votes at the time (ibid).[8]

This was the beginning of a period in which a series of restrictions on textile and clothing imports to developed economies were introduced. In 1956, following pressure from the US government, Japan agreed to Voluntary Export Restraints on its export of cotton textile products for a five-year period (Aggarwal, 1985:11).[9] In the United Kingdom, the

[7] Japan, meanwhile, had managed to regain its market share following World War Two to be the largest exporter of cotton textiles in 1951 (Sugihara, 2004:522).

[8] To some extent, this concern was misplaced. In the world clothing market in 1962 the only developing country (excluding Japan) in the list of top 10 exporters was Hong Kong which held fourth position with 9.1 per cent of total exports. Japan held 13.9 per cent of the total clothing exports while eight other developed countries (such as France and Italy) held 68 per cent of the remaining export trade. Italy was the largest clothing exporter from 1962-1970 until it was overtaken in 1972 by Hong Kong with a market share of 14.8 per cent. The next emerging economy to enter the top 10 export list was the Republic of Korea in 1969 with a market share of 3.4 per cent. In fact, while the United States tried as early as 1969 to obtain an international agreement to limit imports, Europeans resisted it as they saw it as a "ploy to restrain their own exports" (Aggarwal, 1985:13).

[9] The evidence of the impact of these moves on trade flows is apparent: between 1956 and 1961, Japan's share of US textile imports declined from 54.5 per cent to 34.1 per cent (Aggarwal, 1985:12). This gap, however, was immediately filled by other exporting countries such as Hong Kong, whose share in US textile imports rose from 0.5 per cent to 23 per cent between 1956 and 1961 (ibid).

'Lancashire Pact' was established under which several commonwealth countries voluntarily agreed to restrain cotton textile exports to the UK (Aggarwal, 1985:12). Following the resistance of Hong Kong to a bilateral agreement in 1959 the Under Secretary of State in the United States approached GATT to develop a system to deal with 'low-priced imports' (ibid) and a study conducted by GATT in 1959 led to the introduction in 1961 of the Short-Term Arrangement on Cotton Textiles "to function in the interim" (Choi et al, 1985:15). This contained procedures governments could follow in the event of 'market disruption' from imports and according to Francois et al "opened the door for the series of bilaterally negotiated quota restrictions" (2000:6). The Short Term Agreement was then followed by the Long-Term Agreement (LTA) on Textiles in 1962. The LTA was introduced for a five year period and renewed for another five years in 1967 (Chisolm, 1986).

However, over this period consumer preferences changed and producers in developing countries "sought to overcome LTA controls by switching to man-made [sic] fibre" (Khanna, 1991:23). A rise in manufactured exports occurred from the newly industrialising countries such as South Korea, Taiwan, Mexico and Brazil at a rate of 12.2 per cent each year between 1963 and 1973, and 20 per cent from 1973 to 1976 (Aggarwal, 1985:6). The US administration therefore came under pressure to widen the product content of the voluntary export restraints to include products such as wool and synthetic textiles (ibid). It was against this backdrop that the Multifibre Arrangement (MFA) was negotiated under GATT in 1973 in order to meet the needs of both importers and exporters. The MFA came into force on 1st January 1974.[10]

The MFA included terms which were to benefit both developed and developing countries. Article 1 of MFA stated the objective "to eliminate the difficulties faced by the textiles and clothing industries in its developed country members" and to provide 'breathing space' during which industries could adjust to international shifts in comparative advantage (Choi et al, 1985:5). Article 1 also stated its intention "to progressively liberalize world trade in textile products" and "to promote social and economic development in developing country exporters" (ibid). All parties agreed to introduce safeguard measures only in exceptional

[10] In 1982, the developing countries that were signatory to the MFA were Argentina, Bangladesh, Brazil, Colombia, Dominican Republic, Egypt, El Salvador, Guatemala, Hong Kong, India, Indonesia, Jamaica, Korea (Rep of), Macao, Malaysia, Maldives, Mexico, Pakistan, Peru, Philippines, Romania, Singapore, Sri Lanka, Thailand, Uruguay and Yugoslavia. China joined in 1984. The developed countries were Austria, Belgium, Canada, Denmark, Finland, France, Federal Rep of Germany, Greece, Ireland, Italy, Japan, Netherlands, Sweden, Switzerland, United Kingdom, USA (Choi et al, 1985:3-4).

circumstances, and only when 'market disruption' was occurring (Khanna, 1991:25).[11] Under Article 3 of the Arrangement, an importing country could create a bilateral agreement with an exporting country regarding restraints on a particular product, and indicate the level at which it would like to limit the exports (ibid). A six per cent growth in quota was agreed, although with some exceptions. A Textile Surveillance Body was created that would examine disputes and further negotiations on the MFA were conducted by the Textiles Committee of GATT. The MFA was renewed on four occasions, in 1977, 1981, 1986 and 1991 (the timeline of these trade agreements can be seen in Appendix 3-1).

Between 1974 and 1990, bilateral agreements between 43 signatories representing 54 countries were implemented under the MFA and the US alone introduced quotas with 34 countries (Heron, 2006: 4). By the end of the second MFA in 1981, 80 per cent of textile and clothing imports to the United States were under bilateral quota arrangements (Nordas, 2004:13) and data suggested that from 1993 to 1996 between 54 and 68 per cent of total world trade in textile and clothing was restrained under the MFA (Kathuria and Bhardwaj, 1998:31). As illustrated in Table 3-2, protection was often stronger in the United States (US) market: between 92 and 96 per cent of textile and clothing exports to the US were restrained between 1993 and 1996, while imports under quota to the European Union (EU) were between 58 and 71 per cent. Pakistan itself was reliant on quota for half of its textile and clothing exports to the EU and US markets and these destinations made up 96 per cent of all Pakistan's quota sales between 2000 and 2004 (see Table 3-3).

Table 3-2 Percentage of textile and clothing imports covered by Multifibre Arrangement

Country	1993	1994	1995	1996
USA	95.6	90.5	92.6	92.1
EU	64.1	58.2	71.3	70.8
Total world trade (including countries outside MFA)	54.4	52.5	58.7	56.4

SOURCE: Kathuria and Bhardwaj (1998:31)

[11] This is despite the fact that the MFA was in contravention of several core principles of the GATT such as free trade and non-discrimination among signatories.

Table 3-3 Textile and clothing imports from Pakistan under quota (2000-2004)

Importer	Value of quota exports from Pakistan (real USD million, 2000)	Share of quota sales by destination (per cent)	Share of textile exports to these countries (per cent)	Average unit value (real USD, 2000)
EU	6,091	48.9	50.6	3.4
USA	5,826	46.8	48.7	2.6
Turkey	331	2.7	55.2	2.5
Canada	213	1.7	26.2	1.8

SOURCE: Trade Development Authority of Pakistan, UN Comtrade SITC1, own analysis

There is a lack of clarity in both the academic and policy literature on how quota restrictions were allocated by country and by product. In fact, one of the criticisms of the MFA was that it lacked transparency: "[u]nlike tariffs or export taxes, export quotas are nontransparent in their effects on trade. Without detailed analysis, it is very difficult to know whether the quota...was restrictive or not, let alone know whether the whole system of quotas is restrictive" (Martin, 2004:5). However, according to Nordas, quotas were allocated on a country-by-country and product-by-product basis, leaving some developing countries with quotas and others facing none at all (Nordas, 2004:34). The work of Brambilla et al also suggest that a 'base quota' was negotiated at the start of an agreement term, but that 'adjusted base quotas' allowed countries to go beyond their base quota in a given period by "borrowing unused base quota, up to a specified percentage of the receiving category, across categories within a year and across years within a category" (2007:7).

Mr Nasim Qureshi, a civil servant in the Pakistani government who worked in Washington DC from 1995 to 2000 when the MFA was being phased out under the Agreement on Textiles and Clothing (ATC), explained how the system worked in Pakistan:

> When negotiating with the importing country, the quota level was determined by exports of the first 12 months of the last 14 month period. But the system for quota allocation was ad-hoc: there was no written yardstick on how much could be imported...If, for example, if Pakistan exports reached two per cent of the total imports in a category, authorities would say it was enough... Importing countries called the shots. We would receive a call from the US for quota negotiation every day: they would decide when to call a curtain on a category. When a certain point had been reached on a basket of categories, further imports would not be allowed. On the

Pakistani side, we lobbied to obtain as best a quota as possible; we had to fight for higher growth rates.[12]

By textile-exporting country, data on quota restrictions are also scarce. In Pakistan, the share of textile and clothing exports which took place under quota between 2000 and 2004 was approximately 40 per cent by value.[13] Khanna estimates that the proportion of India's apparel exports under quota fluctuated between 67.8 and 81.6 per cent between 1980 and 1988 in terms of quantity (1991:43). In China, only one quarter of all textile and clothing exports by value were sent to quota markets (Martin, 2004:3). Mlachila and Yang (2004:13) show that US imports in 2002 from Bangladesh by value were 69 per cent under quota – the corresponding figure for China was 46 per cent, for Sri Lanka 69 per cent, and for Hong Kong 93 per cent.

Not all textile and clothing products were constrained under the quota. The little evidence available on administration of quota by product shows that between 1978 and 1982 the top three categories in which exporting countries were most restrained to the United States were men's and boy's shirts (19 countries), knit shirts for women (18 countries), and trousers for men (17 countries). The least restrained categories were hosiery, pillowcases and skirts (Choi et al, 1985:34-37). In 2000, the USA had imposed quotas on 39 items from Pakistan, while the EU had imposed restraints on only 15 items (SMEDA, 2000). Within Pakistan, it was garment exports that were most reliant on quota. As illustrated in Table 3-4, 63.0 per cent of all knitted garment exports from 2000 to 2004 were under quota, while woven garments relied on quota markets for 66.5 per cent of exports in the same period. In contrast, textile exports such as yarn, cloth and home textiles sold 6.5, 37.8 and 56.2 per cent of exports to restricted markets. This had implications for the competitiveness of firms in restricted and unrestricted categories, as will be discussed below.

[12] Interview conducted on 4 July, 2006, Islamabad. His personal view was that because the USA wrote the MFA, they claimed they could interpret it as they wished. Exporting countries had little say and could rarely convince importing countries to raise the quota limit on a good. In this chapter I paraphrase from the discussion had with Mr Qureshi rather than quote directly.

[13] Source: Trade Development Authority of Pakistan, own analysis

Table 3-4 Reliance on quota for export by product from Pakistan (per cent) (2000-2004)

Product/Year	2000	2001	2002	2003	2004	Mean
Yarn	5.4	4.1	6.4	9.5	7.4	6.5
Cloth	34.9	39.6	39.3	41.4	34.8	37.8
Bedwear	64.9	64.1	60.6	46.5	53.8	56.2
Knitted garments	68.2	67.1	71.9	63.4	51.7	63.0
Woven garments	74.0	68.8	64.4	55.5	73.4	66.5
Towels	46.5	42.1	30.3	25.9	26.7	32.3

SOURCE: Trade Development Authority of Pakistan, Pakistan Federal Bureau of Statistics, own analysis

Some textile and clothing exporting countries were also more constrained than others and data suggest that quotas were allocated – and filled – according to their relative competitiveness. As measured by quota fill rates in square metres (which is the percentage of quota allocation that was actually used), China and Bangladesh were top with 88 per cent fill rates followed by India with 87 per cent, Indonesia and Cambodia with 85 per cent and Pakistan with 84 per cent (Brambilla et al, 2007:33). The lowest quota fill rates were observed in countries such as Colombia (10 per cent), Poland (13 per cent) and Jamaica (20 per cent) (Brambilla et al, 2007:33). In contrast, it was often less restricted countries that were the beneficiaries of the quota system as exports from the most competitive countries were limited. According to Kathuria et al, "the key gainers in terms of restricted market access have been relatively large suppliers such as Mexico, Turkey and the Central European countries that have benefited from regional preferences granted by the major importers (2001:5).

Within developing countries, quotas were administered by specific local organisations. In India, the quotas for garments were administered by the Apparel Export Promotion Council while quotas for textile products were in the hands of the Cotton Textiles Export Promotion Council (Kathuria and Bhardwaj, 1998:5). In Pakistan quotas were issued by the Export Promotion Bureau (later renamed the Trade Development Authority of Pakistan) – a department of the Pakistani government's Ministry of Commerce. Quotas were then administered via trade associations such as the Pakistan Hosiery Manufacturers Association and Pakistan Readymade Garments Association to whom firms had to be a member in order to access the quota.

In countries such as India, Indonesia, Hong Kong, the Philippines and Pakistan, quota was allocated on past firm performance (SMEDA, 2000). In Indonesia, for example, a firm that

used 95 per cent or more of its quota in a category would be entitled to 100 per cent of its previous quota holdings in the following year (ibid:349). In India, 70 per cent of quota was allocated to firms based on past performance (ibid:347). In Pakistan, firms would receive quota for the actual quantity exported to restricted countries in the preceding period while the remaining allocated quota would be auctioned (ibid:345). In many cases, quotas could also be traded on the 'open market' (ibid:346) often at the discretion of quota holders. Growth of quota was often used as a way to encourage new entrants. In India, for example, in addition to the 70 per cent of quota which was allocated on past performance, 15 per cent was set aside to registered exporters who invested in a minimum amount of rupees in new machinery or a new unit. In Pakistan, growth quota was allocated both through auction and at the discretion of the government. From 2001, additional quota was allocated to firms if they had achieved higher value exports: if the firm's unit value was 25 per cent above the average in the preceding year, they would receive an additional 5 per cent quota (ibid:345).

3.2 Trade distortions and the path to liberalisation

Negative impacts on firm and industry performance

Evidence suggests that the quota system directly shaped firm entry and industry performance in Pakistan's textile and clothing sector. Firstly, a number of firms emerged specifically to take advantage of quota rents. Indeed, the rise in clothing exports in particular from 1984 onwards coincides with the entry of many firms who were to go on to become the largest clothing exporters under quota. Mr Qureshi explained that Pakistan became the largest quota holders for the US in category 338 (men's knitted shirts) because "a small number of firms – such as Ammar Textiles in Lahore – took the initiative". Ammar Textiles, founded in Lahore in 1984, became reliant on quota for 100 per cent of exports of both woven and knitted garments and among the top 20 largest exporters under the MFA.[14] Similarly, Comfort Knitwears was founded in 1985 in Lahore and became also one of the top 20 exporters under quota between 2000 and 2004. Mr Qureshi recognised, however, that this high price for certain products "created a distortion locally" where firms with guaranteed market access suffered from a lack of competition. According to Mr Qureshi,

[14] Sources: Trade and Development Authority of Pakistan, Securities and Exchange Commission of Pakistan, own analysis.

These firms continued to make the same revenues year on year and were not pushed: they pursued little innovation and made no re-investment.

Secondly, the quota also privileged incumbent producers as it was often allocated to firms exporting in the previous year. Firm 1, for example – now a large exporter of cloth and home textiles – benefited from the allocation of the quotas in 1974 and 1975 as it was already operating in the market. From this starting point it was able to build long term relationships with European buyers and gain exposure to their product and customer service needs. In contrast, Firm 3 – now a leading home textile exporter – considered quota too expensive so focused production on other markets. Indeed, according to Mr Qureshi, it was the quota that "choked innovation" in the sector. Innovation was taking place elsewhere in a category in which there was free entry:

In product category 666 [bedwear and blended fabrics which were not 100 per cent cotton], for example, which was not under quota, many firms such as Gul Ahmed Textile Mills and Kohinoor Group showed innovation and fantastic growth in this category. There was free entry - whoever could establish themselves was able to enter.

Thirdly, firms had to rely on quota in order to access key export markets which often constrained their expansion. Of the top 10 exporters by size on the Karachi Stock Exchange in 2004 (which represented 11.2 per cent of all textile and clothing exports in that year), quota reliance ranged from 11.3 to 72.0 per cent of a firm's exports (see Table 3-5).[15] Garment exporters were particularly dependent: Crescent Bahuman, a leading manufacturer of jeans in Pakistan, relied on quota for 74.7 per cent of its exports from 2000 to 2004, while Angora Textile, the 29th largest exporter under the quota and a producer of knitted garments, sold 95.2 per cent of its goods through this channel in the same period.[16] However, quota prices inhibited the expansion of firms in key markets. Mr Tariq Saigol of Kohinoor Textile Mills explained that "[t]hose that had the foresight to build up volume in quotas did so", but that quota limitations often prevented entry in sectors such as cloth. Further, the Small and Medium Enterprises Authority (SMEDA) of Pakistan argued that the quotas restricted entry

[15] 91 KSE firms exported under quota between 2000 and 2004 and on average firms relied on quota for between 22 and 27 per cent exports in these years. In total, the exports of KSE firms represented between 13 and 18 per cent of quota sales in this period. For an illustration of quota reliance across the whole KSE sample see Appendix 3-2.

[16] Source: Trade and Development Authority of Pakistan, Securities and Exchange Commission of Pakistan, own analysis.

of new firms, predominantly the growth of the small sized stitching units. According to SMEDA, the need to purchase quota either from auction or from the market "renders their exports non-competitive in the international markets" (SMEDA, 2000:370).

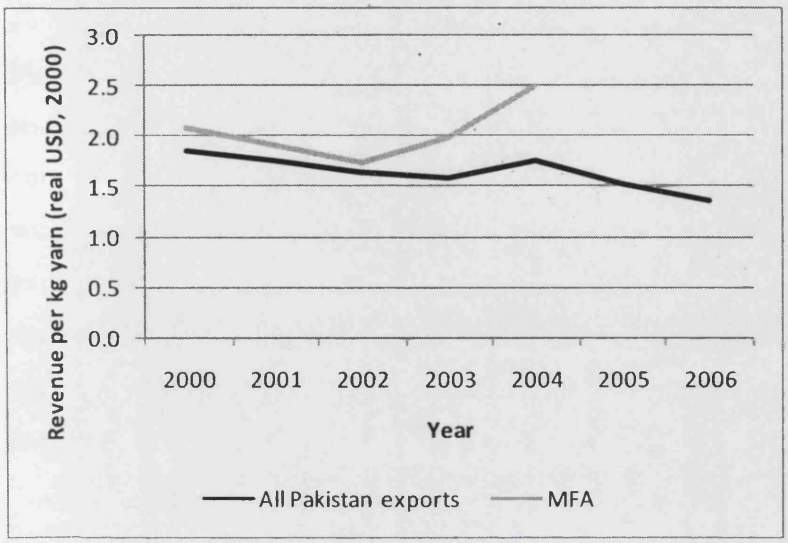
Table 3-5 Reliance on quota for exports among top ten Karachi Stock Exchange firms by export sales (2004)

	Name	Position in top quota exporters (2000-2004)	Average quota reliance for export (per cent, 2000-2004)	Products
1	Nishat Mills	2	21.5	Home textiles
2	Fateh Textile	29	19.3	Home textiles
3	Nishat (Chunian)	99	11.3	Home textiles
4	Chenab Limited	7	38.6	Home textiles, garments
5	Sapphire Textile	52	17.1	Yarn, cloth, home textile
6	Kohinoor Weaving	61	19.6	Home textiles
7	Crescent Textile	25	29.0	Yarn, cloth, towels
8	Gul Ahmed	3	61.2	Home textiles
9	Kohinoor Textile	27	45.4	Home textiles
10	Masood Textile	5	72.0	Knitted garments

SOURCE: Karachi Stock Exchange, Trade Development Authority of Pakistan, Securities and Exchange Commission of Pakistan, own analysis

Evidence suggests that quota protection under the MFA also had several negative welfare impacts on both developed and developing countries. There was a distortion created by the rise in product prices, for example, that arose from excess demand. The quota system created a ceiling on the volume available for export production which reduced the supply of textiles and clothing to importing countries. This pushed up the price for the exported good "given the demand and supply situation at a point of time for a particular product" (Kathuria et al, 2001:7). This higher price was captured in the 'quota rent' that was the price of the exported good relative to the price in the non-quota market. Certainly, selling under quota was attractive for many firms in Pakistan because they could receive a unit value greater than that of the average export unit value. Even in the most basic textile product – yarn – exports earned a premium of between 5 and 42 per cent between 2000 and 2004 (see Figure 3-4 which outlines the mean unit value for all yarn exports versus that gained in quota exports). While this quota rent "accrues to the firms or individuals lucky, or skilful, enough to gain access to the quotas" (Martin, 2004:2), this distortion raised the cost of goods for consumers, leading to a welfare loss on their part.

Figure 3-4 Revenue per kilogram of yarn under quota versus mean Pakistan export value (2000-2006)



SOURCE: Trade Development Authority of Pakistan; Pakistan Economic Survey 2006, Ministry of Finance, Government of Pakistan; own analysis

There was also an associated increase in rent-seeking behaviour among business and government under the quota system which introduced inefficiencies to the economy. While the receipt of higher prices for goods in relation to production costs could result in "static welfare gains" by the exporter through the receipt of higher prices (Kathuria et al, 2001:8), in many cases there were "resources spent in many countries on lobbying for quota allocations" (Martin, 2004:13). Mr Tariq Saigol stated, for example, that in Pakistan "quotas were inefficiently allocated by bureaucrats" by volume rather than unit value which removed incentives to upgrade amongst firms.[17] According to Mr Saigol, there was also "huge input by vested interests of the quota holders" rather than in the interest of the sector as a whole.[18]

Quota rents also discouraged firms to move out of the textile and clothing sector into higher value-added industries. According to Kathuria et al, the presence of export quotas "reduces the opportunity for developing countries to use the relative ease of adopting new technology in the clothing sector as a first step on the ladder of economic development" (2001:5). Further, it means that many economies such as Hong Kong, whose advantage in textile and

[17] This is because further quota was allocated not by the quality of the goods, but by sheer volume.
[18] In an interview with Firm 28 – a large producer of cloth and home textiles and the 24th largest exporter under quota – for example, the Director described how he would attend trade policy trips to the United States with Ministry of Commerce officials.

clothing products had declined, continued in production because of the quota rents available (ibid).

Finally, the quota ceilings that restricted exports meant that efficient producers were restricted in their ability to "use their comparative advantage in textiles and clothing to create employment in these sectors" (Martin, 2004:2). Any benefits from increased quota prices were set off against the loss of potential employment and productivity growth from industry expansion (Kathuria et al, 2001:8). Instead, trade regulation "has led to a pattern of specialization where countries with the strongest comparative advantage for textiles and clothing, such as China and India, face binding quotas" and an inefficient global allocation of textile and clothing production (Nordas, 2004:24, 34).

The Agreement on Textiles and Clothing (1994-2004)

Talks to liberalise trade in textiles and clothing had broken down in 1991 (Khanna, 1991:21), but during the Uruguay Round of GATT in 1994 it was agreed that the MFA would be replaced in 1995 by the Agreement on Textiles and Clothing (ATC). The ATC was not an extension of the MFA, but rather a "transitory regime between the MFA and the full integration of textiles and clothing into the multilateral trading system" (Nordas, 2004:13). It required the removal of bilateral quotas over a 10-year period between 1 January 1995 (when the World Trade Organization was established) and 31st December 2004 after which time trade in textiles and clothing would become subject to the general rules of the GATT (Nordas, 2004:1). Mr Nasim Qureshi believed that it was the activities of retailers and consumer groups in developed countries that eventually contributed to the ending of the MFA system. Heron and Richardson (2008) also suggest that the negotiations gave more scope for developed countries to obtain trade liberalisation in services and intellectual property rights and because the MFA/ATC had failed to protect developed country producers.[19]

The ATC required that the annual increase in quota which had taken place in 1990 should be increased by 16 per cent in 1995, 25 per cent in 1998, 27 per cent in 2002, followed by full integration in 2005 (see Table 3-6). According to Mr Qureshi, the choice of products to

[19] The latter case was due to the proliferation of non-regulated exports and because volume constraints encouraged developing country exporters to maximise quota gains by upgrading into higher-value products (Heron and Richardson, 2008:9-10).

integrate was left to the importing country and there was a tendency to first integrate products where quota utilisation was low (Nordas, 2004:14). Table 3-7, for example, shows that it was yarns, fabrics and made-ups rather than clothing that was integrated in the first two stages of the ATC. However, only a few countries actually continued to enforce quotas under the ATC: Canada, the EU, Norway and the United States. Eleven other importing countries integrated textiles and clothing into GATT immediately (Nordas, 2004:13).

Table 3-6 Integration of textile and clothing products into GATT

Date	Minimum volume to be integrated (per cent)	Accumulated volume integrated (per cent)	Remaining quota growth rate (per cent)
1 Jan 1995	16	16	16
1 Jan 1998	17	33	25
1 Jan 2002	18	51	27
1 Jan 2005	49	100	Full integration

SOURCE: Nordas (2004). The third column indicates the rate at which any outstanding quota (that not yet integrated) was required to grow.

Table 3-7 Integration of products by country in stages 1 and 2 of ATC (per cent)

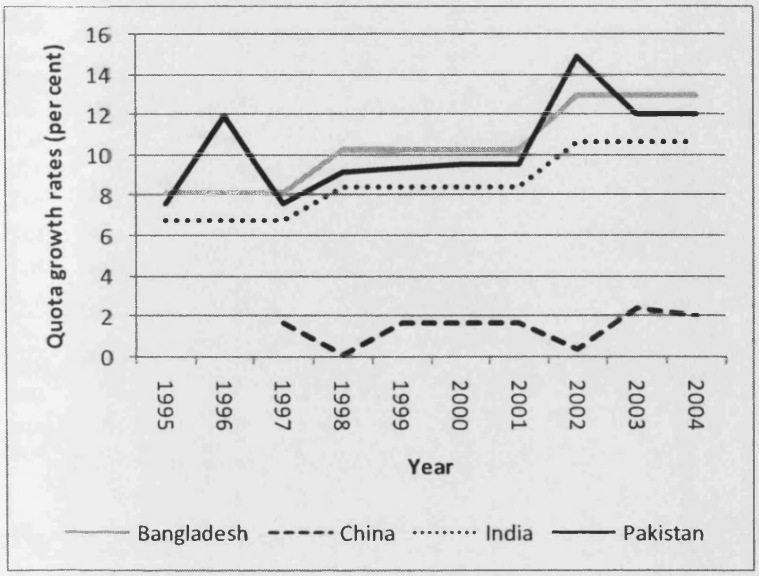
Country	Yarns	Fabrics	Made-ups	Clothing	All
USA	16.5	4.2	8.7	3.9	33.2
EU	16.0	9.5	5.3	2.5	33.3
Canada	10.3	6.4	15.5	2.8	35.0
Norway	10.1	14.3	14.7	4.3	43.3

SOURCE: International Textiles and Clothing Bureau (1999)

Allocation of quota growth was also disproportionately allocated across exporting countries. Mlachila and Yang show that countries such as Bangladesh and Pakistan received higher growth in market access than the average between 1995 and 2004, while China received well below the average (see Figure 3-5). Further, substantial protection was in place to the last two stages, particularly for the most important products. This has led to a change that some have called the 'big bang' of the textile universe.[20]

[20] 'India awaits textiles boom', BBC News Online, 22 December, 2004

Figure 3-5 Quota growth rates, selected countries (1995-2004)



SOURCE: Mlachila and Yang (2004)

Exports from Pakistan under the quota increased between 2000 and 2004 (see Table 3-8). While it is unclear from the data provided if this was simply a result of increased quota usage, it does suggest export growth of between 2 and 12 per cent between 2000 and 2004).[21] As shown in Figure 3-6, all firms grew in mean size between 2000 and 2004. Mean firm size also increased across all textile and clothing product segments and locations in this period (see Appendix 3-3). In the final stages of the ATC between 2000 and 2004, Pakistan's textile and clothing exports were reliant on quota for 40 per cent of export market access. This meant that the equivalent of 23.5 per cent of Pakistan's total exports would be open to competitors in the new, freer trading environment.

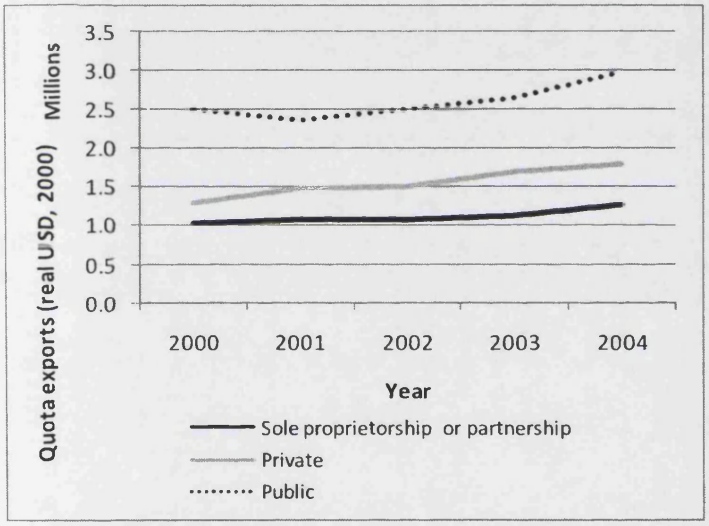
[21] Note that in this period textile products accounted for 62.81 per cent of Pakistan's total exports on average in the same period and grew at the same rate as quota export growth.

Table 3-8 Pakistan textile exports under quota and quota reliance, 2000-2004 (real USD millions, 2000)

Importer/Year	2000	2001	2002	2003	2004
US	1,152	1,185	1,139	1,266	1,350
Canada	52	54	50	51	45
EU	959	1,029	1,161	1,443	1,812
Turkey	49	43	66	112	78
Total quota exports	**2,213**	**2,312**	**2,416**	**2,872**	**3,284**
Total textile and clothing exports	5,552	5,757	5,780	7,225	8,191
Per cent of total textile and clothing exports	39.9	40.2	41.8	39.8	40.1
Quota growth	-	1.02	1.00	1.12	1.04

NOTE: Yearly totals for total textile and clothing exports are based on the July to June financial year except for 2004 when exports were measured from January to December. This is due to limited data availability. For quota growth, 1.02 represents a growth rate of 2 per cent.
SOURCE: Trade Development Authority of Pakistan, Federal Bureau of Statistics, own analysis

Figure 3-6 Mean exports by firm type under quota (2000-2004)



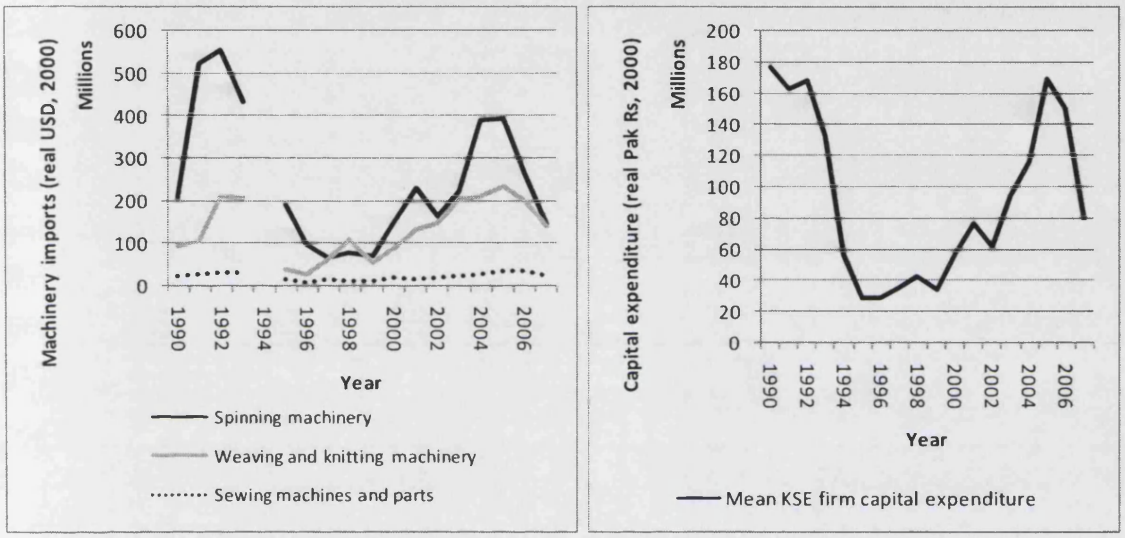
SOURCE: Trade Development Authority of Pakistan, own analysis

For some industrialists the abolition of export quotas was "an opportunity of a lifetime" and many firms invested in new machinery in preparation for the new trading environment in Pakistan and elsewhere.[22] At an aggregate level, import data show that import of textile machinery grew in the period just before the ending of the MFA, peaking in 2005 as the 'big bang' brought its full impact (see Figure 3-7). Similar patterns of preparation were witnessed in the garment sector, where there was an increase in the value of weaving, knitting and sewing equipment imported between 1999 and 2005. This pattern of investment is also reflected in a rise in capital expenditure at the firm level in the run up to quota abolition in

[22] For a discussion of firm responses in India see 'India waits to pounce as textile quota scheme lapses', Financial Times, 2 April 2004.

2004 (see also Figure 3-7).[23] As the end of the ten-year ATC approached, analysis of the degree of similarity between Pakistan's exports and its competitors (and the likely impact of stronger competition from countries with higher productivity) by the World Bank expected MFA abolition to be positive on Pakistan's textile industry as a whole, but negative on clothing (Martin, 2004).

Figure 3-7 Total imports of textile and clothing machinery to Pakistan (left), mean capital expenditure of textile firms on Karachi Stock Exchange (right) (1990-2007)



NOTE: Data for 1994 are missing for Pakistan in the UN Comtrade database.
SOURCE: UN Comtrade STIC3, Karachi Stock Exchange, Securities and Exchange Commission of Pakistan, own analysis

Of course trade regulations in textiles and clothing continued to shape global trading patterns. Under the European Union's Generalised System of Preferences scheme, eligible countries (such as Pakistan) obtained a 20 per cent reduction on tariff rates in the textiles and clothing sector, but these rates were removed for India and China between 2006 and 2008 in the process known as 'graduation'.[24] The EU's 'Everything But Arms' initiative offered duty free

[23] The large rise in machinery imports in the early 1990s and post-2000 period also corresponds with the large rise in firm entry in these periods illustrated in Chapter 2. Interestingly, this increase in capacity in Pakistan also took place in India in the same period (substantial deregulation also occurred in India from the early 1990s), and the peaks in investment mirror those of Pakistan. This is one of many similarities in industrial development between India and Pakistan, showing the spillover effect of policy activity in the region.

[24] The Generalised System of Preferences enables exporters in developing countries to benefit from preferential tariffs in the markets of industrialised countries with the aim of generating additional export revenue and reducing poverty (Textiles Intelligence, 2008). In December 2008, the European Union announced that 16 countries including Bangladesh and Sri Lanka would benefit from GSP+ between January 1, 2009 and the end of 2011 which will allow duty free access for sensitive textile and clothing products (ibid). Pakistan had previously been graduated from the GSP in 2005, but was later 'degraduated' in 2006 and tariff preferences were re-introduced (Textiles Intelligence, 2008:5) but the reasons for this are unclear. However, the EU has

access to the European Market for textile and clothing exporting countries such as Bangladesh, Cambodia and Madagascar (Textiles Intelligence, 2008).[25] In 2006, Pakistan faced duties of 14.5 per cent for its garment exports to the US in contrast with 0.2 per cent in Mexico, 1.9 per cent in Honduras and between 0.1 and 0.7 per cent in the beneficiaries of the Africa Growth and Opportunity Act of the United States (such as Kenya, Lesotho and Madagascar) (Adhikari and Weeratunge, 2006:124).[26] Further, between 1 January 2006 and December 2008 the USA had a Memorandum of Understanding in place with China limiting the import of certain products such as baby socks and knit-to-shape garments.[27]

Pakistan has also been subject to anti-dumping duty by the EU in the home textile sector. Following a complaint in 2002 by the Cotton and Allied Textile Industries of the European Commission, a duty of 13.1 per cent was imposed on Pakistani bed linen on 5 March 2004 (Adhikari and Weeratunge, 2006:127). This was reduced to 5.8 per cent in May 2006[28] but the EU had raised the level of duty on Pakistan's bedwear exports to 25 per cent at its peak in 2005 following the reintroduction of 12 per cent customs duty (International Labour Organization, 2005). Nevertheless, the ending of the quota system removed the absolute ceilings in textile and clothing exports and created a more competitive trading environment.

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announced that Pakistan will not benefit from the new GSP+ scheme as its imports amount to more than 1 per cent of total EU imports. Source: European Union (2008) List of countries considered "vulnerable" in the sense of Article 8 of the GSP regulation 2009-2011, accessed 5 Mar 2009 from http://trade.ec.europa.eu/doclib/docs/2008/july/tradoc_139963.pdf

[25] The EU's Everything But Arms initiative which was launched in 2001 (Heron and Richardson, 2008) offers duty-free and quota-free access to least developed countries for all products except arms and armaments (Textiles Intelligence, 2008).

[26] The Africa Growth and Opportunity Act "offers tangible incentives for African countries to continue their efforts to open their economies and build free markets". Source: http://www.agoa.gov/, accessed 23 March 2009.

[27] This agreement was introduced under the conditions of the safeguard restraints which formed part of China's Accession Agreement to the World Trade Organization on 11 December, 2001. The European Union also entered into an agreement with China in June 2005 to limit imports of specific products until 31 December 2008. Even after this date the outcome is uncertain as the China's accession agreement allows WTO members to treat it as a nonmarket economy for another extended period up to 2016 (Asian Development Bank, 2006).
Sources: U.S.-China MOU Frequently Asked Questions, 24 Feb 2006, http://www.cbp.gov/linkhandler/cgov/import/textiles_and_quotas/china_mou/china_mou_faq.ctt/china_mou_faq.doc and European Commission, Trade in textile, 29 June 2006 http://ec.europa.eu/trade/issues/sectoral/industry/textile/trade_text_en.htm, accessed 23 March 2009.

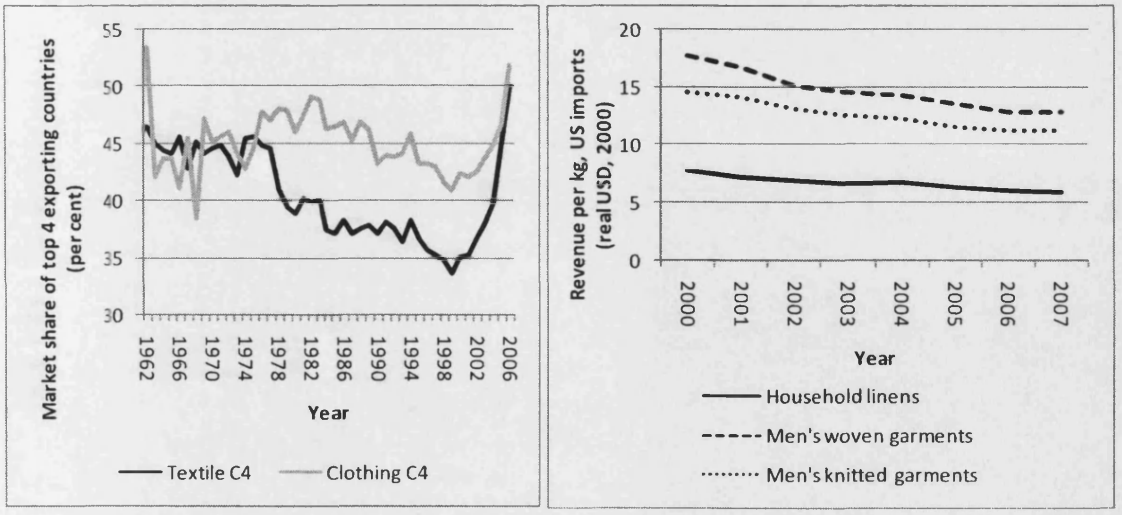
[28] Source: 'Narrow base hampering export potential', Dawn, 3 October 2007.

3.3 Aggregate performance of Pakistan's textile and clothing industry during trade liberalisation

Global shifts

Trade liberalisation typically leads to an increase in price and quality competition and a reallocation of market share to more efficient producers. There is evidence that since January 2005 there has been such a reorganisation in the global textile and clothing industry. As Figure 3-8 shows, the C_4 ratio has risen rapidly since 2004 in both textiles and clothing.[29] In fact, the C_4 ratio passed 50 per cent for the first time in 2006 in both textile and clothing sectors, albeit from a previous high in the 1960s when the industry was dominated by Italy, Japan, France, Hong Kong and the United Kingdom. Much of this recent shift in production has been driven by the relocation of production to China which has increased its share in the global textile trade from 7.0 per cent in 1990 to 26.4 per cent in 2006, and in clothing from 9.3 per cent to 31.4 per cent in the same period. There has also been a continued drop in unit value across several products during and immediately after the liberalisation suggesting increased price competition. While import volumes have risen in the US market, for example, unit values have dropped in real terms in products such as household linen, knitted garments and woven garments (see also Figure 3-8).

Figure 3-8 C_4 ratio in global textile and clothing exports (1962-2007) (left), unit value of imports to the United States, selected products (2000-2007) (right)

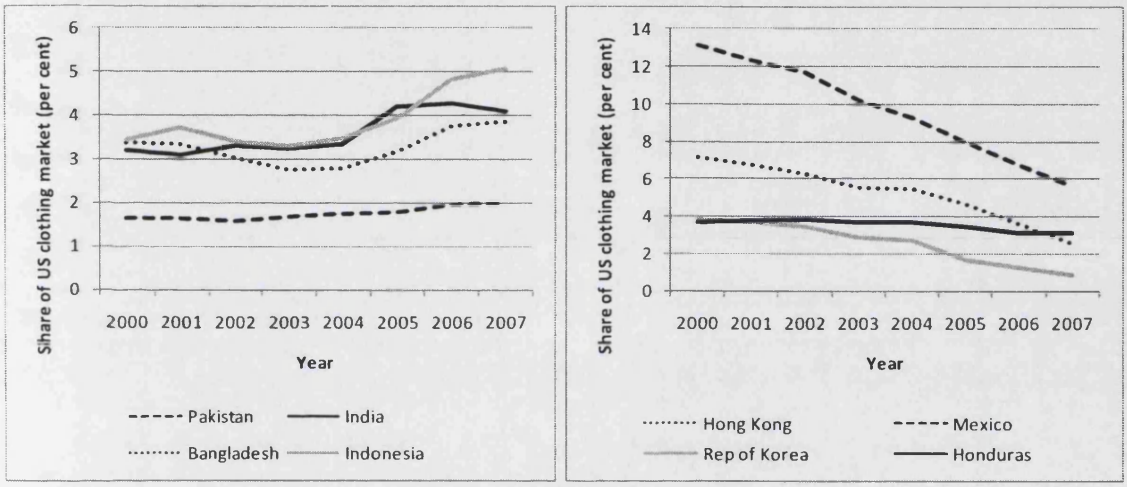


SOURCE: UN Comtrade, SITC1 and SITC3

[29] The C_4 concentration ratio measures the proportion of total exports located in the top four countries of textile export. In 2006, the ratio was composed of China, Italy, Germany and Hong Kong in both textiles and clothing.

There is also evidence that there has been a redistribution of market share within key import markets. In the United States clothing market, for example, which represents approximately 30 per cent of the world's clothing imports, China's market share rose from 13 to 34 per cent between 2000 and 2007.[30] Further, countries like Pakistan, India, Bangladesh and Indonesia have all seen increases their clothing market share (see Figure 3-9).[31] In contrast, countries like Korea, Hong Kong, Honduras and Mexico have lost this market share between 2000 and 2007 – countries often seen as less competitive under the quota system.

Figure 3-9 Change in share of clothing imports in the United States, selected countries (2000-2007)



SOURCE: UN Comtrade SITC3, own analysis

These shocks have also been felt at the firm-level in both developed and developing countries. Well-known textile companies in the United States such as WestPoint Stevens, Cone Denim, Burlington Industries and Swift Galey went bankrupt before and after 2004. Several later emerged from bankruptcy with a focus on higher value-added products such as technical textiles and created joint ventures with manufacturers in developing countries.[32]

[30] The share of the USA in total clothing imports has actually dropped year-on-year from 32.0 per cent in 2000 to 27.2 per cent in 2006.

[31] Other studies have found similar impacts. Whalley (2006) found large changes in the country pattern of trade in the first year of liberalisation including large increases in shipments from China to both the US and the EU and large price falls for sales in the US and selected EU markets. He also finds that market shares of other Asian suppliers "generally hold up well" in the US market, but that in the EU market the shares of all non-Chinese Asian suppliers fall with the exception of India. The Asian Development Bank (2006) and James (2008) also found that Asian suppliers have performed well to the detriment of former large quota holders and preferential suppliers.

[32] The new WestPoint Home Stories (previously a larger buyer of Pakistani textiles) emerged from bankruptcy in 2005 after closing six mills, and is now focusing on high-technology textiles. Cone Denim was eventually

The organisation of industry in Pakistan also changed in the final years of trade liberalisation. Of the top 35 exporters under quota, one Chief Executive counted 12 joint ventures that had been established in response to the trade reform. These include a joint venture established in 2005 by Pakistan's leading textile exporter, Nishat Mills, with Gulf Baraka Apparel of Bahrain to manufacture and sell apparel in the newly created 'Gulf Nishat Apparel Limited'.[33] A second is QST Naveena, a joint venture between Naveena Group of Industries (Pakistan) and QST Industries of Chicago, United States, in 2003 to supply "innovative men's, women's and children's apparel construction components to the international garment industry".[34]

Export performance of Pakistan in textiles and clothing (2004-2007)

Export data indicate that Pakistan's textile and clothing industry managed to maintain its level of exports in aggregate in the port-quota period. Between 2004 and 2007, textile and clothing exports grew in real terms by 18 per cent (see Table 3-9).[35] In the first year of liberalisation there was a jump in exports of 16 per cent, followed by a growth of 4 per cent between 2005 and 2006, but a fall in exports of 3 per cent from 2006 to 2007. Bedwear saw strong growth in the first year (46 per cent) and total growth of 31 per cent over the three year period (real USD, 2000). Similarly, readymade garments grew by a total of 47 per cent between 2004 and 2007 while knitted garments grew 9 per cent. The latter performance was

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purchased by another textile group in 2004, and is now focusing on design at its 100-year-old White Oak Plant in Greensboro, North Carolina and expanding production in China and Nicaragua. Burlington Industries, a former North Carolina-based producer of cotton, blended fabrics and waterproof synthetics that was the world's largest textile producer in 1980, went into bankruptcy in 2000 and closed several of its plants in the US and Mexico in 2002. In 2005, Swift Galey announced a joint venture with China-based Lucky Textile Group to produce and market twill and denim. Sources: WestPoint Home Stores, Company Profile, Cone Denim LLC, Company Profile, Burlington Industries, Inc, Company Profile, and Swift Galey, Company Profile, Hoovers, 2006.

[33] Home Textiles Today, Pakistan Suppliers Strive for Expansion, 21 May 2007, http://www.hometextilestoday.com/article/CA6445742.html, accessed 23 March 2009.

[34] Naveena Group of Industries website, http://www.naveena.net/qstn.htm, accessed 23 March 2009.

[35] The data in this thesis covers the period to the end of 2007 due to limited data availability at the firm level in 2008. It is noted that three years is a shorter time period for observation than desirable. As a result, I analysed the 2008 data at the aggregate level and annual reports available for 43 firms. From 2007-2008 total exports grew 15 per cent while textile and clothing exports fell by 4 per cent (real USD, 2000). This takes the aggregate export growth to 40 per cent between 2004 and 2008, but textile and clothing growth to 12 per cent, suggesting that rates of growth in the textile industry were falling in the years leading away from quota. This is likely to be associated with the global economic crisis as well as Pakistan's worsening internal political situation. The implications of this shift in 2008 are further discussed in Chapter 8. Sectors that gained most in this four year period by gross value were readymade garments (with a growth rate of 55 per cent), bedwear (22 per cent) and synthetic items (70 per cent). Sectors that declined most by gross value were yarn, cloth and knitwear which all dropped by 5 per cent. Source: Federal Bureau of Statistics, Monthly Review of External Trade Statistics, own analysis. Performance at the firm-level appears mostly consistent in 2008 with evidence from 2004 to 2007 (as shown in Appendix 3-4).

unexpected – commentators such as Martin (2004) had estimated the impact of trade liberalisation to be negative for Pakistan's clothing sector.

Table 3-9 Pakistan export growth by product (real USD, 2000) (2004-2007)

Segment/Year	Mean 96-04	2004-5	2005-6	2006-7	2004-7
Total exports	1.03	1.19	1.03	1.02	1.25
Textile and clothing exports	1.03	1.16	1.04	0.97	1.18
Yarn	0.95	1.08	1.15	0.94	1.17
Cloth	1.02	1.16	0.96	0.86	0.95
Knitted garments	1.08	0.97	1.12	1.00	1.09
Bedwear	1.14	1.46	1.03	0.87	1.31
Readymade Garments	1.03	1.48	0.98	1.01	1.47

NOTE: Growth rates are given in whole numbers. e.g. 1.03 is a growth rate of 3 per cent. These data refers to performance by calendar year (January-December) rather than financial year (July-June).
SOURCE: Federal Bureau of Statistics, own analysis

However, Pakistan's performance when compared with its competitors was moderate (see Table 3-10). In comparison with mean export growth of 12 per cent from Pakistan in the textile segment from 2004 to 2007, exports from China grew by 55 per cent and from India by 27 per cent. In the clothing segment, while Pakistan posted total growth of 17 per cent in clothing, China delivered growth of 73 per cent, India of 39 per cent, and Indonesia of 22 per cent. The year of 2007 was particularly difficult year for Pakistan's textile and clothing exporters – with a fall of 3 per cent in textile exports and a fall of 4 per cent in clothing – while others continued to grow. While a slowdown was also seen in some other exporters such as Indonesia in clothing and China in textiles, it is likely that the dramatic deterioration in energy provision and the political environment in 2007 had an impact on the industry in Pakistan.

Table 3-10 Pakistan export growth versus competitors (2004-2007)

TEXTILES	2004-5	2005-6	2006-7	2004-7
China	1.19	1.15	1.13	1.55
India	1.17	1.03	1.06	1.27
Pakistan	1.12	1.02	0.97	1.12
World imports	0.99	1.01	1.01	1.02
CLOTHING				
China	1.16	1.25	1.19	1.73
India	1.35	0.99	1.04	1.39
Indonesia	1.11	1.10	1.00	1.22
Pakistan	1.16	1.05	0.96	1.17
Bangladesh	1.07	1.17	-	-
World imports	1.04	1.05	1.06	1.15

NOTE: Data were not available for Bangladesh in 2007 on UN Comtrade as of February 2009.
SOURCE: UN Comtrade, SITC3

Recent policy research has proposed possible explanations for Pakistan's weaker aggregate performance. The Asian Development Bank (2008) has highlighted Pakistan's rising power supply deficit as a factor shaping manufacturing performance. This includes ongoing power and gas shortages caused by an aging energy infrastructure subject to chronic underinvestment in expansion and maintenance as well as unsustainable pricing regimes. The World Bank also found that Pakistan is disadvantaged by longer shipping times and higher freight costs relative to China because of its location relative to North American and European markets (2006:v). There are also concerns about aggregate productivity: in the manufacture of cotton jeans, for example, labour costs in Pakistan are cheaper ($82 per month in comparison with $125 in China and $83 in India) but less productive. Further, while large mills can make between 20 and 24 pairs of jeans per day in comparison with 24 in China and 21 in India, small firms in Pakistan only make 10-12 per day and all firms have an estimated rework rate of 10 per cent (ibid:37). There is a general lack of shop-floor management and limited training in productivity, design and other product-related skills (World Bank, 2006:37).

At the firm-level, Pakistan's firms are also smaller than those of their foreign competitors. Of the top five firms listed on the KSE, the largest – Nishat Mills – was only half the size of competitors in India, and only one fourteenth the size of a large competitor in Taiwan (see Table 3-11). This may constrain the firm's order size, or ability to take advantage of economies of scale. However, in terms of profitability, Pakistan's firms are often similar to their competitors. In 2005, Gul Ahmed Textile Mills, Nishat Mills and Chenab Limited had gross profit margins of 16, 19 and 21 per cent in contrast with Arvind Mills which had a gross profit margin of 23 per cent and Far Eastern Textiles of 8.8 per cent. Indeed, several Pakistani firms consider their ability to deliver higher quality instead of lower cost to be a competitive advantage. Nevertheless, Pakistan's textile and clothing industry has performed worse on average than those of competing countries in the post-quota period.

Table 3-11 Sales of top five firms listed on Karachi Stock Exchange in 2005 versus selected overseas competitors

Name of firm	Country	Sales in 2005 (nominal USD million)	Products
Far Eastern Textile	Taiwan	3,636	Yarn, fabric, bedwear, garments
Texwinca	China	937	Knitted fabric and yarn
Fountain Set	China	871	Fabric, thread, yarn, garments
Luen Thai	Hong Kong	548	Knit wear and woven wear
Glorious Sun	China	460	Casual apparel
Arvind Mills	India	451	Denim fabric and clothing
Nishat Mills	Pakistan	256	Home textiles, cloth
Fateh Textile	Pakistan	132	Home textiles, cloth
Gul Ahmed	Pakistan	130	Home textiles, cloth
Chenab Limited	Pakistan	126	Home textiles, garments
Sapphire Textile	Pakistan	121	Yarn, cloth, home textiles

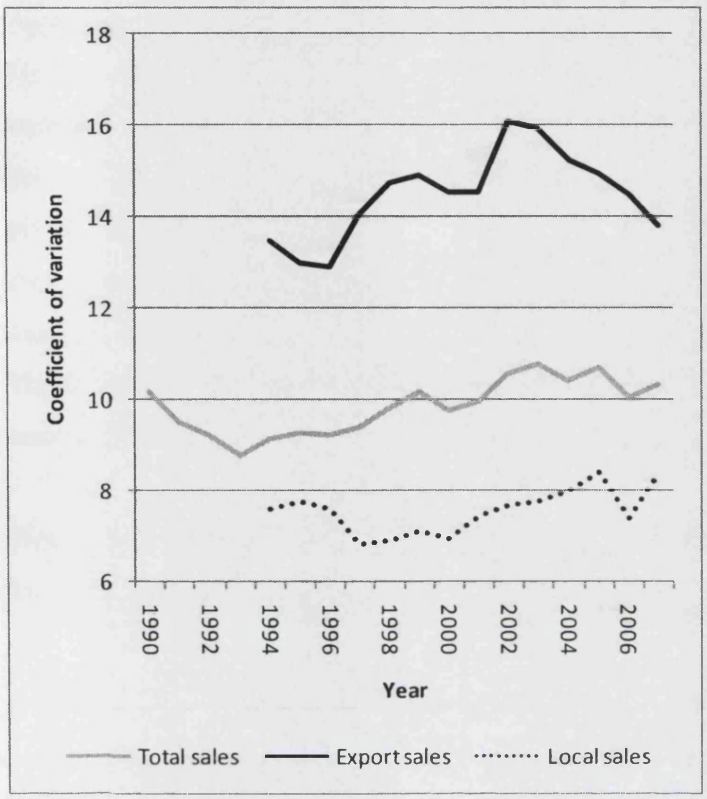
NOTE: All deflators and exchange rates in this thesis are sourced from the international Monetary Fund, International Financial Statistics, December 2008.
SOURCE: Merrill Lynch (2006), Karachi Stock Exchange, own analysis

3.4 Firm shakeout in Pakistan's textile and clothing industry during trade liberalisation

Evidence suggests that individual firms diverged in performance in the ten year period covering the phase out of the export quotas under the ATC. Among the textile and clothing firms listed on the Karachi Stock Exchange, for example, the coefficient of variation for total sales also rose continually from the mid-1990s onwards to peak in 2002 before falling off until 2007 (see Figure 3-10).[36] This suggests diverging performance among firms as poorer companies fell in size (and exited) and market share was gained by better performers (leading to a upward convergence in mean size). Indeed, while 27 firms have exited between 2000 and 2007 (and there have been no new entrants – see Appendix 3-9 for exit patterns per year), the mean size of remaining firms has increased in real terms by 51 per cent from Rs860m to Rs1.3bn (real Pak Rs, 2000) (see Figure 3-11).[37] The average size of exporters has also increased by 51 per cent from Rs664m to Rs1.0bn in the same period. This suggests that a greater share of total KSE, and export market, sales was gained in this period by those firms that had remained in the market.

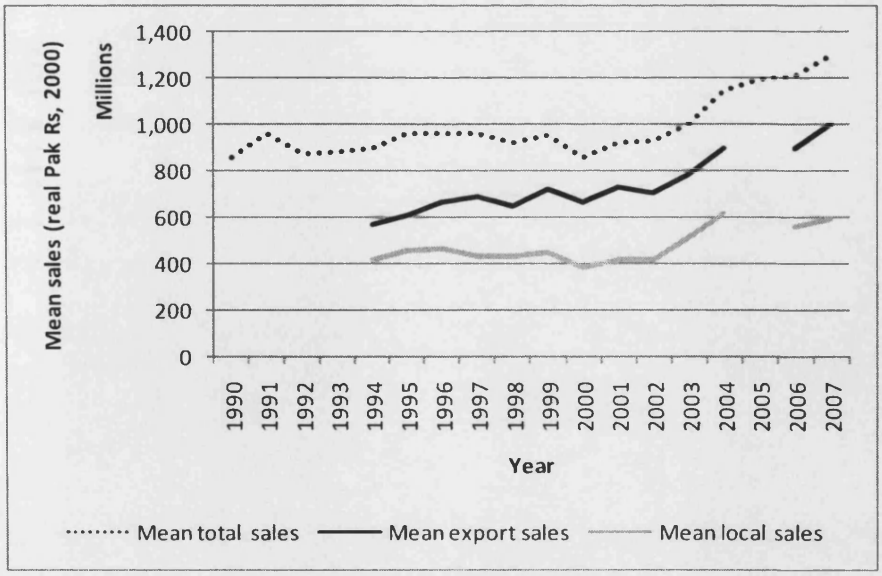
[36] Annual report data available for 43 companies suggests that these trends persisted at the firm level in 2008. For a comparison of firm performance from 2004-2007 and from 2004-2008, see Appendix 3-4.
[37] The fate of an additional 8 firms was unknown in this period to to their failure to submit annual reports, but it is likely they have also exited

Figure 3-10 Diverging performance of KSE-listed textile and clothing firms (1990-2007)



NOTE: See Appendix 3-8 for a scatterplot of the sales among KSE-listed firms to which this figure refers. The financial year was changed in 2005, hence the 2005 figures include sales from the first quarter of 2006 for standardisation. Data on export and local sales were not available in 2005 as a result. SOURCE: Karachi Stock Exchange, own analysis

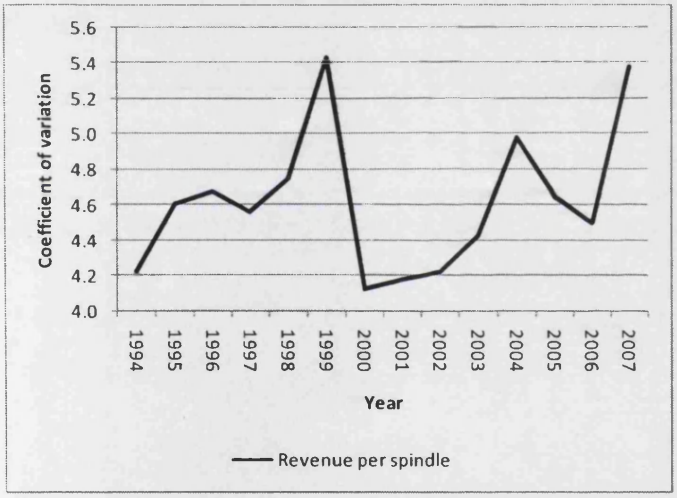
Figure 3-11 Mean size of KSE-listed textile and clothing firms (1990-2007)



NOTE: Firms that no longer have positive sales have been removed from the sample to ensure that they do not bias downwards the mean size. SOURCE: Karachi Stock Exchange, own analysis

While data on revenue per employee are only available between 1999 and 2005, they also show a similar pattern and hence purposive activity on the part of the firm (see Appendix 3-5). This effect also seems to be present in the data on quota exporters where the coefficient of variation among firms that remain in the sample between 2000 and 2006 rises until 2004 before falling in 2006 (see Appendix 3-6). Further, a similar relationship exists with gross profit, where divergence rose at the end of the 1990s and continued moving upwards after 2006 (see Appendix 3-7). There was a particularly strong shakeout among spinners and analysis of revenue per spindle indicates that it was still ongoing in 2007 (see Figure 3-12). There was also evidence of the shakeout and exit which occurred at the end of the 1990s among yarn firms, for the reasons given in Chapter 2.

Figure 3-12 Coefficient of variation of real revenue per spindle among yarn producers listed on Karachi Stock Exchange (1994-2007)



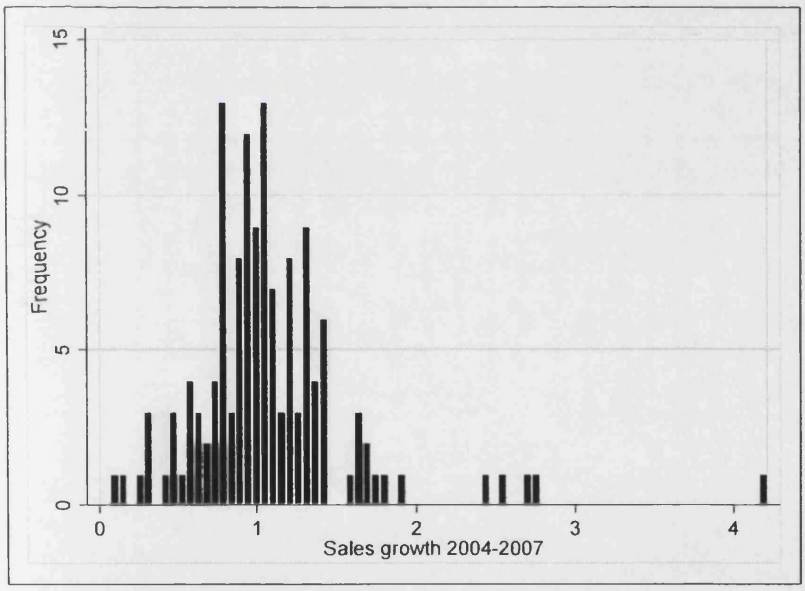
SOURCE: Karachi Stock Exchange, own analysis

As illustrated in Figure 3-10 above, the peak in divergence occurred much later for the local sales (2005 and 2007) than for exports (2002 to 2003). Anecdotal evidence suggests that this is the result of stronger personal contacts in the local textile market. Firms often sell yarn and cloth to other mills in the same group, for example, or to friends or family also operating in the industry. Firm 23, a manufacturer of yarn and cloth listed on the KSE, explained how its sales were always guaranteed to be purchased by firms owned by family relations. A series of intermarriages between members of different textile firms have also led to business relationships: in two consecutive days I visited one of Pakistan's best performing textile units as well as one of its weakest, run by the brother-in-law of the Chief Executive of the first. In

contrast, relationships with exporters are less structured by personal relationships and the competitive pressure is greater. The analysis of professional management in firms, and such relationships, will be discussed in more detail in Chapter 6.

Total sales and exports by firms listed on the KSE have also grown between 2000 and 2007 (see Appendix 3-10). However, this growth has been driven by a small number of firms. Of the 137 surviving firms in 2007, 58 firms had grown sales in real terms since 200, 23 had maintained their sales, and 56 had seen a drop in sales since 2004.[38] The distribution of firm growth rates in total sales is shown in Figure 3-13 below. This suggests that less than half of the firms were driving an increase in mean firm size during the liberalisation. The results also imply that 40.9 per cent of firms were unable to increase their sales over this three year period.

Figure 3-13 Real sales growth of firms listed on Karachi Stock Exchange (2004-2007)



NOTE: Sales growth is given in whole numbers with 1 equal to real sales growth of 0 per cent. One firm was dropped from the graph as it had sales growth of 40 (from very low initial level).
SOURCE: Karachi Stock Exchange, own analysis

Analysis of firm survival among quota exporters using data provided by the Trade Development Authority of Pakistan (TDAP) and Federal Bureau of Revenue (FBR) also indicates that a large shakeout of firms took place between 2004 and 2006 after quota

[38] Here, I term a firm as having sales growth if it was greater than 5 per cent between 2004 and 2007, as 'maintain' if sales are within a 5 per cent margin above or below the 2004 figure, and a fall if sales fell more than 5 per cent. This is to take into account any small variations in the level of sales.

abolition. From the data available, I developed measures of firm performance including "survive" and "maintain" as outlined in Chapter 1. These measures were as follows: the survival rate of those quota exporters on which 2006 export data were available from the FBR (named 'SurviveFBR', 528 firms); survival of the same firms based on FBR data as well as additional observations provided by trade associations ('SurviveTA', 610 firms); maintain rates based on export values in 2006 provided by FBR (MaintainFBR, 528 firms).[39] Survival rates tend to decline as more data become available, as witnessed by a lower rate of survival using the SurviveTA measure. As a result, 'MaintainFBR' and 'SurviveTA' should be taken as the most accurate indicator of firm performance. Similarly, indicators should be taken as either upper or lower bounds for survival or maintenance of sales given that data were missing for 124 firms.

Between 2004 and 2006 the survival rate using SurviveTA was 85.7 per cent (see Table 3-12). This means that at least 14.3 per cent of textile and clothing firms in this sample exited within the first two years of trade liberalisation. Even if all the firms on which there are no data available were to have exited, the survival rate would be 72.2 per cent. Maintain rates, however, were much lower: only 67.2 per cent of firms had managed to maintain the mean level of exports they had under the quota in 2006. The analysis using value of exports in 2004 gives similar results: 64.3 per cent of firms were able to exceed their 2004 export sales.[40] This suggests some degree of rapid exit following quota abolition. There was also a shakeout among the largest firms: of the top 25 quota exporters between 2000 and 2004, only 10 of the 21 firms that could be traced remained in the top 25 in 2006.

[39] The SurviveTA measure includes export data provided by PHMA, and 'yes' or 'no' indicators of survival to February/March 2007 provided by other trade associations. This additional insight was useful as if firms did not report export data because of exit was not recorded in FBR records.

[40] It would be useful to develop a benchmark of exit between 2000 and 2004 among quota exporters in order to see whether it was the liberalisation *per se* that led to firm exit. However, the use of quota data is problematic because firms purchased varying levels of quota as a percentage of total exports year-to-year, and firms often opted to explore unrestricted markets because of high quota premiums. Hence using little quota in one year would be taken as an exit rather than as a positive exploration of unrestricted markets. Baseline analysis suggests that of the 1,986 firms that exported under quota in 2000 (and taking 40 per cent quota reliance on average), 57.4 per cent 'maintained' their quota exports in 2002, 54.4 per cent from 2000-2003, and 48.1 per cent from 2000-2004 (see Appendix 3-11). However, this could merely be taken as a measure of quota usage rather than survival.

Table 3-12 Survive and maintain rates by product, quota exporters (2006)

Product	SurviveFBR	SurviveTA	MaintainFBR
All	91.5	85.7	67.2
Yarn	95.2	95.2	90.5
Cloth	89.4	86.5	75.0
Home textiles	89.2	86.5	68.7
Wovens	91.3	84.2	60.9
Knits	93.3	83.3	60.3
Towel	88.2	86.1	61.8

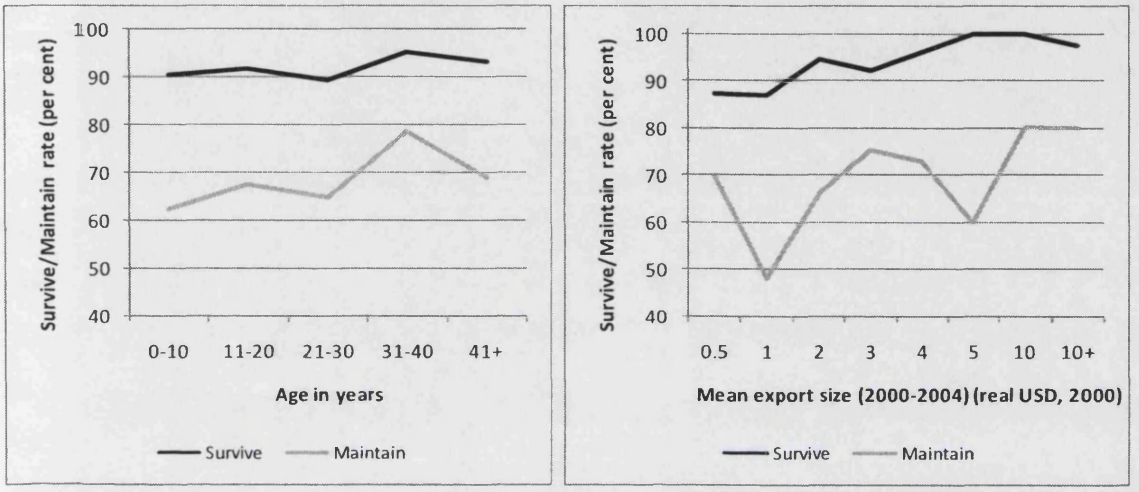
NOTE: SurviveFBR N=528, SurviveTA N=610, MaintainFBR N=528
SOURCE: Trade Development Authority of Pakistan, Federal Board of Revenue, Karachi Stock Exchange, Securities and Exchange Commission of Pakistan, Pakistan Hosiery Manufacturers Association, trade associations

Survive and maintain rates were associated with a number of firm characteristics. By product, firm 'maintain' rates were highest among yarn firms at 90.5 per cent (see also Table 3-12). This undoubtedly represents the small reliance on quota that took place among yarn firms (at 6.5 per cent on average, see Table 3-4 above). This was followed by home textile and cloth firms of whom 75.0 and 68.7 per cent maintain exports respectively (again, likely to be a part function of lower quota reliance). However, firms who specialise in other made-up products perform worse on average. At least 39.7 per cent of knitting firms, 39.1 per cent of woven garment firms, and 38.2 per cent of towel producers exited in the first two years of quota free trade. The 'maintain' rate of home textile of 68.7 per cent is surprisingly low given that Pakistan's home textile sector was seen as particularly innovative and less reliant on quota than garments.

Both survive and maintain rates tend to increase with age in the TDAP sample (Figure 3-14). This provides support for predictions from the theoretical literature that firm performance increases with age, partly as a result of firm learning over time as well as the result of sample bias that good performers will have survived longer at the time of quota abolition. Similarly, firm survival increases with the mean size of the firm between 2000 and 2004, perhaps due to the interest of buyers to source finished products from a 'one stop shop'. However, size is strongly correlated with age – the determinant of performance outlined above. Under quota, for each year increase in age average exports increased by $97,961 (real USD, 2000; p=0.023). An interesting finding is that the relationship between size and performance breaks down among firms exporting less than $2m between 2000 and 2004, with the smallest firms (exporting around $0-$0.5m) performing better than those between $0.5 and $1m exports (see

also Figure 3-14). This shows that post-quota performance may not solely be a function of size, and shows more positive performance than might be expected in the policy literature.

Figure 3-14 Survive and maintain rates by firm age (left) and size (right), quota exporters



NOTE: N=528. The size axis is not linear, but used as illustration of how survive and maintain rates vary by size. For sample sizes see Appendix 3-12.
SOURCE: Trade Development Authority of Pakistan, Federal Board of Revenue, own analysis

'Maintain' rates by location were highest among firms in Karachi and Faisalabad with levels of 69.3 and 68.3 per cent respectively (see Table 3-13). Anecdotal evidence suggests that the industry in Faisalabad is gaining momentum as a result of skill accumulation among workers and a more stable political environment than locations in Sindh. Indeed, data on exports under quota show that the mean size of firms in Faisalabad rapidly caught up with those in Lahore and Karachi between 2000 and 2004 (see Appendix 1-4). This is a positive development for Pakistan as economic development moves out of the previously dominant commercial hubs. Additionally, the relative performance of Karachi is positive given the negative business climate typically associated with the city (outlined in Chapter 2). It suggests that firms based in Karachi were more resilient to the ending of the quota and that a business culture persists in the city. Evidence from interviews also suggest that the poorer relative performance of firms around Lahore is associated with the 'strategising' of firms in the region in relation to quota and an associated lack of competitiveness. The higher relative performance of firms in the 'Other' category could be biased upwards by the heavy reliance of firms in Multan on products such as yarn and cloth (see Table 3-13).

Table 3-13 Survive and maintain rates by location, quota exporters (2006) (per cent)

Location	SurviveFBR	SurviveTA	MaintainFBR
All	91.5	85.7	67.2
Karachi	99.1	94.6	69.3
Lahore	85.2	75.9	60.6
Faisalabad	84.3	77.1	68.3
Other	88.7	87.9	74.1

NOTE: SurviveFBR N=528, SurviveTA N=610, MaintainFBR N=528
SOURCE: Trade Development Authority of Pakistan, Federal Board of Revenue, Pakistan Hosiery Manufacturers Association, Securities and Exchange Commission of Pakistan, Karachi Stock Exchange, own analysis

Additional evidence on performance among less formal firms obtained from the Pakistan Hosiery Manufacturers Association shows that in some cases they have been able to perform on a similar level as their more formal counterparts. Analysis of 318 surviving PHMA members in Karachi shows that partnerships or sole proprietorships showed a 'maintain' rate of 66.2 per cent in comparison with 70.8 per cent among public/private firms (see Table 3-14). This is a positive result as it indicates that informality *per se* is not a relative disadvantage in this context as is often suggested in the policy literature. Maintain rates were lower among surviving firms in Faisalabad, but this could be the result of their younger age as outlined in Section 2.4 above. Out of the 37 public and private firms that were still operating in Lahore, 20 had maintained their exports, equal to 54 per cent, much lower than the firms located in Karachi (70.8 per cent) or Faisalabad (67.5 per cent). This could be for reasons of quota dependence as outlined above.

Table 3-14 'Maintain' rates of knitwear companies by firm type

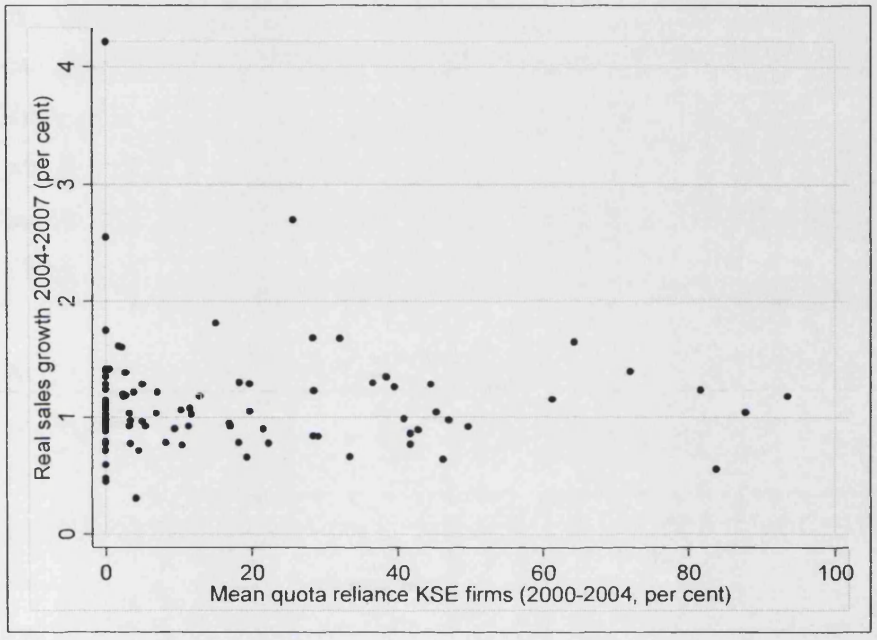
Firm type	Number of 'maintain' firms (PHMA Karachi)	Obs.	Per cent	Number of 'maintain' firms (PHMA Faisalabad)	Obs.	Per cent
Partnerships/SPs	147	222	66.2	37	70	52.9
Public/private	68	96	70.8	27	40	67.5
Total	215	318	67.6	64	110	58.2

NOTE: SPs refers to Sole proprietorships. Analysis refers only to surviving firms as exit data was not available.
SOURCE: Pakistan Hosiery Manufacturers Association Karachi and Faisalabad, own analysis

However, analysis of KSE data suggest that quota reliance *per se* was not an important determinant of performance after the ending of the MFA. When comparing the level of quota reliance with total sales growth between 2004 and 2007, there was no direct relationship

between the two factors (see Figure 3-15).[41] Firms that had low reliance on quota, for example, varied widely in their post-quota performance. This suggests that while some firms might have been protected during the MFA, more competitive exporters were reliant on quota to simply access important markets.

Figure 3-15 Quota reliance of firms listed on Karachi Stock Exchange (per cent) (2000-2004) versus real sales growth (2004-2007)



SOURCE: Karachi Stock Exchange, Trade Development Authority of Pakistan, own analysis

Conclusions

The evolution of the global trading environment for textiles and clothing in the post-war period shaped firm entry and industry performance in many of the world's leading textile exporters. In Pakistan, the Multifibre Arrangement shaped patterns of firm entry and growth through quota premiums and export quota ceilings by privileging incumbent producers and limiting the growth of others. While some firms benefited from technology transfer and quota rents, the system also shaped the competitiveness of the industry: firms were either protected

[41] As a percentage of total quota sales, KSE firms represented between 13 and 18 per cent between 2000 and 2004 (as illustrated in Appendix 3-2). However, only 91 of the KSE firms used quota at all during this period, and firms did not export under quota in each of the years. KSE firms relied much less on quota for export sales than the Pakistan average of 40 per cent, inflating their likelihood of survival upwards.

by quotas, or forced to sharpen their competitive edge by seeking out unrestricted markets. The presence of the quota also encouraged rent seeking and made moves into higher value-added products less attractive. Firms in Pakistan invested heavily in anticipation of the new trading environment which presented both a challenge and an opportunity to the industry.

A rapid redistribution of market share between and within countries took place as export quotas were gradually abolished under the Agreement on Textiles and Clothing. At an aggregate level, Pakistan managed to maintain its exports and has shown strong growth in categories such as home textiles and woven garments. It has also managed to increase its share of key markets like the USA and mean firm size among surviving firms has increased which indicates a reallocation of market share to better performers. However, Pakistan's textile and clothing exports have performed poorly relative to competitors such as India, China and Bangladesh. It has perhaps missed its 'opportunity of a lifetime'.

At the firm level there was diverging performance between 1994 and 2004 followed by rapid shakeout amongst Pakistan's textile and clothing firms in the post-quota period associated with firm characteristics such as product, age, location, size and firm type. Positive trends include the strong performance of Karachi despite two decades of political turbulence, and the growth of the city of Faisalabad with its increasingly large textile units. Another positive outcome is that informal firms have often performed on par with their more formal counterparts when faced with increased cost and quality competition. At the firm level, post-MFA performance does not appear to have been related to quota reliance *per se*. However, there has been a rapid shakeout of firms, with only two thirds at most able to maintain their exports when the MFA was finally abolished. There has also been a particularly high rate of exit among garment producers.

This analysis sets the scene for the analysis of the role of pre-founder experience in shaping firm capabilities, growth and diversification which will now be explored in Chapters 4 to 7.

Appendices

Appendix 3-1: Timeline of global trade regulation in textiles and clothing

Table 3-15 Evolution of global trade policy in textiles and clothing (1955-2007)

Date	Trade policy
1955	Japan applies for accession to General Agreement on Textiles and Trade Japan voluntarily limits export of cotton textile products to USA under the Eisenhower Administration
Jul 1961	'Short-Term Arrangement' on Cotton Textiles
1 Oct 1962	'Long-term Arrangement' on Cotton Textiles
1973	Multifibre Arrangement Negotiated
1 Jan 1974	MFA comes into operation until the end of 1977, includes a minimum 6 per cent growth rate for items under restraint
14 Dec 1977	MFA extended for another 4 years Amending protocol: condition imposed by EEC that bilateral agreements could include 'reasonable' departures (Choi, 1985:18)
1 Jan 1978	MFA-II comes into force
1981	Negotiations for the second renewal of the MFA 'Protocol of extension'; Renewed until 31 July 1986
1 August 1986	Protocol extending MFA until July 1991 introduced
1991	Talks to end MFA break down (Khanna, 1991), extended to 1994
1994	Uruguay Round, GATT, agreement to end MFA, ATC introduced as a transitory agreement (Nordas, 2004)
31 Dec 2004	Agreement on Textiles and Clothing ends
June 2005	EU and China Memorandum of Understanding (agreed June 2005) limits imports of specific products until 31 Dec 2008
1 Jan 2006	Memorandum of Understanding (MOU) between USA and China on restraints in selected textile exports for a three-year period (agreed 8 November, 2005)
31 Dec 2008	China Textile-Specific Safeguard Clause ends

NOTE: As defined by the European Commission, "The Textile-Specific Safeguard Clause (TSSC) in the Chinese Protocol of Accession to the WTO can be invoked by any WTO member able to show market disruption by Chinese textile imports serious enough to "impede the orderly development" of their textile trade. The triggering state must first request consultations with China, asking that it limit its shipments of the products cited to the level of the first twelve of the fourteen months prior to the complaint, plus 7.5% (6% for wool products)". These measures can only be applied until the end of 2008.
SOURCE: Khanna (1991) and Choi et al (1985)

Appendix 3-2: Export quota reliance of firms listed on Karachi Stock Exchange

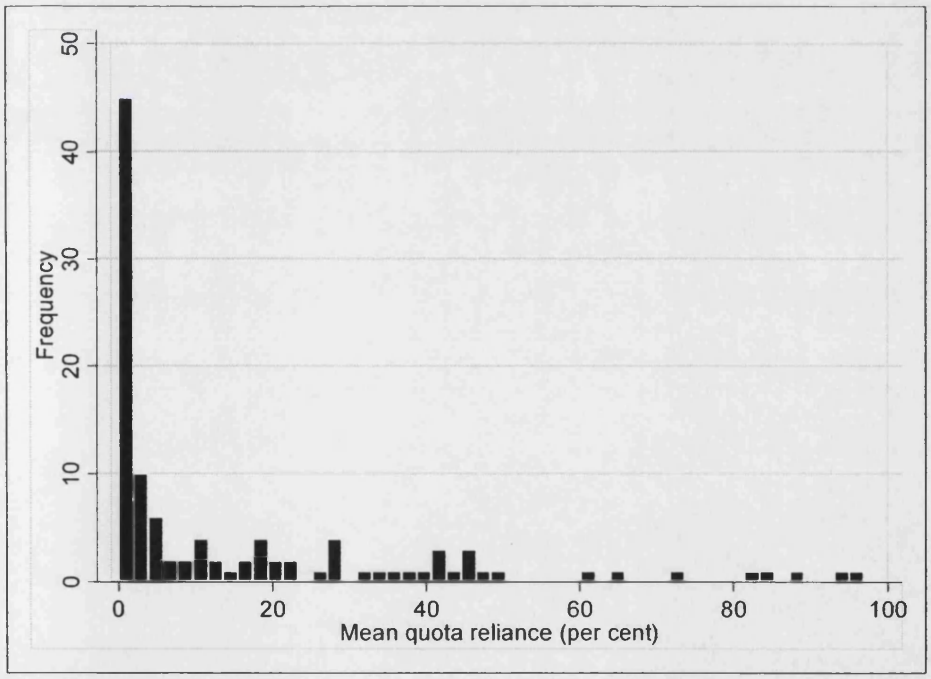
A total of 91 firms listed on the Karachi Stock Exchange exported under quota between 2000 and 2004. On average they sold between 21 and 27 per cent of their exports under the quota (see Table 3-16) although firms ranged in their individual reliance on quota from 0.36 per cent of total exports to 96.0 per cent (see Figure 3-16).

Table 3-16 Quota reliance of firms listed on the Karachi Stock Exchange and share of quota exports (per cent) (2000-2004)

Year	2000	2001	2002	2003	2004
Quota reliance of total KSE-firm exports	21.8	21.0	25.2	26.1	27.2
Observations	64	66	71	66	65
Share of total quota sales	13.6	13.6	15.9	16.6	17.9

SOURCE: Karachi Stock Exchange, Trade Development Authority of Pakistan, own analysis

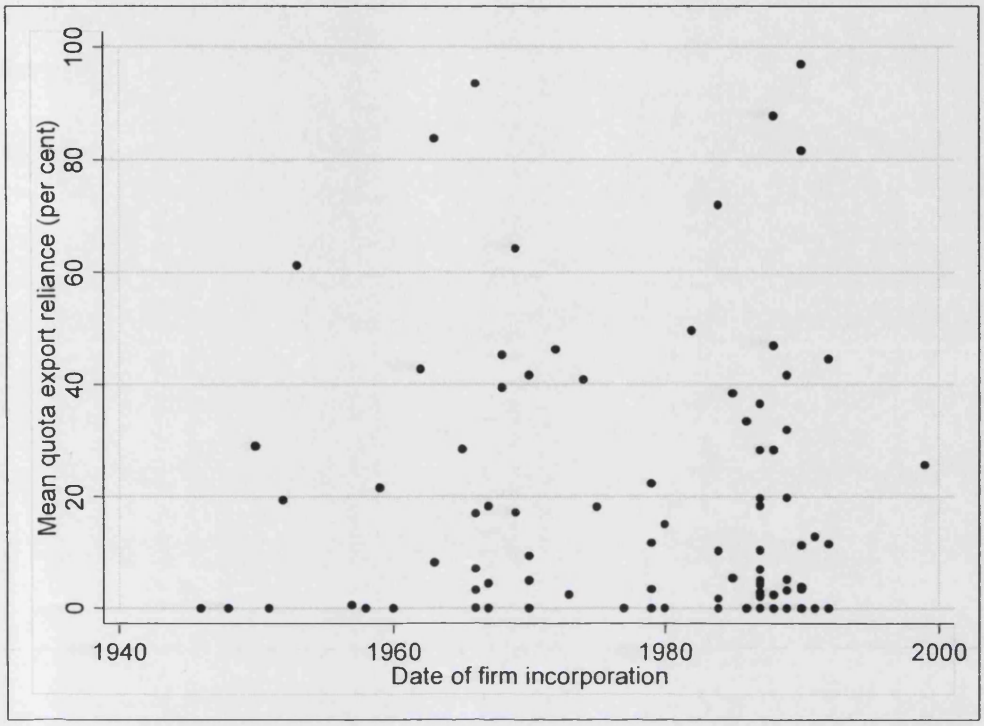
Figure 3-16 Average reliance on quota for exports among firms listed on the Karachi Stock Exchange (2000-2004)



SOURCE: Trade Development Authority of Pakistan, Karachi Stock Exchange, own analysis

There were two clusters in graph of firm age versus quota reliance, the first at around age 20 and one around age 40 (see Figure 3-17). Anecdotal evidence suggests that businesses in operation in 1974 (when the MFA was introduced) were privileged in access to quota, while those created in the early 1980s were specifically formed to take advantage of quota access.

Figure 3-17 Relationship between firm age and quota reliance, textile and clothing firms listed on Karachi Stock Exchange

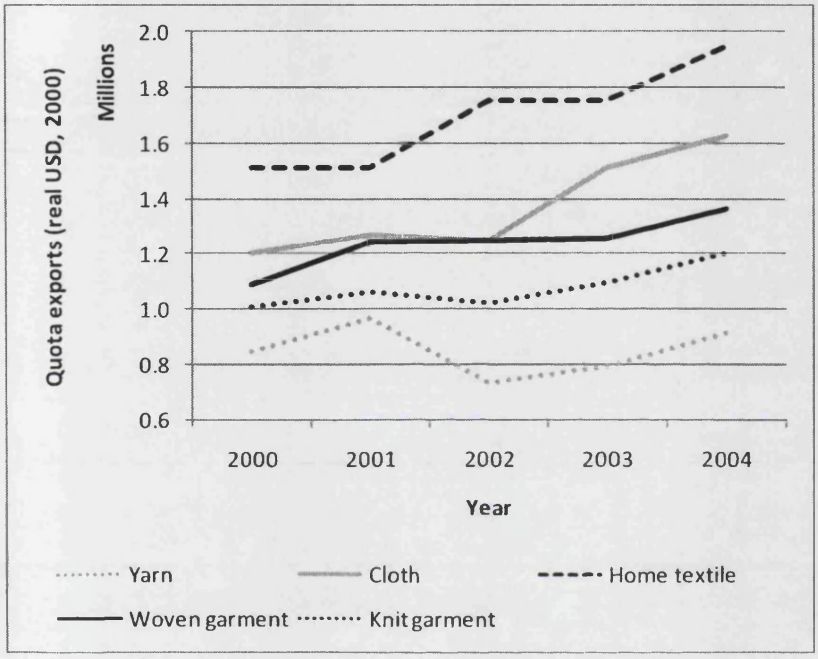


SOURCE: Trade Development Authority of Pakistan, Karachi Stock Exchange, own analysis

Appendix 3-3: Mean firm size by product and location (quota exporters, 2000-2004)

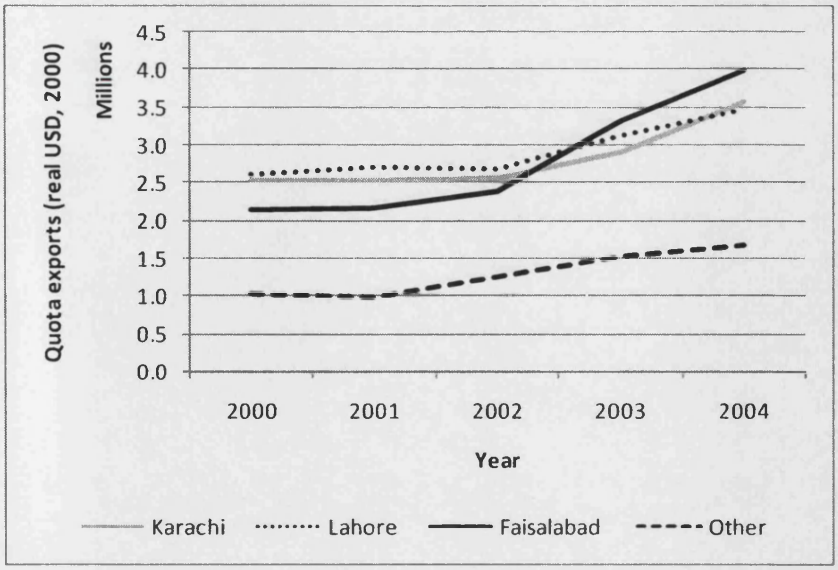
The size of quota exporters by product and location from 2000 to 2004 are shown in Figures 3-18 and 3-19. Mean size increased across all locations in this period and in all products with the exception of yarn.

Figure 3-18 Mean firm quota exports by product (3,610 quota exporters, 2000-2004)



NOTE: This chart represents exporters per year as all not individual firms exported in each year.
SOURCE: Trade Development Authority of Pakistan, own analysis

Figure 3-19 Mean firm exports by location (724 quota exporters, 2000-2004)



SOURCE: Trade Development Authority of Pakistan, own analysis

Appendix 3-4: Performance of selected textile and clothing firms listed on the Karachi Stock Exchange in 2008

The annual reports of 43 companies in 2008 were available online. Seven firms moved into 'maintain' or 'grow' category in 2008, showing show signs of improving performance, while only three fell out. This suggests that performance trends witnessed between 2004 and 2007 have largely continued in 2008.

Table 3-17 Real sales growth 2004-2008: 43 firms listed on Karachi Stock Exchange

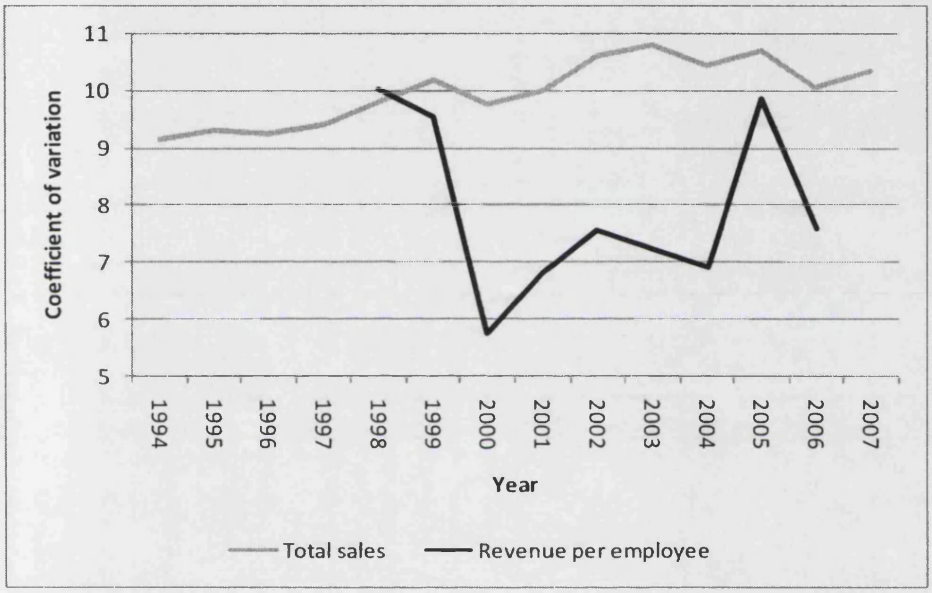
2004-5	2005-6	2006-7	2007-8	2004-7	2004-8	Change
0.98	0.90	0.98	0.98	0.87	0.85	-
1.94	0.59	0.94	0.91	1.08	0.98	↓
0.95	1.54	1.24	0.92	1.81	1.66	-
1.01	1.20	0.86	1.03	1.04	1.07	-
1.46	0.84	1.10	0.97	1.35	1.31	-
0.93	0.83	1.08	1.41	0.84	1.41	↑
0.75	1.18	0.65	1.98	0.58	1.15	↑
0.83	0.90	1.03	1.16	0.77	0.90	-
1.01	0.88	1.00	1.28	0.90	1.15	↑
1.04	1.19	1.04	1.31	1.29	1.69	-
1.01	0.93	0.99	1.02	0.93	0.94	-
0.98	0.77	0.88	0.70	0.66	0.46	-
0.87	0.86	0.75	1.00	0.79	0.79	-
0.84	0.94	1.06	0.99	0.84	0.83	-
1.08	0.94	1.14	1.10	1.16	1.18	-
-	-	0.90	0.95	1.07	1.02	-
0.67	0.79	1.06	0.87	0.56	0.49	-
1.36	1.07	0.98	1.04	1.42	1.48	-
1.04	0.95	0.98	0.95	0.97	0.92	-
1.47	1.07	1.05	1.01	1.65	1.67	-
1.06	1.01	0.97	0.98	1.04	1.03	-
0.98	1.18	1.12	0.74	1.30	0.96	↓
1.12	1.22	1.18	0.86	1.61	1.38	-
0.80	0.89	1.00	1.10	0.72	0.79	-
0.78	1.05	0.78	0.73	0.64	0.47	-
1.01	0.83	1.10	1.11	0.93	1.03	↑
0.95	0.97	0.98	1.04	0.91	0.95	-
1.20	1.04	0.94	0.95	1.18	1.13	-
0.86	0.89	1.01	1.01	0.77	0.78	-
0.86	1.11	1.01	1.09	0.97	1.06	↑
1.08	1.02	1.11	0.92	1.22	1.13	-
0.93	1.02	1.02	0.95	0.97	0.92	-
1.48	1.15	1.04	1.09	1.75	1.92	-
0.99	0.71	1.92	1.09	1.36	1.47	-
0.96	0.97	1.11	1.12	1.03	1.15	-
0.89	1.00	1.04	1.03	0.93	0.96	-
0.90	1.00	0.89	1.04	0.80	0.83	-
1.00	0.94	0.98	1.14	0.92	1.04	↑
0.89	1.11	1.33	0.98	1.31	1.28	-
1.01	1.11	0.98	1.04	1.09	1.14	-
0.96	1.06	1.04	0.93	1.07	0.99	↓
1.19	1.26	1.07	0.94	1.61	1.51	-
0.95	0.99	1.06	1.35	0.99	1.34	↑

SOURCE: Karachi Stock Exchange, own analysis

Appendix 3-5: Coefficient of variation: sales per employee

The coefficient of variation for sales per employee among firms listed on the Karachi Stock Exchange is shown in Figure 3-20. Due to changes in annual reporting requirements, a smaller number of observations were available for number of employees per firm in 1998, 1999 and 2006. Nevertheless, the trend indicates diverging performance between 2000 and 2005.

Figure 3-20 Coefficient of variation: total sales and sales per employee, textile and clothing firms listed on Karachi Stock Exchange (1994-2007)



SOURCE: Karachi Stock Exchange, own analysis

Table 3-18 Observations of sales and number of employees by year, textile and clothing firms listed on the Karachi Stock Exchange

Year	94	95	96	97	98	99	00	01	02	03	04	05	06	07
Sales	191	190	191	193	194	193	193	193	192	192	191	181	178	136
Employees	-	-	-	-	49	119	148	156	157	153	154	140	60	-

SOURCE: Karachi Stock Exchange

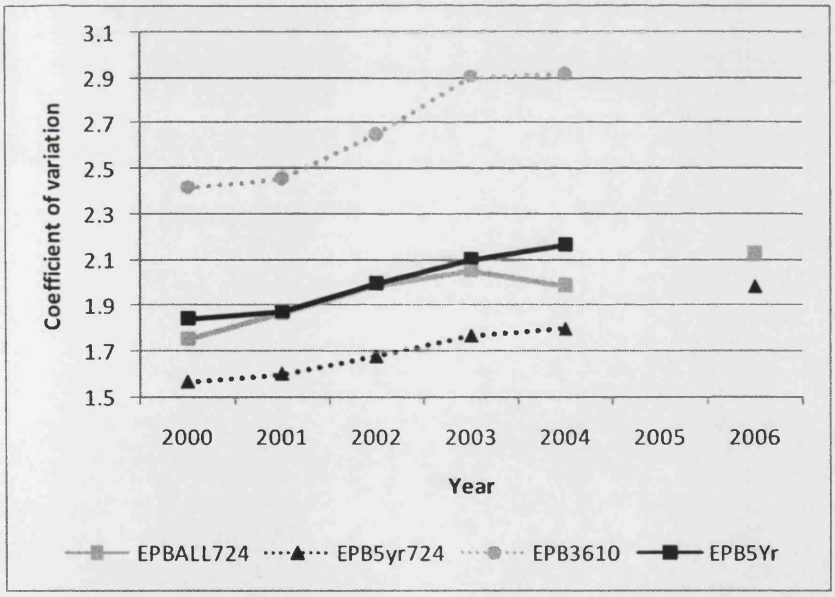
Appendix 3-6: Coefficient of variation: quota exporters

While export data were only available in 2006 for firms incorporated with the Securities and Exchange Commission of Pakistan, there was evidence of similar trends in diverging performance among less formal firms from quota data. Figure 3-21 outlines the coefficient of variation for the following groups of firms

- formal firms exporting in each individual quota year on which data are available and in 2006 (2000-2004) (EPBALL724)
- formal firms exporting in the same period (EPB5yr724)
- all formal and less-formal firms exporting in each individual quota year (2000-2004) (EPB3610)
- all formal and less formal firms exporting in each of the five years (EPB5yr, 1,033 firms).

All exhibited increasing variation in the run up to quota abolition in 2004.

Figure 3-21 Coefficient of variation, quota exporters by firm type (2000-2006)

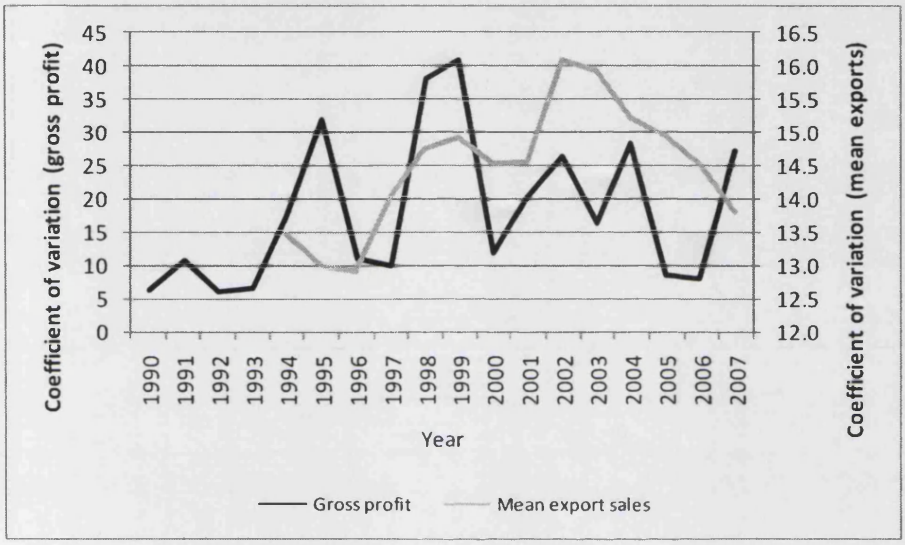


SOURCE: Trade Development Authority of Pakistan, Federal Board of Revenue, own analysis

Appendix 3-7: Coefficient of variation: gross profit

At an aggregate level, firms within the KSE sample have diverged in gross profit a number of times over the 17 year period from 1990 to 2007. The coefficient of variation for gross profit appears to move in line with the divergence in mean export sales, suggesting differences between firms are increasing in a similar pattern.

Figure 3-22 Coefficient of variation: gross profit among textile and clothing firms listed on the Karachi Stock Exchange (1990-2007)

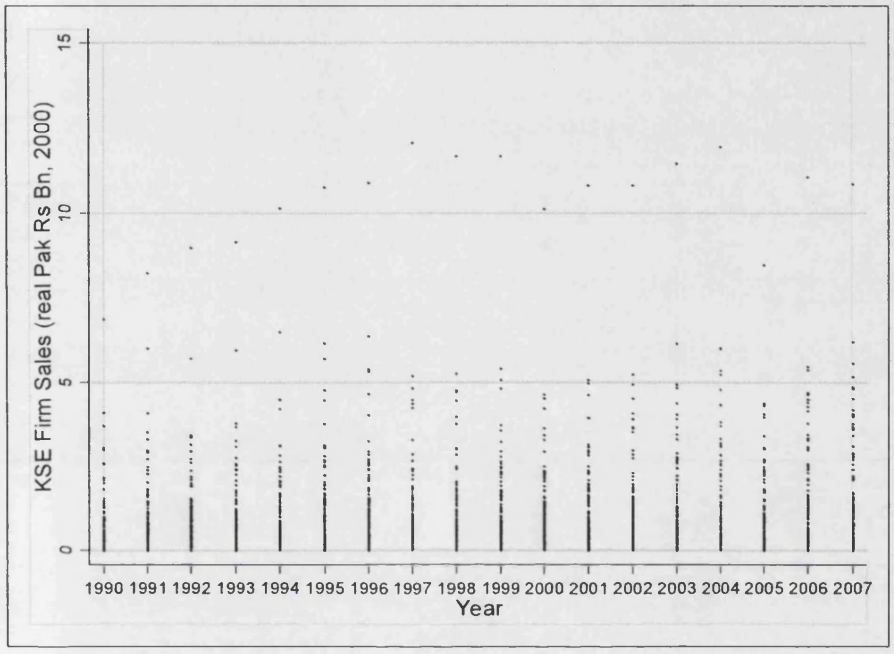


SOURCE: Karachi Stock Exchange, own analysis

Appendix 3-8: Scatterplot of KSE sales data (1990-2007)

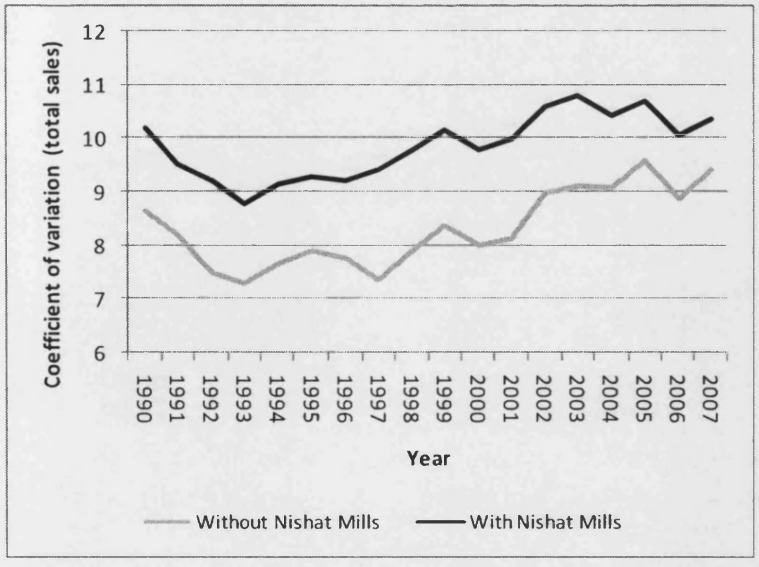
The scatterplot of KSE-listed firm sales on which the coefficient of variation analysis is based is illustrated in Figure 3-23. When dominant outlier in the sample – Nishat Mills – was removed, similar results were found, as can be seen in Figure 3-24.

Figure 3-23 Scatterplot of KSE firm sales (1990-2007)



SOURCE: Karachi Stock Exchange

Figure 3-24 Coefficient of variation: KSE sales without outlier 'Nishat Mills'



Source: SOURCE: Karachi Stock Exchange, own analysis

Appendix 3-9: Exit of textile and clothing firms listed on Karachi Stock Exchange by year (1999-2007)

By 2000 – the first year after the last entrant in the sample of Karachi Stock Exchange-listed firms – 22 of the firms that were in the sample between 1994 and 1999 had already exited. The number of firm exits between 2000 and 2007 are outlined in Table 3-19.

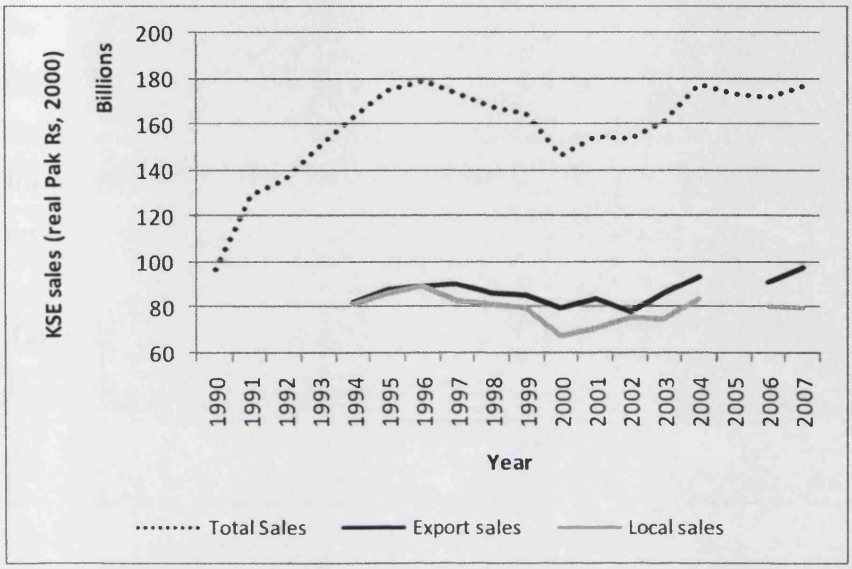
Table 3-19 Exit and missing data, textile and clothing firms listed on the Karachi Stock Exchange (1994-2007)

Year	Active firms	Exits	Cumulative exits	Missing	Total
2000	171	-	22	1	194
2001	167	4	26	1	194
2002	165	1	27	2	194
2003	160	4	31	3	194
2004	155	5	36	3	194
2005	146	0	36	12	194
2006	142	0	36	16	194
2007	137	13	49	8	194

SOURCE: Karachi Stock Exchange, own analysis

Appendix 3-10: Local, export and total sales among firms listed on the Karachi Stock Exchange (1990-2007)

Figure 3-25 Local, export and total sales by firms listed on the Karachi Stock Exchange, 1990-2007 (real Pak Rs, 2000)



SOURCE: Karachi Stock Exchange, own analysis

Appendix 3-11: Exit rate benchmarking of quota exporters (TDAP sample)

For firms that were exporters under quota in 2000, failure to maintain 40 per cent of exports in the years from 2001 to 2004 is illustrated in Table 3-20. Firm presence in the sample declines as time passes. The two-year performance of the full sample of 1,986 firms will be the most accurate measure of survival rates when compared with firm survival between 2004 and 2006 as it includes all firms regardless of quota reliance (e.g. by product). Survival appears higher among public firms as they were less reliant on exports. However, the 40 per cent benchmark underestimates firm survival given that quota exports represent only a fraction of firm exports in any one year and that firms often chose not to export under quota if more profitable opportunities could be found in unconstrained markets.

Table 3-20 Benchmark of survival among quota exporters (TDAP sample, 3,610 firms)

Firm type	2000	2000-2001	2000-2002	2000-2003	2000-2004
All	1,986	1,314	1,140	1,080	956
(% still in sample)		(66.2%)	(57.4%)	(54.4%)	(48.1%)
Partnership/Sole Proprietorship	1,371	772	637	586	509
(% still in sample)		(56.3%)	(46.5%)	(42.7%)	(37.1%)
Private	539	479	439	430	387
(% still in sample)		(88.9%)	(68.9%)	(79.8%)	(72.0%)
Public	76	63	64	62	60
(% still in sample)		(82.9%)	(84.2%)	(81.6%)	(78.9%)

SOURCE: Trade Development Authority of Pakistan, own analysis

Appendix 3-12: Sample size for analysis of maintain rates by age and size

Tables 3-21 to 3-22 illustrate how sample sizes become smaller as firm size and age increases – this reduces the accuracy of survive and maintain rates in the analysis.

Table 3-21 Observations for 'maintain' by firm size

Firm size (real USD, million, mean 2000-4)	Maintain Yes	Maintain No	Total observations	Maintain rate
0-0.5m	124	53	176	69.9
0.5-1m	48	52	100	48.0
1-2m	51	26	77	66.2
2-3m	40	13	53	75.5
3-4m	19	7	26	73.1
4-5m	9	6	15	60.0
5-10m	33	8	41	80.5
10m+	32	8	40	80.0
Total	355	173	528	67.2

SOURCE: Trade Development Authority of Pakistan, Karachi Stock Exchange, Securities and Exchange Commission of Pakistan, Trade Associations

Table 3-22 Observations for 'maintain' by firm age

Firm age (years)	Maintain Yes	Maintain No	Total observations	Maintain rate
0-10	45	27	72	62.5
11-20	196	95	291	67.4
21-30	61	33	94	64.9
31-40	33	9	42	78.6
41+	20	9	29	69.0
Total	355	173	528	67.2

SOURCE: Trade Development Authority of Pakistan, Karachi Stock Exchange, Securities and Exchange Commission of Pakistan, Pakistan Hosiery Manufacturing Association

Chapter 4 Founder experience, entry strategy and firm performance during trade liberalisation

The textile and clothing industry of Pakistan exhibits much heterogeneity by firm size, age, location, type and product and performance. Most importantly, firms also differ by pre-founder experience. In this chapter I introduce the origins of firms operating in this industry in Pakistan and classify their backgrounds as 'Experienced', 'Textile-related', 'Other manufacturing' or 'Inexperienced'. I then assess whether this pre-founder experience is statistically associated with firm performance following the abolition of export quotas. Performance is measured both by firm size and the firm's ability to maintain its level of exports in the post-quota period, while controlling for other firm characteristics. Finally, I examine how founder experience shapes the firm's entry strategy. In particular, I identify how prior knowledge shapes product choice as well as marketing strategy.

I find that pre-founder experience is associated with firm performance among quota exporters and firms listed on the Karachi Stock Exchange, even when controlling for firm age. Experienced firms and those from Textile-related backgrounds are larger than Inexperienced firms and they show greater ability to survive and maintain exports during trade liberalisation. Through the use of case studies, I show that PFE shapes the firm's initial entry strategy. Experience typically allows firms to identify product niches or marketing opportunities, for example, which are hidden from less experienced firms. In contrast, I find a more ambiguous relationship between founder experience and performance among firms from Other manufacturing backgrounds. While the entry strategies of such firms tend to exhibit a more commercial edge than Inexperienced firms, they often struggle with the industry-specific knowledge required for entry.

This sets the context for the analysis in Chapter 5 of how pre-entry experience shapes production capabilities and organisational structure in the new firm, as well as its initial size and subsequent growth trajectory.

4.1 Firm origins and pre-founder experience

Firms listed on the Karachi Stock Exchange (KSE) include some of the earliest entrants to the textile and clothing industry in Pakistan. Indeed, some firms listed on the KSE in 2007 were incorporated as early as the 1940s. Interviews with firms listed on the KSE and a survey of trade associations revealed the backgrounds of 140 of the 194 firms still in operation between 1994 and 2007 (see Appendix 4-1 for a full list of firm origins).

Firm formation in the six decades since Pakistan's formation in 1947 was often shaped by the economic and political conditions of the time. In the 1950s, for example, new firms listed on the KSE came from origins such as the leather industry in India, the trading of goods and clothing through the port at Karachi, as well as backgrounds in retail or production of consumer goods in pre-Partition India. As Pakistan's textile and clothing industry evolved in the 1960s, listings were also driven by founders involved in cotton and yarn trading, as well as industrial sectors such as sugar, steel and shoes. However, it was at this time that inexperienced founders also gained access to the sector as a result of the politicised nature of licence allocation: entrants in this period also included several politicians and a member of the Pakistani army. In line with Pakistan's endowments of cotton and its economic policies, most firms entered either yarn or cloth production in contrast with mills in East Asia which began producing garments at this time. From the 1960s onwards established firms begin adding new units to the business group, while in the late 1960s and early 1970s several founders with previous businesses in East Pakistan (now Bangladesh) listed new mills on the KSE sample following the breakup of the country.

New firm listings in the 1970s and 1980s were dominated by the formation of new units by existing textile firms. However, some new entrants came from backgrounds in shipping, transportation, tobacco, car dealing and chartered accountancy as well as more common origins in leather, textile trading and consumer goods. New firm formation by politicians also continued to be evident throughout the 1980s. The deregulation of the industry at the end of the decade led to a spurt in new firm listings between 1987 and 1991 (as previously shown in Figure 2-3).

Several new entrants revealed in interviews that at the time of deregulation they took the opportunity to enter the sector as it was previously hard to access due to the licence system.

Origins of these firms include cosmetics, construction, agriculture, medicine, accountancy, cement and garments. Incumbents also took the opportunity to add new mills at this time. Anecdotal evidence suggests that new mills were created from the desire to set up a greenfield project from scratch (with new machinery and staff), as the consequence of tax breaks or loans for new units, and because extensive family structures in Pakistan that have encouraged *family spinoffs*. Many of these later entrants moved into the manufacture of products in the home textile and garment sector, although 75 firms out of the total have remained in the spinning sector since inception. There are few entrants in the post-2000 period in this sample because the rate of new stock exchange listings has been poor.

The KSE sample is also dominated by the large family business groups that have had a high-profile presence in the industry over several decades. The Sapphire and Gulistan Groups (part of the same family), for example, have seven listed mills between them: Gulistan Textile Mills (listed in 1968), Sapphire Textile Mills (listed in 1971), Gulshan Spinning Mills (listed in 1989), Sapphire Fibres (listed in 1990), Paramount Spinning Mills (listed in 1991), Reliance Cotton Spinning Mills and Gulistan Spinning Mills (listed in 1994). The Karachi-based Dewan Mushtaq Group has four textile units on the exchange: Dewan Mushtaq Textile Mills (listed 1971), Dewan Textile Mills (listed 1971), Dewan Khalid Textile Mills (listed 1979), and Dewan Farooque Spinning Mills (listed 2005). Other groups include the Punjab-based Sargodha Group, the Nagina Group (3 mills), the Tata Group (3 mills), as well as others such as Kohinoor Maple Leaf Group and the Ayesha Group of Companies that have two units listed.

The backgrounds of unlisted public firms incorporated with the Securities and Exchange Commission of Pakistan were provided by trade associations and showed some differences from the listed public firms (see Appendix 4-2). In this sample, a total of 57 backgrounds were found from a list of 87 unlisted public firms whose entry dates range from 1975 to 2002. Early entrants tended to mirror the origins of KSE firms and included textile traders, politicians, sugar producers, and established textile groups. However, from the 1990s onwards the sample includes a greater variety of backgrounds such as financial specialists, mattress makers, overseas investors, the civil service and firms engaged in food processing, oil, glass and agriculture. A possible explanation for this variety is that the reporting and capital requirements for unlisted public firms were less demanding than for listed companies.

Privately-held firms exhibit more diverse backgrounds than those described above. The origins of 75 firms producing knitted garments, whose dates of entry range from 1964 to 2005, were located with the help of trade associations (see Appendix 4-3).[1] In contrast to the dominance of the large business groups in yarn and cloth among public firms, many lower-profile entrants were building the garment industry from the 1960s onwards. In the 1960s and 1970s, for example, new entrants came from backgrounds as buying agents, knitwear importers, general trading, glove manufacturing and financial services. In the 1970s and 1980s, backgrounds including sweet making, the civil service, employment in textile manufacturing units, pharmaceuticals, agriculture, engineering and traditional sectors such as yarn and cloth trading were represented. From the 1990s onward this diversity continued, adding firms from football manufacturing, marketing, paper manufacturing and carpets. This diversity is perhaps as a result of transferable skills as well as the lower capital requirements and the lower barriers to entry typically associated with the garment industry, in contrast with the capital-intensive textile sector (see Table 4-1). Anecdotal evidence from trade associations also suggests that many entrants were 'inspired' by the rapid growth of the knitwear sector, particularly among relatives.

Table 4-1 Paid-up capital among new entrants by product, three selected years (nominal Pak Rs million)

Year	2000	2004	2005
Spinning	77.9	11.3	9.6
Weaving	4.1	15.9	0.2
Composite	11.4	16.5	5.3
Garments	5.8	11.9	0.5
Textile - Allied	35.0	12.5	3.5

NOTE: Three years were selected at random to illustrate capital requirements in the post-2000 period. In 2000, N=58, in 2004, N=80, in 2005, N=234.
SOURCE: Securities and Exchange Commission of Pakistan, own analysis

Similarly, the origins of firms that entered the home textile, woven garment and towel segments are more varied than those of the KSE and SECP sample (see Appendix 4-4).[2] A total of 80 backgrounds were found with the help of trade associations and founding dates ranged from 1965 to 2005. Again, these firms emerged behind the scenes in the 1960s and 1970s following experience in army uniform manufacture, textile processing (dyeing,

[1] The firms mentioned here in knitwear, home textiles and woven garments are all privately-held and were all taken from the list of 724 incorporated companies exporting under quota (TDAP sample).
[2] Unfortunately, the backgrounds of woven garment groups are underrepresented in this analysis due to the decision of the relevant trade associations not to be interviewed for the research. The reasons for this refusal were outlined in Chapter 1.

printing) and commercial importing. From the 1980s onwards, new entrants also came from sports goods manufacturing, gloves, engineering, jewellery and from employment in textile mills. There is a greater presence of established textile businesses in this sample perhaps as a result of the greater capital expenditure required to set up a home textile unit (which typically involves integrated fabric production).

These firms can be classified into one of four categories of founder background: 'Experienced', 'Textile-related', 'Other manufacturing' and 'Inexperienced'. These classifications are designed to capture the prior degree of industry experience and are defined in Table 4-2 within the Pakistani context.[3] Experienced firms are those founded by individuals who have previous experience of managing a mill within the textile and clothing sector. Those from 'Textile-related' backgrounds are those with industry experience in textile trading, former employees of textile mills, or *family spinoffs* where the new Director has industry exposure but no direct experience of mill management or production. 'Other manufacturing' covers firm backgrounds in other industrial sectors such as leather or sports goods, while 'Inexperienced' includes those with no direct experience of manufacturing (although some entrants may have other business experience in finance or marketing, for example).

Table 4-2 Classification of founder experience by background

Founder background	Classification
1. Experienced	Established textile spinning, weaving, home textile or garment firms.
2. Textile-related	Cotton ginners, textile traders, tent manufacturers, spinoffs, family spinoffs. Includes established textile firms setting up units for relatives, where educated founders often received exposure and advice from experienced family members but who did not have direct experience of running own unit. Also includes firms created by textile engineers or other professionals with no experience of creating and running their own unit.
3. Other manufacturing	Leather, vegetable oil, sports goods, consumer goods manufacturing.
4. Inexperienced	Retail, construction, service industries, finance, politics, agriculture, shipping, law. Other business backgrounds which lack manufacturing experience. Some founder bring transferrable skills like management practices, knowledge of marketing, transportation and logistics.

[3] In some cases the firm was founded by an individual with industry-related experience while the current management of the unit was undertaken by the son or nephew with different education and experience. However, both shaped management practices. Often the founder would choose the product and machinery, but the younger, current management was responsible for productivity, quality and marketing. In other instances firms were also often created by multiple founders with different backgrounds, such as one firm founded by two individuals with backgrounds in marketing and production. In these cases PFE categorisation was allocated according to the dominant experience within the particular case.

Across these four groups of firms outlined above, the most numerous firms are from 'Experienced' backgrounds and account for 35 per cent of all firms in the samples (see Table 4-3). This is partly accounted for by the ease of locating the backgrounds of experienced firms (they are more likely to have other firms reported in their names, for example) and because of survivor bias given that more experienced firms may have had a greater probability of survival.[4] Indeed, as the entry date increases, there are a greater number of less experienced firms in the sample (see Appendix 4-5). The second most important category of firm background was Textile-related, representing approximately 29 per cent of all firms on average. Again, this may be a function of survivor bias as well as experience. The third largest group was Inexperienced, accounting for approximately 23 per cent of firms. Finally, 13 per cent of firms originate from 'Other manufacturing' sectors.

Table 4-3 Firm background by founder experience (per cent of total in brackets)

Type of background	All (KSE plus TDAP)		KSE		Other	
	Total	%	Total	%	Total	%
Experienced	124	35.2	60	42.6	64	30.2
Textile-related	103	29.3	35	24.8	69	32.5
Other manufacturing	46	13.1	18	12.8	29	13.7
Inexperienced	78	22.6	28	19.9	50	23.6
TOTAL	**353**		**141**		**212**	

NOTE: Other includes backgrounds of unlisted public firms as well as quota exporters.
SOURCE: Firm survey, list of firms provided by Trade Development Authority of Pakistan, Karachi Stock Exchange, Securities and Exchange Commission of Pakistan, own analysis

Among quota exporters – which form the basis for the analysis of firm survival during trade liberalisation – similar patterns are observed: 37.3 per cent of firms were experienced, 31.5 per cent were from textile-related backgrounds, 12.9 per cent were from other manufacturing backgrounds, and 18.3 per cent were inexperienced (see Appendix 4-6). Firms from all backgrounds are spread across product categories (see Table 4-4). However, firms from both Inexperienced and Other manufacturing origins have tended to enter the yarn and garment segments, while Experienced firms and those from Textile-related sectors are more evenly spread across products and are over-represented in cloth and home textile production.

[4] Note: I have not been able to trace the origins of all firms in the industry in Pakistan since inception due to a lack of data. The KSE sample is the only one in which I can analyse the role of PFE in shaping initial firm size and performance.

Table 4-4 Analysis of founder experience by product (2004)

Type of background	Yarn	Cloth (incl. Yarn & cloth)	Home textiles	Garments	Exits by 2004
Experienced	23	32	12	30	7
Textile-related	27	23	18	30	4
Other manufacturing	15	6	5	17	3
Inexperienced	24	8	3	40	3
Total	**89**	**69**	**38**	**117**	**17**

NOTE: N=353
SOURCE: Firm survey, list of firms provided by Trade Development Authority of Pakistan, Karachi Stock Exchange, Securities and Exchange Commission of Pakistan, own analysis

4.2 Founder experience and firm performance

The theory outlined in Chapter 1 predicts that pre-founder experience will be a positive and significant determinant of firm performance. Using the data on the backgrounds of 241 quota exporters I now test whether there is a statistical association between pre-founder experience and firm performance, while controlling for firm age. PFE will be analysed as a determinant of survival during the trade reform conditional on having survived so far (a probability heightened by protection under the MFA, for example). I also examine the performance of firms in the KSE sample in more detail using measures such as size, sales growth, exports and gross profit.

The first analysis shows that quota exporters from each of the four backgrounds were no different in size between 2000 and 2004 (see Table 4-5). While founders from Other Manufacturing sectors were larger on average than other firms – with mean annual quota exports of $6.2 million (real USD, 2000) – when controlling for age none of the firms differed in size (see Model 1 in Table 4-5).[5] Age itself was a significant determinant of size – for each year in existence average firm size increased by $97,961 (p=0.023) – highlighting the presence of some of the older business groups from other manufacturing backgrounds and the allocation of quotas historically by firm age. This analysis suggests that there was no relationship between PFE and export performance under the quota system.

[5] All measures in this chapter are presented in real terms, in this case real USD with the year 2000 as the baseline deflator used, Source: IMF.

Table 4-5 Size of quota exporters by founder experience (in 2004 and 2006)

Type of background	Mean exports 2000-2004 (real USD million, 2000)	Model 1	Mean exports 2006 (real USD million, 2000)	Model 2
Constant	-	1.4 (1.15)	-	-6.0 (-1.59)
Age	-	0.1* (2.29)	-	0.5 (3.89)
Experienced	3.8	0.5 (0.41)	17.2	12.0* (3.50)
Textile-related	3.8	0.4 (0.35)	12.2	8.1* (2.15)
Other manufacturing	6.2	2.6 (1.76)	18.6	13.2* (2.77)
Inexperienced	3.2	-	3.1	-

NOTE: In 2004, N=241. In 2006, N=202. This means there were no data in 2006 for 39 of the original firms.
SOURCE: Trade Development Authority of Pakistan, Karachi Stock Exchange, Securities and Exchange Commission of Pakistan, Pakistan Hosiery Manufacturers Association, t-statistics in brackets, *significant at 5 per cent level

However, this pattern changes after the abolition of the quota system. By 2006, the revealed performance of firms with some type of prior industry experience (Experienced, Textile-related and Other manufacturing) is on average significantly different from Inexperienced, offering an advantage of $12.0, $8.1 and $13.2 million from inexperienced firms respectively when controlling for age (see Model 2 in Table 4-5). While experience in the textile sector or another manufacturing industry was not associated with quota access or export size in the protected market, it was a determinant of performance in the open textile market.[6] Age remains a significant determinant of performance, with each year of experience leading to increased export size of $510,000 ($p<0.001$).

Firms with greater experience also have a higher chance of survival and of maintaining their export sales during trade reform (see Table 4-6). Firms created by founders from Experienced and Textile-related origins have the highest rates of survival (at 91.9 per cent and 88.9 per cent respectively for the SurviveTA indicator) and ability to maintain sales (83.1 per cent and 82.3 per cent respectively). Survival rates are approximately 10-15 points higher for Experienced and Textile-related firms than those from other backgrounds, and 20 points higher for 'maintain', suggesting that experience translates into better performance. However, even 'maintain' rates of 62 per cent bode well for new entrants with little experience – they show a positive likelihood of survival.

[6] Additional analysis showed that none of the experienced categories in this sample were significantly different from one other.

Table 4-6 Performance of quota exporters by founder background (Survive/Maintain)

Type of background	SurviveFBR	SurviveTA	MaintainFBR
Experienced	92.8	91.9	83.1
Textile-related	91.9	88.9	82.3
Other manufacturing	88.9	77.4	63.0
Inexperienced	89.2	72.7	62.2

NOTE: SurviveFBR N=210, SurviveTA N=234, MaintainFBR N=210. Survival data in 2006 were not available for all 241 firms on which PFE data was available. For the 210 firms in MaintainFBR, 83 were experienced, 62 were from textile-related backgrounds, 27 were from other manufacturing sectors, and 37 were inexperienced.
SOURCE: Trade Development Authority of Pakistan, Federal Board of Revenue, trade associations, own analysis

The performance of Experienced firms and those with Textile-related PFE are statistically different from that of Inexperienced firms in the SurviveTA and Maintain measures when controlling for age (see Table 4-7).[7] On average, the odds that an Experienced firm will maintain sales is 3.1 times that of an Inexperienced unit (p=0.01) when controlling for age, and firms with Textile-related experience are 2.9 times more likely to maintain sales (p=0.023).[8] However, Other manufacturing experience leads to no advantage over inexperienced units (p=0.974). This analysis thus suggests that Experienced and Textile-related founders have a clear advantage over firms who lack prior exposure to the textile sector. Age is only significant for the SurviveTA measure suggesting it plays a smaller role in this measure of performance, where every year of experience the odds of surviving increase by 6.3 per cent (p=0.022).

Table 4-7 Logistic regression coefficients for survive and maintain, quota exporters

Type of background	SurviveFBR	SurviveTA	MaintainFBR
Constant	2.10	-0.16	0.04
	(2.68)	(0.78)	(0.08)
Age	0.02	0.06*	0.02
	(0.69)	(2.29)	(1.15)
Experienced	0.07	1.47*	1.14*
	(0.09)	(2.84)	(2.58)
Textile-related	-0.06	1.16*	1.07*
	(0.763)	(2.28)	(2.28)
Other manufacturing	-0.45	0.17	0.02
	(-0.520)	(0.3)	(0.03)
Inexperienced	-	-	-

NOTE: SurviveFBR N=210, SurviveTA N=234, MaintainFBR N=210, t-statistics in brackets, *significant at 5 per cent level
SOURCE: Trade Development Authority of Pakistan, Federal Board of Revenue, Karachi Stock Exchange, Securities and Exchange Commission of Pakistan, Pakistan Hosiery Manufacturers Association, own analysis

[7] Experience is likely not to be significant for the 'SurviveFBR' measure because it includes so few exits.
[8] This coefficient is raised to the exponential to find the odds ratio, for example exp (1.144) = 3.14.

Controlling for other firm characteristics such as size and firm type, the relationship between PFE and firm performance continues to hold (see Table 4-8). Size (in 2000) was not a significant determinant of performance (p=0.07), suggesting other factors (than previous quota holding, for example) were responsible for post-quota performance. Firm type (public or private) also makes no difference to survival prospects (p=0.917) and PFE remains significant for 'Experienced' and 'Textile-related' firm backgrounds.[9]

Table 4-8 Logistic regression coefficients for maintain with controls, quota exporters

Type of background	MaintainFBR	MaintainFBR	MaintainFBR
Constant	0.04	-0.18	-0.19
	(0.08)	(-0.35)	(-0.36)
Age	0.02	0.02	0.02
	(1.15)	(0.93)	(0.92)
Size in 2000 (real USD million, 2000)	-	0.08	0.08
		(1.83)	(1.81)
Mean size (2000-2004) (USD million, 2000)	-	0.07*	0.08*
		(2.00)	(2.00)
Formality (Public versus private)	-	-	0.07
			(0.10)
Experienced textile	1.14*	0.95*	0.95*
	(2.58)	(2.04)	(2.04)
Textile-related	1.07*	1.07*	1.07*
	(2.28)	(2.14)	(2.15)
Other manufacturing	0.02	-0.43	-0.42
	(0.03)	(-0.74)	(-0.74)
Inexperienced	-	-	-

NOTE: N=210, t-statistics in brackets, *significant at 5 per cent level
SOURCE: Trade Development Authority of Pakistan, Federal Board of Revenue, Karachi Stock Exchange, Securities and Exchange Commission of Pakistan, Pakistan Hosiery Manufacturers Association, own analysis

Data from the KSE sample also show that PFE has a positive and significant impact on firm performance during trade liberalisation. A comparison of the mean size of firms by PFE in 2007, for example, shows that when controlling for age only firms created by founders from Experienced or Textile-related backgrounds are significantly different from the Inexperienced firms at the 5 per cent level (see Table 4-9). This suggests, as before, that greater firm experience does offer an advantage in terms of firm size. When age is included in the model it is positive and significant with each year bringing Rs25m greater sales on average (p=0.013). This suggests that PFE is interacting with firm experience to deliver a performance advantage in these firms (an interaction which will be explored in more detail in Chapter 5). Other manufacturing PFE is significant at the 10 per cent level (p=0.059),

[9] There is not enough variation in the data to control for product category – when dividing the sample into textile and garment products, four of the eight observations of PFE are very small (4, 13, 22 and 22 firms).

implying that the impact of this type of experience on firm performance is more ambiguous. When the 49 observations from of unlisted public firms the SECP sample (covering performance from 1999-2006) were included, similar results were obtained.

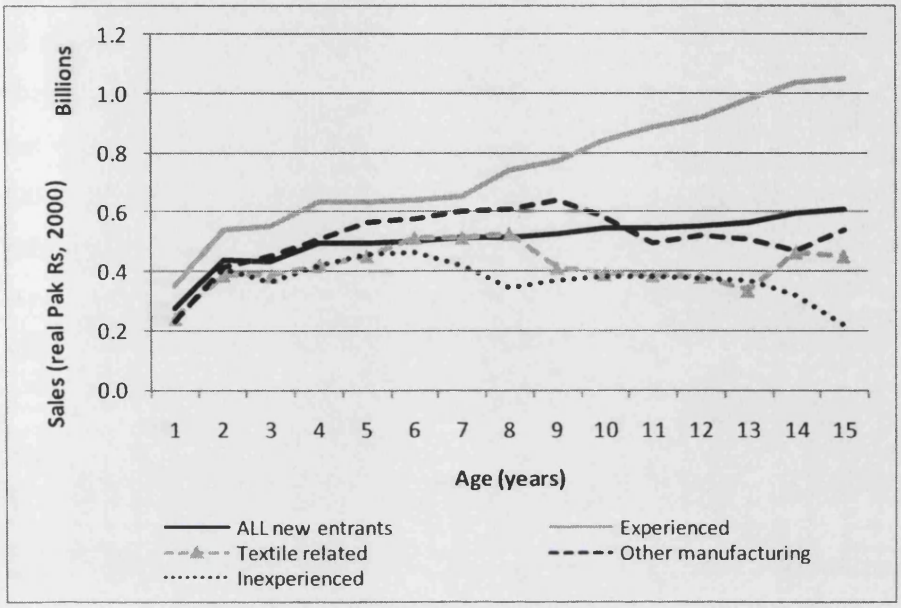
Table 4-9 Size of firms listed on Karachi Stock Exchange by founder background

Type of background	Mean sales 2007 (real Rs million, 2000)	Model 1	Model 2
Constant	-	446	-253
		(1.40)	(-0.61)
Age	-	-	25*
			(2.52)
Experienced	1,470	1,030*	1,060*
		(2.78)	(2.94)
Textile-related	1,550	1,110*	1,030*
		(2.69)	(2.57)
Other manufacturing	1,360	915	866
		(1.97)	(1.91)
Inexperienced	446	-	-

NOTE: N=112, t-statistics in brackets, *significant at 5 per cent level
SOURCE: Karachi Stock Exchange, own analysis

These findings are also valid for new entrants and can be illustrated visually (see Figure 4-1). Using a sample of 91 new entrants listed on the KSE between 1987 and 1999, PFE was identified among 71 firms (see Appendix 4-7). When controlling for age, Experienced firms outperform all others from the outset (see Appendix 4-8 for details of size by background). Experienced firms are initially larger and the relationship persists to the ages of 5, 10 and 15 (see Appendix 4-9). However, in this sample entrants from Textile-related and Other manufacturing backgrounds perform no differently on average from Inexperienced firms, (although this could be the result of the small sample size). Variation within these categories will be explored further in Chapters 5 and 6.

Figure 4-1 Sales of post-1987 entrants on Karachi Stock Exchange by founder background, controlling for age



SOURCE: Karachi Stock Exchange, firm survey, own analysis

I conducted the same analysis using gross profit as a performance measure. I found that in 2007, only gross profit in Experienced units was significantly different from less experience firms with a mean level of 10.5 per cent versus 8 percent for Textile-related and Other manufacturing firms and -4.4 per cent for Inexperienced firms. Age is not significant in any of the regressions, which contradicts earlier results. However this could be explained by the presence in this particular sample of some younger spinoffs entrants with higher profitability (in segments such as jeans) than older firms in large but less profitable segments (such as yarn and unfinished, greige cloth).

In summary, analysis of performance among quota exporters and publicly-held firms following the ending of the MFA showed that industry-related experience was associated with firm size and survival when controlling for age. Inexperienced firms performed the most poorly and had the lowest size and rates of survival following trade reform. However, analysis of survival among founders with Other Manufacturing experience shows that this background has a more ambiguous link with firm performance than the other categories of founder experience.

4.3 Founder experience and entry strategy

As outlined in Chapter 1, theory predicts that pre-founder experience will shape the decision of founders to enter certain industries in order to exploit existing capabilities as well as the shape long-run firm performance. Drawing on interviews with 48 firms, here I examine the entry strategy and product choice of each firm classified by background as Inexperienced, Other manufacturing, Textile-related and Experienced (see Table 4-10). For the purposes of reference throughout the thesis, I have included a list of the backgrounds by firms in Appendix 4-10, their current products, and their total sales growth between 2004 and 2007 where available.

Table 4-10 Founder backgrounds of interviewed firms

Type of background	No. of firms	Examples
Experienced	16	Spinning, weaving, processing.
Textile-related	14	Cotton growing, ginning, yarn and cloth trading, former employee of textile unit, textile engineer.
Other manufacturing	11	Consumer goods, paper manufacturing, tin manufacturing, transportation/logistics, leather, footwear, plastics, engineering, tents.
Inexperienced	7	Politics, shipping, car dealing, travel business, construction.
TOTAL	**48**	

SOURCE: Karachi Stock Exchange, firm survey, own analysis

Inexperienced firms

Most inexperienced firms lack direct production experience in the textile industry, contacts with buyers and other industry-related knowledge. As a result, inexperienced firms tend to enter the sector with a lack of awareness of product or marketing opportunities, or a focused entry strategy. Several themes ran through their decision to enter textiles and clothing production and the initial product choice. These included the perceived opportunities in the textile industry of Pakistan due to the country's vast cotton production, the licensing system, or the high profile of the industry more generally in the Pakistani economy.

The founder of Firm 19 – set up in the late 1950s – for example, was the first family member to enter the business sector and had previously been engaged in wholesale trading. Because there was very little manufacturing capacity in Pakistan after Partition he saw the opportunity to enter the textile sector. His application for a licence in 1952 was turned down due to the restrictions on foreign exchange, but in 1963 the founder – along with three friends –

obtained a licence to set up a spinning unit. The mill was created in 1963 and the firm continues to operate in 2007 with two spinning mills. Similarly, Firm 30 is a spinning unit located in Punjab. Originally from East Punjab, the founder was not from a business family, but in the 1950s had "the idea" to enter the private sector and founded the unit after a period in government service. Originally he set up a processing unit in 1950s in partnership with two brothers and a friend who was already in the handloom business. They used their own money to start up and managed to obtain a permit "probably because the first priority [of the government] was for finished goods which generate more profit". Later he set up a spinning unit in the 1960s, and the current mill is a new unit established in the 1980s following a family separation. Likewise, the founder of Firm 9 was originally a clothing trader who used to import second sweaters and coats from the US and Europe and other consumer goods. It was his sons who had "more ideas" and when the founder died in 1968 they entered textiles because for one son it was "his dream to work in a textile mill". The sons applied for – and obtained – the sanction for the textile mill through contacts in 1969.

Several inexperienced firms perceived textile manufacturing – in particular spinning – as "easy" to run and highly profitable. This included politicians who entered with little experience as well as founders with experience in business sectors unrelated to manufacturing. Firm 29, for example, is a spinning mill set up by a founder who completed his education in the 1960s and started out with a small business selling spare parts for vehicles. He later moved on to form a motor car dealership in 1982, followed by a decision to enter the textile industry in 1988. The founder took the latter decision because "there was a profit boom at the time" and a friend who is also in the auto industry "suggested textiles". At the time, there was also a cotton subsidy meaning that it was a "good business" to get into. They selected spinning rather than any other textile product because it was the "easiest to run", and "if you have the raw materials you will never go bust". Similarly, Firm 4 is a spinning unit located in Punjab founded in 1989 by two brothers – a doctor and a politician. The motivation given for entering the sector was that the founders "had heart that the textile industry was good in Pakistan so wanted to get into it". However, with little experience the firm first went out of business at the end of the 1990s, and again in 2005.

A third theme among inexperienced entrants was the desire to diversify into manufacturing from another business segment. The family of the founder of Firm 8, for example, was originally in the construction industry in a joint venture with a friend. The construction

business was first set up by an engineer who worked for the government and then left to set up his own firm. The motivation for entering textiles was that the family wanted to diversify and it was "a normal business to be in" because of the availability of raw material. Further, at the time the rupee was slowly devaluing, and in relation to exports they "couldn't go wrong". The son studied commerce and entered the construction sector soon after, but as the only son he was selected to manage the new textile venture. The founder choose to go into weaving because there was a lot of spinning mills at the time and having talked to a number of friends he decided that the spinning sector was saturated. Further, weaving had just started in Pakistan – it was not known as a centre for the product, hence they saw a lot of opportunities. The firm was created as a standalone weaving unit in 1989.

However, in general many entrants from inexperienced backgrounds demonstrated a lack of detailed knowledge of the market in their decision to enter. Market research was rarely conducted and firms made large investment decisions on the basis of the advice of friends or through assumptions about the industry.

Other manufacturing

In line with many inexperienced firms, founders with experience in other manufacturing sectors chose to create textile units following Partition. However, in contrast with inexperienced firms, founders from other manufacturing backgrounds often brought an entry strategy which had a more commercial edge.

One example is the foundation of Kohinoor Industries in 1949, one of the first textile mills created after Partition. It was founded by the father of Mr Tariq Saigol, the current Chairman of Kohinoor Group, in Faisalabad in 1949. The founder 'had made his fortune' in the shoe and footwear industry in Calcutta, similar to many Muslims. He retained a rubber shoe making factory in Calcutta until 1958, but "could not stay if India was partitioned". Given that there were few textile mills in West Pakistan, following migration to Pakistan the founder 'saw the need' given the large production of cotton but small processing industry. Similarly, Firm 22 was founded by a family originally involved in the leather tanning industry in both India and Pakistan. In the 1970s the family "looked at the mill owners such as Sapphire" and developed a "vision for the family" to enter the textile sector. It was in the

late 1970s that they acquired a 'sick unit' from a larger business group.[10] Likewise, the founder of Firm 17, part of a group involved in spinning, weaving and manufacture of made-ups, also arrived from India after Partition with previous experience in the leather industry. Its first venture was established in Faisalabad in textile manufacturing and the firm went on to be involved in the trading of all cotton-related products.

In more recent decades entry decisions were more often made in direct response to market opportunities and market research. In particular, experience in other manufacturing sectors often shaped the product chosen and early decisions regarding machinery and location. Founders also often discovered market opportunities through exposure in a manufacturing role.

Firm 2, for example, is a weaving unit established by a firm with a background in consumer goods and the trading of vehicles such as tractors and cars. The family decided to enter weaving in the 1990s because "textiles is the main industry in Pakistan", although they admitted that they entered "a bit late" as their other businesses were doing well in the 1980s. However, the firm showed a very strategic approach to product choice and entry to the sector. They recognised that the weaving sector in Pakistan was not producing good quality fabrics and thus the founders decided to produce "difficult quality" fabric from the beginning, choosing the niche product after examining its market potential. They also hired a consultant to create a feasibility plan and advise on machinery. The company was export-oriented from the beginning, targeting specialised markets for 120 count yarn and high count bed linen (such as the US market). However, the firm's background did result in some constraints: the focus remained on local customers because Pakistan was not well-known for weaving products at the time and quotas were held by existing exporters and had to be purchased.

Likewise, Firm 38 is a producer of knitted garments such as shirts, coats, trousers and jerseys and was set up in 1987 by a founder who had worked in the civil service for a number of years and whose education included a bachelors and masters in economics. He left the civil service to join the management of a business group which was involved in tin can production and spinning, and following executive education in 1978 decided to leave in 1988 to set up "something of his own" in knitted garments. He stated that at that time in Pakistan "people

[10] A 'sick unit' is a term used in South Asia to refer to a business that has not been performing well.

were not familiar with knitwear", with only 5 or 6 units in Karachi and 2 or 3 in Lahore. Although there was no market in Pakistan for the product he realised that "if you can manufacture the product, you can export". The founder obtained a loan for Rs10m to establish 18,000 square foot unit with 36 staff producing knitted t-shirts and later expanded in both production and number of employees.

Similar to firms in non-manufacturing business sectors, founders also entered textiles and clothing from other manufacturing origins as a strategy to diversify. Firm 25, for example, is a spinner located in Punjab. The Director responsible for the day-to-day running of the firm was studying commerce when the board of his existing family leather business decided to set up the mill in the late 1980s (although he admits that members of the family were split on the attractiveness of the industry for entry). The firm established a unit in 1991 for which they hired a machinery and financial consultant to advise them on purchase of machinery and the public listing – a more strategic approach to industry entry than many inexperienced founders. Instead of producing only simple yarn, his philosophy is that "to make money you have to produce something new". As a result he studied all the new fibres that were coming into the market and, when a friend (who worked in a knitting factory) showed him how yarn could be dyed, he decided to enter this segment of the market. This commercial strategy and new product choice stood in contrast to those of less experienced entrants.

However, direct manufacturing experience did not always result in informed decisions to enter the sector. Firms often had only basic knowledge of the textile industry itself and were hit with sudden shocks when the operating environment changed suddenly. Firm 21, for example, is a spinning unit created in 1991 by a firm involved in plastic manufacturing and the leather business. The group chose to enter the yarn segment because they perceived spinning as an "easy business" with the low cotton price. They also entered the segment because it was possible to buy cotton for the whole year and a professional arrangement can run the operation, in contrast to leather where "you have to work each day" and the industry is not professionally run. Because it was a business group finance was "not a problem" and the bank sanctioned a loan to set up two textiles mills. Before setting up the unit they also hired a consultant who advised on the cost of machinery and for recruitment of staff they aimed to "bring one man and his team". However, there was sudden increase in the cotton price and the firm was losing profit – so they decided not to set up the second mill.

Similarly, Firm 24 is a spinning and weaving unit set up at the beginning of the 1990s by a founder involved in the shipping business in Abu Dhabi. His rational for entering the industry was that he "always wanted to do something in Pakistan" so established three textile units simultaneously close to Lahore. However, the current Director – a textile engineer – now admits that the decision to set up three units within the first 18 months was a mistake. The industry was about to enter into the cotton crisis in 1992 (when the cotton price rose from Rs1,100 per maud to Rs2,600), leading to the exit of many firms.[11] For this company itself, the first ten years of operation were described as "stagnant".

Overall firms with experience in other manufacturing sectors often showed a more sophisticated approach to market entry and product choice compared to inexperienced firms. However, the protected status of the industry, family management and only limited industry knowledge were continuing factors shaping entry decisions.

Textile-related

Because of the exposure to the textile manufacturing industry gained through participation in related sectors such as textile trading and ginning, many founders from this background had existing contacts which facilitated their entry into the sector. Firms also often exhibited greater awareness of production techniques, marketing opportunities and potential firm profitability than interviewees in less experienced groups. This prior exposure often revealed opportunities to develop new products or target new markets.

In one unique case, it was experience in a sector related to textile manufacturing just before Partition that resulted in the creation of Firm 7 in the 1950s. In this case, the grandfather of the current Director was the manager in a Hindu ginning factory in the 1930s. After Partition, when many Hindu families left Pakistan, the assets were given to him to manage. In the 1950s, the grandfather set up a spinning unit with two other families. The business then moved into weaving and then dyeing with units still remaining to the present day.

[11] This interviewee explained the sudden cotton price rise as a result of increased information available to farmers. Where previously (in the 1980s) farmers had accepted a local price offered to them for cotton, they became aware of prices on the New York Cotton Exchange in the early 1990s which prompted them to raise prices for their produce.

Among textile traders it was often relationships with yarn importers (in Japan in particular) that often led to firm entry into spinning.[12] Firm 46 is a home textile producer that grew out of a weaving unit. The family business was originally involved in cotton trading after migrating from India during Partition. Between 1949 and 1950 the firm was "talking to Japanese companies they were buying from" and decided to put up a spinning mill as a result of this interaction. They sold their assets to finance the unit and the family later went on to expand production and send family members for textile education. These relationships with yarn buyers continued into the 1980s. Firm 18 was created in 1989 following a split from a prior venture with another family with a unit of 12,000 spindles and credit provided by a Japanese equipment supplier. However, when the unit was formed the Director realised that with only 12,000 spindles they would no longer be able to compete in the international market. Instead, the company decided to focus on value addition and in 2000 installed weaving capacity of 60 airjet looms.

Established business relationships in related sectors also led to requests from buyers to develop new textile and clothing products. Firm 48, for example, is a manufacturer of knitted shirts, blouses and coats based in Faisalabad. In the 1970s, the founder of the business was engaged in tent and tarpaulin manufacturing, but in 1975 received an order for a polo shirt which led to its "unplanned" entry into the industry. The firm rose to be the 263rd largest exporter under quota and among the top 300 exporters in 2006.[13] Similarly, a trade association that works with woven garment producers explained how many manufacturers of sports goods (such as footballs) in Sialkot were approached by buyers to start manufacturing martial arts outfits (many of whom show up in the PFE data given in Appendix 4-3).

However, in more recent years the industry has also seen the formation of several true spinoffs, where former employees of textile and clothing units discovered entry strategies through employment experience. One of the founders of Firm 20, for example, was working as a marketing employee in a leading textile mill when he left to set up a cloth exporting business with a friend from business school. It was this experience that later led to entry into textile manufacturing. While working as a cloth exporter at the end of the 1990s, the founder

[12] In the 1990s, for example, Japanese suppliers often provided credit for machinery in exchange for yarn imports. A trade association involved with many spinners and weavers also commented that many traders knew the profit margins of textile manufacturing and the demand in the market which shaped their decision and ability to enter the sector.

[13] The ranking in 2006 refers to the 528 firms on which I have data. Source: Federal Bureau of Revenue, Karachi Stock Exchange.

often met with buyers in the USA and saw that the sites of large mills in the USA were "turning into ghost towns". He felt that these firms were "juggernauts, inflexible with vested interests" and because they had been embedded in local communities for three generations they were reluctant to close the mill down. He felt that the future of the manufacturing sector was going to be in Asia instead and it was this observation that spurred him to enter fabric manufacturing.

Similarly, the founder of Firm 33, a manufacturer of clothing accessories, was working as a Chartered Accountant in a textile unit when he began looking for a gap in the market to enter industry independently. He identified an opportunity to produce particular type of cloth used in clothing accessories and took out a loan to start his own unit. Manufacturing commenced in 1995 and although the founder initially had difficulties with production, and after two years the unit was running satisfactorily. The firm is now being jointly run with the daughter of the founder – one of the very few female interviewees in this study – who studied economics in the United Kingdom.

In other cases, sons, nephews and female relatives in textile families who were educated in business or other subjects established and managed mills with the support of family, what I term *family spinoffs*. At times, the product choice showed their lacked of experience, while at others the fresh approach brought by formal education resulted in more interesting product choices. Firm 27, for example, is a spinning unit created in the late 1970s. The father of the current Director was involved in yarn trading, the uncle was engaged in textile manufacturing, and the two Directors were both business graduates. The uncle "wanted to get his nephews into textiles" so he sponsored their entry by providing finance for a new unit. Together, they chose spinning because it was the "simplest" section of the textile industry to enter. They recognised profitability was low, but it "was easy to run". The firm set up their first plant in Sindh, but subsequently installed the second two units in Punjab as a result of disturbances in the south of the country. In contrast, Firm 47 is a commercial dye house in Karachi which finishes grey cloth for use in garment production. It was established in 1990 as a family spinoff from an existing spinning and weaving firm. It was the son – educated abroad in civil engineering – that started this unit "brand new" when there was "not a single unit of this magnitude and technology" in Pakistan. He choose the segment following the identification of "a gap" in the market with the use of a consultant The firm has since gone on to perform well in the post-quota period.

Additionally, general industry exposure obtained through family and friends often provided knowledge of how to enter. The family of the founder of Firm 3, now a leading home textile producer, were farmers from a rural town in Punjab and involved in the growing and ginning of cotton. As a young man, the founder lived in the city of Faisalabad and graduated from college in the 1970s where he studied accounting. He worked in his father's business after graduation, but began to think about starting his own venture shortly after. Through contact with a friend who was the son of a textile business owner, he researched how he could start a similar business. As a result, the founder developed an insightful entry strategy: given the extent of spinning in the market, the founder expected there would be increased demand for cloth and the dying of cloth in the future. He also viewed textile processing as a particularly "challenging" part of the industry to enter, and consequently this segment was chosen. Although he would have preferred an integrated unit including spinning, much less capital was required to invest in the bleaching unit (as he did not have plentiful capital available). This bolder product choice and strategy was to prove successful in the long run given the structural changes in the global textile and clothing industry.

Experienced

It was within experienced firms that decisions about new firm formation and entry strategy were most tightly made. Often this was in response to demands from buyers, opportunities observed in the market, or simply the next stage of the long-term vision of the firm. Several companies were particularly exposed to the global reorganisation of production that the textile and clothing industry has experienced in the past two decades.

Firms were often approached directly by buyers looking to outsource production. In particular, vertical integration has been a recent response of many firms in order to create a 'one-stop-shop' for global buyers in the post-quota period, spurring new mill creation. The family running Firm 28, for example, has been in business since before Partition when it was involved in the leather business in India. Following migration to Pakistan, the family first entered the cotton ginning business in 1948 and then the production of cotton yarn in the mid 1950s. Cloth production began in the 1970s and later yarn production when the then-President Zulfiqar Ali Bhutto nationalised the ginning units. However, when spinning and weaving units in countries in Europe began to close, buyers wanted finished fabric instead of just greige cloth. According to a current Director, environmental problems caused by these

industries also began to be problematic in western major cities. As a result, large discount retailers such as Walmart directly approached Firm 28 to produce finished cloth. From the firm's perspective, they chose to move into home textile production rather than garments because it was "slightly easier" as the Director finds garments "a very different industry". Similarly, they have recently been approached by a buyer of fabric that has links with a hospital supplier to produce patient gowns.

Firm 16 is part of a spinning and weaving group originally founded by two brothers in the early 1980s, one a yarn exporter and the other with experience in finance. They started off with spinning because it was profitable at that time and also because it is "the core business of Pakistan". While in this business, the current Directors became aware that companies such as Westpoint Stephens in the United States – to whom they used to export for final weaving, dying and stitching – were closing. They also observed greater volumes of direct buying from companies such as Walmart and JC Penney, that these buyers were opening their own buying offices in Pakistan, and that "it will be difficult to sell yarn post-2005 as buyers want the final product, a one-stop solution". Consequently, the group started weaving to add value in the years running up to the abolition of export quotas. Regarding product choice, they felt that China did not "have the looms" to compete in this particular segment, and saw China as a threat only in garments. At the time of the interview the group had 334 airjet looms and 100,000 spindles, and 140 more looms were planned in order to move into fabric production for home textiles. For the future, the current Directors also felt that there would be a particular gap in processing as a result of the reorganisation of production, but were not pursuing it yet for "internal reasons". According to the Directors, because weaving is still a new product they first want to consolidate and explore full integration at a later date.

Many incumbents in the industry also had knowledge of general product developments that shaped their own product choice. Often these founders were able to identify market opportunities not apparent to less experienced or less prepared new entrants. Firm 10, for example, is a home textile producer first created in 1990 as a spinoff from an existing integrated textile mill. The owner of the original unit wanted to increase its production capacity, and the nephew of the CEO – a recent MBA graduate – was chosen to run it because his own children were too young at the time. The choice of product and machinery and product was made by the original founder while the day-to-day management was put in the hands of the nephew. Spinning of good quality, coarse yarn was chosen as the first

product because there were few companies at the time producing this yarn in Pakistan. Over time the firm attempted to learn from buyers about new products of interest to them, and it attempted to develop other products not being made in Pakistan such as stretch slub yarns. Likewise, in Firm 7, when engaged in spinning in the year 2000, the Directors "saw the market expanding for yarn and fabrics, but not many firms going into weaving". In order to meet the needs of buyers, from the outset the firm aimed to be "a marketing focused company" and one that did not cut costs in production but focused on quality and the production of a "premium product". It was the business educated son of the founder who decided to make these changes in the group.

In addition, some units were established simply to manufacture new products as a result of bold strategy among existing firms. Firm 11, for instance, chose to enter the garment sector following a longstanding presence in spinning and weaving. Even though other direct family members disagreed with this strategy and chose instead to focus on becoming "the best" in spinning and weaving, this firm wanted to be ahead of the market. In 1992, the founder went looking for joint venture partners in the EU and USA in order to establish "a marketing front" to take advantage of the company's strength in production. An initial partnership was unsuccessful, so later the firm entered garment manufacturing and marketing operation independently. Another example is Kohinoor Maple Leaf Group. Originally, the only textile unit in the group – Kohinoor Textile Mills – was mainly a producer of yarn (until 2002). However, in 1987 Kohinoor Weaving was established and engaged only in weaving from the outset. In 2003, dyeing facilities were put in place in 2003, in 2004 144 a total of knitting machines were introduced, in 2006 480 stitching machines started production, and in 2007 the number of looms had grown to 256. Both Kohinoor firms were among in the top ten textile and clothing exporters from Pakistan in 2006.

Other determinants of entry

There were several other determinants of entry which cut across firm backgrounds. These findings highlight the role of factors unrelated to founder experience in shaping firm entry strategies and success.

For example, personal connections and chance were often important drivers of new product ideas, marketing outlets and new firm formation. The founder of Firm 41, for example, was

an employee of a large paper manufacturing group when he retired to "do something different". He initially aimed to move overseas, but had friends in Stockholm and the United States who wanted to import garments. As a result, he set up a small garment unit in 1983 which had installed 40 stitching machines by 1984. Following this arrangement, the firm received its first major order for cotton trousers from Cone Denim (a large US importer at the time) and later for men's and women's denim clothing from buyers in Canada. Today the company is run by the son of the founder and has 1200 sewing machines, 3 factories and 6,000 employees.

The founder of Firm 6 was originally a trader of fibre, involved particularly in the import of yarn from abroad. He was educated in commerce to masters level and the previous three generations of his family were traders. The oldest mill currently in the group was constructed in 1968 and it had three previous owners. In 1968, he was a supplier of raw synthetic fibre to textile mill whose owner was "affected by political changes" and required to sell the unit. The founder of Firm 6 was given the option to purchase the mill in order to settle a debt with the owner. He took the unit on as a challenge rather than as an attractive proposal because so many units were 'sick' at the time.

The decision of family was also important in the reasons given for entry into the textile industry. However, this push from family to enter the sector often led to a lack of commercial entry strategy and poor product choice. The founder of Firm 23, a yarn and cloth manufacturer who had a background in textile trading, entered manufacturing at the suggestion of his wife who came from a family involved in textile manufacture. According to the current director "all their friends were rich and were in spinning" which was an additional impetus to enter the sector. One of the founders of Firm 44, a privately-held textile printing unit in Faisalabad, finished a diploma in textile engineering in 1972 and worked for two years in established textile units. His father was a textile trader, so after this period he joined the family business. They started off with a small bleaching plant for cloth from which they outsourced printing, but slowly built up their own printing plant. In Firm 17, it was the father of the current Director who created the mill, and then himself who was brought in to manage it when the father lost interest.

The role of quota also shaped the decisions of firms on entry and the direction of product development. In Firm 38, for example, the founder stated that from 2000 onwards the firm

was "strategising in relation to the quota" in which they focused on the upper niche where there was "no competition with local suppliers" (only producers in India and China). Similarly, Firm 37 entered home textile production from a background in cloth manufacturing in the early 1990s because they got the quota "for free" as an existing producer in the market. Firm 30 also stated that hosiery yarn production developed in the unit picked up as a result of the quota because they obtained better prices.

It was also prior activity in industry which shaped access to finance for the new unit, as several firms had accumulated finance which they used to invest the new venture. Tariq Saigol, for example, described his family as "liquid" from its previous business in Calcutta when it established Kohinoor Industries. Similarly, Firm 28 had "made good money" in ginning and pursued their expansion into yarn spinning gradually so had "no finance problems". In Firm 29, founded by a car dealer and a friend with textile experience, 40 per cent of the original equity was provided by the founder and his partners, while the other 60 per cent was provided by the banks. In many cases, business groups also took advantage of existing contacts or their established business presence to access new finance. In Firm 8, for example, the group's existing status helped access start-up funding: according to the founder, commercial banks had "confidence in him" personally and believed he could "meet commitments". Likewise, in Firm 9, "a few banker friends helped get the licence" and the unit was financed one of the industrial development banks in the 1960s.

In contrast, new entrants – even with some industry experience – had to work hard to demonstrate their performance over time in order to access finance. Firm 20, for instance, is a cloth unit – a conventional spinoff – founded by a former textile trading firm. Because the founders did not have any credit history with banks one founder "took credit on everything he could". He built a credit rating on car finance, kept proper books and produced accounts every month. At first he could not afford a colour monitor for his computer but gradually built up the business. As a result, the firm was able to make "a good presentation" to the banks in order to gain financial support, and in 2001 they purchased 'a sick' unit that had gone out of business. Similarly, a spinning mill was founded in the early 1990s by a textile engineer who had worked as a general manager in several spinning units. In his previous role he was responsible for all the operations of the mill – including the relationship with the banks – and over the years came to be known as a reliable manager of the various operations.

The outcome was that this individual was able to use his connections and reputation in order to obtain finance to set up his own spinning unit.[14]

As a result, while there is evidence of an association between PFE and firm entry strategy, firm formation in Pakistan's textile and clothing industry has also been shaped by non-commercial factors often related to the structure of family firms, personal connections, chance and the operating environment.

Conclusion

In this chapter I have showed how pre-founder experience shapes entry strategy in the new firm and demonstrated the association between PFE and firm performance during trade liberalisation. I have established that firms in Pakistan's textile and clothing industry came from a variety of backgrounds, but that those with industry related pre-founder experience have tended to outperform less experienced competitors. I have also established that founder experience shapes a firm's knowledge of production and market opportunities, and therefore the firm's entry strategy directly. Three central findings stand out from the analysis.

Firstly, firms with prior industry experience in textiles and related sectors dominate the composition of Pakistan's textile and clothing industry. They are followed by inexperienced firms and founders from other manufacturing sectors. Business groups are overrepresented in the yarn and cloth segments (among public firms in particular), but a wider variety of backgrounds have been witnessed in segments such as home textiles and garments. In addition, there is evidence of some conventional spinoffs emerging in the industry in recent years founded by experienced individuals with no family connections.

Secondly, there is evidence of a statistical association between pre-founder experience and firm performance during trade reform when controlling for the age of the firm. In particular, firms from Experienced and Textile-related backgrounds are relatively larger than Inexperienced firms, and they have showed greater rates of survival. Further, among new publicly-held entrants, Experienced firms are larger at the outset and this size advantage persists to age 15. In contrast, there is a more ambiguous relationship between firms from

[14] This anecdote was given to me during an interview with a leading Chartered Accountant in Pakistan.

Other manufacturing backgrounds and performance, suggesting a mixed legacy of such backgrounds.

Thirdly, this pre-entry experience is manifested concretely in the firm's entry strategy. Experienced founders exhibit more detailed knowledge of the product and marketing opportunities in the industry and take a more strategic approach to the creation of new units. Firms from textile-related backgrounds are also more likely to be exposed to new market opportunities, often driven by the requests of buyers. As a result, many Pakistani textile firms have entered higher value segments like finished fabric or home textiles as global production chains have been reorganised. In contrast, less experienced firms tend to have limited knowledge of production practices and markets and industry exposure. Other factors such as family decisions and chance have often shaped entry strategies across firm backgrounds regardless of founder experience. This can often lead to poor product choice or a lack of strategy when creating the new unit.

This analysis has established the validity of the relationship between founder experience and firm performance during trade liberalisation, with particular reference to entry strategies. In Chapter 5 I will now address how founder experience shapes the initial production capabilities and organisational structure in the new firms. With the use of representative case studies I will show how pre-founder experience is revealed in the firm's size upon entry, its initial profitability and its subsequent growth trajectory.

Appendices

Appendix 4-1: Backgrounds of textile and clothing firms listed on the Karachi Stock Exchange

Table 4-11 Backgrounds of textile and clothing firms listed on the Karachi Stock Exchange

Date of incorporation	Founder experience	Product (in 2004)	PFE Code
1940s-50s	Cotton ginning	Yarn	2
	Leather/shoes	Yarn	3
	Leather	Home textiles	3
	Retail	Yarn/Cloth	4
	Addition to existing textile unit	N/A	1
	Textile trading	Home textiles	2
	Addition to existing textile unit	Garments	1
	Trading, shipping, ginning	Yarn/Cloth	3
	Yarn trading	Yarn	2
	Trading/other business	Yarn	3
	Addition to existing textile unit	Yarn	1
	Cotton/yarn traders	Yarn	2
1960s	Army	Yarn	4
	Politician	Yarn	4
	Splinter from established industrial group	Yarn	3
	Trading in commodities, textiles, garments	Yarn	2
	Yarn trading	Garments	2
	Textile traders	Home textile/garments	2
	Cotton ginning/spinning	Yarn	1
	Sugar	Yarn	4
	Trading	Home textiles	2
	Cotton trading	Yarn	2
	Yarn trading	Yarn	2
	Steel	N/A	3
	Politician/Agriculture	N/A	4

Date of incorporation	Founder experience	Product (in 2004)	PFE Code
1960s	Cotton ginning/trading	N/A	2
	Yarn trading	Yarn/Cloth	2
	Leather, shoes	Yarn	1
	Addition to established textile group	Yarn/Cloth	1
	Politician	Yarn	4
	Politician	Yarn	4
	Splinter from established textile group	Home textiles	1
	Cotton trading	Yarn	2
	Politician	Yarn	4
	Addition to established textile group	Home textiles	1
1970s	Addition to established textile group	Yarn	1
	Addition to established textile group	Yarn	1
	Cotton ginning	Yarn/Cloth	2
	Addition to established textile group	Yarn	1
	Leather	Yarn/Cloth	3
	Consumer goods	Yarn	3
	Addition to established textile group	Yarn	1
	Former employee of textile firm	Yarn	2
	Addition to established textile group	Yarn	1
	Shipping	Home textiles/garments	4
	Spinning firm	Yarn/Cloth	1
	Addition to established textile group	Yarn	1
	Addition to established textile group	Yarn	1
	Founders business educated, family in textiles	Yarn	2
	Addition to established textile group	Garments	1
	Addition to established textile group	Yarn	1
1980s	Chartered Accountant	Yarn	4
	Textile trading	Yarn	2
	Addition to established textile group	Yarn/Cloth	1
	Addition to established textile group	N/A	1
	Processing and spinning	Yarn	1
	Transportation/logistics, external business experience	Garments	3
	Addition to established textile group	Yarn/Cloth	1

Date of incorporation	Founder experience	Product (in 2004)	PFE Code
1980s	Addition to existing spinning unit	Yarn	1
	Offshoot of established textile group	Yarn	1
	Retail	Yarn	4
	Addition to established textile group	Home textiles	1
	Cotton ginning, current management business educated	Home textiles/garments	2
	Construction	Yarn/Cloth	4
	Yarn trading	Yarn	2
	Politician	Yarn	2
	Former employee of textile unit/technician	Yarn	2
	Landlord/agriculturalist, former employee of textile unit	Yarn/Cloth	2
	Yarn trading	Yarn	2
	Leather manufacturing/trading	Yarn	3
	Cotton trading	Yarn	2
	Addition to established textile group	Garments	1
	Addition to established textile group	Yarn	1
	Addition to established textile group	Yarn	1
	Addition to established textile group	Garments	1
	Politician	Yarn/Cloth	4
	Trading, weaving unit	Yarn/Cloth	1
	Addition to established textile group	N/A	1
	Tobacco/newspapers	Yarn	4
	Steel trading, ship breaking, auto spare parts	Yarn	4
	Addition to established textile group	Home textiles/garments	1
	Addition to established textile group	Yarn	1
	Leather	Yarn	3
	Addition to established textile group	Yarn/Cloth	1
	Addition to established textile group	N/A	1
	Addition to established textile group	N/A	1
	Splinter from existing industrial group	N/A	3
	Consumer goods	Unknown	3
	Trading	N/A	2
	Addition to established textile group	Garments	1
	Addition to established textile group	Yarn	1

Date of incorporation	Founder experience	Product (in 2004)	PFE Code
1980s	Trading	N/A	2
	Addition to established textile group	Yarn/Cloth	1
	Car dealer	Yarn	4
	Addition to established textile group	Yarn	1
	Politician	Yarn	4
	Addition to established textile group	Yarn/Cloth	1
	Splinter from existing textile firm	Yarn	1
	Addition to established textile group	Yarn	1
	Addition to established textile group	Yarn	1
	Addition to established textile group	Yarn	1
	Engineering/ceramics manufacture	Cloth	3
	Construction	Cloth	4
	Splinter from existing textile firm	Yarn/Cloth	1
	Shipping	Yarn/Cloth	4
	Construction	Yarn/Cloth	4
	Addition to established textile group	.	1
	Leather/plastic	Yarn	3
	Politician/cotton ginning	Yarn	2
1990s-2000s	Addition to established textile group	Yarn	1
	Footwear	Yarn	3
	Cosmetics	Yarn/Cloth	3
	Addition to established textile group	Garments	1
	Former employee of electricity company	Yarn	4
	Addition to existing textile unit	Yarn	1
	Consumer goods manufacture and retail	Cloth	3
	Addition to established textile group	Yarn/Cloth	1
	Offshoot of established textile group	Home textiles	2
	Construction	Cloth	4
	Addition to established textile group	Yarn	1
	Addition to established textile group	Cloth	1
	Chartered Accountant	Yarn	4
	Addition to established textile group	Garments	1
	Yarn trading	N/A	2

Date of incorporation	Founder experience	Product (in 2004)	PFE Code
1990s-2000s	Firm bought by employees	Yarn	2
	Chartered Accountant	Yarn	4
	Tents	Yarn	2
	Cement, construction	Yarn/Cloth	4
	Agriculturalist	N/A	4
	Addition to established textile group	Garments	1
	Former employee of textile firm	Yarn	2
	Chartered Accountant	Yarn	4
	Former employee of textile firm	Other	2
	Doctor	N/A	4
	Addition to established textile group	Yarn/Cloth	2
	Addition to established textile group	N/A	1
	Addition to established textile group	Yarn	1
	Former employee of textile firms, textile trading	Cloth	2
	Addition to established textile group	Garments	1
	Addition to established textile group	Yarn	1
	Addition to established apparel firm	Yarn	1

NOTE: A dot represents missing data, N/A indicates firm was no longer operating in 2004.
SOURCE: Karachi Stock Exchange, firm survey, trade associations, own analysis

Appendix 4-2: Backgrounds of unlisted public firms (SECP sample)

Table 4-12 Backgrounds of unlisted public firms (SECP sample)

Date of incorporation	Founder experience	Product (in 2004)	PFE Code
1975	Established textile group, formerly in East Pakistan	Yarn	1
1975	Landlords	Yarn	4
1975	Accountant	Yarn	4
1980	Established spinning group, other consumer goods	Yarn	1
1980	Established spinning group	Yarn	1
1981	Existing spinning unit established in 1975, joint venture with overseas investor	Yarn and cloth	1
1984	Established cloth group	Cloth	1
1985	Local yarn traders, textile manufacturers	Home textiles	1
1986	Grower/politician	Yarn	4
1986	Addition to textile group	Cloth	1
1986	Addition to textile group	Yarn	1
1987	Civil servant/tin manufacture	Garments	3
1987	Yarn trader	Yarn	2
1987	Two units set up by a Sugar Mill producer	Yarn	3
1987	Politician	Yarn	4
1987	Established spinning group	Yarn	1
1987	Trader, son now running	Yarn	2
1988	2 units created by established spinning group	1 yarn, 1 cloth	1
1988	Established spinning and weaving group	Yarn and cloth	1
1989	Established spinning group	Yarn	1
1989	Established spinning and weaving group	Cloth	1
1989	Established spinning group and other consumer goods	Yarn and cloth	1
1989	Yarn traders	Yarn	2
1989	Politician/Glass industry	Yarn	3
1990	Grower/politician, established one mill in 1986	Yarn	1
1990	Established spinning group	Yarn	1
1990	Landlord/bureaucrat	Yarn	4
1990	Sugar mill/oil business	Yarn	3

Date of incorporation	Founder experience	Product (in 2004)	PFE Code
1990	Local cloth traders	Home textiles	2
1991	Established spinning group	Yarn	1
1991	Growers/ginners	Yarn (later cloth)	2
1991	Established garment firm	Garments	1
1991	Politician	Yarn	4
1991	Established spinning group	Yarn	1
1991	Finance/Garments	Garments	4
1991	Traders/glass industry	Yarn	3
1991	Former General Manager of textile mill, bought unit	Yarn	2
1991	Yarn traders	Yarn	2
1991	Founder in import/export, son set up cloth unit in 1980s	Home textiles	1
1991	Consumer goods manufacturing and retail	Yarn	3
1991	Cotton grower	Yarn	4
1991	Experience in textiles in USA	Yarn	1
1992	Chartered Accountant	Yarn	4
1992	Manufacturer of mattresses	Cloth	3
1992	Established spinning and weaving group	Garments	4
1992	Yarn trader	Yarn and cloth	2
1993	Established spinning and weaving group	Garments	1
1994	Yarn traders, bought unit	Yarn	2
1998	Established spinning group	Cloth	1
2000	Oil business, bought sick unit	Yarn	3
2000	Established spinning and weaving group	Yarn and cloth	1
2000	Construction/food processing, two units	Yarn	3
2001	Existing spinning unit	Yarn	1
2002	Yarn trading	Yarn	2
2002	Established spinning and weaving group	Cloth	1

SOURCE: Securities and Exchange Commission of Pakistan, firm survey, trade associations, own analysis

Appendix 4-3: Backgrounds of knitwear firms, quota exporters (TDAP sample)

Table 4-13 Backgrounds of knitwear firms, quota exporters (TDAP sample)

Date of incorporation	Founder experience	Product (in 2004)	PFE Code
1964	Minister in government	Knitted garments	4
1965	Buying agent	Knitted garments	2
1969	Importer of knitwear	Knitted garments	2
1972	General trading	Knitted garments	2
1972	Textile trading	Knitted garments	2
1973	Banking	Knitted garments	4
1973	Gloves	Knitted garments	2
1975	Financial services	Knitted garments	4
1980	Existing spinning business	Knitted garments	1
1981	Carpets	Knitted garments	3
1982	Existing cloth manufacturer	Knitted garments	1
1983	Doctor, family sweet makers	Knitted garments	3
1984	Cotton ginning/oil trading	Knitted garments	2
1985	Socks	Knitted garments	1
1985	Civil servant	Knitted garments	4
1985	Former employee of textile firm	Knitted garments	2
1986	Diversified industrial group with textiles	Knitted garments	1
1987	Construction	Knitted garments	4
1988	Banker	Knitted garments	4
1988	Politics	Knitted garments	4
1988	Inexperienced, grandfather in textile industry	Knitted garments	4
1988	Carpets	Knitted garments	3
1989	Addition to cloth firm setup in 1966	Knitted garments	1
1990	Pharmaceuticals	Knitted garments	3
1990	Carpet manufacturer and exporter	Knitted garments	3
1990	Agriculturalist and lawyer	Knitted garments	4
1990	Carpet exporter	Knitted garments	3
1990	Agriculturalist	Knitted garments	4
1990	Agricultural trade, engineering	Knitted garments	3
1990	Doctor, father yarn broker	Knitted garments	2
1991	Perfumery and overseas textile business	Knitted garments	1
1991	Addition to existing knitting unit setup in 1985	Knitted garments	1

Date of incorporation	Founder experience	Product (in 2004)	PFE Code
1991	Construction/engineering	Knitted garments	4
1991	Banking, existing hosiery business	Knitted garments	1
1991	Rice, trading, real estate	Knitted garments	3
1991	Inexperienced, relatives in hosiery	Knitted garments	4
1991	Son of an army general, inexperienced	Knitted garments	4
1991	Former civil servant, son a doctor	Knitted garments	4
1991	Import/export of machinery parts	Knitted garments	4
1991	Bankers	Knitted garments	4
1991	Retired civil servant	Knitted garments	4
1991	Inexperienced.	Knitted garments	4
1991	Paper, packaging	Knitted garments	3
1991	Agriculturalist	Knitted garments	4
1991	Car retail	Knitted garments	4
1992	Engineering contractors	Knitted garments	4
1992	Banker	Knitted garments	4
1992	Doctor	Knitted garments	4
1992	Established textile group	Knitted garments	1
1992	Car retail	Knitted garments	4
1992	Carpets	Knitted garments	3
1992	Finance	Knitted garments	4
1992	Paper manufacturing	Knitted garments	3
1992	Former dyeing master, returned from abroad	Knitted garments	2
1992	Addition to existing home textile firm setup in 1991	Knitted garments	1
1993	Addition to existing knitting unit incorporated in 1969	Knitted garments	1
1993	Doctor	Knitted garments	4
1994	Carpet	Knitted garments	3
1994	Textile engineer	Knitted garments	2
1995	Marketing	Knitted garments	2
1995	Established textile group	Knitted garments	1
1998	Merchandiser of knitwear/former stitching manager	Knitted garments	2
1998	Gloves	Knitted garments	2
1998	Footballs	Knitted garments	2
1999	Car dealer	Knitted garments	4
1999	Marketing	Knitted garments	3
2000	One founder a former general manager of mill, other no experience	Knitted garments	2
2000	Former production manager of knitwear firm	Knitted garments	2
2000	Agriculturalist	Knitted garments	4

Date of incorporation	Founder experience	Product (in 2004)	PFE Code
2001	Family in spinning/weaving, son civil engineer founder and running unit	Knitted garments	1
2001	Addition to existing knitted garment unit	Knitted garments	1
2001	Existing textile processing firm	Knitted garments	1
2002	Trading	Knitted garments	2
2005	Fabric trading	Knitted garments	2
2005	Inexperienced, learned 'on the job'	Knitted garments	4

SOURCE: Trade Development Authority of Pakistan, firm survey, trade associations, own analysis

Appendix 4-4: Backgrounds of firms in home textiles, towels and woven garments, quota exporters (TDAP sample)

Table 4-14 Backgrounds of firms in home textiles, towels and woven garments, quota exporters (TDAP sample)

Date of incorporation	Founder experience	Product (in 2004)	PFE Code
1965	Textile traders	Cloth (printing)	2
1965	Manufacturer of uniforms for Pakistani army	Cloth	1
1966	Leather industry	Cloth	2
1969	Textile traders, existing weaving unit	Home textile	1
1972	Textile processing	Cloth	1
1972	Footballs	Woven garments	2
1973	Shipping	Mix of products	3
1974	Textile engineer, experience in another mill	Home textile	2
1976	Commercial importers	Home textile	3
1980	Father had textile unit, son set up own	Woven garments	2
1981	Laundry business, bleaching fabrics	Home textile	2
1981	Oil traders/fuel stations	Home textile	4
1982	Textile traders	Home textile	2
1982	Government employee	Towel	4
1982	Oil business	Towels	3
1983	Silk manufacturing	Woven garments	2
1983	Trading in local market/cloth manufacturing	Home textiles	1
1983	Gloves	Woven garments	2
1984	Former employee of large textile group	Home textiles	2
1984	Textile engineer, two years external experience, family business	Cloth	2
1984	Former employee of paper manufacturing group	Woven garments	3
1984	Sports goods	Woven garments	2
1985	Local yarn traders	Cloth	2
1985	Textile engineer/family in textile industry	Cloth	2
1985	Established textile group	Yarn	1
1985	Transportation of goods	Home textiles	3
1985	Sports newspaper reporter	Woven garments	4
1986	Commercial exporters	Home textiles	2
1986	Spinning	Woven garments	1
1986	Former technician/employee of many mills	Cloth	2
1987	Ginning, yarn trading, textile manufacturing	Home textiles	1
1987	Retired from air force	Woven garments	4

Date of incorporation	Founder experience	Product (in 2004)	PFE Code
1987	Doctor	Towel	4
1988	Established textile group	Woven garments	1
1989	Cotton ginning, yarn trading and cloth manufacturing	Home textiles	1
1990	Textile engineer	Woven garments	2
1990	Commercial exporters	Cloth	2
1990	Yarn trading	Cloth	2
1990	Addition to existing home textile unit	Home textile	1
1990	Local cloth traders (for dresses)	Cloth	2
1991	Agriculturalist	Woven garments	4
1991	Cloth trading	Cloth	2
1991	Overseas experience in textile industry	Yarn	1
1991	Grey cloth dealer	Home textiles	2
1991	Father textile trader, son bank manager	Home textiles	2
1991	Addition to existing cloth printing unit set up in 1976	Cloth	1
1991	Textile traders	Cloth	2
1991	Addition to existing cloth unit set up in 1978	Cloth	1
1992	Army	Woven garments	4
1992	Politics	Woven garments	4
1992	Looms engineering, then trading	Cloth	2
1992	Cotton trading/silk weaving	Cloth	2
1992	Textile exporters	Cloth	2
1992	Textile trading	Home textiles	2
1992	Footballs	Woven garments	2
1993	Textile processing	Cloth	1
1993	Jewellery	Home textiles	3
1994	Established knitted garments firm	Woven garments	1
1994	Split from existing knitting firm, CEO inexperienced	Cloth	2
1994	Established textile group	Cloth	1
1994	Addition to existing home textile unit	Cloth	1
1994	Cloth trading	Cloth	2
1994	Landowner/agriculture, fabric trading	Cloth	2
1994	Addition to cloth unit	Cloth	1
1995	Established textile group	Home textiles	1
1995	Textile traders	Home textiles	2
1995	Import/export, wholesale	Woven garments	3
1996	Commercial exporters	Towel	2
1996	Addition to spinning unit	Cloth	1

Date of incorporation	Founder experience	Product (in 2004)	PFE Code
1996	Addition to knitting and home textile units	Woven garments	1
1996	Footballs	Woven garments	2
1996	Leather	Woven garments	3
1997	Addition to cloth unit set up in 1985	Cloth	1
1997	Politics	Woven garments	4
1997	Addition to existing printed cloth/home textile unit	Home textile	1
1998	Textile trading	Home textile	2
1999	Addition to existing spinning/weaving group	Cloth	1
1999	Footballs	Woven garments	2
1999	Former employee of woven garment firm	Woven garments	2
2001	Former employee of integrated home textile mill	Home textile	2
2001	Cotton/yarn trader	Yarn	2
2005	Fabric trading	Woven garments	2

SOURCE: Trade Development Authority of Pakistan, firm survey, trade associations, own analysis

Appendix 4-5: Firm backgrounds by entry date

As illustrated in Table 4-15, the number of inexperienced firms across the three samples as the entry date becomes more recent. This could be the result of either the opening of entry liberalisation at the end of the 1980s or poor survival to older ages.

Table 4-15 Analysis of founder experience by decade

Type of background	1950	1960	1970	1980	1990	2000s
Experienced	3	7	12	53	40	9
Textile-related	4	13	8	28	42	9
Other manufacturing	4	2	4	15	20	2
Inexperienced	1	8	5	24	38	2
Total	12	30	29	120	140	22

NOTE: N=352

SOURCE: Karachi Stock Exchange, Securities and Exchange Commission of Pakistan, Trade and Development Authority of Pakistan, trade associations, firm survey, own analysis

Appendix 4-6: Founder backgrounds of unlisted public firms and quota exporters

Table 4-16 Founder backgrounds of unlisted public firms and quota exporters

Type of background	Public, unlisted (SECP)		Quota exporters (TDAP)	
	Total	Per cent	Total	Per cent
Experienced	29	49.2	90	37.3
Textile-related	10	17.0	76	30.7
Other manufacturing	10	17.0	31	12.9
Inexperienced	10	17.0	44	18.3
TOTAL	**59**		**241**	

NOTE: Trade Development Authority of Pakistan sample includes some public listed and unlisted firms
SOURCE: Karachi Stock Exchange, Securities and Exchange Commission of Pakistan, Trade Development Authority of Pakistan, firm survey, trade associations, own analysis

Appendix 4-7: Founder experience among post-1987 entrants on the Karachi Stock Exchange

Table 4-17 gives the founder experience classification among post-1987 entrants onto the Karachi Stock Exchange (1987-1999). Founder background was identified for a total of 71 firms. There are 20 missing values.

Table 4-17 Founder backgrounds of post-1987 entrants on the Karachi Stock Exchange

Background of firm	Number of observations
Experienced	33
Textile-related	13
Other manufacturing	10
Inexperienced	15
Missing	20
Total	**91**

SOURCE: Karachi Stock Exchange, firm survey, trade associations, own analysis

Appendix 4-8: Post-1987 entrants on the Karachi Stock Exchange: size by founder background

Table 4-18 Post-1987 entrants on Karachi Stock Exchange: size by founder background (real Pak Rs, 2000)

Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ALL	273	434	431	493	490	501	509	513	525	545	544	551	563	591	606
Obs	64	71	90	89	91	91	90	91	90	90	89	87	86	84	77
Exits	0	0	0	0	1	0	3	2	2	3	3	0	2	1	3
PFE	**Size (real Pak Rs, 2000)**														
1	351	537	555	636	634	639	651	739	775	840	886	915	978	1040	1050
2	241	387	384	419	451	512	512	524	410	390	385	380	335	463	450
3	228	414	452	509	566	579	603	610	641	584	497	520	510	468	539
4	226	407	360	418	453	461	414	342	365	381	377	372	369	317	216
Obs	54	57	71	71	71	71	71	71	70	70	69	68	67	65	59
Exits	0	0	0	0	0	0	2	2	2	0	1	0	2	1	2

NOTE: Pre-founder experience: 1=Experience, 2=Textile-related, 3=Other manufacturing, 4=Inexperienced
SOURCE: Karachi Stock Exchange, own analysis

Appendix 4-9: Firm size/exports by background at age 5, 10 and 15

Table 4-19 Firm size by founder background of post-1987 entrants on Karachi Stock Exchange at Age 5, 10 and 15 (real Pak Rs million, 2000)

KSE Firms	Age 5	Age 10	Age 15
Experienced	634	840	1,050
Textile-related	451	390	450
Other manufacturing	566	584	539
Inexperienced	453	381	216
Observations	71	70	60

SOURCE: Karachi Stock Exchange, firm survey, own analysis

Table 4-20 Linear regression analysis of firm size by founder background of post-1987 entrants on Karachi Stock Exchange at Age 5, 10 and 15 (real Pak Rs million, 2000)

KSE Firms	Age 5	Age 10	Age 15
Constant	416*	391*	301
	(4.60)	(2.57)	(1.08)
Experienced	218*	449*	753*
	(2.00)	(2.45)	(2.29)
Textile-related	35	-0.5	149
	(0.27)	(0.00)	(0.35)
Other manufacturing	151	193	238
	(1.05)	(0.80)	(0.54)
Inexperienced	-	-	-
Observations	71	70	60

NOTE: t-statistics in brackets. *Statistically significant at 5 per cent level
SOURCE: Karachi Stock Exchange, firm survey, own analysis

Appendix 4-10: Founder backgrounds and performance of interview sample

Table 4-21 Founder backgrounds of interview sample and firm performance during trade liberalisation

Firm	Founder experience	Product	PFE Code	Growth
Firm 1	Addition to established textile group	HT	1	1.22
Firm 2	Consumer goods manufacture and retail	Cloth	3	1.24
Firm 3	Cotton ginning, Directors business educated	HT/G	1	1.35
Firm 4	Politician	Yarn	4	Exit 2006
Firm 5	Cotton ginning	YC	2	0.91
Firm 6	Cotton trading	Y	2	1.36
Firm 7	Established spinning group, other consumer goods	Y/C	1	1.10 (2004-6)
Firm 8	Construction	Cloth	4	0.86
Firm 9	Addition to established textile group	Yarn	1	0.90
Firm 10	Offshoot of established textile group/MBA educated	HT	2	0.93
Firm 11	Established spinning and weaving group	G	1	1.09 (2004-6)
Firm 12	Transportation/logistics, external bus. experience	G	3	1.40
Firm 13	Cotton trading	Y	2	0.53
Firm 14	Spinning firm	Y/C	1	0.98
Firm 15	Footwear	Y	3	0.94
Firm 16	Textile trading	Y	2	1.81
Firm 17	Addition to established textile group	Y	1	1.10
Firm 18	Splinter from existing spinning firm	YC	1	0.93
Firm 19	Trading/other business	Y	3	0.87
Firm 20	Former employee of textile firms, textile trading	C	2	2.70
Firm 21	Leather/plastic	Y	3	0.48
Firm 22	Leather	YC	3	0.97
Firm 23	Trading, weaving unit	YC	1	Exit 2007
Firm 24	Shipping	YC	4	1.05
Firm 25	Leather	Y	3	1.29
Firm 26	Leather, shoes	Y	1	0.72
Firm 27	Founders business educated, family in textiles	Y	2	1.36
Firm 28	Addition to established textile group	YC	1	0.92
Firm 29	Car dealer	Y	4	0.77
Firm 30	Processing and spinning	Y	1	1.95 (2004-6)
Firm 31	Politician/cotton ginning	Y	2	1.12
Firm 32	Politician	Y	4	1.32
Firm 33	Former management employee of textile firm	Other	2	2.55
Firm 34	Construction	C	4	Exit
Firm 35	Splinter from established textile group	HT	1	1.30
Firm 36	Addition to existing spinning/weaving group	C	1	0.79
Firm 37	Politician/textile	HT	1	Maintain
Firm 38	Civil servant/tin manufacture	G	3	Exit 2006
Firm 39	Agricultural trade, engineering	G	3	Maintain
Firm 40	Landowner/agriculture, fabric trading	HT	2	Maintain
Firm 41	Former employee of paper manufacturing group	G	3	Maintain
Firm 42	Addition to cloth firm setup in 1966	G	1	Maintain
Firm 43	Marketing/production employees of textile firm	G	2	Not maintain
Firm 44	Textile engineer, 2yr external experience, family bus.	HT	2	Not maintain
Firm 45	Inexperienced, grandfather in textile industry	G	4	Maintain
Firm 46	Textile engineer, business family	HT	2	Maintain
Firm 47	Civil engineer, family in spinning/weaving	C	2	Maintain
Firm 48	Tents	G	3	Maintain

NOTE: Y=Yarn, C=Cloth, Y/C=Yarn and cloth, HT=Home textile, G=Garments. Product in 2004-2007. Figures refer to real sales growth (Pak Rs, 2000) from 2004 to 2007, given in whole numbers (1.03 = 3 per cent). Otherwise it is indicated whether firms maintained quota exports or exited.

Chapter 5 Founder experience and the accumulation of firm capabilities

Firms in Pakistan's textile and clothing industry exhibit heterogeneity in both firm capabilities and performance during the first phase of trade liberalisation. In this chapter I aim to explain the gradual divergence in firm performance between 1994 and 2004 with an analysis of the relationship between pre-founder experience and the accumulation of firm organisational and production capabilities. I explore how founder experience shapes initial production and organisational capabilities, the rate of capability accumulation over time, and its impact on firm performance as measured by initial size, relative profitability and the firm's growth trajectory. Given the established association between pre-entry experience and firm age, I specifically examine how the firm's production and organisational capabilities are shaped over time through in-house trial and error, and how learning in the firm occurs. This analysis establishes the heterogeneity in capabilities among Pakistan's textile and clothing firms in the run up to the abolition of export quotas on 1 January 2005. It also sets the context for an examination in Chapter 6 of how firms performed in response to increasing competition in the post-quota period.

Firstly, I establish the determinants of performance in the textile and clothing industry. Drawing on a series of plant visits, I examine good practice in productivity, quality and marketing, and define organisational capabilities to include recruitment, incentives and general professional management practices. This provides a framework within which to benchmark the capabilities of individual firms. Secondly, using representative case studies, I assess the distribution of capabilities across firms and analyse the relationship between firm background and the quality of production capabilities. I also examine the quality of organisational capabilities – or general management practices – in the new unit which are considered particularly challenging for Pakistani firms by investors and business observers. Thirdly, I assess the association between these capabilities and firm performance, matching interviews conducted with Directors and technical managers with company financial data. I also

take into consideration the potential skewing of firm performance between 1994 and 2004 as a result of quota access.

I find strong evidence of heterogeneity in production and organisational capabilities across firms and an association with performance. The findings suggest that pre-founder experience shapes the quality of these capabilities upon entry and is revealed in the initial size of the firm, as well as its early profitability and growth trajectory (although performance is partly skewed by firm reliance on quota in this period). Firms with more industry-related experience show strength in production capabilities, while those from Other manufacturing and Inexperienced backgrounds often bring transferable organisational practices. However, a continued weakness across all backgrounds is the lack of professional management associated with family ownership which has hampered firm growth.

Over the study period, firms have accumulated capabilities through in-house trial and error as well as the transfer of tacit knowledge via recruitment and the use of consultants. However, performance is ultimately shaped by the design of the firm at the outset where professional management allows technical managers to deliver shop-floor improvements. It was only a radical change of management or motivation on the part of the Directors which changed the direction of firm performance. Thus suggests that pre-founder experience is a persistent determinant of the accumulation of firm capabilities and performance over time.

5.1 Production and organisational capabilities in textiles and clothing

The textile and clothing production chain stretches from cotton growing to cotton ginning, yarn spinning, cloth weaving or knitting, textile bleaching, dyeing and printing, and the cutting and stitching of 'made-up' goods such as home textiles or garments. However, the cost structure of production and the determinants of firm productivity, quality and performance are often similar at different parts of the chain. As illustrated in Table 5-1, the industry is raw material and energy intensive. On average, the most important cost is raw materials (75.8 per cent), followed by fuel and power (9.8 per cent), salaries (5.9 per cent) and machinery as measured by depreciation (3.9 per cent). Costs such as insurance, packing and transportation make

up the remainder. Taking the cost of salaries and depreciation alone, this is the equivalent of 39.8 per cent capital intensity and 61.2 per cent labour intensity on average across the industry. There are some variations by product. Salaries as a percentage of total costs, for example, are typically highest in garment firms at 7.0 per cent. Weaving is the least labour intensive segment, where labour costs represent only 3.7 per cent of the total on average.[1]

Table 5-1 Textile and clothing production costs by product, firms listed on the Karachi Stock Exchange (2006)

Cost (as percentage of total production)	Mean	Yarn	Cloth	Yarn & cloth	Home textiles	Garments
Raw materials	75.8	75.2	81.2	76.5	79.4	70.6
Fuel and power	9.8	10.8	6.0	9.3	6.8	8.1
Salaries	5.9	6.3	3.6	5.2	4.5	7.0
Depreciation	3.9	3.9	4.0	4.3	3.7	4.0
Other (insurance, packaging)	4.6	6.5	5.2	4.7	5.6	10.3

NOTE: Cost data were only available for 116 firms. Included here are the 75 comparable observations.
SOURCE: Karachi Stock Exchange, own analysis

As a result of this cost structure, the first important determinant of quality and productivity in the mill is the ability to secure good quality raw materials. Contaminated cotton, for example – which has a high waste content, such as hair, jute or rubbish –can break the yarn on the spindles and lead to stoppages (and a reduction in both productivity and quality). Similarly, contamination of yarn subsequently can affect the quality of white-coloured garments.[2] Basic measures taken by firms to ensure the quality of raw materials include the employment of a cotton selection team, the payment of premiums to producers, and the overseas sourcing of higher quality cotton or yarn. More sophisticated approaches include integration into cotton ginning

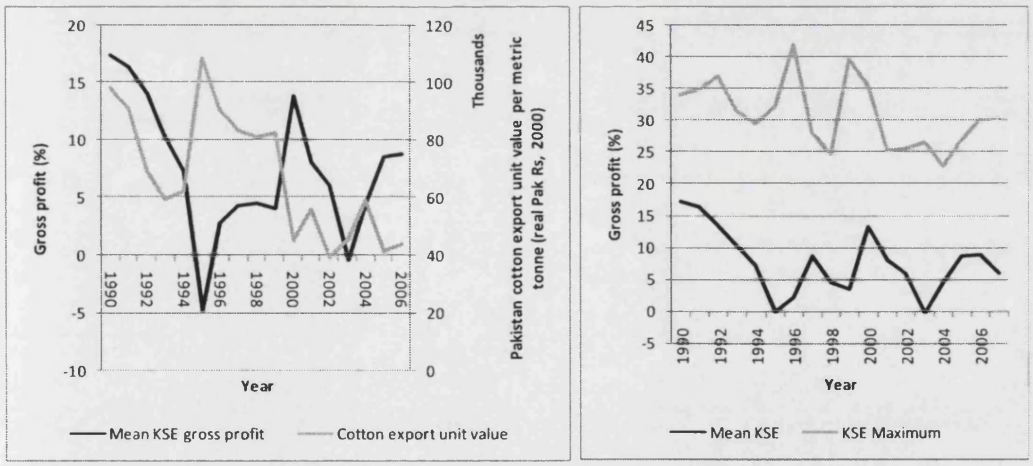
[1] It should be noted that the KSE sample includes many large, integrated mills. Consequently, the capital intensity will be much higher than the average garment unit in Pakistan or other countries.

[2] Typically these materials are sourced from within Pakistan as it is the world's fourth largest producers of cotton. One spinning manager estimated that 95 per cent of Pakistan's cotton is used within the country. However, a concern of many manufacturers was often the poor quality of cotton in Pakistan. Cotton is stored in jute instead of cotton bags which raises the waste content. One spinning manager explained why jute bags continue to be used in cotton picking rather than cotton bags which reduce contamination: "If you give them cotton bags for the yarn, due to poverty people will [cut garments and] wear the bags. So you need to take them out of poverty first". This problem has led to several initiatives to raise the quality of cotton produced such as the Pakistani government's Clean Cotton Programme. See: Siegmann, K.A. (2006) Cotton Pickers After the Quota Expiry: Bitter Harvest, Sustainable Development Policy Institute Research and News Bulletin, Vol. 13, No. 1, Jan-Feb 2006; Clean Cotton Programme 2006-2007, Ministry of Textile Industry, Government of Pakistan

or spinning in order to control the level of quality, as well as a competitive, in-house free market environment where a unit further downstream – such as cloth – is not required to purchase yarn in-house but can source instead from the open market.

As a result of this heavy reliance on raw material profitability of the industry is also very dependent on the price of cotton in the market. As cotton price increases, typically the profitability of textile firms tends to drop. Figure 5-1 below, for example, shows a mirror image (from 1994 onwards) in the relationship between mean gross profit of the textile firms listed on the KSE and mean cotton price.[3] Between 1994 and 2006, for every thousand rupees increase in the price of cotton per metric tonne the mean gross profit of KSE firms fell by 0.135 per cent (p=0.015). Even in the best performing firms – typically garment or home textile manufacturers – gross profit remains correlated with mean industry levels. Therefore the ability to escape this dependence on cotton in terms of profitability is an accurate measure of performance.[4]

Figure 5-1 Mean gross profit of public firms versus mean cotton price (1990-2006) (left), maximum firm gross profit attained (1990-2007) (right)



SOURCE: Karachi Stock Exchange; Pakistan Economic Survey 2006, Ministry of Finance, Government of Pakistan; own analysis

[3] There was a shift in economic policy in 1994 in which the export duty on cotton was removed, hence cotton producers were able to seek higher market prices for their cotton abroad. If a cotton harvest has been poor, then cotton will be scarce in any one year and thus in greater demand. We would thus expect its export price to be higher.

[4] As illustrated in Chapter 2, the unit value of yarn products has been on continual decline for a number of years. This correlation of gross profit with cotton price thus reinforces the argument of Sutton (2007b) outlined in Chapter 1 that in order to improve remain in the trade 'window', firms must improve either their quality or lower their costs in order to escape lower returns in the market.

The second largest production cost is power. Certainly, the productivity and quality of yarn, cloth and finished fabric depends on the provision of continuous electricity as power interruptions can lead to broken yarn, cloth defects, broken embroidery stitches or colour variation in finished fabrics. However, the supply of electricity in Pakistan can be erratic due to weaknesses in Pakistan's energy infrastructure. Many units have installed their own gas generators in order to escape dependence on the state-owned grid and deliver cheaper in-house energy costs. Olympia Textile Mills, for example, states that it can save Rs15m per year by installing own gas generators instead of sourcing from WAPDA (the local power company).[5] Several have even gone as far as to create electricity production companies from which they sell energy onto the national grid.[6] However, this entails a minimum scale required for installation and can relatively disadvantage small firms. Political connections to energy suppliers also become important in ensuring continuous provision for those without in-house generation. Further, even for those units with gas generators, frequent attacks on gas pipelines in the Sui Gas areas in Pakistan's Balochistan province can also hamper energy provision.[7]

The third important determinant of cost is the performance manufacturing staff. As shown above, the industry is labour intensive, and as a result recruitment, human resource management and incentives are of central importance.[8] Basic practices in firms in Pakistan include the regular payment of salaries, the provision of good quality food and accommodation (many mills tend to be remote and recruit specialist workers from outside of the area), and fair treatment of workers. Advanced practices include professional human resource practices, performance monitoring and evaluation, performance-linked pay, and proactive measures to recruit women into the workforce. Organisational practices on the shop floor are also a crucial determinants

[5] Annual Report 2007, Olympia Textile Mills, Karachi Stock Exchange.

[6] Leading textile firms in Pakistan have set up independent power production in firms such as Gul Ahmed Energy, Kohinoor Energy and Liberty Power, and other firms such as Nishat Chunian and Sapphire Textile were in the process of doing so during the period of research. Source: Pakistan Board of Investment, 'Pakistan Power Sector', date unknown but approximately 2005, http://www.pakboi.gov.pk, accessed 23 March 2009.

[7] Problems with gas supplies to textile units occur frequently, see for example 'Textile workers and owners protest against closure of units', Business Recorder, 1 February 2008.

[8] On the shop-floor of a textile and clothing unit the most junior positions include helpers, sweepers, packers, assistants and quality observers, followed by machine operators, inline and final inspectors. Beyond this are skilled workers and supervisors, a manager in charge of the shop floor in functions such as spinning, weaving or processing, and above this the General Manager (GM) of the entire mill.

of performance: in stitching, for example, the production process is divided into manual versus automated operations, with handling time making up 70-80 per cent of the production process.[9] However, human resource management has proven particularly challenging for many firms from traditional capital-intensive spinning and weaving backgrounds. They often decided to produce home textiles instead of garments, for example, because the stitching techniques were 'less complicated'.[10]

The fourth most important determinant of performance is the technology used in production. In spinning, for example, quality is affected by the number of machinery faults, while in garment cutting automation can increase consistency and reduce mistakes in production. In recent years technological change along the textile and clothing chain has been rapid. This includes the shift from sulzer to airjet looms which deliver revolutions per minute and a greater output of cloth, and the use of computer aided design in garment production. As a result, modernisation of technology is a key determinant of productivity and quality. Basic practices in firms also include preventative maintenance and the holding of stores and spares on the premises in case of breakage. Further, physical and human capital are complementary: skilled staff bring knowledge to the firm and determine everyday routines of technology adoption, learning and improvement, while machinery suppliers play an important role in the training of workers on new machines.

Productivity can be improved through the introduction of economies of scale in production. With an increasing number of spindles spinning firms can reduce average costs by spreading overheads (such as air conditioning which controls the moisture content of the yarn) and increase the output per employee. On average, surviving firms on the KSE show an increase in the average number of spindles over time as illustrated in Figure 5-2 below. There was also a minimum efficient scale often required for the production of items such as yarn and cloth.[11] For some firms

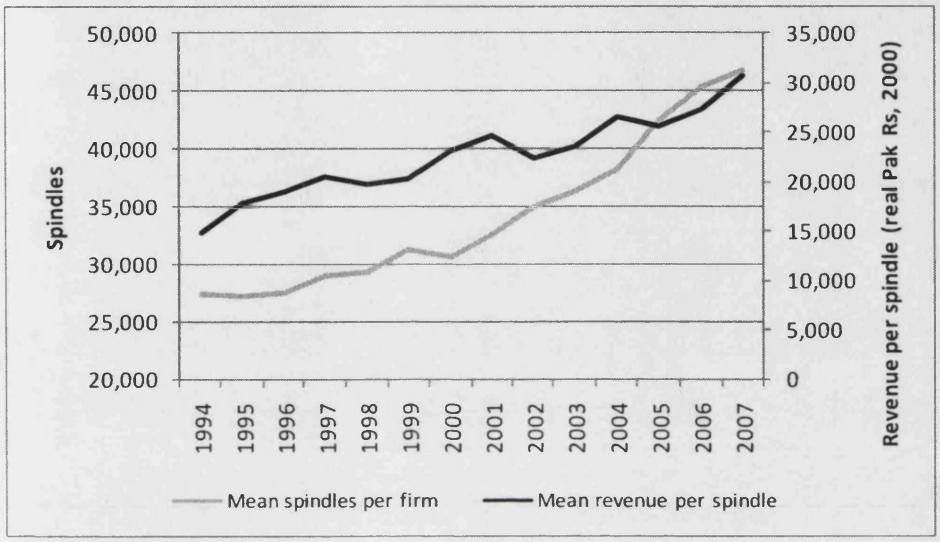
[9] 'Improving garment manufacturing efficiency through GSD', Express Textile, 17 June 2004, http://www.expresstextile.com/20040617/textiletech01.shtml, accessed 23 March 2009.

[10] The stitching of a pillow case, for example, typically involves the cutting of rectangular or square fabric pieces and only 3-5 operations, rather than 100 operations for a shirt or pair of jeans.

[11] In 2004, for example, a year of low mean gross profit, in order to break even at the level of profit before tax 49,101 spindles were required. In 2006, this figure was only 30,388 in a year in which mean gross profit was higher. However, many firms that have fewer spindles than the minimum efficient level and are at risk of long-run exit if competition continues to increase. In the KSE sample an increasing number of spindles are also associated with higher gross profit (see Appendix 5-1).

production size also gave an advantage in marketing: Firm 8 can produce runs of 1000m of cloth rather than 300m, meeting the requirements of larger buyers.

Figure 5-2 Mean spindles and revenue per spindle, firms listed on the Karachi Stock Exchange (1994-2007)



SOURCE: Karachi Stock Exchange, own analysis

Additional operating costs include marketing, administration, insurance and packaging. Marketing in particular plays a keys role in attracting new buyers to source from Pakistan (and often overcoming their reluctance to do so) and in the selling of new products such as anti-allergy or anti-dust fabrics. Marketing is conducted both through agents and in-house although in Pakistan agents tend to be more involved in lower value-added products such as yarn with the exception of garment quality assurance processes.[12] Basic practices include the attendance of Directors and marketing teams at leading international trade fayres, and in some cases buyers came directly to the Pakistani firms as a result of word-of-mouth. A strategy amongst some of Pakistan's best producers was to establish relationships with marketing brands. In 2007, Artistic Denim Mills – a producer of denim fabric – stated that it had succeeded in establishing new relationships with global jeans brands and planned to extend these relationships with the opening of overseas offices.[13] This was accompanied by a

[12] Example of agents in Pakistan are Texcraft, see http://www.tex-craft.com/, and Vigour Impex, http://www.vigour-impex.com/, accessed 23 March 2009. Both are engaged in sourcing all types of products for buyers as well as inspection and reporting services.
[13] Source: Artistic Denim Mills, Annual Report 2007.

growth in local manufacturing capacity in Pakistan. Several top performers have also moved into the local retail space. Gul Ahmed Textile Mills has established branded retail outlets across Pakistan, while Chenab Limited opened several branches of its Chen One home furnishing and clothing store across Pakistan and the Middle East.[14]

Investment in production and marketing capabilities was an important route through which firms improved their production capabilities and performance. Expenditure was targeted towards new product development, skills and training, IT and professional consultancy, market research and participation in exhibitions. Firms also learned about methods to improve productivity and quality from in-house trial and error, through interactions with buyers, as well as through contacts with other producers in the market. Successes within the industry have included the development and marketing of high count cloth and bed linen marketed to high end consumers, as well as the move among some spinning units into rope-dyed yarn for the production of denim.[15] However, a lack of research and development was often identified as a weakness in Pakistan's textile and clothing sector by industry observers. According to one private sector investor, "traditions die hard" with firms "always doing what they have done in the past". According to this interviewee Pakistan producers chase rather than create markets and only recently has the industry seen a big improvement in the cutting, design and on-time delivery of garments.

As in any industry, professional management practices such as recruitment, incentives, targets and monitoring were also important. One important buyer of home textile products from Pakistan said that when selecting suppliers they look at the background and experience of firms, and in particular "competence of core workers...trust in co-workers". According to the buyer, they "don't want managers jumping into business deals". The firm need not be large, have the right machinery or be already exporting, but must have these basic capabilities and be committed to developing into a supplier for this particular buyer.

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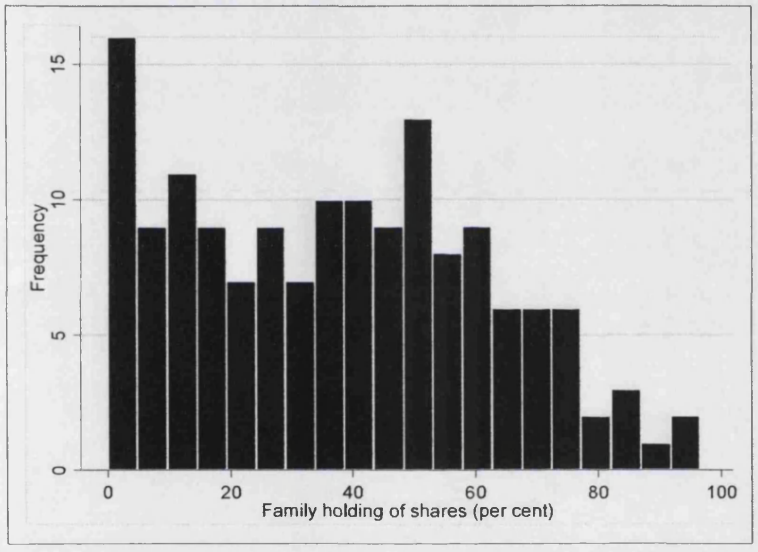
[14] Source: Gul Ahmed Textile Mills Ltd, http://www.gulahmed.com/, Chenab Limited, http://www.chenabgroup.com/, accessed 23 March 2009.

[15] The measurement of yarn size is on the basis of mass to length. The larger the number the thinner the yarn. This is referred to as the 'yarn count'. Counts of over 100 are used in high quality shirts, and counts of up to 500 can be used in 'luxury' bed sheets. Source: "yarn units", in Fenna. D. (2002) (ed) A Dictionary of Weights, Measures, and Units, Oxford University Press

However, the lack of professional management in Pakistan was identified as a key weakness by both investors and buyers. One leading private equity investor bemoaned the "lack of discipline" where families "sit around the dinner table" to take decisions. This prevents a role for third party investors, for example, to provide finance in order to invest in economies of scale. They also expressed frustration in the management of firms where "there is only one person in the company you can talk to". Indeed, across all the textile firms listed on the KSE, family held on average 38 per cent of the total shares and at most 97 per cent (see Figure 5-3).[16] On average foreign investors held less than 1 per cent of shares, and in only a handful of cases held more than this.

Figure 5-3 Percentage of shares held by family in public listed firms (2005)



SOURCE: Karachi Stock Exchange, own analysis

5.2 Founder experience and the accumulation of firm capabilities

In addition to entry strategy and product choice, pre-founder experience also shaped the initial production and organisational capabilities of firms. These capabilities are revealed in the firm's initial entry size and profitability as well as in its long-term growth trajectory. This initial endowment particularly affected the rate of learning over time through its influence on organisational design, recruitment and incentives. This direct link between founder experience, capabilities and firm growth is illustrated

[16] From data in annual reports I term 'family' to refer to the line of entry representing the shareholding of "Directors, Chief Executive Officer, their spouses and minor children".

by several case studies of firms from Inexperienced, Other manufacturing, Textile-related and Experienced backgrounds.[17] Group-level size and growth trends were previously illustrated in Figure 4-1. In addition, the clustering of performance of interviewed firms by founder background is also presented below.

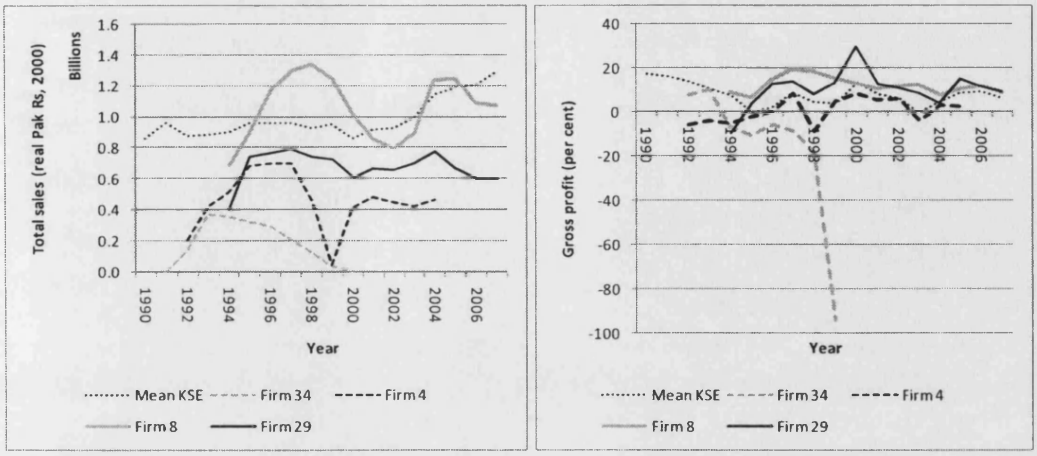
Inexperienced firms

Founders or Directors of inexperienced firms often struggled with the management of production in the textile and clothing industry. Firms often faced the relative disadvantage of entering small in an increasingly scale-intensive industry, as well as an inability to overcome challenges in the operating environment. Firm 34, for example, was founded in the early 1990s by an importer of construction goods.[18] The founder had no direct experience in the textile industry but established a standalone weaving unit in Lahore. However, according to the founder the firm "couldn't grow" because "as soon as it started it faced collapse" due to recession in the cotton sector from 1992 to 1993. There had been problems understanding the technology involved in the machines, fixing broken equipment and dealing with the high operating costs in a small unit with only 48 looms. The founder also faced problems with infrastructure: it took two to three days for the product to reach Karachi and the Director found the cost of the electricity tariff was "too high". The firm was initially smaller than the average entrant and profit was in decline from the second year of operation (see Figure 5-4). Sales fell to zero in 2000 from a peak in the third year of operation, and at the time of the interview in December 2004 the founder had just put his unit up for sale.

[17] Given the time constraints involved in conducting the interviews for each case study it was not possible to capture each management practice in detail. Instead, each case study gives a sense of the general quality of management practices as well as highlighting the most important drivers of performance. Interview content is presented in the own words of the Director as often as possible so the reader is able to reflect independently on the quality of management practices alongside my own interpretations.

[18] This was a difficult interview as the owner was reluctant to talk about the production practices of the firm, understandably when it was performing poorly. The owner was keener to attribute difficulties to the operating environment, but I tried to get an idea of some of the difficulties the owner had faced in running the unit.

Figure 5-4 Size (left) and gross profit (right) versus mean, Inexperienced



NOTE: Data was not available for Firm 8 between 1990 and 1994.
SOURCE: Karachi Stock Exchange, own analysis

Similarly, Firm 4 was a spinning mill set up in Punjab in the early 1990s by a doctor and politician. The firm began to falter in its fourth year of operation and defaulted at age 8 when it was taken over by the son of one of the founders (see Figure 5-4). Although the son had recently completed business education in the United States and "knew that it wasn't properly run", he admittedly had no plan for the unit and instead "jumped in", spending the first six months on the shop-floor learning about production and quality. The Director was able to identify priorities in the mill: he recognised that quality of the product was important, attempted to diversify the customer base, introduced basic maintenance practices, and employed a ginning selector to ensure cotton quality. However, problems continued despite his arrival. Profitability depended on a shortage of yarn in the market when they "will get a better price", there was no marketing team because if you employ someone "he will blackmail you and take buyers to other firms". Further, when I inquired about training that was in place for staff, the Director replied (in English) "God help them". While the Director managed to increase sales in his first few years, the firm relied 100 per cent on local sales and had below the mean profitability of the KSE. The firm submitted no annual report after 2005 and is likely to have exited.

At times, however, inexperienced firms were able to introduce organisational practices that had been acquired through previous experience. Firm 8, for example, is a producer of industrial cloth and plain sheeting located in Punjab whose founder was

engaged in the large-scale construction sector. In establishing the new firm, the strategy of the founder was to hire the "best professionals" both in management and on the shop floor where he employed "educated technical people". There was also a degree of customer orientation: the founder travelled abroad in order to look at which products were in demand, and recognised the importance of quality in finding new buyers. A human resources department was also established to oversee recruitment, an idea he first got from interacting with foreign buyers.

As the mill evolved, it was the commercial focus and organisational structure that allowed the improvement of production practices. One the production side, in order to keep ahead he kept on "adding capacity, hiring the best people", and implementing "systems that were not being done in Pakistan". Shop-floor staff were made responsible for the identification of new technologies and in one instance there was a focus on the folding department in order to reduce quality defects: "nobody thought much about them" and they were poorly paid, but staff trained workers in the section to detect faults and built a team (several of the workers have now been promoted to other sections). Further, the firm began to manufacture higher-value industrial fabrics following an approach by European and American buyers who, according to the Director, are always keeping an eye on new mills that were coming up and "Pakistan is on their radar". From this base "the word spread" to other buyers and the upgrading was welcomed by the firm as they saw grey fabric as a commodity product with small margins.[19]

By Age 5, the firm was larger than other new entrants and was exporting 85 per cent of its production. The focus on higher value-added textiles also meant that gross profit remained above the KSE average between 1994 and 2007 (see Figure 5-4). The firm continued to grow in its first decade and crossed the KSE mean sales level for the first time in its seventh year. Of course production challenges remained. The firm had only just introduced practices to address underperforming staff and its revenue growth was correlated with mean export unit value of cloth. Further, export sales were increasingly reliant on quota, rising from 15.0 per cent in 2000 to 87.1 per cent in

[19] The founder of this firm was particularly well connected, however. I understand that a close family member through marriage was a leading textile producer in Pakistan which may have assisted in the firm's progress. The firm has also established its own power plant.

2004. Nevertheless, despite direct knowledge of textile production, the founder established a well-performing mill with devolved production, quality and marketing functions.

Similarly, Firm 29 – founded by a car dealer – also showed commercial focus from the outset. A consultant was employed by the business partner in order to decide on the location of the mill, and a feasibility study was also conducted to choose the best yarn to produce for the market. Lack of direct knowledge of the sector meant that sale of yarn was initially conducted directly through brokers, and the company produced "simple yarn at first". However, this firm improved performance over time by learning how the market worked. At first, yarn was sold mainly in Faisalabad, but the firm discovered that the market was focused only on low-quality yarn, so began selling directly to weavers in Lahore and Karachi. The firm added new machinery to produce combed and hosiery yarn in response to customer demand. A marketing team was also put in place to assess demand and approach buyers directly, and a specific team was appointed during the cotton season to balance requirements of cost, quality and timing of purchase. In terms of general management practices, the GM had autonomy to recruit staff independently with just the final permission to be obtained from the head office. The firm does promote people if they show good performance and a supervisor, for example, was one of three staff members recently promoted.

However, the unit continues to use only basic production and organisational practices and fails to take a more strategic approach to mill development. It detects problems with quality, for example, only if there is "a complaint" from a customer in which case the issue is raised with the GM as his ultimate responsibility. If they fail to meet a target the Chief Executive (CEO) stated that "if it is the fault of market conditions, then they can't do anything about it". Turnover of staff is not seen as a problem because "there are so many workers there, if one leaves you can get another". Finally, the CEO admitted that even though a person who does not perform well is initially penalised with a warning and then sometimes fired, they may also be transferred to another division if they continue to under-perform. As a result, the firm has performed only just above the average new entrant in terms of sales and failed to catch up with the KSE mean firm size. It has, however, achieved slightly higher relative profitability than the KSE mean since shortly after inception (see Figure 5-4).

As a result, firms from inexperienced backgrounds often experienced difficulties in managing production in the new unit. However, variation within the inexperienced category in initial size and profitability can be explained by the application of acquired organisational capabilities in the new firm.

Other manufacturing

In contrast, textile and clothing companies that were created by firms from other manufacturing sectors often brought a legacy of production experience to textiles. Firm 25, for example, was founded by a well-established leather manufacturing company and is currently managed by a business-educated son. Decisions on the mill were made jointly by the senior family members and the Director and several elements of this prior experience and education came through in the practices established in the mill. In terms of product strategy, for example, the firm chose to enter into the higher value-added, dyed-yarn segment following research by the Director, and standards and targets were also introduced following analysis of other units of how productivity was measured. The firm also followed a bold marketing strategy from the outset: when looking for buyers for the first time the Director approached the agent of a large textile firm who is still the company's agent today. Further, the firm has an ambitious product development strategy: the Director studies all the new fibres that come into the market and believes that "to make money you have to produce something new". If everyone else "jumps in", the response is that it is necessary to become more efficient.[20]

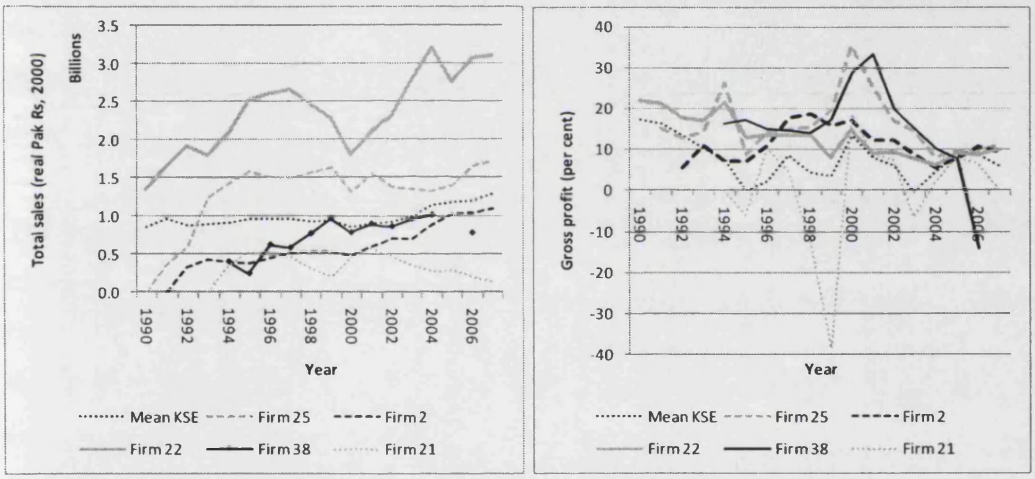
It was this push at the outset that shaped the firm's evolution. Production practices were improved over time in a joint effort between management and shop floor staff. The Director attempts to understand what is going on in the factory by "getting involved" and discussions with the GM and technical team are held frequently to address quality issues or the need for spare parts. Several strengths also came through in the firm's general management practices. The firm ensures, for example, that good staff are coming into the firm and that they are people "who want to learn something

[20] This approach to the business was described as coming from the firm's background in the leather sector which is described as "very tough", particularly on the production side which involves the need to handle large amounts of chemicals.

new". They have a graduate recruitment system in place in which each year they take three to four new graduates. A system monitors targets daily – such as the reduction of electricity costs or sales in weaving and knitting segments. Finally, the Director also attempts to introduce a positive working environment into the firm, citing a dislike of the 'Mian Sahib' culture.[21]

Firm 25 was larger than most other new entrants in its first year of operation (in 1990) and has since grown larger than the KSE mean and outperformed in terms of gross profit in each year (see Figure 5-5). Exports have accounted for between one third and three quarter of revenue since inception. The company has also maintained higher levels of profitability than the KSE mean in all years of operation.

Figure 5-5 Size (left) and gross profit (right) versus mean, Other manufacturing



NOTE: Sales data for the first 6 years of Firm 38 were not available
SOURCE: Karachi Stock Exchange, own analysis

Experience in manufacturing also shaped the initial production and organisational capabilities in Firm 2, a weaving unit established by a company previously involved in the production of consumer goods. After using consultants to fill knowledge gaps on machinery and conducted their own research of product niches, the firm put in place standard operating procedures on the shop-floor. In terms of monitoring for example, the staff are required to supply reports to management each day on the output of the machines and procedures are in place to monitor the revenue per loom

[21] The 'Mian Sahib' culture is one in which the owner is treated as 'king' within the mill, and typically refers to a lack of professional management. My understanding is that this practice is related to the feudal relations still prominent in much of Pakistani society.

per day. The firm has quality monitoring in each department and staff visit other factories every two weeks to observe external practices. As a target they also attempt to reach foreign inspection standards. When faced with production challenges, for example, the firm is also innovative: when attempting to outsource dyeing they found "a big problem in quality control in Pakistan" and as a result they inserted quality parameters in sales contracts and have found that "people started sticking to it".

There was also evidence of an ability to implement effective organisational practices. Staff are pushed to continually innovate despite resistance and a key approach was that they "gave people in the mill a challenge, set the target high" with adequate resources and equipment. For instance they introduce "more and more difficult products and put them onto the technical team" and even though "staff keep saying they can't do it...then they do". The role of managerial coordination was key: when starting out, the firm invested months in developing new products, studying market trends and talking to buyers. They saw that "thread count was important" and thus decided that most effort needed to be put into "processes such as consistency".

The firm did struggle with some aspects of production specific to the industry. One example given was that when a shift finishes, "staff on the previous shift do not tell the next shift what they had done". The founder also admitted that on the cost side they are "not great" and have a "lot of overheads they can do without". Up until the time of the interview they were also not selective on staff rewards for performance – if the company does well they give each person the same compensation. However, the higher relative production and organisational capabilities were apparent in the firm's operating performance. The unit started out as approximately the same size as other new entrants, but rapidly overtook competitors in year 9 of its operations and showed above average gross profit (see Figure 5-5). The increase in growth also coincides with the arrival in the business of the MBA-educated son of the founder (see Chapter 6).

Older firms from other manufacturing backgrounds have also become important actors in the textile and clothing industry over time. Firm 22, for example, is a spinning and weaving unit founded by a family business in the 1970s originally

involved in leather tanning.[22] Learning was gradual: it started off producing carded yarn in counts of 20s and 30s for the local market because the machinery they had purchased could not producer finer yarn counts. They then acted as brokers in the local economy, exporting their first container in 1982. It was in 1985 when they had a "breakthrough" in the purchase of the land next to the existing unit, importing 14,000 spindles from Japan and China and designing the unit themselves specifically for export.

A major source of learning about the new industry was from employees. According to the Director "staff taught them a lot" and they put their performance down to "the right technical people and management". The best thing the owners state they have done, for example, is to give managers power to make decisions if a Director is not available. Benefits from the leather business also spilled over into textiles: in marketing, the firm already had relationships and experience with leading importers in western countries in handbags and leather jackets.

The accumulation of experience also fed into the planning process for further new product development and to its likelihood of success. When Firm 22 decided to introduce weaving into the spinning operation in 2000, before commencing with the venture a technical manager was recruited. According to the Director, even though he was more expensive he brought experience and it was better in the long-term. They also employed marketing managers prior to the construction of the unit so they would identify markets with two to three years of planning and build up market knowledge. On the production side, two looms were dedicated to sample making, even though it meant foregoing some production, and the firm now aims to produce a sample within a week. During this time a customer will send a pattern which will be put this on the computer using appropriate software, the fabric will then be produced in the mill, and then a sample shown to the buyer.

The accumulation of capabilities and use of professional management practices has enabled the firm to emerge as a leading producer in the industry. It was among the top

[22] The firm is now managed by a younger generation of family members included a grandson – a graduate in economics and finance whom I interviewed – and another brother qualified in marketing.

40 exporters in 2006 and the firm has continued to stay just above the KSE mean in gross profit (see Figure 5-5).

However, a lack of direct knowledge of the textile and clothing industry itself often presented tough production and marketing challenges to entrants from other manufacturing backgrounds. Firm 38, for example, was a producer of knitted garments set up at the end of the 1980s by a founder with experience in tin can production. He started off with a very basic production setup which included 36 staff producing knitted t-shirts and initially had a buyer in the UK which delivered "good business". However, the firm entered bankruptcy soon after formation, followed by a series of intermittent single buyers and a second collapse in the business when buyers quit the firm. It was only in 1991 that the firm began to focus on production of "upscale, value-added, brands", but the founder had to teach himself the business from scratch through trial and error. Firm 38 rapidly overtook other new entrants in mean firm size (see Figure 5-5) but the founder admitted that from 2000/2001 onwards the firm was "strategising in relation to the quota" and had a "monopoly" in the export of these garments. As illustrated in Table 5-2, this company was reliant on quota for 96 per cent of exports on average from 2000 to 2004.

Table 5-2 Reliance on quota for exports in Firm 38 (2000-2004)

Year	2000	2001	2002	2003	2004	Mean
Quota exports (real USDm, 2000)	14.5	15.8	12.3	15.3	16.7	
Total exports (real USDm, 2000)	13.6	14.9	14.8	17.0	17.2	
Quota reliance (per cent)	106.5	106.2	82.3	90.2	96.9	96.5

NOTE: In some cases reliance on quota in a single year exceeded 100 per cent because the quota ran from January to December while the financial reporting year runs from July to June.
SOURCE: Trade Development Authority of Pakistan, Karachi Stock Exchange, own analysis

A lack of professional management can also hamper the evolution of firms even with experience in other manufacturing sectors. Firm 21, for example, was a family spinoff from a group with experience in leather tanning (following a family split). The commerce-educated Director has been able to implement some production and marketing practices such as new product development (including kite yarn), attendance of staff at "fancy yarn" exhibitions to get new ideas, visits of technical staff to machinery exhibitions to research new technologies, and an active search for feedback from buyers on quality issues. However, the firm clearly struggled in several

areas from the outset. For marketing, they "took details from customs on popular destinations" and went to agents to introduce their new product, rather than building on known opportunities. At first they produced knitting yarn for buyers in Korea, but moved to supply weaving yarn to China due to problems with quality. Further, there were clearly uncomfortable relationships between the Directors and staff: the Director said that he has to "show people everything, push them to do things, like a five year old child". On a visit to this factory in 2006, most of the ginning staff has failed to turn up for work and there was direct interference on the shop-floor by the Director. While the firm started out the mean size of a new entrant, its performance deteriorated at Age 2 and then again at Age 8 (see Figure 5-5). It has since failed to invest in production since 1994.

As a result, firms from backgrounds in other manufacturing sectors often performed differently according to prior organisational and production experience and the challenges of the new operating environment. This heterogeneity in performance can help understand the ambiguous relationship between founder experience and firm performance established in section 4.2.

Textile-related

New textile and clothing firms that were created by founders from textile-related sectors often came from backgrounds such as textile trading or cotton ginning. In addition to the knowledge of product gaps and market niches, many of these firms also had production and marketing capabilities related to their prior experience. Textile traders, for instance, often had existing relationships with buyers and thus knowledge of marketing techniques, while ginners had experience of running an industrial unit and knowledge of cotton sourcing and quality. Some firms brought transferrable organisational capabilities to the new unit and there is evidence of some conventional spinoffs emerging from prior employment in the sector. However, the family structure of many units continued to negatively influence the quality of management practices within new firms.

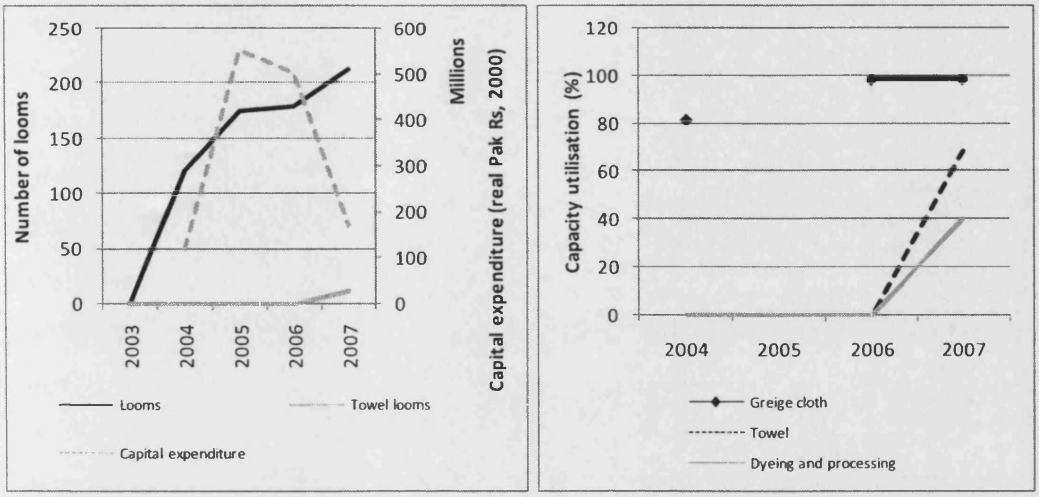
Firm 20, for example, is a cloth unit founded by a former textile trading firm set up by two partners after previous careers in finance and textile marketing. At first, they

made money through trading in which they would buy greige cloth, outsource the finishing in Pakistan, and then export the cloth to manufacturers in both local and export markets. After five years, however, the firm entered cloth manufacturing, choosing to produce fabrics from coarse count cotton as it suited the cotton available locally. Immediately, the firm introduced professional management: they hired business graduates and accountants and aimed to design a business that could "run without them" and to whom they could "delegate responsibility". The founders also introduced standard marketing practices including visits to major trade fayres such as Heintex and visits to local and foreign buyers with production samples. The firm's efforts were successful: customers include Spanish and Portuguese manufacturers, wholesalers and well-known British buyers such as Marks & Spencer and BHS.

The firm struggled more on the production side as a result of the lack of direct manufacturing experience. One Director recognised that they needed to be "better in the running of the plant, be tighter" and had brought in a training manager to do so. The Director also recognised the need to reduce wastage, work with the staff to improve the productivity of the machines, and was travelling every second day to the mill to do so. The firm had failed to become a supplier when IKEA last looked for new partners in the Pakistan, despite being keen to become a partner since they "teach you the business" (such as how to ensure consistent quality) and "get you going".[23] They were also struggling with a shortage of skilled labour in the unit. However, the firm has managed to make some improvements in performance over time such as increased capacity utilisation, and invested in some product development such as the manufacture of specialised towels (see Figure 5-6).

[23] The Director also said that IKEA teaches suppliers how to prototype, do sampling, trial runs, labels and packing and additional "know-how" such as lead times, suggesting a lack of knowledge in this area.

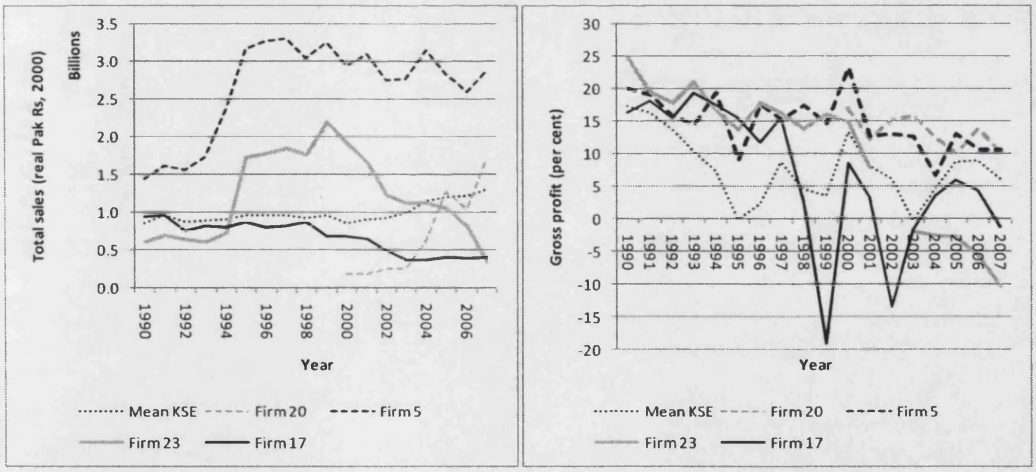
Figure 5-6 Installed capacity (2003-2007) (left) and capacity utilisation (2004-2007) (right), Firm 20



SOURCE: Karachi Stock Exchange, own analysis

Alongside some other more experienced entrants, Firm 20 rapidly overtook the KSE mean in terms of size and gross profit soon after formation (see Figure 5-X).

Figure 5-7 Sales (left) and gross profit (right) (1990-2007) versus mean, Textile-related

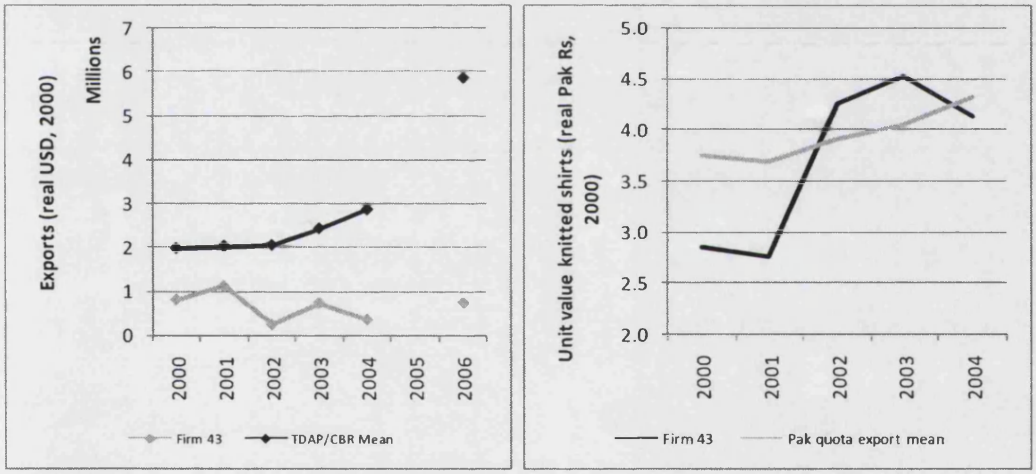


SOURCE: Karachi Stock Exchange, own analysis

One new entrant into garments, Firm 43, used an innovative way to overcome its lack of independent manufacturing experience. The two founders had previously worked in production and marketing in textile mills when they established their own knitting unit in the 1990s. They first hired an existing unit that had "experienced people" in

order to learn how to manage production on their own (and through this route they were also able to start out with their own finance). They then gradually increased capacity: in the first year they installed 75-80 sewing machines but then expanded to 400 machines, alongside knitting and dyeing facilities. The firm also gradually built up the buyer base. Their first product was a ladies legging followed by women's tops. From this initial production they took samples that the marketing team showed to other buyers. By 2007, they were producing men's fleece sweatshirts for which they have paid particular attention to the quality of the order and the procedures required for inspection. Ongoing challenges include rapid departure of staff without notice and poor communication with managers. In its 5th and 10th years, the firm was smaller than the average quota exporter, but its garments had gradually obtained higher unit value (see Figure 5-8).

Figure 5-8 Exports (left), unit value (right) (2000-2006) versus mean, Firm 43

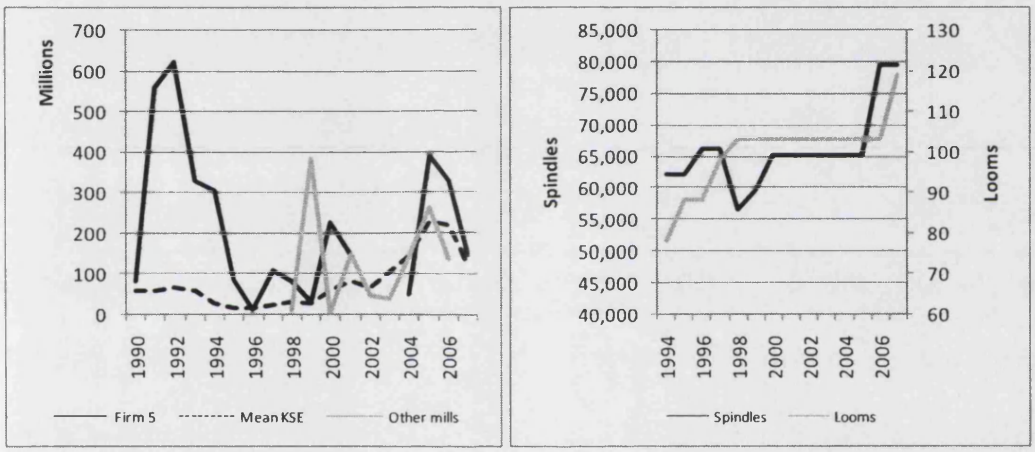


NOTE: Export data 2000-2004 is under quota. In 2006 it refers to unrestricted exports.
SOURCE: Trade Development Authority of Pakistan, Pakistan Economic Survey 2006

Older firms that had entered textile manufacturing from backgrounds in related industries had often shown the accumulation of capabilities over time. Firm 5, for example, was originally in the leather tanning sector in the 1930s but gradually expanded into the textile industry over the following decades via ginning, textile trading, spinning, weaving and then finished cloth. The firm is currently managed both by the older generation – in senior roles such as Chief Financial Officer and Chief Executive – and the younger Directors who are responsible for functions such as marketing. This family group, however, has placed emphasis on the technical and

business education of family members – including a lot of time on the shop floor – leading to sharp knowledge of both the commercial and operational sides of production. The young directors also brought enthusiasm and new ideas: in the expansion of the European side of the business, a Director started from scratch in Portugal and Spain, collaborating with 1-2 buying houses that set up meetings with European buyers. In production, their motto is: "quality, service, relationship". Investment in this unit has continued well into the 1990s including three new mills (see Figure 5-9). One of the firm's units has also maintained its position as one of the Karachi Stock Exchange's largest producers (see Figure 5-7).

Figure 5-9 Capital expenditure (1990-2007) (left) and production capacity (1994-2007) (right), Firm 5



SOURCE: Karachi Stock Exchange, own analysis

However, even with knowledge of the textile industry itself, it was a lack of professional management – often related to the family structure of the business – that often had a detrimental impact on performance. Firm 23, for example, had a family history of leather production and experience in yarn trading before entering textile spinning and weaving at the "suggestion of a relative". The current manager of the firm was qualified as an MBA and there were some positive actions being taken by the firm such as commitment to a good organisational culture.[24] However, the

[24] The MBA-educated Director had attempted to introduce a more professional structure in last few years. The Director tries to motivate staff himself and gives direct access to employees in order to demonstrate that the firm does not have a 'Saithi' culture (similar to the 'Mian Sahib' culture previously described). Management and technical managers attend fayres and machinery suppliers do training on new machines for two senior staff who then train others on the shop floor. Staff are retained through

management of the firm was weak. The Director admitted that they failed to deal with problems in the business because were embarrassed to show weakness to friends who were "big" in textiles. In one unit managed by a family member the interviewee admitted that "nobody looked after weaving" so it closed down. The Director also admitted that in the past the firm relied on connections of family and friends for sales, and a family separation in 1998 was described as "disastrous". The firm had made no investment in machinery since 1994 and finally exited the market in the post-2004 period (see Figure 5-7).

There were a few cases in which a change of management – and the arrival of a motivated or experienced Director – led to a change in firm performance. Firm 17 was originally purchased in the 1960s by a large business group and managed by a family member, engaging in yarn, cloth and processing. The firm had "good niches to start off with", exporting high quality yarn to Japan, but the son – educated in finance with experience in one of the higher value textile units of the group – started running the mill in 2000 after the founder lost interest. During this period in the 1990s, the Director admitted that there had been a big "leap" in the industry and "this company got left behind". As a result, the director engaged in radical restructuring of the unit. He kept only spinning in the business and "got rid of everything else", cutting the staff from 1,200 to 600 and reorganising the operating divisions of the mill. He introduced a new product strategy, targeting smaller buyers who could not afford a container of yarn and if they received a complaint they had a "100 per cent return policy" with "no questions asked". Further, he also re-designed the staffing and organisational structure. He recruited a well-qualified spinning manager and concentrated on keeping good people in the business to whom he gave direct responsibility and the financial incentives to perform well. As illustrated in Figure 5-7 above, the radical drop in sales has been stabilised and profitability has been increased from its trough in 1999.

It is firms from textile-related industries that show some of the most exciting developments in Pakistani industry. Conventional spinoffs are being created by

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salary increases and entry-level employees have been promoted to senior positions – he was able to give several examples. However, he admitted that they attracted a lot of people through firm reputation and had "no systems" in place regarding human resources. As a result, any positive measures were to be overwhelmed by the challenges facing the firm.

employees with industry-specific employment experience applying innovative ways to overcome entry barriers. This has often resulted in positive growth. Similarly, some have accumulated experience over time to become important actors in the industry. However, a lack of professional management continued to hamper firms from more textile-related backgrounds, often leading to rapid declines in performance and even exit.

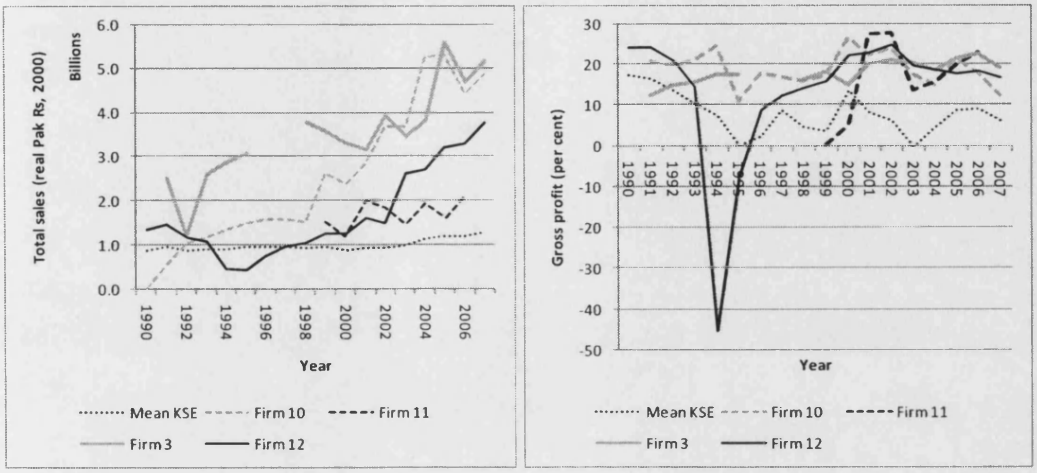
Experienced

Managerial quality was highest among firms with a history of operating in the textile and clothing sector. This prior experience informed choice of product, machinery and marketing strategy. In particular, among these firms there was a direct link between organisational design, shop floor practices and subsequent firm performance. Case studies of experienced firms also show how capabilities were accumulated over time through trial and error, learning and the optimal use of human resources. An educated and motivated new generation of Directors also brought ideas from formal education and a fresh approach to doing business.

Firm 10 was created in 1990 as a family spinoff from an existing firm engaged in home textile production. The nephew of the owner of the first mill was chosen to set up the unit – he was MBA-educated, but with no work experience. As a result, the existing mill owner "did everything because he didn't know" including the choice of machinery and product.[25] The production of good quality, coarse yarn was chosen as the first product of the new venture (a first phase of production that lasted from 1990-1997) as there was little capacity for its production in Pakistan at the time. The buyers in the first two years were the same traders as used in the spawning company, during the first two years of operation marketing was conducted out of the same office. In its first year of operation, the mill had overtaken the KSE mean in size and showed higher profitability (see Figure 5-12). The day to day management of the mill put in the hands of the Director and after three years Firm 10 was set up independently in a separate office.[26]

[25] The interview with the current Director and a factory visit took place in early 2006.
[26] Even though the owners are relatives, both units now consider themselves competitors.

Figure 5-10 Sales (left) and gross profit (right) (1990-2007) versus mean, Experienced



NOTE: Firm 11 was established in the early 1990s but annual reports were only available after 1999.
SOURCE: Karachi Stock Exchange, own analysis

However, over time the Director and shop-floor staff accumulated capabilities which contributed to the long-run growth of the firm. The firm learned from buyers, for example, about new items of interest and products that were not being made in Pakistan. The founder introduced a number of new management practices drawn from his MBA education: an industrial engineering department was created for example to apply mathematical modelling to optimise production. Over time, a full marketing team was also developed and a marketing office created in the USA and China. The expansion into China in particular came out of existing contacts in the region and the firm's knowledge of its growing market for textile products. Exposure in the sector also influenced product development. In 1997, the Director decided to diversify into weaving with 128 looms, but focused on wide-width production for home textiles as they felt that the knitting sector in Pakistan lacked efficiency.[27] The Director has focused on implementing professional management practices: he identified an important driver of productivity as "hiring the best people, listening to them, and motivating them". A key driver of product development is also that staff were willing "to take risks". The firm has employed engineers in the marketing team in order to draw on market knowledge in the development of new yarns, for example.

[27] According to the Director, banks were "happy to lend" to finance the new unit because the firm had no existing debt and had been making good profits for the preceding years, and they were one of the first firms to obtain long-run loans from banks. Initially, the firm introduced some looms for apparel fabric, but the later focus on home textiles has meant that "volumes have skyrocketed" to their benefit.

Of course, challenges remain. A target that the firm failed to meet was the construction of its finishing unit which was delayed by three months. In this instance, aspects of the construction were both under and over cost, showing admitted failures in the planning process. The CEO also admitted that targets in the firm lack formality, but they are making attempts to formalise these procedures. However, as shown above, the combination of the firm's heritage, the Director's education and the accumulation of capabilities over time had led to the rapid growth of the firm, particularly in export markets. By age 15, the firm's total revenue was 4.4 times larger than the KSE mean, with reliance on quota for only 11 per cent of exports between 2000 and 2004.

A second example of a firm that was spun off from an established textile group to be managed by a younger relative is Firm 11. The current CEO was educated in a leading US business school and the firm's founding heritage has resulted in an ambitious product development strategy and an emphasis on professional management practices, particularly in human resource development. There were a number of strategic elements to the way the firm approached the new venture, for example. For production they chose an isolated, undeveloped location to establish the unit so as to "not inherit bad practices". The unit was set up as an integrated mill from scratch with yarn spinning, fabric production, finishing and stitching, and the layout was designed to optimise production between functions. They employed a specialist international company to train workers in sewing and processing and to run the unit. For marketing, the firm also "hired the best marketing team in Europe they could", using a head-hunter to build a team which started taking orders from overseas. The firm describes itself as 95 per cent professionally managed: the CEO takes no active role in sales or marketing and only engages in relationship management or "exception management", seeing his role instead as to optimise resources.

The firm gradually accumulated production capabilities over time. In product development, they started with one style and one wash, and then moved into multiple styles of garment. More recently, the firm has established a design centre which buyers can visit, and they have also developed their own innovative capabilities through the recruitment of a top Italian designer. Six sigma planning was introduced in order to increase efficiency and quality, and in order to meet the environmental

needs of leading international buyers a water treatment plant was constructed for chemical effluent. With a team of foreign production and marketing staff, they have also introduced the latest production techniques on the shop floor such as a machine that blows garments inside out, advanced ironing machines and contemporary design techniques such as printing with brushes and sandblasting.

Challenges remain for the firm even with such experience. The CEO admitted that it was an ambitious project and that the target was to grow sales and run a "tighter" operation. Indeed, sales growth of 9 per cent in some years would be considered as poor in comparison with aggregate gains made in competitor countries. The firm was also heavily reliant on quota for up to 100 per cent of exports between 2000 and 2004 when it was among the top 15 exporters (see Table 5-3). However, the management practices in the firm stood out from competitors and have contributed to the rapid growth of the firm (see Figure 5-12). At Age 10 the company was larger than the KSE mean, and after the initial break from its joint venture partner it became more profitable than the KSE mean by 10-15 percentage points.

Table 5-3 Export reliance under quota (2000-2004) in Firm 11

Measure/year	2000	2001	2002	2003	2004	Mean
Quota exports (real USDm, 2000)	10.9	18.7	23.6	18.4	31.3	
Total exports (real USDm, 2000)	15.8	24.6	32.0	24.2	29.9	
Quota reliance (per cent)	69.1	76.1	73.7	76.1	104.6	79.9

SOURCE: Trade Development Authority of Pakistan, Securities and Exchange Commission of Pakistan, own analysis

As established in Chapter 4, it was often older, experienced firms that were the best performers in the industry. In these cases it was the interaction of founder experience and learning over time which led to the accumulation of production and organisational capabilities. Firm 3, for example, was established in the 1970s as a small bleaching plant by a commerce-educated founder from a family of cotton growers and ginners. Over time the company has integrated vertically through the introduction of weaving, spinning and the manufacture of made-ups and now sells to leading brands in the United States and United Kingdom. The founder is still involved in the running of the business, but in recent years all his sons have been educated in business professions and are closely involved in the management of individual business functions such as

garments, home textiles and processing.[28] However, production is professionally organised on the shop-floor.

The gradual accumulation of experience over time was apparent. The first two years of production were described as "lean and maintained", but after two years the firm was able to expand the processing of cloth, the bleaching of wider width fabrics and finally into cloth weaving itself with the "latest, modern set-up" in 1985. The firm has been through what the founder described as a series of "continual improvements". One of the reasons they chose to internalise spinning, for example, was because the quality of raw materials received from external suppliers was often poor and not delivered on time. The firm has also focused on obtaining the best technology available in the market in its machinery and installed its own power generation as power from the main grid was often interrupted. Over time the firm has developed best practice quality systems: products need to be approved before being passed on to the next stage of production and monitoring is conducted on a 24 hour basis.

Marketing efforts were initially targeted at local buyers and the first clients of the firm were indirect exporters. The founder described how he learned a lot from this interaction: "which market to sell to, how they were working". The firm shifted its sights to the international market after 10 years, when the founder made his own arrangements to contact buyers and travel to the Far East, Australia, New Zealand and Europe. In 1986, the first small orders for fabric came from France, Netherlands and the UK and in 1995 the firm received its first order from a large department store in the United States which later became the firm's most important customer. Quota was required for export sales to clients in the US market (see Table 5-4), although this dependence was less than competitors outlined above.

Table 5-4 Export reliance under quota (2000-2004) in Firm 3

Year	2000	2001	2002	2003	2004	Mean
Quota exports (real USDm, 2000)	21.1	20.4	23.6	21.9	31.4	
Total exports (real USDm, 2000)	56.7	51.9	66.8	60.5	64.6	
Quota reliance (per cent)	37.3	39.3	35.4	36.3	48.7	39.4

SOURCE: Trade Development Authority of Pakistan, Karachi Stock Exchange, own analysis

[28] I interviewed the founder of the firm, a Director, as well as a number of staff members during a visit to its factory in April 2006.

Organisational capabilities have also evolved over time and professional standards of management stand in contrast to many other family-held businesses. The firm is structured so that "professional people run the different units" and the founder describes the relationship with the owners as one of "planning by consent".[29] Targets set include the achievement of reprocessing levels less than 0.1 per cent and reduction of chemical costs. Technical managers and Directors work together to set and monitor these targets and all data on performance are stored online in the firm's Enterprise Resource Planning system. Further, the skills of staff are optimised: when introducing new machines, the firm selects the best staff that who operating the old machines and applies their skills in learning the new techniques.[30] The standards of the business are also reflected in the progressive policies towards employing women: on the shop floor, parents are invited to the unit so they can see where their daughters would be living and working. This has a resulted in the recruitment of large numbers of female employees and a positive attitude towards women on the shop floor.

The business is not without challenges. Recurring problems include the implementation of a "proper system of diagnosis, corrective action and prevention". The human resources system was also described as informal. Further, while the firm clearly increased capacity in the run-up to the ending of quotas, it still faced challenges in improving capacity utilisation across products. However, this firm has made rapid progress to become one of Pakistan's best exporters. It has grown rapidly and remained insulated from cyclical fluctuations in the cotton cycle – its gross profit has persisted above average in all years during which data were collected (see Figure 5-12).

Among experienced firms, the education and employment experience of younger Directors also mattered. When Firm 12 was created the original business included a consumer goods franchise, an oil mill, and involvement in the goods transportation sector. Initially, they entered the spinning sector as a result of the allocation of

[29] In fact, the founder breaks the analysis of performance into the short-run in which the main obstacles are "operational problems" and the long-run when improvements can be made by investing in new machinery and technically strong employees.

[30] The founder himself believes that "people are hungry for opportunity" and claims that it has a turnover of staff of less than four per cent. He also believed in close contact with workers and good communication through all channels as it is "more human". This is in sharp contrast to many owners who describe shop floor workers as 'uneducated' or just interested in money.

licences, but later thought "if spinning, why not further".[31] However, the particular transition into garments in 1993 was driven by the arrival of the two sons to the business, one in the 1990s and one in the post-2000 period.[32] The first son was educated abroad and had completed an MBA before joining the business, while the second did an undergraduate degree in production management before working for a leading consultancy company in the United States "fixing companies" in the textile and banking sector. The interaction of the firm's business heritage, professional management and access to the quota drove the rapid growth of this firm (see Figure 5-12).[33]

A number of good quality production practices were introduced in addition to standard methods present in other firms. One innovative practice was the opening of a manufacturing unit in the United States in order to respond to urgent orders from buyers. They also opened up a unit in Dubai after 9/11 to ensure that if a similar event happened again they would be able to rely on this base and prevent buyers pulling out from Pakistan. The firm also has its own product development centre with textile engineers who focus on research and development at each stage of production. New products under development included reflective material and employees are given freedom to develop new ideas on the shop floor. One particular advantage is the integrated facilities offered by the firm: a buyer can request the fabric and the type of yarn they wish, and the firm can then make this sample in-house.

For quality, they have an independent assurance team that conducts inline audits and the checking of final goods. They have a "back tracking system" in place which aims to put a "sense of responsibility and accountability in each person checking the garments". The role of western buyers in implementing quality standards was identified as key. Four years prior to the interview the firm had introduced a visual quality system and at this time leading western retailers had visited the plant "more than 50 times" and spent two to three days each time. They gave seminars to the supervisors on quality checking, who then gave training to the operators of the machines. The founders also created several foreign marketing offices. To establish

[31] They also had relatives in textiles who went on to develop a successful home textile business.
[32] Sadly the father died in 1993.
[33] I spent one day in the factory interviewing technical managers, and conducting two interviews with one of the Directors (one in 2006 and one in 2007).

these new operations two of the most "dynamic people" were sent abroad for six months to recruit staff for the operation.

It was therefore the arrival of motivated and experienced family members which shaped growth strategy and capability accumulation in this firm. However, the reliance of exports on quota was 72 per cent on average in the run up to quota abolition in 2005 (see Table 5-5). This left the firm exposed to a rapid increase in competition in the post-quota period, a shift that will now be explored in Chapter 6.

Table 5-5 Export reliance under quota (2000-2004) in Firm 12

Firm/Year	2000	2001	2002	2003	2004	Mean
Quota exports (nominal USDm)	12.9	17.2	21.6	38.4	44.8	
Total exports (nominal USDm)	21.0	28.3	26.8	51.6	54.3	
Quota reliance (per cent)	61.8	60.7	80.7	74.4	82.5	72.0

SOURCE: Trade Development Authority of Pakistan, Karachi Stock Exchange, own analysis

Conclusion

This chapter established the heterogeneity in capabilities and performance across firms in Pakistan's textile industry. In particular, it illustrated how pre-founder experienced shaped the initial production and organisational capabilities of the new firm, and how this base shaped the rate at which further capabilities were accumulated over time. There is evidence that founder experience persists in the firm's ability to improve production, quality and marketing over time, and that only radical changes of management can bring a shift in performance. The family structure of firms, however, had often prevented the introduction of professional management practices regardless of background and shaped firm performance.

The case studies showed that less experienced firms who lack production knowledge can often perform poorly after entry due to a lack of prior experience of shop-floor production. However, those founders that are able to apply general business experience such as commercial awareness, marketing and organisational design have performed better. This finding offers an insight into the capabilities which matter in the new firm environment, and the observed variation in performance within experience categories as established in Chapter 4. It was from textile-related

backgrounds that true spinoffs were emerging in the industry, often introducing professional management from the outset. Older firms from related backgrounds had also accumulated production and marketing capabilities over time in order to become leading manufacturers in the industry. Within experienced firms, product and machinery choice was influenced by deep industry knowledge and marketing routes offered through existing relationships with buyers. The arrival of new, younger Directors often energised firms – bringing insights from formal education and employment experience – and built on the existing capabilities contributed by the founder.

The analysis has also shown how firms improved performance in this period. New entrants used innovative approaches to overcome knowledge gaps and enable gradual learning such as the leasing of existing units. Experienced firms often established new units in order to engage in production design from the outset and to avoid inheritance of bad practices. Firms engaged in organisational innovation, mixing production and marketing teams to improve new product development. While interaction with consultants and outside organisations helped introduce new practices, the pace of learning was shaped by the initial organisational framework put in place by the founders.

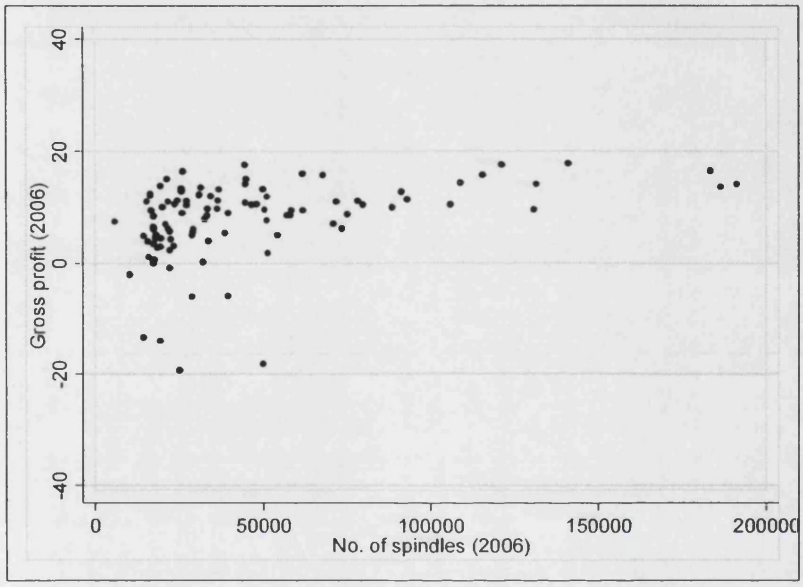
Finally, data in this chapter have also indicated that although there was some divergence in performance between 1994 and 2004, access to quota did contribute to the rapid growth of several firms in the sample (and hence skewed the performance data). This left these companies – and the industry as a whole – exposed to a rapid increase in competition in the post-2004 period. It is to this external shift and the subsequent performance of these heterogeneous firms that I now turn in Chapter 6.

Appendices

Appendix 5-1: Number of spindles and gross profit

In the KSE sample gross profit tends to increase with the number of spindles in the unit as illustrated in Figure 5-22. For each increase in 10,000 spindles, gross profit increases on average by 0.71 percentage points (t=4.23, p=0.000).

Figure 5-11 Gross profit by number of spindles (2006)



SOURCE: Karachi Stock Exchange

Chapter 6 The determinants of firm performance during trade liberalisation: productivity, quality and marketing

In the final years of the Agreement on Textiles and Clothing, firms in Pakistan's textile and clothing industry invested heavily in preparation for the new trading environment. This involved the addition of new production capacity, the modernisation of existing machinery, and diversification into higher value-added textile and clothing products. However, trade liberalisation led to an increase in cost and quality competition and rapid shakeout in the post-quota period. In this chapter I analyse how companies performed in response to these external changes and explain heterogeneity in performance. Specifically I examine how – from their level of capability in 2004 – firms improved productivity, quality and marketing practices.

I find that following the abolition of export quotas on 1 January 2005, buyers increasingly demanded higher quality and more cost effective production as they reorganised their supply chains in the new trading order. Case studies illustrate how some firms were able to rapidly improve performance and expand sales in response, while others saw a rapid deterioration in sales and profits. Several themes shape how firms learned how to improve productivity, quality and marketing practices: in-house trial and error, the recruitment of innovative staff, the use of consultants, and innovative approaches to organisational structure. However, at the core of good performance was a focused, high-incentive environment which encouraged worker autonomy and the delivery of production and quality improvements on the shop floor. Those that had failed to take such actions prior to trade reform were often left behind. The direct link between pre-founder experience, production and organisational capabilities, and firm performance during increased competition is thus made explicit.

6.1 Increasing competition during trade liberalisation

Investment and response

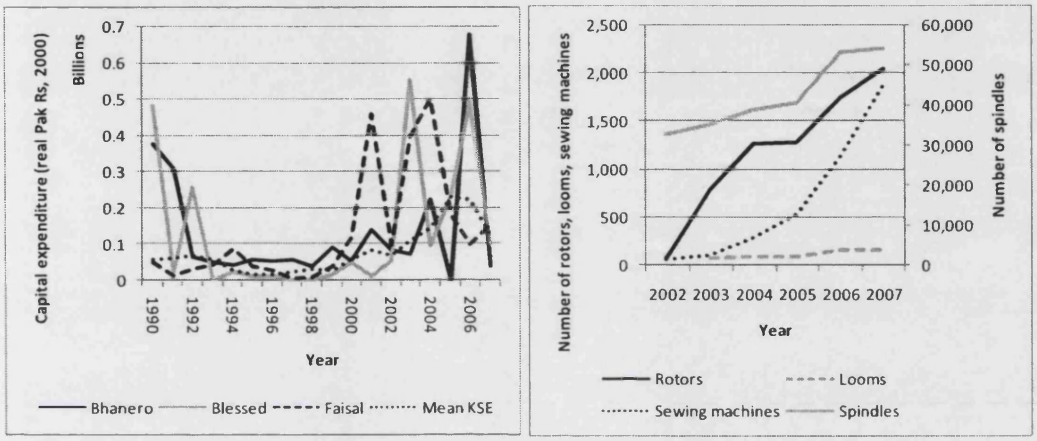
Competition in the global textile and clothing industry increased between 1994 and 2004 as the Agreement on Textiles and Clothing gradually lifted ceilings on exports from developing countries. During this period firms in Pakistan had acquired capabilities and become subject to an increasingly competitive environment. It was also in the five years approaching full quota removal in 2005 that many firms increased investment in production capacity, product development and marketing. As previously illustrated in Figure 3-7, this capital expenditure peaked in 2005 both at the aggregate level and among Karachi Stock Exchange (KSE)-listed companies.

Firms were motivated to add or modernise production capacity for several reasons. Firm 46 expanded in an attempt to take advantage of economies of scale in the new quota-free environment. Firm 24 replaced old machinery with new technology in an attempt to "make themselves more viable" as well as to bring savings on labour and electricity costs. Several mills were also motivated to integrate vertically in order to deliver a one stop shop for large western buyers. When observing that foreign retailers such as H&M and Walmart were opening buying houses in Pakistan, for example, Firm 40 did "not expect a future in weaving" and as a result purchased a processing unit to move further into the home textile segment.

Among companies listed on the KSE, however, large investments were concentrated among a small number of firms. Between 2000 and 2004, among 130 firms on which data were available only 32 firms made capital expenditure of more than 10 per cent of sales and 73 made investments of greater than 5 per cent of sales. The majority – 116 firms – made investments greater than 1 per cent of sales (much lower than the mean share of depreciation in costs of 3.9 per cent in 2004). Among the top 32 largest investors, the well-known Umer Group increased capital expenditure in each of its three KSE-listed spinning and weaving units, raising the total number of spindles from 83,000 in 2000 to 143,000 in 2007 and looms from 0 to 514 in the same period (see Figure 6-1). Similarly, Azgard9 – a leading exporter of denim garments – invested heavily in new spinning, weaving and stitching capacity, taking the total number of spindles to over 54,000 in 2007 and sewing machines to over 1,800 (see

also Figure 6-1). Investment levels were also associated with firm performance prior to the abolition of quotas. Those investing more than 10 per cent of sales had mean gross profit of 10.6 per cent in 2004, while those investing more than 1 per cent had mean gross profit of 5.9 per cent.

Figure 6-1 Capital expenditure in Umer Group (1990-2007) (left) and production capacity in Azgard9 (2002-2007) (right)



SOURCE: Karachi Stock Exchange, own analysis

Companies also invested in product development in the run up to the abolition of export quotas. Firm 3, a garment and home textile exporter, developed its own brands in Pakistan as the management recognised that they would be exposed if foreign products were to be imported into the local market. Firm 27, a yarn manufacturer, anticipated that the large holding of quota among knitwear producers would lead to "stiff competition" in this sector locally, hence it started to withdraw from the knitting sector and produce yarns for towels and home textiles instead.

Marketing efforts were also increased in preparation for the new trading environment. The philosophy of Firm 37, a home textile manufacturer, was to focus on increasing turnover in the longer term through an expanded marketing team and managerial commitment, even if it meant tying up finance in production for a few months or sacrificing short-term profit. In preparation for the ending of quotas Firm 26 started building relationships with end product manufacturers in Pakistan rather than abroad as local prices were improving. Further, as the location of garment production shifted over time – from Korea and Hong Kong to China and Bangladesh – Firm 27 began

exporting yarn to these countries, as well as developing relationships with niche cloth producers in the Pakistani market in the provision of speciality yarn.

The purchase of additional quota was also a practice among firms keen to develop relationships with garment and home textile buyers before quota abolition in 2005. Firm 36, a yarn and cloth producer, went on several trips to the United States in order to convince new, high-profile buyers to source its home textile products through its quota allocation. Mr Saigol of Kohinoor Textile Mills explained that from 2001 onwards the company changed their product mix to higher count bed sheets and relied more on imported cotton, purchasing quota in order to gain market access.

Firms also invested in their organisational capabilities. A Director of Firm 40, a manufacturer of bed-sets, explained that they had introduced in a factory wide IT system which allowed business resource planning and effective monitoring of all stages of production. In relation to the monitoring of grey fabric coming into the mill, Firm 37 "didn't want a system before because it was working OK", but has since put in place an IT system to generate reports on the stock lots in order to reduce losses.

When the quota system was finally abolished on 1 January 2005 firms had thus accumulated heterogeneous capabilities within the textile and clothing industry. At the time of an interview in December 2004, "orders were flooding into Pakistan" for Firm 14, a yarn and cloth unit, and they had received requests to ship products on 1st January 2005. Similarly, during an interview with Firm 40 at the same time, exports of bedsets were already booked up for 2005.

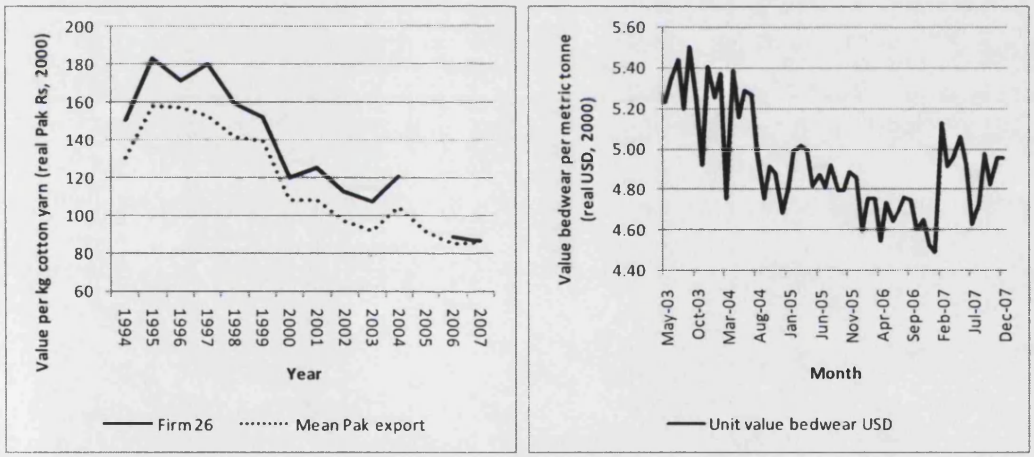
Increasing competition and shakeout

A number of changes were witnessed immediately in the post-quota period at the firm level. Firstly, there was increasing external and internal competition as buyers demanded lower cost, higher quality products. Firm 26, a yarn and cloth manufacturer, explained that it had seen a drop in unit price in the first year (see Figure 6-2), found that it was "no longer able to compete with China", and was losing customers in the Far East as a result. According to Kohinoor Textile Mills, "[t]he changing global market environment created several new challenges. Severe

competition from rival manufacturers who undercut prices made sales difficult".[1] Similarly, in Firm 39, a knitted garment exporter, buyers "put their foot down" in terms of price and were aware of their weaknesses.

Certainly, unit values of both yarn and home textile exports continued to drop in the post-quota period (see also Figure 6-2). Further, although the unit values of cloth stabilised after rapid falls from the late 1990s, there was price instability in both woven and knitted garments immediately after the quotas ended (see Appendix 6-1). Firms were also faced with marketing challenges as the location of buyers rapidly changed. According to the Director of Firm 26, one by one, buyers in Japan, Taiwan, Korea, and more recently in Sri Lanka, Guatemala, Mauritius and the Caribbean were "going extinct" as Chinese garment makers began to dominate.

Figure 6-2 Unit value of yarn, Firm 26 and Pakistan mean export (1994-2007) (left), and home textile exports (May 2003-December 2007) (right)



SOURCE: Federal Bureau of Statistics, Pakistan Economic Survey 2006, Karachi Stock Exchange, own analysis

The second impact of quota removal among firms in Pakistan's textile and clothing industry was the knock-on effect of the shakeout which occurred in the local industry following the global reorganisation of production. Since the ending of the quota, Firm 25, a spinner, "got a hit from knitwear" and almost went bankrupt in that segment. As a result, the Directors were taking a more aggressive approach to marketing and targeting new markets such as Portugal. As some local firms grew many yarn and

[1] Kohinoor Textile Mills, Annual Report 2007, p. 7

cloth producers turned their attentions to the domestic market. Firm 7, for example, expected growth in Pakistan in the demand for value-added products and that the customer base of the firm would shift from export to within Pakistan. This did occur in Firm 7 in 2006 when local sales overtook exports, climbing by 57 per cent in real terms as exports fell by 16 per cent.

Thirdly, there were a number of changes in the local cost environment in this period. As illustrated by Table 6-1, while the mean real cost growth among KSE firms from 2004 to 2007 was 1 per cent, salary costs grew by 29 per cent and energy costs by 8 per cent. Indeed, anecdotal evidence suggests that there was increasing competition for staff as the industry became more competitive. There were also continual government increases in the minimum wage.[2] The cost of repaying borrowed finance grew in this period as interest rates rose from 6.9 to 11.3 per cent, presenting additional local challenges for firms.[3] According to Ghazi Fabrics International, for example, in addition to tough competition from traditional rivals China, Bangladesh and India "[o]ther factors hurting our margins are the consistent rise in all input costs such as a hike in cotton price, furnace oil, gas, labour and financial costs".[4]

Table 6-1 Growth of costs, selected textile and clothing firms listed on the Karachi Stock Exchange (2004-2007) (real Pak Rs, 2000)

Cost	Number of obs.	Sales growth (mean)	Cost growth (mean)	Raw material	Salaries	Fuel	Depreciation
All firms (difference from mean in brackets)	115	1.07	1.01	1.02 (+0.01)	1.29 (+0.28)	1.08 (+0.07)	1.29 (+.28)
'Bust' firms	77	0.89	0.87	0.85 (-0.02)	1.19 (+0.32)	0.99 (+0.12)	1.29 (+0.42)
'Boom' firms	38	1.41	1.29	1.34 (+0.05)	1.48 (+0.19)	1.27 (-0.02)	1.30 (0.01)

NOTE: Growth rates are provided in whole numbers, where 1.02 is a growth rate of 2 per cent.
SOURCE: Karachi Stock Exchange, own analysis

[2] According to the 2007 Annual Report of Kohinoor Textile Mills, "The government raised minimum wages with effect from July 01, 2006 leading to an across the board increase in worker's wages and other charges by approximately 35 per cent. Cost of financing was substantially higher due to increase in rates of mark up and additional borrowing for fixed assets" (2007:7). It is unclear, however, to what extent this increase was accounted for by the high rate of inflation at the time.
[3] Source: State Bank of Pakistan, Lending and deposit rates (All banks, lending rates), 5 Mar 2009, http://www.sbp.gov.pk/ecodata/index2.asp, accessed 23 March 2009.
[4] Ghazi Fabrics International, Annual Report, 2007.

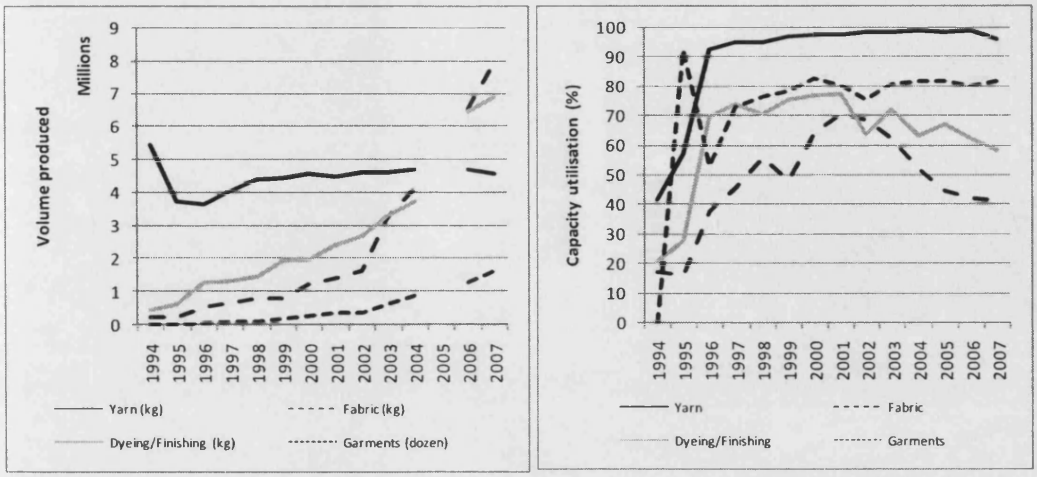
There is evidence that control of core costs was associated with performance during trade reform.[5] Among firms that were able to increase sales from 2004 to 2007 while keeping cost growth below sales growth ("boom firms"), the increase in salary costs was only 19 percentage points above cost growth (see also Table 6-1). This stands in contrast with firms that failed to do so ("bust firms") where salary costs were 32 percentage points above cost growth. Similarly, energy cost growth was 2 per cent less than mean cost growth in 'boom' firms, in comparison with 12 percentage points above in bust firms. In both sets of companies, the increase in raw material costs – an input less under the control of firm owners – were within a similar margin of the mean cost growth. 'Boom' firms were perhaps reducing staff or using existing staff more efficiently while fuel costs could have been kept down through greater efficiency of energy use, or through the use of in-house generation plants. Depreciation has also grown more as a proportion of costs in 'Bust' than in 'Boom' firms, showing the increasing contribution of this new machinery towards total costs.[6]

There was also the need to absorb rapid increases in capacity in the post-quota period. Firm 46, for instance, admitted that one of the difficulties in rapid expansion is that they "lose control of cost and management". At present he stated that they were trying to control this by investing in systems, new technology and reducing the rejection rate, but that it was a challenge. Similarly, Firm 12 increased its production of fabric, finished cloth and garments from 2002 onwards, but has failed to use all capacity in dyeing and garments in the post-quota period (see Figure 6-3).

[5] In order to examine how good performers controlled costs, cost data was obtained on 115 of the surviving 137 firms in 2007. I divided the sample into firms that were able to grow their sales from 2004 to 2007 while not seeing a faster rise in their costs ('boom' firms, i.e. where firms maintained gross profit) and those that did not ('bust' firms).

[6] Some of this analysis is problematic. For example, if firms invested more in staff development proportionately in order to enter the garment sector or to improve profitability this would show up as a rise in costs, but would actually be an investment in a similar way to capital expenditure (and would require a longer period of analysis). As a result, these costs are given more as a rough indication of the cost structure of the industry and is particularly useful for testing whether firm concerns about raw material prices, salaries and energy are relevant across all firms rather than just poor performers.

Figure 6-3 Installed capacity (left) and utilisation (right) (1994-2007), Firm 12



SOURCE: Karachi Stock Exchange, own analysis

Fourthly, the extent of the shakeout was also emphasised by the failure of some high profile business groups to maintain their exports following the removal of export quotas. Nishat Mills, for example, the biggest exporter of textile products on the KSE (listed since 1961), failed to maintain exports between 2004 and 2007, seeing a real drop in total sales of 9 per cent (see Table 6-2). Similarly, three of the textile units of Dewan Group – also involved in automobile assembly and cement – saw a decline in total sales in the period from 2004 to 2007 of between 10 and 42 per cent (see Table 6-3). If business groups performed well as a result of political connections and reach before trade reform, they were no longer effective in the post-2004 period.

Table 6-2 Sales growth (real Pak Rs, 2000) in Nishat Mills (2004-2007)

Sales/Year	2004-5	2005-6	2006-7	2004-6	2004-7
Total sales	0.95	0.97	0.98	0.93	0.91
Export sales	-	-	0.96	0.81	0.78
Local sales	-	-	0.97	0.95	0.92

SOURCE: Karachi Stock Exchange, own analysis

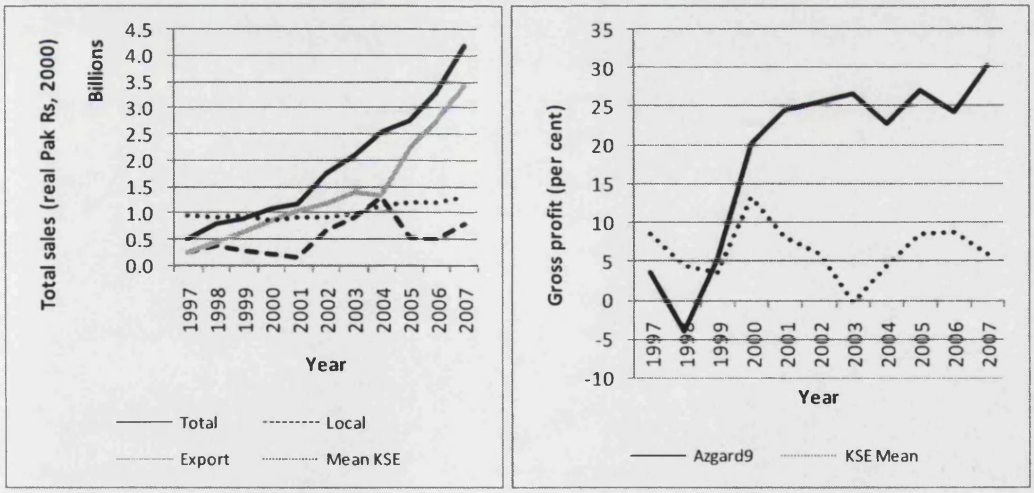
Table 6-3 Sales growth (real Pak Rs, 2000) in textile units of Dewan Group (2004-2007)

Unit/Year	2004-5	2005-6	2006-7	2004-6	2004-7
Dewan Mushtaq (listed 1971)	1.01	0.88	1.00	0.89	0.90
Dewan Textile (listed 1971)	0.83	0.90	1.03	0.75	0.77
Dewan Khalid (listed 1979)	0.75	1.18	0.65	0.89	0.58
Dewan Farooque (listed 2005)	-	-	2.72	-	-

SOURCE: Karachi Stock Exchange, own analysis

Finally, the ending of the quota also created new opportunities for many exporters. According to Firm 12, instead of asking how much quota they have buyers now they ask how much capacity they have. The firm has not taken on any new buyers since the ending of the MFA/ATC, and has instead focused on consolidating relationships with existing customers. According to the Director of Firm 22 – a yarn and cloth producer – there has been an increase in orders from the European Union and United States as they have been able to access markets which they "couldn't enter before". He added that it has been necessary had expand production to do so because "companies such as JC Penney and Walmart would only have one supplier for a one million metre order". Certainly, some firms have grown rapidly in the post-quota period. Azgard9 – the denim garment producer that grew out of a spinning and weaving group – invested heavily in capacity expansion in the run up to liberalisation and has seen 159 per cent growth in exports in real terms between 2004 and 2007. The firm has also posted a rise in gross profit from 23 to 30 per cent in the same period (see Figure 6-4), despite mean quota reliance of 74 per cent between 2000 and 2004.

Figure 6-4 Capital expenditure (left), sales growth (right) (1995-2007) in Azgard9



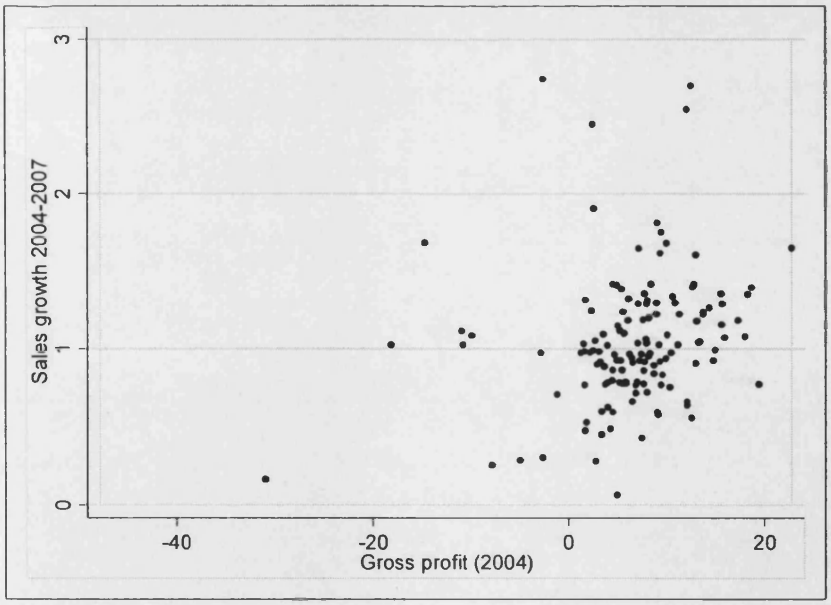
SOURCE: Karachi Stock Exchange, own analysis

Persistence in firm capability and performance

Evidence suggests that firm growth in the post-quota period was strongly associated with past firm performance. A firm's gross profit in 2004, for example, was positively correlated with sales growth from 2004-2007 (see Figure 6-5). For firms with greater

than zero gross profit in 2004, every percentage increase in gross profit brought a rise in the growth rate of 0.02 percentage points (p=0.003, 123 firms). Firms that invested more in the final five years of the MFA also performed better in the post-quota period (see Table 6-4). Companies that invested more than 10 per cent of sales between 2000 and 2004 saw a mean growth rate of 22 per cent versus a mean of 2 per cent in those who did not (p=0.05). Similar results are obtained for levels of investment above 5 and 1 per cent of sales. While machinery age is as a source of relative efficiency (as expected in conventional economic theory) performance is also endogenous: firms with industry-related PFE also invested more as a percentage of sales between 2000 and 2004 (see also Table 6-4). Further, market share remained highly concentrated among a small number of firms. The top 25 exporters in 2006 were responsible for 21.4 per cent of total exports – only a slight fall from the share of quota exports of the top 25 quota exporters of 22.7 per cent (for all quota exports, 2000-2004). Case studies from 12 of the top 25 exporters in 2006 are included in the examples below

Figure 6-5 Relationship between gross profit (per cent, 2004) and real sales growth (percentage points, 2004-2007), textile firms on Karachi Stock Exchange



SOURCE: Karachi Stock Exchange, own analysis

Table 6-4 Sales growth (2004-2007) by capital expenditure and mean investment as a share of sales (2000-2004) by pre-founder experience

Mean capital expenditure (2000-2004)	Yes	No	p value	PFE	Mean I/S (per cent)
>1 per cent of sales	1.10	0.82	0.05	Experienced	7.8
>5 per cent of sales	1.15	0.96	0.03	Textile-related	6.7
>10 per cent of sales	1.22	1.02	0.05	Other manufacturing	5.6
				Inexperienced	5.4

SOURCE: Karachi Stock Exchange, own analysis

The rapid changes in the external environment were felt across firms of all backgrounds and capabilities and there was diverging performance among the 48 firms interviewed. Among the 35 quota exporters interviewed, 31 managed to maintain their average value of quota exports from 2000 to 2004. However, of the 33 KSE firms interviewed that were still active in 2004 (out of a total of 34 as the annual report for one firm was not available), only 13 managed to maintain sales between 2004 and 2007 and only 9 managed to maintain exports (most firms that managed both were the same). Only 10 of these 33 firms saw real sales growth of more than 10 per cent, while 11 firms saw a fall in sales of greater than 10 per cent. Firm-level accounts suggest that the capabilities accumulated among firms by background in the period prior to quota abolition – as witnessed in Chapter 5 – largely shaped performance in the post-quota period.

Several experienced firms with sophisticated organisational and production capabilities, for example, saw a rapid rise in sales immediately after the quota was abolished. Despite reliance on quota for 49 per cent of exports in 2004, Firm 3, a home textile and garment manufacturer, saw a rise in sales of 46 per cent in the first year, and a total rise of 35 per cent between 2004 and 2007 (including 31 per cent export growth) (see Table 6-5). Before the ending of the quota, the firm specifically invested to expand production capacity – specifically in a new polyester plant for ball fibres (for embroidery machines) – and after an initial fall the firm was able to take advantage of this capacity in 2007 (see Figure 6-6). Prior to 2004 the firm had also opened offices in the US, Netherlands and Germany where they were doing market research and trying to "bring buyers to Pakistan". There was also innovative product and design upgrading. When the announcement of the ending of the MFA was made in 1995, the firm decided to enter the textile retail sector and incorporated a new,

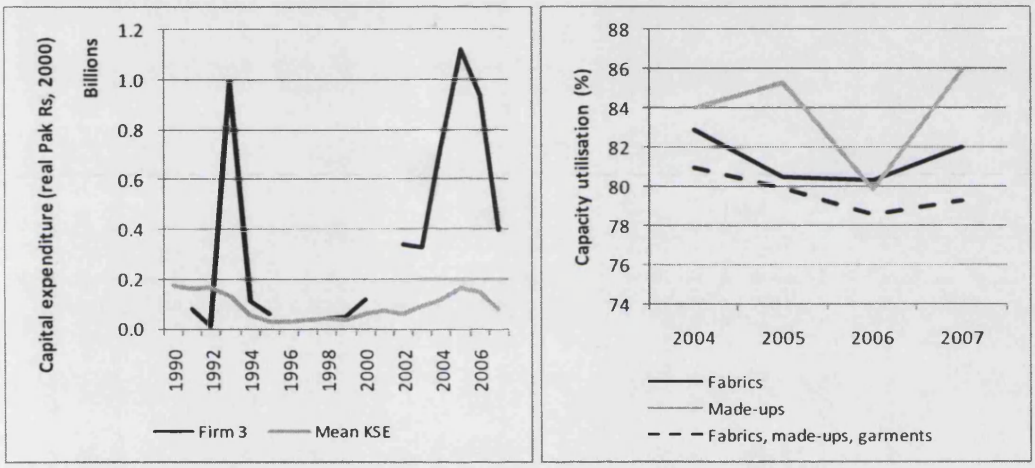
separate company as its retail wing in 1997. It also trained its own designers by sending them abroad to learn from leading fashion firms such as Tommy Hilfiger (in order to overcome local shortages of designers trained for mass production).

Table 6-5 Sales growth (real Pak Rs, 2000) in Firm 3 (2004-2007)

Sales/Year	2004-5	2005-6	2006-7	2004-6	2004-7
Total sales	1.46	0.84	1.10	1.23	1.35
Local sales	-	-	1.09	25.32	27.72
Export sales	-	-	1.10	1.18	1.31

SOURCE: Karachi Stock Exchange, own analysis

Figure 6-6 Capital expenditure (1990-2007) (left) and capacity utilisation (2004-2007) (right) in Firm 3



SOURCE: Karachi Stock Exchange, own analysis

Experienced firms also further improved processes and products in response to the rapid increase in quality and cost competition. According to Firm 12, an experienced garment exporter, buyers no longer want basic garments but value-added products for the same price such as garments that have a 'soil release' finish.[7] Order sizes have also got bigger since the "buyer wants one company" and in terms of quality they have been under pressure to address shrinkage in the garments from four to two per cent. Consequently, the firm's strategy has been to exploit economies of scale and follow a process of trial and error on the shop-floor. There are efforts to raise productivity by reducing the standard minute time of garment production, chemical

[7] These finishes "facilitate removal of waterborne and oil stains from fabrics". Source: Encyclopaedia Brittanica, 'Textile, Soil Release', http://original.britannica.com/eb/article-15929/textile, accessed 23 March 2009.

consumption in processing, and staff numbers by 25 per cent. According to the Director, they have had to "decide which customers to keep and let some others go in order to pay more attention to individual customers". Finally, they were working to have the size to deliver very large orders and were focusing on "better products with more finishing". In short, the focus now was on the "company's survival". Following positive sales growth of 116 per cent between 2000 and 2004, and quota reliance of over 40 per cent, since the ending of the MFA, the firm has managed to increase its total sales by 40 per cent, with exports driving growth at 39 per cent (see Table 6-6).

Table 6-6 Sales growth (real Pak Rs, 2000) in Firm 12 (2004-2007)

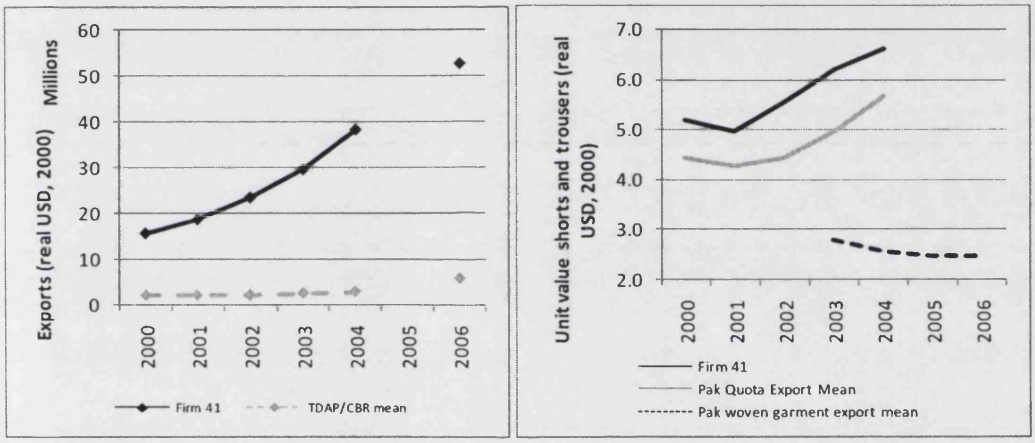
Sales/Year	2004-5	2005-6	2006-7	2004-6	2004-7
Total sales	1.19	1.03	1.14	1.22	1.40
Local sales	-	-	1.60	0.73	1.17
Export sales	-	-	1.12	1.25	1.39

SOURCE: Karachi Stock Exchange, own analysis

Accumulated capabilities also helped firms respond to the increasingly challenging trading environment. Firm 41, a producer of jeans created by a former employee of a paper manufacturing group, described how during the quota they "had a secure business", but that in the post-quota period they "had to fight for every order". While they had credibility and a reputation for delivery on time, they received "several comments about their quality and productivity". To meet these demands they increased production by between 5 per cent and 12 per cent per month and allocated Rs3bn to capital expenditure. However, it was not enough to just increase capacity, they also needed to increase the value of the products: they changed the fashion designs every three to six months in order to keep up with changing demands. They also attempted to increase quality, focusing not on "adding machines" but on "innovation and quality" which is appreciated in the EU and US market. The firm also had to adapt its product development activities. Now staff approach buyers to research requirements and provide samples to buyers who "come back with remarks and teach them how to improve". According to the founder, important contributions were made by the MBA-educated son who focused on development of the sample room and the application of new designs and colour combinations. Further, although these new products they take more time to manufacture, also received a higher price up to $9.50 per item (versus less than $7 under the quota – see Figure 6-7).

However, weaknesses continue in the firm, reflecting the limitations of many of Pakistan's textile and clothing exporters. The founder admits to spending "several millions [of rupees] on air freight" and their internal rejection rate is high. Margins have fallen from 10 to 8 per cent and they need to work harder to reduce costs. The firm has also fallen from being among the top 10 exporters under quota to within the top 25. Nevertheless, buyers have remained and include mostly European retailers such as New Look, H&M and Esprit who have placed "large orders" with the firm. They also found new buyers in the UK and Germany were interested in quality. The firm's ability to maintain export sales between 2000 and 2006 and focus on increasing unit value is illustrated in Figure 6-7.

Figure 6-7 Exports (left) and unit value (right) versus mean (2000-2006), Firm 41

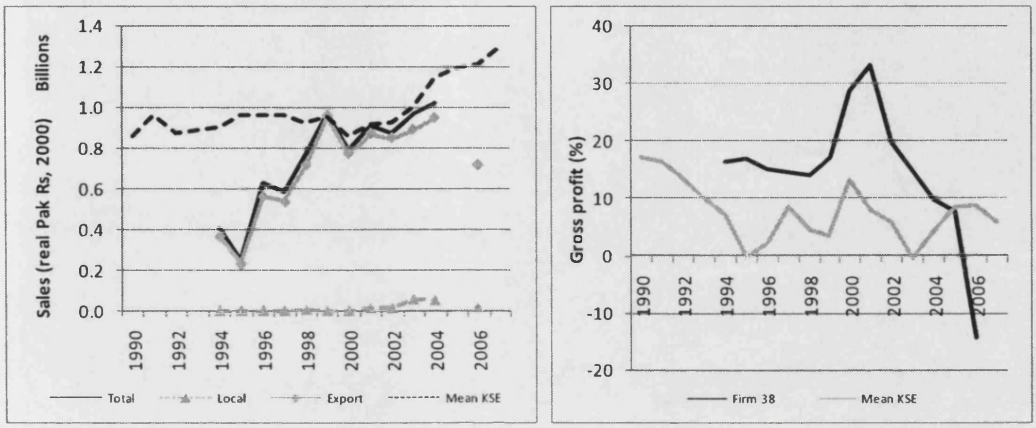


NOTE: Exports data from 2000-2004 refer to quota sales. Exports in 2006 were unrestricted.
SOURCE: Trade Development Authority of Pakistan, Federal Bureau of Statistics

For some firms with less developed capabilities, however, quota abolition was the final nail in the coffin. For Firm 38 in particular, a rapid increase in competition and withdrawal of buyers showed up the lack of good production and organisational practices. On the shop floor garment defect rates were admitted to be approximately 7 per cent and fabric reprocessing rates as high as 40 per cent. One western consultant stated that in the processing section there were no standard operating procedures in place and that workers entered their own recipe [of salt and chemicals] for dyeing. Over-reliance on one buyer led to lumpy production and a reliance on outsourcing for a sudden rise in orders. Indeed, the founder admitted that since 2005 there has been "problems" in the industry regarding productivity relative to China and Bangladesh. The exit of this firm from the market was dramatic, as illustrated in Figure 6-8. From

a position among the top 40 exporters under quota, it had had fallen to below 100 in 2006 and exited soon after.

Figure 6-8 Sales (left) and gross profit versus mean (1990-2006), Firm 38



SOURCE: Securities and Exchange Commission of Pakistan, Karachi Stock Exchange, own analysis

Increasing competitiveness in Pakistan also put pressure on less experienced and younger firms. While Firm 8 had managed to improve its organisational capabilities and added loom capacity, the founder still felt that he was "up against giants". He stated that while the firm can address competition from India and China, they "can't compete with Multan" (referring to the large and experienced firms in the city with operations in cotton ginning and spinning as well as weaving). In particular, the founder felt that their own production was too small-scale and too expensive. He also admitted that it was experiencing high staff turnover at the lower levels and although they have tried to control it by offering more incentives there is "nothing you can do, it is not about money". Indeed, examination of the cost structure of the firm shows that between 2004 and 2007 the firm was able to keep a hold on fuel costs (perhaps as a result of in-house energy generation), but was experiencing a rise in salary costs of 17 per cent versus a fall in costs of 15 per cent (see Table 6-7).

Table 6-7 Cost growth in Firm 8 by input (2004-2007)

Costs	Sales	Costs	Raw material	Salaries	Fuel	Depreciation
Growth	0.862	0.850	0.831	1.165	0.577	0.882

SOURCE: Karachi Stock Exchange, own analysis

Between 2004 and 2007, the firm performed poorly. While the mean size of firms on the KSE rose, it saw a fall in total sales of 14 per cent in this period and a drop in exports of 41 per cent (see Table 6-8). When interviewed in 2006, the founder felt that they needed an outsider to tell them where they were going wrong and while they were trying to be different the returns had not started coming in yet, describing the situation as a "nightmare".

Table 6-8 Sales growth (real Pak Rs, 2000) in Firm 8 (2004-2007)

Sales/Year	2004-5	2005-6	2006-7	2004-6	2004-7
Total sales	1.01	0.87	0.98	0.88	0.86
Local sales	-	-	1.00	1.96	1.97
Export sales	-	-	0.97	0.61	0.59

SOURCE: Karachi Stock Exchange, own analysis

For other less experienced firms, the new environment was also the final straw. The owner of Firm 21 stated that he was making more money from the import and retail of second hand cars than from yarn spinning. Firm 29 regretted ever having entered the spinning sector, and had chosen instead to focus on the development of the chemical business set up by his BSc-educated son. While textiles was still considered important for Firm 25 and it had performed well, the Director was now more interested in trading, property and the stock market.

6.2 Upgrading and growth: productivity, quality and marketing

There were several common channels through which firms were able to improve their productivity, quality, and marketing practices – and performance – as competition rapidly increased after the abolition of export quotas. Case studies outlined below show that the performance of firms in the post-quota period was associated with the production and organisational capabilities that the firms had accumulated by 2004. What becomes explicit is how the design of the firm, as associated with pre-founder experience, becomes the central factor that enables technical managers to deliver improvements in productivity and quality on the shop floor in response to increased competition. Each firm's performance by number and founder experience can be seen in Table 4-21.

Productivity and quality

There were several routes through which firms acquired new knowledge into the firm in order to improve productivity and quality. These included recruitment, the use of consultants, interactions with buyers, the adoption of innovative organisational practice, and changes in top management. Often, firms found particularly innovative ways to address the operating challenges within Pakistan.

Firstly, an important strategy for reaching best practice production standards was the appointment of good staff in key shop-floor roles. Technical managers often introduced practices they had learned in other companies or used contacts from university to learn about new technology and introduce it into the mill. The spinning manager in Firm 10, for example, visited some of the top mills in Punjab being managed by "class fellows" to understand the strengths and weaknesses of different types of compact spinning machines before installing them in his own plant. On the shop-floor, technical managers were also instrumental to the setting and achieving of targets. The spinning manager in Firm 15, for example, set a specific target to reach 11.4 kilograms of yarn per spindle. He insisted that he "would not rest until the target was reached" as he wanted to "prove to owner the team is good". He also stressed the importance of developing a strong team alongside him to do so. In contrast, Firm 39 admitted that there were weaknesses among technical people and middle management. This founder felt that the company had "missed the boat" in the post-quota period and had fallen several places in the list of top exporters.

Secondly, consultants were often used to acquire new production knowledge. In Firm 11, a jeans manufacturer, international consultants were recruited to address faults in dyeing and to give feedback to the company on improving performance. Firm 3 employed a consultant to train the local management team and to conduct a "gap analysis" of their existing quality system where they found, for example, that a staff member at one stage was not making the required report. On the shop-floor, Firm 3 also hired a former professor in the National Textile University to oversee all systems. In the opinion of the CEO his appointment brought reduced wastage, more delegation and stronger communication. In Firm 8, a cloth manufacturer, the technical director of

a weaving unit explained what happened in the mill when the general manager (GM) changed:

> The previous GM was not educated, and had a feudal approach with no systems or management. Efficiency was 90 per cent and rejection was 4 per cent. However, when the new GM arrived he hired good foremen as well as educated technical people. He started corrective and preventative maintenance. He introduced an award system in which the target was 93 per cent efficiency and agreed to give 10 per cent salary bonus if they reduced the rejection rate to 1 per cent.

Buyers often also played a key role in exposing firms to best practices in quality management. When Firm 12 attempted to introduce a visual quality system in garment checking, western retailers gave seminars to the supervisors on quality checking who then transferred the knowledge to operators of the machines. Likewise, Firm 39 is an exporter of knitted garments. According to the Director "whatever we are in terms of quality it's because of the buyers" as they have specified the standards required in the measurement of quality, the introduction of computerised machinery, and the in-line inspection of quality (even when employing staff with a minimum of high school education).[8]

Thirdly, innovative organisational approaches often led to quality improvements in-house. Firm 1, for example, is an integrated producer of home textiles, but even though it manufactures a large amount of yarn in-house the weaving units are not obliged to purchase this yarn. This, in effect, places the spinning units in competition with the best external suppliers, with the aim of improving their performance and ensuring the weaving unit obtains the best inputs. In-house sourcing can also increase productivity. In Firm 18, yarn for cloth production is sourced faster in-house, while vertical integration in Firm 12 means that it can make yarn, fabrics and finished garments as per the buyer's specifications from start to finish. The absence of such practice often led to declines in quality: a technical manager of the processing unit in

[8] This includes AQL Standards which refer to 'Acceptable quality levels" for garments which are measured as nonconforming items per 100 items.

Firm 40 cited poor communication with the weaving manager (who was located 40 kilometres away) as a constraint to improving the quality of incoming cloth.

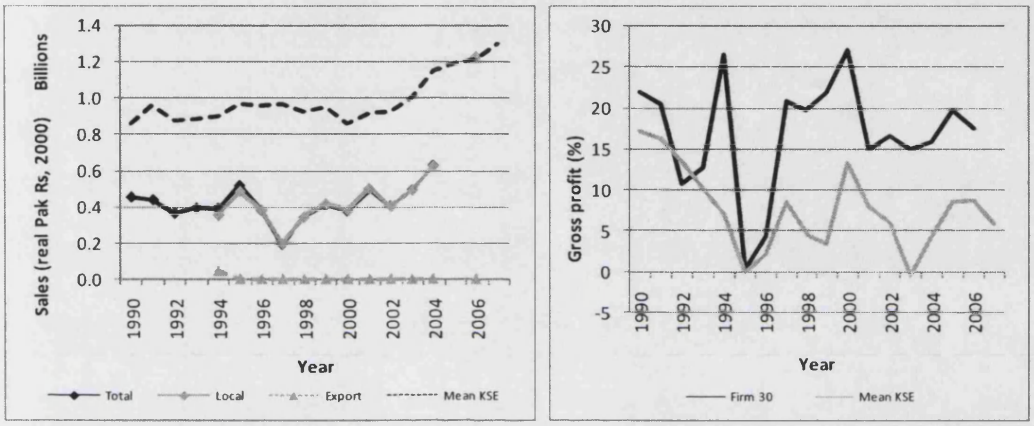
Organisational change on the shop floor also kept many firms ahead when faced with increased competition. One example is the increased use of professional IT systems. Firm 42, for example, cited the introduction of an IT system as the "keystone" of its joint venture with a major US retailer in the supply of garments. Every single store of the buyer is linked to their computers in Pakistan which "shapes their manufacturing volumes" and requirements to produce more of particular size of garment. Locally there also were gains in efficiency. The CEO states that "Now you don't have to go to the plants – all staff in key positions have laptops. Orders were previously done verbally, but now they are documented by email". This IT capability was developed in-house using skills of two sons who had been educated abroad and because there is "lot of capacity in staff to create systems". Similarly, Firm 12 attempted to produce zero per cent defects in fabric production and minimise wastage through the use of automated cutting technology, one of the only firms in Pakistan to do so.

Firms have also developed innovative ways to address the challenging operating environment in Pakistan. According to a Director of Firm 22, most of the time targets are achieved as "external factors are already taken care of'. In response to Pakistan's volatile operating environment, for example, accommodation is provided during a strike, a two month stock of spare parts is held if they "anticipate political unrest", and they have a generator in case there is a power breakdown. As mentioned above, Firm 12 – a garment producer – also opened a stitching environment in the Middle East in order to overcome any temporary halt in production in Pakistan.

Finally, changes at the managerial level also brought improvements in performance. In Firm 30, for example, which was set up as a spinning unit in the 1980s, the Director admits that they made "mistakes in management" such as in the buying and selling of cotton yarn. The family used to entirely "rely on the technical team" for production rather than understanding the business themselves which caused a "huge loss". As a result, he started to learn "what spinning was" and this exposure formed the "basis of the future business plan". He became aware of the need for consistency in quality which is "what the market wants", and the need to "identify the market" for

which he focused on finer yarn because of its higher value addition. The Director now "doesn't give orders" and believes in encouraging new ideas, learning from mistakes and in the education of workers. In his own actions he tries not to get "bogged down in small issues" so that he has "time to think, to get new ideas, see what's coming". Despite being engaged in the lower profit yarn segment, this firm has dramatically improved performance since the late 1990s (see Figure 6-9).

Figure 6-9 Sales (left) and gross profit (right) (1990-2006) versus mean, Firm 30



SOURCE: Karachi Stock Exchange, own analysis

New product development

New product development was often a complementary capability to the management of productivity and quality. Niche product development has also been at the heart of the ability of Firm 46, for example, to differentiate itself from competitors. It has specialised in yarn dyeing, for example, a "huge business" which allows them to compete on quality and price. Likewise, Firm 37 chose the niche market of medical clothing. Others such as Firm 10 and Kohinoor Group moved out of apparel fabric production and into home textiles early, anticipating a shift in the market. Firm 8 welcomed the demand for industrial fabrics from buyers because it brought higher margins and clients did not change suppliers often. In addition, Firm 8 chose "batched production" in which they, unlike competitors, could do production runs of up to 1km of cloth.

Three strategies were common among firms entering a new product segment. Firstly, firms outsourced a product in order to test its success among buyers (before investing in production facilities in-house). Secondly, firms interacted with buyers in order to explore product design and costs. Thirdly, firms granted of autonomy to shop floor workers to apply their knowledge and encourage innovation in production. These strategies often enabled companies to acquire product knowledge and eventually upgrade.

Firstly, Firm 5 was previously selling greige cloth to leading European apparel manufacturer and retailer when the buyer asked the firm to provide semi-finished fabric instead (which the buyer would then dye and stitch in Western Europe).[9] In order to meet this requirement, they outsourced finishing from a local mill but introduced in-house inspectors who look after the quality of the outsourced production. The firm used this technique as a way to test production before investing in dyeing and finishing facilities given the large capital expenditure required. Further, it is "a big risk, unknown" and first they want to secure demand (an each container they also made a profit of five per cent). But in the words of the Director, this move into finished products and the experienced gained puts them "one step ahead than others". Similarly, Firm 14 did not have a dyeing facility so outsourced processing of fabric in 4 or 5 colours, while keeping cloth production and stitching in-house. Originally a manufacturer of yarn and greige cloth for apparel, the owners decided to move into finishing as margins were declining in cloth.

Secondly, existing business relationships often allowed suppliers and buyers to explore new product costs together. Firm 7, for example, a producer of yarn and cloth, was already doing business with a work-wear company in Italy, but the yarns used in a particular fabric were not produced in Pakistan. He obtained an agreement with the company in which Firm 7 would agree to invest in technology for the yarn while the buyer would send a technical person to Pakistan. As a result, Firm 7 is able to "know the cost of the product and whether it is a profitable activity". They also discover any production problems, and whether they need extra workers or machines. In Firm 3,

[9] Separate research showed that this particular buyer adopts this sourcing pattern as a business strategy in order to be able to respond quickly to shifts in local demand.

the in-house garment designers also learn from pre-designed orders supplied by leading fashion firms.

Market research on customer needs also often accompanied successful product development. In preparation for entry into retail, for example, Firm 3 opened a trading section in Dubai in order to do local research and conduct a survey on the appropriate product mix for the region. The firm then opened one store in order to "get to know customers". They chose the location for their first unit where a friend was working, but also developed close relationships with a company which was opening a new mall in a city in the United Arab Emirates. At the time of the interview they had successes in establishing stores both in Pakistan and the Middle East.

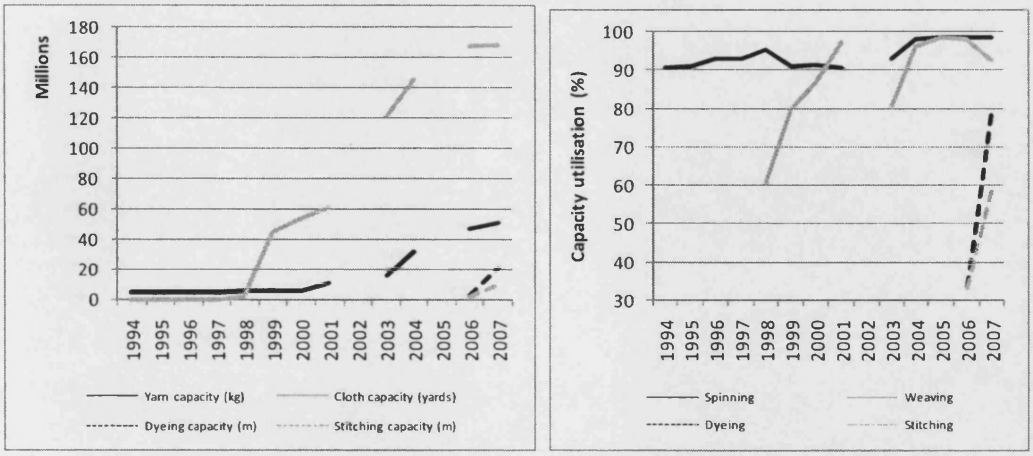
Thirdly, the expertise of technical staff was also crucial in introducing new products to the shop floor. A technical manager in Firm 8 explained that when introducing a new product they first test four cones of yarn on looms and develop the back process for the yarn. They then try out 25-50 bags on one or two beams, do trial testing and monitor settings on the loom to ensure the quality of the fabric is satisfactory. The first 3-4 days are "sensitive", but then after the production is under control and the fabric can be put it into mass production. Some Directors also made an important effort during periods of development. In one successful cloth firm, Firm 7 the CEO explained how during new product development he tries to create an atmosphere of trust, "understand that mistakes will happen" and be "patient with an open mind". His behaviour encourages an atmosphere of new product development and in his words "people get used to it over the years and know the CEO is behind it". Technical managers also built on established contacts to expand marketing opportunities. In Firm 8, a technical manager who used to work in the textile sector in Bahrain "approached old customers and tried to give better quality, price and service".

Similarly, allowing autonomy to staff to implement new products and processes was a key role in successful new product development. This autonomy given to staff is illustrated in two cases from the shop floor in Firm 10. In the new processing unit, a printing manager was recruited to "design it all from scratch". Building on previous experience in leading processing units in both Karachi and Punjab, he introduced a target to install production capacity of 3.5 million metres per month, and a particular

process that used "less machines, but was more productive". To implement this project he recruited eight engineers from the textile university. In his words, he "saw them as assets and concentrated on them", and cited the importance of constructing "a less traditional environment than others". It was important to "build a culture" in which the systems were designed using information technology, for example. On the technical side, he planned a single line bleaching process where he could run three production lines. This was important in obtaining production targets and for consistency of the fabric as if you "do it twice, you get variation".

To construct the new stitching unit an experienced stitching manager was also recruited in Firm 10 to implement new production systems. He arrived with five years experience in stitching, including three and a half years at one of Pakistan's best known textile firms – following a career in the marketing of knitwear he had "no further opportunities so changed field". The stitching manager designed all of the processes from scratch from the design of the building to the software used to monitor production. Most of the workers recruited had prior experience in textiles, but they chose to do their own in-house training with the use of industrial engineers. The engineers introduce new operations through the training of 20 or 30 "good operators" who then work on that particular task. At the time of the interview in 2006 stitching was running at 40 per cent capacity and the manager was working to introduce a minute value system for garment monitoring. By 2007 they had reached 80 per cent capacity use in dyeing and 60 per cent in stitching (see Figure 6-10).

Figure 6-10 Installed capacity (left) and utilisation (right) (1994-2007), Firm 10



SOURCE: Karachi Stock Exchange, own analysis

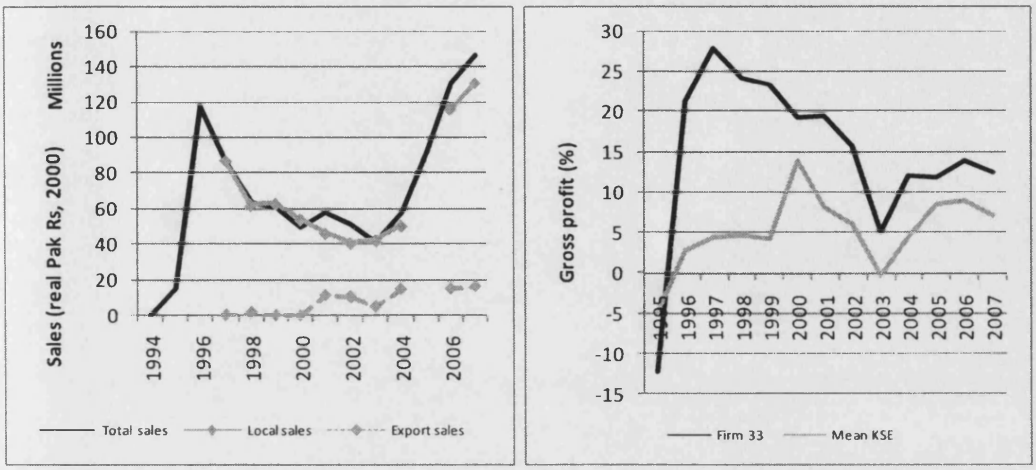
Marketing

Alongside new product development, there were several marketing channels through which firms secured new buyers. These included innovative strategies to attract new clients, the integration of marketing and new product development functions, the appointment of key staff in marketing roles, and the establishment of overseas marketing offices.

Innovative approaches to marketing were often the hallmark of firms who were able to secure now buyers either at home or abroad. One spinoff that has shown strength in product choice and marketing is Firm 33, a small Lahore-based manufacturer of specialised cloth. The firm engages in fabric production for clothing accessories, a specialised market with only five or six big dealers and 100 small dealers in Pakistan. Initially, 100 per cent of the products were sold locally in Lahore and Karachi and the firm used a network of agents as well as two people in a marketing team to approach retailers and other buyers. However, in more recent years the firm started exporting a small amount of cloth to the Middle East and North Africa through contact with agents in Egypt and Dubai.

In order to break into this market, he took a container of goods to give to trimming companies in Dubai. He visited lots of wholesalers to "see what management [he] like[d]", agents who then distributed the products to clients in the region (although the process can take between two and three years). He also wanted to open the company's own office in Dubai to increase sales and exports and used retained earnings to fund this. To build up the business he tried to find a "good person" to run the local office, but due to problems finding someone he usually goes independently to the region. He was also attempting to export directly from Lahore but found difficulties breaking into the market: "EU buyers tend to stick to suppliers". The strategy and energy of this firm has resulted in some success in both sales growth and profitability (see Figure 6-11). While sales stalled after the firm was first set up, it has experienced rapid growth in both local and export sales from 2003 onwards. Further, since inception the firm has outperformed the KSE mean in terms of gross profit and it has managed to grow its total sales by 155 per cent between 2004 and 2007.

Figure 6-11 Sales (left) and gross profit (right) versus mean, Firm 33



SOURCE: Karachi Stock Exchange, own analysis

Marketing strategy was also at the heart of its rapid growth in Firm 2 and introduced by the MBA-educated son when he joined the firm. His interest was expanding in the US market from the exposure he gained during his studies there, feeling that they "had the manufacturing base" to do so. In particular, he set out to offer goods to customers that were already cleared of custom duty because– according to him – "logistics was a big thing" for US buyers. To do so, he found "good agents in the USA who can clear the goods on time" and developed the business by sending samples directly to customers. They established a marketing company based in Dubai, while at home the Director ensured that production quality was good. They needed working capital for four months while they were "waiting for delivery and getting paid", so took finance from the manufacturing side of the business.

This approach "opened up a lot of buyers" for the firm. The Director explained that because it is an old industry many potential clients have existing suppliers, hence they can only "get buyers from showing new products". Further, by having many of the operational staff in Pakistan they were also able to save costs. The ending of the MFA was particularly welcomed because they would be able to target new markets as they did not hold much quota before. Indeed, the firm only exported twice under quota in 2002 and 2004 to the EU and USA when it represented 26.6 and 136.7 per cent of exports respectively in products such as cotton twill and sateen cloth. Since 2004, the firm has managed to increase its total sales by 24 per cent. In particular its export

sales increased eight fold (see Table 6-9), albeit from a small base (where exports have increased from 3.8 to 35.3 per cent of sales in the same period).

Table 6-9 Sales growth (real Pak Rs, 2000) in Firm 2 (2004-2007)

Sales/Year	2004-5	2005-6	2006-7	2004-6	2004-7
Total sales	1.17	1.01	1.05	1.18	1.24
Local sales	-	-	1.04	0.84	0.87
Export sales	-	-	1.08	7.33	7.93

SOURCE: Karachi Stock Exchange, own analysis

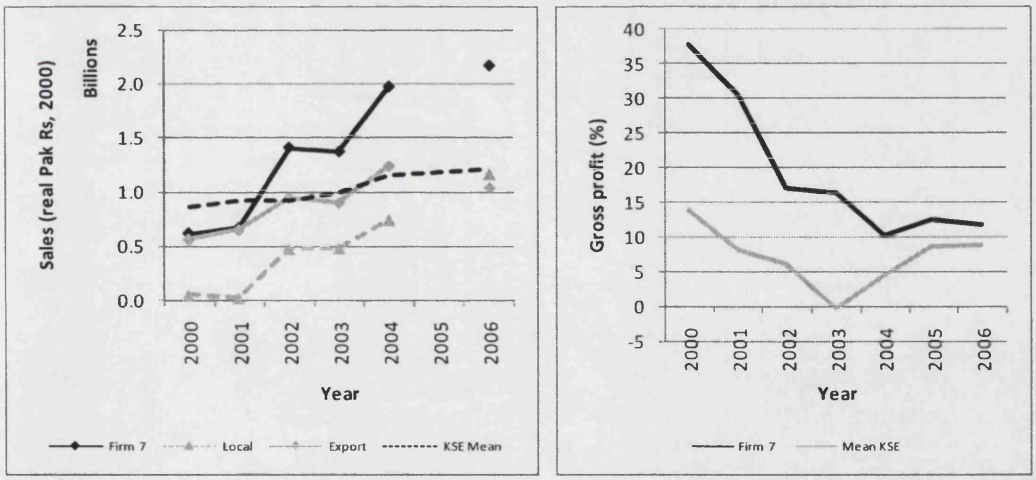
In Firm 10, an overseas marketing office in China was chosen because it is a growing market for textile products and a source of many important chemicals and dyes. The office was established by an existing contact in the region who had recently left another textile company, Additional local recruitment was conducted via a human resource company in China, and the founding staff member (who speaks German and Chinese) trained the new team within two months. In terms of impact, the office had recently obtained a new buyer which was a German company operating in China. The client is now in direct contact with the Pakistan office who organise production. An additional strength in this company's marketing structure is the relationship between the marketing and production team. Both teams are in constant contact about key issues such as machinery, while the production team gives technical classes to the marketing team on topics such as the impact of dyeing techniques on product quality. Appointment of key staff in marketing functions was also a theme in the expansion of Firm 3: when the office in the United State was created they "sent a good management team" who understand the company, training them in Pakistan before their departure.

In-house techniques to improve the effectiveness of marketing efforts were also important. Firm 37, a home textiles manufacturer which was the 43rd largest exporter under quota and the 41st largest in 2006, increased the number of staff in the marketing team as a specific strategy to capture market share. The firm was also targeting markets such as Russia with healthcare clothing. The integration of marketing teams in new product development was also effective. Firm 26, originally a spinner, focused its new weaving unit on fabrics for the garment industry such as heavier weight cloths. The firm made this decision following a study conducted by the

firm's marketing team to identify which products were most in demand in the market. Similarly, Firm 39, a knitwear exporter, employed a team of two "trend forecasters" as part of its new product development strategy.

Persistence and creativity in dealing with the challenges of operating in Pakistan also paid off for some firms in attracting new customers. In the case of Firm 7, the CEO described his attendance at an exhibition in Paris where many dyeing companies were exhibiting. He saw a buyer with whom he wanted to start a business relationship in a meeting with a Pakistani competitor. He contacted the buyer on several occasions but had "no luck" in getting any business: he did not want to travel to the mill as it was far away from the main city he was staying in. However, the CEO wanted to show the buyer that he was "serious", so as a result he hired a propeller aircraft and flew the buyer from the city to the mill. The company now has bulk business from this buyer and – employing equally strong production and general management practices – has been one of the fastest growing larger Pakistani firms in recent years (see Figure 6-12).

Figure 6-12 Sales (left) and gross profit (right) (2000-2006) versus mean, Firm 7



NOTE: Annual report data before 2000 was not available for this firm.
SOURCE: Securities and Exchange Commission of Pakistan, Karachi Stock Exchange, own analysis

The establishment of joint ventures was also a route to securing new buyers and market access among Pakistan's largest firms. According to interviewees, after the ending of the quota there were several joint ventures established between Pakistani manufacturers and overseas buyers. Indus Dyeing and Manufacturing, for example, a

home textile manufacturer, entered a joint venture with WestPoint USA, a former manufacturer and now importer of home textiles. Its towel manufacturing project started production in January 2005.[10] Nishat Mills, Pakistan's largest textile exporter (mainly involved in home textile production) created a venture with one of the largest garment exporters under quota, Style Textile, to establish Gulf Nishat Apparel. In 2007, Azgard9, a leading jeans exporters from Pakistan, announced that it had obtained permission from the State Bank of Pakistan to remit €23.8 million for an "offshore acquisition of branded denim and garment business", Farital AB, which has 100 percent ownership of Montebello, "a specialist in the global denim space."[11]

Branding was also a strategy for several textile manufacturers. Nishat Mills, for example, has its own chain of retail stores, Nishat Linen, which sell fabrics, kitchen items and curtains.[12] Afroze Textile, an exporter of home textile products, has opened its own retail store 'Bed and Bath' in Karachi, Lahore, Hyderabad and Islamabad.[13] Likewise, Chenab Limited, a large exporter of home textiles and apparel, has a set of retail stories, 'Chen One' selling branded goods across Pakistan. The company's slogan is 'Changing Lifestyles' and stories are located in the main Pakistani cities as well as Peshawar, Multan, Sialkot, Faisalabad, Gujrat, Rahim Yar Khan and Abbotabad.[14]

The founder of Firm 45 gave an account of how it acquired the franchise of a leading clothes brand. The firm was originally involved in the travel business but entered into the production of knitted garments through a contact (the founder's grandfather was also involved in textile importing). The founder had witnessed the entry of a global clothing brand into the Indian market, so contacted the firm's office in Hong Kong to propose entry into the Pakistani market as well. He felt that his background in the textile industry and network of local contacts gave credibility to the proposal and the clothing firm agreed that if the founder could locate three units then they would proceed with the partnership. The founder explained that this was probably a test of

[10] Source: What's new, Indus Group, October 2006, http://www.indus-group.com/web/whatsnew.htm, accessed 23 March 2009.
[11] Source: Azgard Nine Limited - Analysis of Financial Statements, Business Recorder, 18 Sep 2008.
[12] Nishat Linen, http://www.nishatmillsltd.com/nishat/linen.php, accessed 23 March 2009.
[13] Bed and Bath – Dressing homes!', The Saturday Post, Accessed 23 March 2009, http://www.thesaturdaypost.com/alm_26_1.html
[14] ChenOne, http://www.chenone.com.pk/, accessed 23 March 2009.

his abilities set by the partner firm, but he was able to locate the units and later learned much from the partner such as how to manage a retail outlet, establish a distribution network and run a warehousing operation. The firm had sales of approximately $8m in 2006 and is a well known set of stories across Pakistan. Its manufacturing unit also managed to maintain exports between 2004 and 2006.

General management practices

It was often innovative approaches to general management practices such as recruitment, the provision of incentives and performance monitoring that were associated with firm growth and upgrading.

Some of the best firms, for example, were those that had developed progressive policies in relation to recruitment of women. Firm 10, for example, provides a day-care centre for children of female staff in the head office which has allowed one particularly valued female staff member to take responsibility for the marketing team. Further, even though female textile engineering graduates are few, many – as in Firm 12 – were managing the shop floor on my visits to spinning units.[15] In Firm 41, a garment unit in Karachi, management has made a specific effort to recruit women onto the shop floor to deal with "a very serious problem" in the lack of skill of workers. According to the Director, this is "an advantage of Karachi over other parts of Pakistan" where women are not so free to work in factories. Finally, in order to recruit more female workers, Firm 11 created a special transport service for women and a female section in the family colony. They also make efforts to "convince parents that women can stay there" and hold leisure activities such as badminton tournaments. In contrast, in one poor performer that had exited, female staff were subject to harassment and even attack.

Similarly, strong human resource procedures were also a hallmark of good performers. The strongest human resource practices were found in Firm 11. It was one of the only firms that had appointed a Vice President (Human Resources) and

[15] However, it is still difficult for female textile engineers to join some textile units if they are required to live on site because their husbands cannot join them.

according to the CEO, they were "competing against themselves" for talent.[16] Recruitment procedures were formal: for shop floor workers recruitment started at the factory gate. Individuals submit curriculum vitaes and testimonial letters followed by a preliminary interview on the gate in order to reduce the short list by 40 to 45 per cent. They conduct tests for "relevant areas" such as hand, mind and eye co-ordination, and assess the individual's potential, after which the person is then taken to the department for a final interview with a representative of the department and a representative of human resources. Training includes an initial orientation, three weeks training in a section such as stitching or machine operation, and then between three and nine months probation.

In day-to-day operations, the Vice President had also introduced a number of measures to improve the operations of the mill. He was trying to raise the quality of staff by, for example, by treating supervisors as managers, and had created a supervisory training programme which contained a number of modules. They continually push workers to improve and a full study was conducted to understand why people leave. He has also developed a code of conduct in order to resolve conflicts, a system which he had implemented in his previous firm. Further, the manager tries to develop people with potential. Informally, he gives small projects to people he identifies and has "discussion and critique with them", as well as running a formal management training programme.

A particular strength of many firms was the presence of an internal culture that enabled staff to develop and be promoted. This appears to be a strength of many firms in Pakistan as most interviewees were able to give good examples of the internal progression of entry-level staff into senior roles. In Firm 7, the CEO explained how a marketing manager for weaving who had been referred to the company by a technical person used to give him new ideas all the time and displayed a good ability to handle customers. As a result, the CEO put this person in direct contact with customers and within five years the salary of the individual had been raised from Rs18,000 per year

[16] The staff member in human resources (HR) was in the army for 29 years and taught at a national military college. But he took early retirement in 1993 and started a private sector career. He said that "his own skill was to lead and manage people". His first job was in HR at a leading hotel where he established a hotel training school and educated himself in HR through executive development courses at the local business school and other universities. In an interview he gave an overview of formal recruitment procedures in place at the firm.

to Rs150,000 due to good performance. It was also described as a "pivotal time" in the development of the firm as the CEO no longer had to handle all the sales inquiries.

It was the general attitude of management that also shaped shop-floor performance. One technical manager in Firm 8 said that in contrast to his previous employers who were "very aggressive", the owner of this mill was "someone stable who I could work with". In addition, some units, such as Firm 26, had even introduced a system to deal with poorly performing family members in which they would be removed and put in another role.

6.3 Management challenges for Pakistan

Production and operations

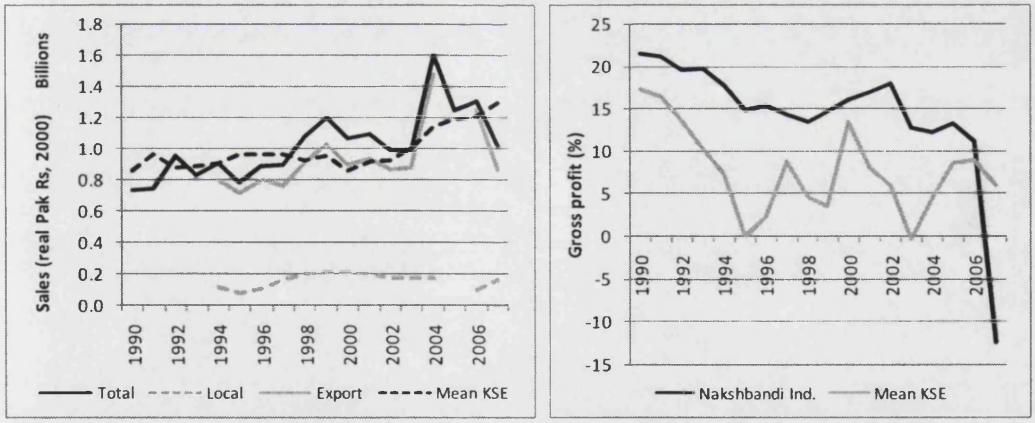
Despite some advances in the quality of management practices in response to increased competition, firms in Pakistan's textile and clothing industry faced a number of challenges. Firstly, there were many weaknesses in general firm operations. In production, for example, it was clear that on the shop-floor many firms were unable to meet basic standards. In one leading woven garment unit I visited there was a challenge to match the stripes on the sleeve and main body of a striped shirt. The foreign stitching manager also had to watch over stitching staff constantly in order to embed good practices. In Firm 9, the approach to production is reactive: instead of taking preventative measures, "when complaints come" they forward the comments to the technical people. When I inquired how production targets were set and monitored, the Director replied "it doesn't work like that". The Director of one weaving unit even admitted that they just put damaged fabric along with the good quality fabric, justifying the practice with the argument that buyers expect there to be some faults in the fabric.

Many firms are also unable to keep up with basic quality standards. In Firm 44, a textile processing unit managed by a textile engineer, the unit is no longer exporting finished cloth because that they are not able to meet the quality standards of international buyers. In other units, basic practices related to quality were not in place. In Firm 38, there were no testing facilities for colour blindness in the male-dominated

workplace. As a result, colour matching of fabrics as per the requirements of buyers was a problem. Few firms engaged in designing of new products either. In Firm 28, buyers come with their own designs – either in computerised or raw form – but the firm has not yet created any of its own designs.

In marketing, firms also often exhibited an over-reliance on a small number of buyers. One stark example is Nakshbandi Industries, a weaving unit that experienced a withdrawal of orders from one large customer. As illustrated in Figure 6-13, it has been unable to maintain its export – and hence total – sales after 2004, dropping to below its 2002 level in real terms. Further, the firm only used 60 per cent of its production capacity in 2007, and has been unable to achieve positive gross profit for the first time since 1990. There was also evidence of dependence on local contacts for sales. One firm informed me that brokers and agents who were family friends all "helped with commitments to sell fabric".

Figure 6-13 Sales (left) and gross profit (1990-2007) versus mean, Nakshbandi Industries



SOURCE: Karachi Stock Exchange, own analysis

There is also a lack of risk taking and new product development among even the largest firms in the industry. Many have remained within the yarn or cloth segments, while textile experienced groups such as Firm 26 have attempted to move into garments but have failed to do so. Some observers believe that the greater capital intensity of the yarn and fabric sectors means that owners do not have the skills to manage a labour-intensive industry. Indeed, a technical manager at a leading knitwear

firm explained how he tried for five years to encourage his former employer – a well known manufacturer of cloth and home textiles – to move into garments, but they didn't want to. Managers would visit the plant each month "but a stitching unit requires constant attention on a daily basis". In contrast, in his current mill (Firm 12, which has performed well since 2004), they were considering introduction of 24-hour stitching. These cases show that challenges remain in the industry with respect to diversification and development even with experience.

Professional management

In many cases standard management practices in relation to recruitment, incentives, targets and monitoring were not in place. Firm 6, for example – a spinner – has introduced the daily monitoring of productivity and quality, and they even set human resource targets, however the CEO admitted that "we never try to follow it" and that it will take them 5 to 10 years to reach international standards of management. Similarly, Firm 37 has not shown its machines to buyers as there are "a lot of systems that still need to be implemented".

Human resources practices were often weak. Firm 42, a large woven garment manufacturer, admitted that he cannot bring himself to fire staff if they do not reach targets "because there is no social security system in Pakistan" and often feels guilty if staff have to take their children out of school as a result. In Firm 26, a Director admitted that he has never been able to bring himself to fire poor performers, instead preferring to reassign them to less key roles. Many firms also complained about a lack of skills in the clothing industry. However, few firms had implemented training programmes beyond the basic operating requirements. Firm 18 admitted to not doing any training because "workers are usually trained by other companies...this is how industry works in Pakistan". Firm 39 also admitted that they put "zero money into HR" and that it was their biggest problem.

The current structure of family ownership is also problematic. The technical director of one processing unit stated that the biggest weaknesses of the previous companies he worked for was "owner interference, not letting you do your job, thinking they know dyeing better". The founder of Firm 20 wanted to start a business on his own

because he felt there was a 'marble ceiling' in most textile firms for non-family members. There was also a lack of autonomy for some workers: in Firm 15, it took six months for the general manager of a spinning mill to convince the owner to install a particular piece of machinery that would reduce labour costs. During an interview in 2006, the owner finally admitted that he wished they had increased capacity by 50 per cent three years earlier.

There were also macroeconomic factors which shaped the general level of firm performance. During fieldwork I found no units directly owned or operated by a multinational company, unlike in many other countries. This is likely to reduce the level of skill transfer induced by higher quality management practices as well as the number of (potentially high-quality) spinoffs that could arise from such a unit. The state of the infrastructure also reduces competitiveness and capabilities across firms. Even firms that perform well struggle with political upheaval and energy interruptions, including those with installed generators.

The security situation in Pakistan also means that many companies struggle to recruit foreign consultants. Firm 41, for example, required Italian designers for its denim business in Karachi, but at the time of the interview they were "in two minds whether to come or not". The Chief Executive of Firm 46 – which has performed very well in the post-quota period –finds that buyers prefer to travel to India. In addition, he personally "cannot travel enough to the USA" and feels that the firm is losing out in the apparel segment because large buyers such as Macy's are hesitant to send their teams to Pakistan (and hence cannot see new colours of products, for example). Firm 48, which has maintained its exports in the post-quota period, was also having difficulty getting overseas consultants to come and visit the factory in order to gain ideas for productivity improvements.

Conclusion

In the approach to the final abolition of export quotas on 1 January 2005 under the Agreement on Textiles and Clothing many firms in Pakistan made significant investments in production capacity, new product development and organisational capabilities. The rapid increase in cost and quality competition which occurred in the

post-quota period demanded rapid improvements in productivity, quality and marketing at the firm-level. A large shakeout occurred and evidence in this chapter has suggested that it was correlated with accumulated capabilities and firm performance in the first stage of trade reform between 1994 and 2004.

Indeed, it was this base of accumulated capability that shaped the firm's ability to survive and grow in the new trading environment and there were several common themes through which enabled firms to upgrade products and processes. These included the appointment of key staff in marketing and shop-floor roles, investments in new technologies, the accumulation of knowledge through strategic relationships with buyers, and innovative problem solving in-house. It was also the presence of a high-incentive, autonomous working environment that enabled workers to deliver these improvements. In particular, innovative organisational changes brought in by Directors and professional managers – such as the creation of internal free market environment and the formalisation of human resource procedures – were often the hallmark of good performance. However, there are widespread weaknesses in Pakistan's textile and clothing industry, most particularly in the lack of professional management. Lack and innovation in marketing or new product development was also linked to company-specific managerial weaknesses.

As a result, evidence in this chapter has made explicit that firm performance remained associated with pre-founder experience. Founder experience determined initial production capabilities, organisational design and the incentive structures that shaped long-run learning and growth, even when faced with rapid rises in external competition. It also showed that entry into – and growth and upgrading within – the textile and clothing sector is a very challenging activity in itself, requiring sophisticated technical and managerial competencies.

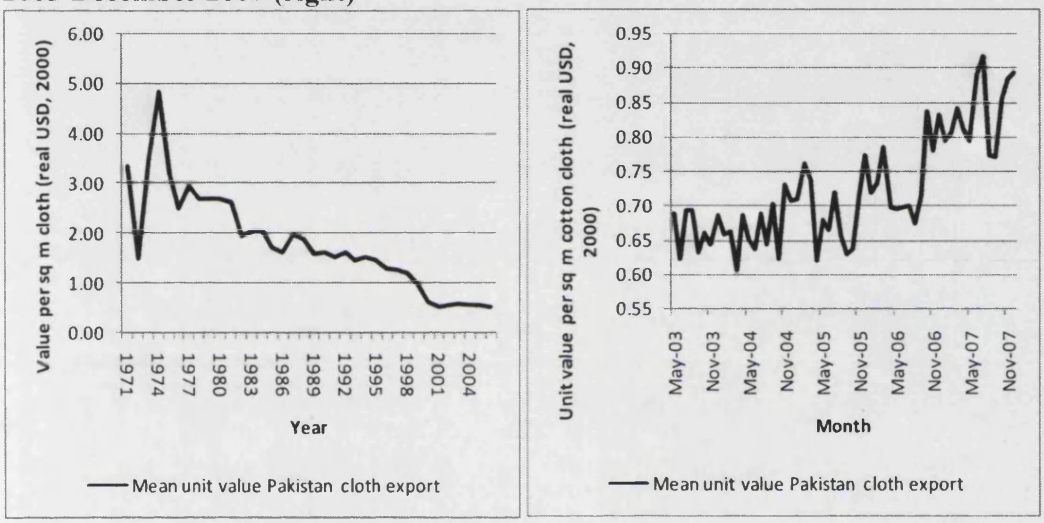
I now go on in Chapter 7 to critically discuss the role of the textile sector in broad industrial development in Pakistan. In particular, I examine whether these capabilities have been able to play a role in industrial diversification.

Appendices

Appendix 6-1: Unit values of cloth and garment exports

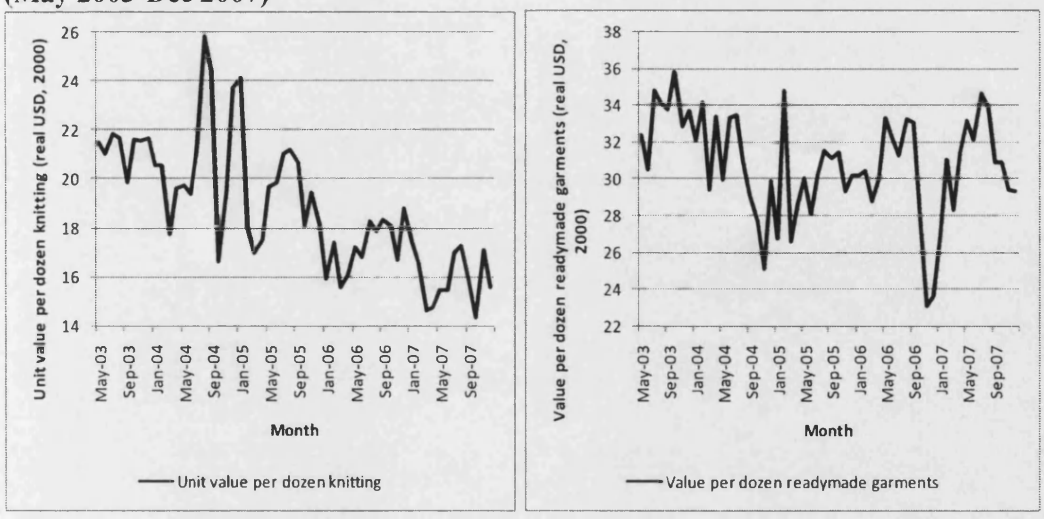
Following a long-term decline in cloth export unit value between 1971 and 2007, monthly export data indicate signs of a rise in the post-quota period (see Figure 6-14). Garment prices were unstable in the six months before and after the abolition of quotas on 1 January 2005, but have since fallen in knitwear and risen in woven (or 'readymade') garments (see Figure 6-15).

Figure 6-14 Unit value of cloth exports from Pakistan, 1994-2007 (left) and May 2003-December 2007 (right)



SOURCE: Federal Bureau of Statistics, own analysis

Figure 6-15 Unit value of woven and knitted garment exports from Pakistan (May 2003-Dec 2007)



SOURCE: Federal Bureau of Statistics, own analysis

Chapter 7 Industrial diversification and economic development in Pakistan

Industrial diversification is widely considered a driver of economic development. In the economies of East Asia the move from textiles and light manufacturing into electronics, shipbuilding and services have been associated with rapid economic growth. Diversification can be driven by incumbent firms based on underlying capability or by new entrants. In this chapter I investigate aggregate patterns of industrial development in Pakistan in both local and export markets and identify the drivers of diversification at the firm level. In particular, I examine how capabilities within textile and clothing producers shaped diversification choice in comparison with the backgrounds of firms in higher value-added sectors such as chemicals, pharmaceuticals and information technology.

Firstly, I identify high-growth sectors in Pakistan since the 1990s such as cement, automobiles, chemicals, and pharmaceuticals. Secondly, I assess the role Pakistan's textile and clothing firms have played in the growth of these sectors and critically analyse the contribution of the industry to industrial development. Specifically, I investigate the determinants of industry choice and how accumulated capabilities shaped entry strategies in the new sector. Finally, I contrast these trends with the origins and emergence of firms in sectors such as pharmaceuticals and information technology. With the use of case studies, I identify how the pre-founder experience of firms in Pakistan's 'new economy' differed from those of textiles, and how this experience shaped the firm capabilities and performance of these new entrants.

At the aggregate level, I find that local industry diversified from its agricultural base immediately after Partition as a result of tariff protection and industrial policy. Wider diversification has also taken place since the late 1980s through the expansion of business groups and the entry of new firms. Diversification in export markets, however, has remained poor with little movement out of agricultural and low value-added products. Basic manufactures such as textiles, surgical instruments and sports

goods continue to dominate overseas sales. While some textile firms have been able to diversify into products such as cement, energy production and real estate, the sectors of choice are most often protected domestic industries and enabled by the transfer of organisational capabilities and general management practices. In contrast, the backgrounds of new entrants into 'modern' sectors such as pharmaceuticals, chemicals and IT show advanced industry-related education and work experience. These findings highlight the roots of recent industrial development in Pakistan in both production and organisational capabilities, and how they interact with the policy environment.

Using historical evidence from economies in East Asia I show that determinants of diversification in Pakistan echo those of other economies. I find that at the firm-level diversification is prompted by falling profit margins in existing industries and a growth in demand in certain product areas. Among incumbents, I also find drivers of diversification to include a change in the education of a family member, a 'vision' for the business, or personal connections in other industries. Given that firms tend to diversify based on falling profitability, I argue that the quota system may have held back industrial diversification in Pakistan, most importantly among the most capable firms.

7.1 Industrial diversification and economic development

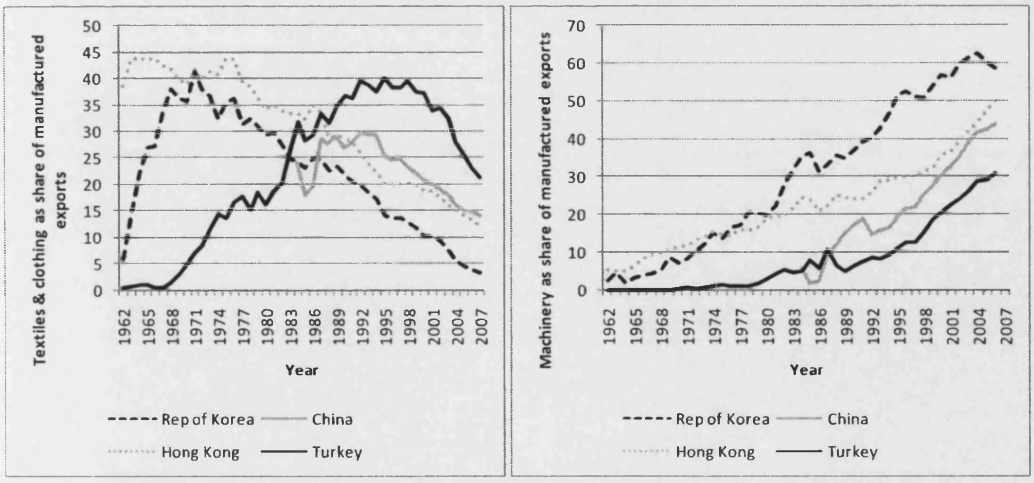
Industrial diversification is widely seen by policy makers and scholars of development studies as a desirable route towards economic growth.[1] This process typically involves a move out of agricultural and low value-added manufactured goods into higher value-added goods and service, often as exporters. This process has been named as 'upgrading', where firms move further up the value chain (see Schmitz, 2004; Amsden and Chu, 2003; Gereffi, 1999), as 'technological leapfrogging' (Breznitz, 2007) and as the move into a 'new economy' (Harriss, 2003). Industrial diversification is reflected in the distribution of economic activity across industries

[1] Diversification can take place into services as well as into the manufacturing sector. However, due to space constraints I introduce only broad trends in Pakistan's service sector here and focus instead on determinants of industrial diversification at the firm level.

and is shaped by a country's relative capital, labour and skill endowments, its market size, its economic policies, and its engagement in trade.

Diversification into higher value-added products has been associated with economic growth in Korea, Taiwan, Japan, Singapore, Hong Kong, China and India. South Korea, for example, has seen a shift in the distribution of economic activities from textiles and light engineering to electronics, shipbuilding and iron and steel (Amsden, 1992). Following the influx of entrepreneurs from the Chinese Mainland after 1948 into sectors bicycle and machine tool production (Amsden & Chu, 2003:17), Taiwan has seen "spectacular growth" of its computer hardware industry (Breznitz, 2007:9) and the emergence of a vibrant service sector (Amsden & Chu, 2003). Singapore and Hong Kong's success has been associated with the move from plastics to electronics, and then into banking and financial services (Young, 1992:14). The export of manufactured products such as televisions and refrigerators have been success stories in China (Brandt et al, 2008) while software and pharmaceuticals have been highlighted as areas of strength in India (Basant, 2007; Arora and Gamberdelli, 2004). Many of these countries were previously large exporters of textile and clothing products, and peaked in their exports just as diversification commenced into sectors such as machinery and transport products (see Figure 7-1).

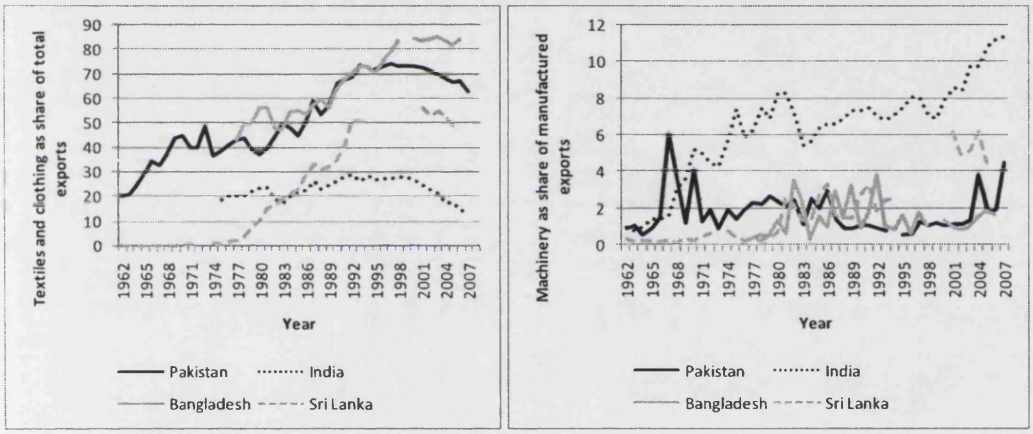
Figure 7-1 Textiles and clothing (left) and machinery (right) as share of total exports (1962-2007), Republic of Korea, China, Hong Kong, Turkey



SOURCE: UN Comtrade SITC1, own analysis

The contrasting lack of industrial diversification in exports from South Asian countries such as Pakistan, India and Bangladesh is illustrated in Figure 7-2. In India and Pakistan only a small proportion of exports are represented in machinery and transport products – 11 per cent and 4 per cent respectively in 2007 – in contrast to 47 per cent in China and 58 per cent in Korea. Indeed, both Korea and China's top exports by value between 2002 and 2007 were electrical machinery and equipment (27.4 per cent and 22.9 per cent respectively) versus cotton in Pakistan (21.0 per cent) and precious stones in India (14.6 per cent).[2] Further, in textile and clothing exports India only peaked in 1992 and Pakistan 1997 respectively, while Bangladesh had not yet peaked as of 2006.[3]

Figure 7-2 Textile and clothing (left) and machinery (right) as share of total exports (1962-2007), Pakistan, India, Bangladesh and Sri Lanka



SOURCE: UN Comtrade SITC1, own analysis

At the firm level, diversification can be driven by incumbents or by new entrants and evidence suggests that underlying capabilities in product, organisation and innovation have driven firm entry and performance in emerging economies. In Korea, for example, Amsden (1992) argues that business groups which arose from the early import-substituting industries such as sugar, construction, cement, fertilizer and oil

[2] Source: UN Comtrade, HS2002.

[3] The peak of textiles and clothing as a percentage of total exports for countries such as Hong Kong and Korea may be lower in comparison with Pakistan and Bangladesh because the latter countries are more able to take advantage of their comparative advantage, in contrast with trade barriers earlier put up against the former. Thanks to David Hounshell for pointing out this possible relationship.

refining drove industrial diversification.[4] What distinguished groups that diversified was their capital- and skill-intensity, greater reliance on salaried managers and emergence from a more taxing learning process than in lighter industries (1992:246). Learning through joint ventures was also important. As early as 1969 Korea was considering electronics as an area for growth and when joint ventures were allowed "most of the major business groups in the computer field – Hyundai, Daewoo, Lucky-Goldstar, and Samsung – formed them" (1992:83).

In contrast, Amsden argues that "cotton textiles firms did not become the agents of further industrialization" (Amsden, 1992:20). There were almost no links between textiles and clothing and new industries and none of the textile firms of the 1950s and 1960s became the leading chaebols of the 1970s and 1980s (although many chaebols did have textile arms within the business). Amsden explains that "unchanging skill base of the textiles industry made it difficult to 'upscale' and all but impossible to act as agent of further industrialization through diversification into new industries" (ibid:257). In contrast, heavy industries such as cement were learning-intensive: foreign technical assistance (such as overseas training and in-house process training using software) was higher than in textiles, and the capital intensive structure demanded capabilities in technology, scale and process automation (Amsden 1992:265).

In Japan, it was invention and innovation that drove the formation and diversification of many of the country's leading firms of the twentieth century. Education and the development of underlying, transferable capabilities is also a characteristic of these firms. The founder of Hitachi, for example, was an employee of a Japanese mining firm when he started building electric motors in the company's engineering and repair shop. The firm went on to manufacture generators and expanded to be a major manufacturer of electrical equipment and machinery through acquisitions and growth in the 1920s.[5] Matsushita Electric was founded by a school drop-out and his brother-in-law who started off making electric plugs, who then went on to manufacture lamps,

[4] As for the initial origins of these companies, most founders were "educated and rich" (Amsden, 1992:266). Although Hyundai started as a construction firm serving US military before obtaining a licence to make cement from the government (ibid:267), but the backgrounds of other firms are unclear. According to Amsden (1992:168) top management was typically recruited heavily from government, financial institutions and public enterprise.

[5] Hitachi, Hoovers profile, http://www.hoovers.com, accessed October 2006.

batteries and radios in the 1920s and 1930s.[6] The Toyoda group of companies in Japan – founded by a carpenter who developed an early wooden loom – invented and manufactured spinning and weaving machinery for the textile industry in the late 19th and early 20th century before moving into auto manufacturing.[7]

Many of Japan's textile firms diversified into other product markets when they faced industry maturity and macroeconomic turbulence. According to Colpan and Hikino (2005), 'technology-driven diversifiers' had specialist knowledge in rayon fibre manufacturing from which knowledge of organic polymer chemistry and fibre engineering assisted moves into products such as plastics, chemicals, membranes, medical devices and optical disks. 'Market-led diversifiers' used marketing and financial capabilities to diversify into growing product markets such as colour imaging, pharmaceuticals, food, housing and construction. In contrast, 'textile adherents' made little investments in R&D which lead to lock-in and 'core rigidities'. Diversification among this group of firms was thus limited to small range of engineering plastics and reagents.

In India, the export-oriented information and pharmaceutical industries have gained prominence as the centre of India's 'new economy'. Industry growth has been driven by a mix of established business groups, new entrants and international firms in which education and industry experience has played an important role.[8] HCL, for example – one if India's largest software firms – was founded in 1976 by Shiv Nadar, a former employee of the calculator division of Delhi Cloth Mills. He left the company with five other colleagues to found a unit making calculators and later personal computers

[6] Matsushita Electric, Hoovers profile, http://www.hoovers.com, accessed October 2006.

[7] The son of the founder, Kiichiro, was a mechanical engineer who worked to improve the looms. When the firm licensed technology to a US firm, Platt Bros, it devoted the proceeds to automobile-related research and development. In 1930, Kiichiro organised a group of engineers and started to research gasoline engines within the Toyoda Automatic Loom Works which developed the company's capabilities in precision machining and mass production methods, and in 1933 led to a prototype of an engine and the establishment of an Automobile department within the firm (Mass and Robertson, 1996). The role of overseas consultants, however, was also important in the transfer of production knowledge.

[8] Fuller and Narsimhan (2007) identify the largest software companies by export revenue in 2004 as Tata Consultancy Services, Infosys Technologies, Wipro Technologies, Satyam Computer Services, Cognizant Technology Solutions, and HCL Technologies. Lalitha (2002) cites the top five Indian firms making patent applications as Panacea Biotec, Ranbaxy Laboratories, Lupin Laboratories, Cipla and Sun Pharmaceutical Industries.

(at a time when multinational firms such as IBM were asked to leave India)[9]. Another large software house, Wipro, was formed in 1945 as West India Vegetable Products Ltd. The firm later diversified into cooking oils, soaps, and hydraulics and has been managed since 1966 by Azim H. Premji, a graduate in Electrical Engineering from Stanford University, USA.[10] In the pharmaceutical industry, Cipla was founded by a chemistry Ph.D graduate Khwaja Abdul Hamied in 1935, and the founder's son also earned a doctorate in chemistry and joined the firm in 1961 (he remained the Chairman and Managing Director in 2007).[11] Lupin Laboratories which started its business in 1968 was founded by Dr. Desh Bandhu who had a masters degree in chemistry and an early career as an Associate Professor at Birla Institute of Science and Technology.[12]

Some Indian textile firms have managed to diversify into new sectors. Tata Group, the large industrial conglomerate in India, was founded as a textile trading company in 1868 and is now engaged in seven main business sectors of chemicals, communications, consumer products, energy, engineering, materials, and IT services (including the above mentioned Tata Consultancy Services).[13] Suzlon Energy – a more recent entrant – has gained prominence as a leading manufacturer of wind turbines and grew out of the family textile business of Suzlon's founder, Tulsi R. Tanti, a mechanical engineer by training.[14]

In Taiwan, Amsden and Chu (2003) argue that the impetus for growth of sectors such as calculators and personal computers was the emergence of a 'new engineering elite' as well as spinoffs from government research labs and science parks. While many first generation electronics firms were created using finance from the "old economy", nearly all of these firms soon became defunct (although many of the founders of future top producers of calculators and notebooks in Taiwan once worked for these

[9] 'The amazing story of the birth of HCL', Moneycontrol.com, 9 Jun, 2007, reprinted on ReDiff India, http://www.rediff.com/money/2007/jun/09bspec1.htm, accessed 25 March 2009.
[10] Sources: 'From seeds to ASICs: Wipro's journey typical of India's design industry', Electrical Engineering Times, 24 Mar 2008, and Azim H. Premji, Wipro Profile, http://www.wipro.com/aboutus/azim_profile.htm, accessed 25 March 2009.
[11] Cipla History, http://www.cipla.com/corporateprofile/history.htm, accessed 25 March 2009.
[12] Lupin Limited, http://www.lupinworld.com, accessed 25 March 2009.
[13] Tata Group, Hoovers profile, http://www.hoovers.com, Accessed October 2006.
[14] 'Mastering the wind', Businessworld, date unknown, accessed 25 March 2009, http://www.businessworld.in/index.php/Energy-Power/Mastering-The-Wind.html

now defunct firms). Stan Shih, for example – an electrical engineering graduate – first worked in first generation calculator producers (Unitron and Qualitron) founded by a textile company (Amsden and Chu, 2003:31) and later founded Acer, the laptop manufacturer.[15]

In contrast, Taiwan's old business – and textile – groups diversified into services. Amsden and Chu argue that these groups did so because of the types of skills they had acquired in the old economy (2003: 119). Ruentex, for example, was formed as a textile firm in 1953 with American aid and also entered land development from which it diversified into construction in 1977 (Amsden and Chu, 2003). Later the a new company was formed to develop shopping complexes, as well as interior design, building maintenance and international distribution and warehousing units. Later it formed a securities firm which represented 30 per cent of profits in the year 2000 (ibid).

Evidence therefore suggests that it is actions at the firm level that have played an important role in driving aggregate industrial development. In particular, prior education, experience and accumulated capabilities have prompted new firm formation in several emerging economies. Diversification has been driven both by incumbents as well as new entrants and the education and experience of founders and Directors – even within business groups – has been an important driver of product choice. However, the textile sector has historically had an ambiguous relationship with industrial development. The ability to diversify into either services or manufacturing has often been highly dependent on the firm-specific case.

7.2 The industrial landscape of Pakistan

Aggregate patterns of industrial diversification

As outlined in Chapter 2, Pakistan had a very low industrial base at the time of independence. Agriculture comprised 53.2 per cent of gross domestic product (GDP), services and trade 39.0 per cent, and industry only 7.8 per cent. However, as

[15] Stan Shih had a BA and MSc degree in electrical engineering from Taiwan. He was a designer and developer in Unitron, and led the team that designed the first pen watch in Qualitron. Biography of Stan Shih, Acer, accessed 23 March 2009, http://global.acer.com/about/biographical.htm

Pakistan's GDP per capita grew in real terms from $188 in 1960 to $660 in 2007, the composition of Pakistan's economy also evolved.[16] Between 1960 and 2007 agriculture fell as a share of total GDP from 46 per cent to 19 per cent while industry increased from 16 to 27 per cent in the same period (see Figure 2-16 above). The share of services in GDP has also risen from 38 per cent in 1960 to 53 per cent in 2007. Data on the industrial composition of Pakistan's domestic GDP are poor, but the figures available suggest that by 1981 Pakistan had developed some capability in the manufacture of machinery, metal products, iron and steel, chemicals and transport equipment (although textiles and food products dominated) (see Table 7-1).[17] This reflects early government policy objectives of self reliance in domestic industry as well as the entry by entrepreneurs after Partition into sectors such and iron and steel.

Table 7-1 Composition of industry in Pakistan (1981 and 1996)

Year	1981 (percent of total value added)		1996 (percent of total value added)	
1	Textiles	30.8	Textiles	30.6
2	Food products	12.9	Food products	20.8
3	Machinery, not electric	7.2	Other chemicals	6.6
4	Fabricated metal products	7.1	Machinery, not electric	4.3
5	Other chemicals	6.6	Machinery, electric	4.1
6	Iron and steel	5.2	Fabricated metal products	3.8
7	Machinery, electric	4.8	Iron and steel	3.0
8	Printing and publishing	3.6	Wearing apparel, not footwear	2.9
9	Transport equipment	3.2	Transport equipment	2.7
10	Industrial chemicals	2.1	Industrial chemicals	2.6

SOURCE: UNIDO 2001, UNIDO Industrial Statistics Database

In more recent years there has been rapid growth in some industrial segments. Between 1988 and 2001 the fastest growing industrial sectors included 'modern' products such as industrial chemicals, pharmaceuticals and the manufacture of transport equipment (see Table 7-1 and Table 7-2).[18] Further, the quantum index of large scale manufacturing of Pakistan's Federal Bureau of Statistics (with a baseline of 100 in 2000) shows that overall manufacturing rose to the level of 205 in 2007 and that some sectors were particularly responsible for this growth including automobiles

[16] Source: World Development Indicators, December 2008, constant USD (2000).
[17] For example, statistics provided by the United Nations Industrial Development Organisation are only as recent as 1996 and Pakistan's own national account data is sparse on industry composition, having produced its last census of manufacturing in 2001.
[18] This is the period of data available from the Pakistan Statistical Year Book 2007, Pakistan Federal Bureau of Statistics.

(which rose to 445), cement (which grew to 244) and fertilisers (which increased to 180).[19]

Table 7-2 Fastest growing sectors by total value added (1988-2001)

	Sector	Growth rate (per cent)
	All	32
1	Textile	112
2	Petroleum and coal	1670
3	Industrial chemicals	65
4	Food manufacturing	15
5	Apparel	146
6	Drugs and pharmaceuticals	65
7	Paper and paper products	95
8	Ginning of fibre	23
9	Manufacture of transport equipment	24
10	Beverage industries	74

NOTE: Sectors are ranked by the total increase in real value added, but only growth rates are listed.
SOURCE: Table 13.5 Value of production by major industry groups, Statistical Yearbook 2008, Federal Bureau of Statistics, own analysis

Data on growth in the service sector are scarce. Evidence from firm histories indicates that in the post-partition period there was entry of business groups into banking, insurance and leasing. More recent data show rapid growth of several service sectors. The finance and insurance industry, for example, has shown particularly rapid growth between 1999 and 2008, rising from 3.7 to 6.5 per cent of GDP (see Table 7-3). From 2005 to 2006, when services grew by 8.8 per cent expansion was concentrated in construction, banking, and transport, storage and communication.[20] From 2007 to 2008, the wholesale and retail trade dominated with 17.1 per cent of GDP, followed by social and community services, and transport, storage and communications (see also Table 7-3).

[19] Source: Pakistan Statistical Year Book 2008, Section 13-1 Quantum index of large-scale manufacturing industries.
[20] This is in contrast with negative growth in the agricultural sector and 9 per cent growth in manufacturing in the same period. Source: Pakistan Economic Survey 2006, Ministry of Finance, Government of Pakistan.

Table 7-3 Share of services in gross domestic product of Pakistan (2000-2008)

Segment	Share of GDP (per cent) (1999-2000)	Share of GDP (per cent) (2007-2008)
Wholesale and retail trade	17.5	17.1
Transport, storage, communications	11.3	10.0
Social and community services	9.0	10.4
Public administration, defence	6.2	6.5
Finance and Insurance	3.7	6.5
Ownership of dwellings	3.1	2.6
Total services	50.7	53.2

SOURCE: Federal Bureau of Statistics, 2008 National Accounts[21]

Foreign direct investment (FDI) into Pakistan has targeted both manufacturing and service sectors. From 2005 to 2006, telecoms, energy (oil, gas and power), financial services, trade, construction, chemicals, food and personal services have been the major recipients, accounting for almost 94 percent or $2.1 billion (nominal USD) of FDI.[22] The telecom sector has been the single largest recipient of FDI ($1.0 billion) followed by the energy sector ($304 million) and financial services ($266 million). However, labour force data show that the majority of employment growth between 1998 and 2007 has taken place in the manufacturing sector (see Table 7-4). This suggests that service growth is not delivering employment growth, although it may be leading to rising productivity, as observed in India by Kochar et al (2006).

Table 7-4 Employment by segment (1998-2007)

Segment	Share of total employment (per cent) (1998)	Share of total employment (per cent) (2007)
Agriculture	47.3	43.6
Manufacturing	10.0	13.5
Commerce	13.9	14.4
Services	15.4	14.4
Construction	6.3	6.6

SOURCE: Pakistan Labour Force Survey 2007-2008, Federal Bureau of Statistics

However, in contrast with other economies such as Korea and China, Pakistan has shown relatively little diversification into higher value-added products. By 2001, textiles still accounted for 28.0 per cent of total industry value added, food

[21] Table 13: Sectoral share in gross domestic product (at constant factor cost of 1999-2000), accessed 23 March 2009, http://www.statpak.gov.pk/depts/fbs/statistics/national_accounts/table13.pdf

[22] Pakistan Economic Survey 2006, Ministry of Finance, Government of Pakistan, p. xiii

manufacturing for 16.5 per cent, and industrial chemicals for 6.2 per cent.[23] In contrast, the top three manufactured products in Korea in 2001 were apparel, metal products and special purpose machinery.[24] In the same year in Japan, the top three manufactured products were food, metal products and special purpose machinery. Even in India machinery products made it into the top three in 2001, ranked by food, textiles and non-electrical machinery.

Pakistan has also shown limited upgrading in its export products when compared with other countries. While agricultural exports have fallen in Pakistan from 60 per cent in 1962 to 1.49 per cent in 2005 (see Figure 7-3), manufactured exports (representing approximately 85 per cent of the total) have continued to be dominated by traditional segments such as leather and surgical instruments as well as textiles (see Table 7-5). In fact, between 2003 and 2007 the fastest growing export products in gross value were cotton (up 36 per cent), other made-up textile articles (up 35 per cent), mineral fuels (up 264 per cent), cereals (up 87 per cent) and knitted apparel (up 42 per cent).[25] An anomalous rise in transport equipment in 2007 was only the result of only a spike in the export of ship and boat structures. Further, some traditional sectors have suffered in recent years. Football stitching declined after the withdrawal of Nike (Pakistan's largest buyer of hand-stitched footballs) in 2006 following concerns over labour conditions and the alleged presence of child workers in the industry (Nadvi, 2008).[26] Other sports goods such as tennis rackets have also experienced rising competition from mechanised production in Taiwan and Korea (Weiss, 1991:125).

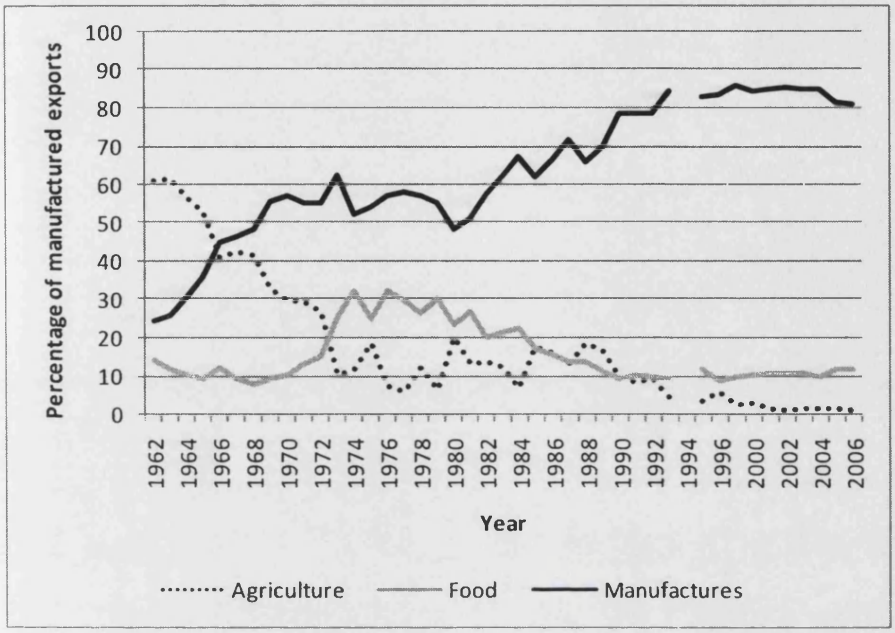
[23] Pakistan Statistical Year Book 2007, Federal Bureau of Statistics. Petroleum and coal is actually the third largest industrial sector in 2001 with 8.2 per cent of the total. However, petroleum is not included in the UNIDO data as a manufactured product hence it is not included here for the purposes of comparison.

[24] Source for Korea, Japan and India data here is UNIDO, Revision 2 (INDSTAT3) which is not available in Pakistan beyond 1996, hence the use of data for Pakistan from the Statistical Year Book.

[25] Source: UN Comtrade, HS 2002

[26] 'Nike to resume football production in Pakistan', Financial Times, 26 May 2007

Figure 7-3 Composition of Pakistan merchandised exports (1962-2006)



SOURCE: World Development Indicators, World Bank, December 2008

Table 7-5 Top exports from Pakistan in 1962 and 2007 (share by percentage)

	1962	%	2007	%
1	Textile fibres, not manufactured	56.8	Textile yarn, fabrics, made up articles	39.0
2	Textile yarn, fabrics, made up articles	20.1	Clothing	24.1
3	Cereals and cereal preparations	6.3	Cereals and cereal preparations	7.6
4	Fish and fish preparations	5.2	Petroleum and petroleum products	5.4
5	Hides, skins and fur skins	3.1	Transport equipment	2.9
6	Misc manufactured articles	1.1	Misc manufactured articles	2.5
7	Crude animal, vegetable materials	1.0	Leather/leather manufactures	2.3
8	Leather/leather manufactures	0.9	Non metallic mineral manufactures	1.6
9	Coffee, tea, cocoa, spices & manufactures	0.9	Scientific & control instruments, photographic goods, clocks	1.3
10	Feed. stuff for animals	0.9	Fruit and vegetables	1.2

SOURCE: UN Comtrade SITC1, own analysis

There has only been growth in a few exports segments. Drugs and chemicals, for example, have risen from 0.3 per cent of total exports in the early 1990s to approximately 2.5 per cent between 2004 and 2007.[27] Petroleum rose from 1.6 per cent of total goods exports in 1990 to 5.0 per cent in 2007.[28] Sales of cement abroad

[27] Source: Pakistan Economic Survey, Statistical Supplement 2006, Ministry of Finance, Government of Pakistan, and Statistical Year Book 2008, Federal Bureau of Statistics.
[28] ibid

have also increased from 0 per cent of total exports in 1996 to 0.6 per cent in 2007.[29] In contrast, the top sectors of growth in India in the same period were mineral fuels, pearls, ores, organic chemicals and machinery and mechanical appliances. In China, the top five sectors of growth were electrical machinery and equipment, mechanised machinery, knitted garments, iron and steel and optical/photographic products.[30] Further, Pakistan registered only five patents between 2001 and 2005 with the United States Patent and Trademark Office.[31] India registered 1,222 patents in the same period.

Further, while manufactured exports from Pakistan grew 13 fold between 1976 and 2005, the export of services grew only five fold. In contrast, service exports from India grew in India to make up 37.9 per cent of the total in 2006 in contrast with 17.1 per cent in Pakistan.[32] The bulk of service exports from Pakistan are dominated by a few, non-commercial sectors such as government services, including remittances received by foreign missions, military units and agencies (see Table 7-6). Transportation is also likely to represent much of the earnings of the state-owned national airline, Pakistan International Airways (which made a loss before tax each year from 2005 to 2008).[33] On a positive note, the fastest service growing exports from 2005 to 2007 were construction services (showing growth of 246 per cent and making up 1.8 per cent of the total in 2007), royalties/licence fees (with growth of 133 per cent, taking it to 1 per cent of the total) and computer and information services (with growth of 102 per cent, making up 3.4 per cent of the total).

Table 7-6 Service exports from Pakistan (2007)

	Service	Share of total service exports
1	Government	40.9
2	Transportation	28.5
3	Other business	11.0
4	Travel	7.3
=5	Communication	3.4
	Computer & Information Services	3.4

NOTE: This data were only available from the State Bank of Pakistan from January 2005 onwards.
SOURCE: State Bank of Pakistan, own analysis

[29] ibid
[30] Source: UN Comtrade, SITC1
[31] Source: US Patent Office, http://www.uspto.gov
[32] Source: World Development Indicators, December 2008
[33] Source: Pakistan International Airways, Annual Reports, own analysis. This is my own estimation since detailed data on service exports are not available.

Firm incorporation data match trends in the growth of local and export sectors. In 2007, the largest number of firms in any one sector was in textiles, followed by general services, tourism, trading, and communications (see Table 7-7). However, there has been a rise in firm entry since the late 1980s into 'modern' sectors such chemicals, pharmaceuticals and information technology (see Figure 7-4) and between 1999 and 2007 the most popular sectors for entry were communications, services, chemicals and textiles (see Table 7-8).[34] Further, the data also show the concentration of certain sectors among small numbers of companies. There are only a total of 177 registered sugar mills, for example, 72 cement firms, and 19 companies in steel and allied products. The small numbers of firms in the carpet, footwear and sports goods sectors (22, 24 and 53 respectively) confirms that many of the firms in these segments will be partnerships, sole proprietorships or unregistered.

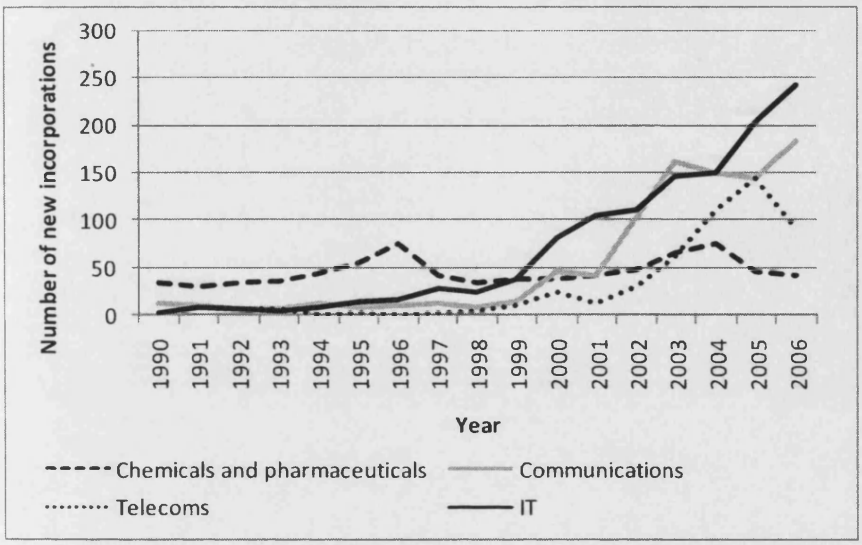
Table 7-7 Distribution of all firms incorporated in Pakistan (2007)

	Sector	Percentage of total firms
1	Other	37.7
2	Textile	8.5
3	Services	7.6
4	Tourism	4.8
5	Trading	4.6
6	Communications	4.3
7	IT	3.6
8	Engineering	3.2
9	Food & Beverages	3.2
10	Construction	2.9

SOURCE: Securities and Exchange Commission of Pakistan, Annual Report 2007

[34] This incorporation data, however, should be treated with caution. This rise can also be because SECP has been encouraging firms to formalise their firms (as outlined in SECP Annual Report, 2005). It is also unclear what activities firms are involved in – in the pharmaceutical sector, for example – and firms may self-register into categories. However, given the close relationship with Pakistan's economic stability, such as the coup in 1999, and global economic performance suggests that economic confidence was also an important determinant of firm incorporation.

Figure 7-4 Incorporation trends among high-tech sectors in Pakistan (1990-2006)



SOURCE: Securities and Exchange Commission of Pakistan

Table 7-8 Firm incorporation trends by sector in Pakistan (new firms per year)

	1999-2000	2000-2001	2002-2003	2004-2005	2005-2007
	Other (888)	Other (529)	Other (685)	Other (353)	-
1	Comms. (140)	Comms. (187)	Comms. (272)	Services (426)	Services (2,546)
2	Chemical & Pharma. (109)	Textile (89)	Textile (130)	Trading (326)	Tourism (2,235)
3	Textile (96)	Chemical & Pharma. (82)	Chemical & Pharma. (94)	Comms. (234)	Trading (1,469)
4	Food & Beverage (85)	Finance & Banking (62)	Food & Beverage (52)	Real Estate Devt. (225)	Textile (615)
5	Transport (52)	Food & Beverage (51)	Fuel & Energy (46)	Textile (221)	Comms. (474)

NOTE: Categories changes in 2004-2005 included previously defined 'Other' sectors such as services, IT, tourism and trading, and reflects the introduction of these categories into the top 5 in 2005. 'Comms.' refers to 'Communications'.
SOURCE: Securities and Exchange Commission of Pakistan

The composition of industry by firm type

The composition of the industrial sectors outlined above varies by firm type and includes local firms, state-run units, army-run establishments and foreign firms. Among the top 40 publicly-listed companies, for example, government and domestic private sector ownership are estimated to account for 34 and 53 percent respectively, while foreign ownership accounts for the remaining 13 percent (IMF, 2005:55). Composition by industry sector has been shaped both by economic policy and firm-

level capabilities, however the distribution of firms by type within sectors reveals the extent to which barriers to entry still remain across industries.[35] In particular, entry patterns show dynamism within some sectors but the continued role of patronage in others.

Traditional industry sectors, for example, have typically remained dominated by established private sector business groups. Sugar production, for instance, comprises 1.9 per cent of GDP (and Pakistan is the world's fifth largest sugarcane producer), but of the 71 mills classed as operational many of them belong to well-known business families.[36] Shahtaj Sugar Mills, for example, is part of the Shahnawaz Group, also involved in textiles and retail of food and drink.[37] Noon Sugar Mills is part of the Noon Group, also involved in milk powder, cement and textiles.[38] Brother Sugar Mills and Ittefaq Sugar Mills belong to the family of former Prime Minister, Nawaz Sharif, while the Pakistani army is also involved with the ownership of Fauji Sugar Mills. It is protective economic policy which has particularly shaped entry into the sector (as well as influenced founder motivations). The owner of Firm 51, an auto component manufacturer, commented that sugar sector was previously easy to enter because you could make a "contribution to get a licence". There were only eleven new incorporations in the sector between 2004 and 2007, and in 2008 the industry was still protected with import tariffs of 25 per cent.[39] As a result, the industry remains stagnant and in 2008 it was under investigation for cartel activity.[40]

The army also continues to play an important role in several traditional industries. Siddiqa-Agha (2007) shows, for example, that there are four main economic subsidiaries to the Ministry of Defence: the Fauji [Soldier] Foundation, the Army Welfare Trust, the Shaheen Foundation and the Bahria Foundation. The Fauji Foundation was established in 1954 to address the welfare of ex-servicemen, but

[35] Industry in Pakistan is comprised of local firms, state-run units, army-run establishments and foreign firms. Government and domestic private sector ownership are estimated to account for 34 and 53 percent of the top 40 listed companies respectively, while foreign ownership accounts for the remaining 13 percent (IMF, 2005).

[36] Pakistan Board of Investment, 'An introduction to Pakistan's sugar industry', date unknown but approximately 2006, http://www.pakboi.gov.pk

[37] Shahnawaz Group Companies, http://www.shahnawazltd.com/about.html, accessed 25 March 2009.

[38] Noon Group, profile, http://www.noonsugar.com/groupprofile.htm, accessed 25 March 2009.

[39] Beet and cane sugar are subject to import duties of 25 per cent, Source: Pakistan Customs Tariffs 2008-2009, http://www.fbr.gov.pk/newcu/TARIFF/Tarrif20082009.asp [sic].

[40] 'CCP seeks data of cement makers from FBR', Business Recorder, 12 September 2008,

money provided for capital investment was also used to create industrial units (2007:119). The Army Welfare Trust was set up in 1971 to generate employment and profit-making opportunities, the Shaheen Foundation by the air force in 1977, and the Bahria Trust by the navy in 1982 with similar welfare goals. Between them, they are involved in sectors such as construction, real estate, goods transportation, finance, cement, fertilizer, oil and gas, sugar, rice, and cereal production. They have even engaged in joint ventures with overseas firms, such as Fauji Cereals, incorporated in 1954 in collaboration with Quaker Oats England.[41] Siddiqa-Agha argues, however, that the economic efficiency of the units is questionable. The Army Welfare Trust, for example, received a bail out from the government in 1997 in response for agreements to improve management practices (2007:221).

However, there has been a gradual retreat of the state since the end of the 1990s. While the state was dominant in the early years in sectors such as sugar, jute, fertilizer and pharmaceuticals, by 2007 it had completed privatisation of all units of chemical, textile, cement, rice and light engineering, as well as 98 per cent of automobiles, 96 per cent of ghee, 83 per cent of phosphate fertiliser, and all units of nitrogen fertiliser.[42] Some units do remain in state hands, such as the national airline, PIA, Pakistan State Oil (listed for privatisation in 2007), and Pakistan Steel Mills (completed in 1985).[43]

There are also a number of fresh faces in the service sector in recent years including both local and foreign firms, showing positive developments in firm entry. The deregulation of the telecoms sector in 2004 led to the entry of Telenor, a Norwegian Telecom firm, which in 2008 announced its purchase of Tameer Microfinance Bank in order to expand its market.[44] Firms such as Siemens, Alcatel, and Ericsson have also set up telecom manufacturing facilities in Pakistan.[45] At the time of my third field visit to Pakistan in 2007, International clothes chain Next had set up a new store in

[41] Fauji Cereals, http://www.faujicereals.com.pk/nutritions.html, accessed 25 March 2009.
[42] Pakistan Economic Survey, 2007-2008, p55-56, Ministry of Finance, Government of Pakistan.
[43] Sources: Privatization Commission, Government of Pakistan. Pakistan State Oil Company, http://www.privatisation.gov.pk/oilgas/pso.htm and Pakistan Steel Mills, History, http://www.paksteel.com.pk/organ_our_history.html, accessed 25 March 2009.
[44] Sources: 'IT & Telecom: Sector overview', Pakistan Board of Investment, accessed 25 March 2009 from http://www.pakboi.gov.pk/pdf/IT%20&%20Telecom.pdf and 'Telenor to acquire Tameer Microfinance Bank', Business Recorder, 19 November 2008.
[45] 'IT & Telecom: Sector overview', Pakistan Board of Investment (as above).

central Lahore in partnership with Team A Ventures, a Pakistani retail franchise specialist.[46] Team A Ventures also owns the Mothercare franchise in Pakistan and is part of the Gulsons Group, a business established in Pakistan in 1965 in Karachi and also involved in ocean and airfreight, warehousing and distribution.[47] Foreign entrants included cash and carry stores Makro in a joint venture with Habib Group, as well as Carrefour through its Dubai based franchisee.[48]

Foreign firms also tend to have a stronger presence in sectors such as oil and gas, consumer goods and pharmaceuticals. In the oil refining and marketing sector, in 2005, for example, Shell Pakistan – which has been operating in the country since 1899 – had the second largest market share of 22 per cent (after the state-owned Pakistan State Oil which had 67 per cent market share).[49] Caltex Oil (part of Chevron) had 7 per cent of the market, followed by Attock Petroleum, a subsidiary of Attock Oil Company UK with 2 per cent.[50] There have been some recent new entrants including Bosicor Pakistan. It had Pakistan's fifth largest refinery in 2008 and its market share had increased from 6.5 per cent in 2006 to 12.0 per cent in 2008. It was founded in 1995 by Parvez Abbasi, a former marketing executive for Caltex, and a stake in the firm was later purchased by Abraaj Capital – a private equity firm – with the aim of creating a refining and petrochemicals conglomerate.[51]

The entry trends and current composition of domestic growth sectors such as fertiliser, cement and automobiles – as well as export-oriented, knowledge-intensive segments such as pharmaceuticals, chemicals and information technology – also reveal the types of firms which have driven growth in these sectors. The origins and scope of

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[46] 'Next adds Pakistan to its overseas collection', The Telegraph, 18 February 2007.
[47] Gulsons Group, http://www.gulsons.com/, accessed 25 March 2009.
[48] Sources: 'Making retail business competitive', Dawn, 5 May 2008, http://www.dawn.com/2008/05/05/ebr2.htm, and 'Dubai Group to set up retail hypermarkets', Dawn, 16 October 2008 http://www.dawn.com/2008/10/16/ebr18.htm, accessed 25 March 2009.
[49] Sources: Pakistan Board of Investment, 'Oil and Gas', date unknown but approximately 2005, http://www.pakboi.gov.pk, and Shell in Pakistan, http://www.shell.com/home/content/pk-en, accessed 25 March 2009.
[50] Sources: Caltex in Pakistan, http://www.caltex.com/pk/en/caltexPK.asp, accessed 25 March 2009, and Attock Refinery Limited, Analysis of Financial Statements Financial Year 2004-Financial Year 2008, Business Recorder, 1 December 2008
[51] Sources: Parvez Abbasi (late), The founder chairman, Bosicor Pakistan, http://www.bosicor.com.pk/founderchairman.html, accessed 25 March 2009, and Bosicor Pakistan, Analysis of financial statements 2004-2008, Business Recorder, 24 Nov 2008.

this growth have implication for development policy as well as Pakistan's future development trajectory. It is to this analysis to which I now turn.

7.3 The origins of growth in traditional industrial sectors: cement, fertiliser and automobiles

As outlined above, three traditional industrial sectors which have shown growth in the post-1990 period in Pakistan include cement, fertiliser and automobiles. It is typically business groups and former textile firms that have driven diversification into these sectors shaped by acquired organisational capabilities. Case studies below outline which types of experience were applied in the new industry and founder entry strategies. I also use comparisons of firm size and profitability with that of the textile sector in order to explore firm performance, the potential value-added of the new sector, and the links between founder experience and firm growth.[52] However, I outline how economic policy has often continued to limit firm entry and performance in these new sectors. I argue that policy has often constrained growth in the industries, and hence wider industrial development.

Cement

The cement sector was identified above as one which has been performing well in both local and export markets. It is also one which has been a diversification target for several textile mills. In 2007 and 2008, Pakistan had 29 cement plants producing around 37 million tonnes of cement of which 21 were listed companies.[53] The industry has traditionally been dominated by business groups. The older Dadabhoy Group, for example, operates Dadabhoy Cement. In 2007, it had sales of only Rs704 million but a profit before tax (PBT) of 21.1 per cent (in contrast with the largest textile firm on the KSE which had sales of Rs17.2 billion – Nishat Mills – and the highest PBT at 17.6 per cent – Artistic Denim Mills). Fauji Cement Company, an army-related firm, is also engaged in the sector and had sales of Rs3.5 billion in 2007 and a PBT of 22.8 per cent. While the top executives in the company are ex-army

[52] Note: Protective economic policy would inflate the profitability of firms in such sectors, however there is still a distribution in firm performance within any one industry.
[53] Pakistan Economic Survey, 2007-2008.

officers, its management is also composed of senior technical personnel with experience of operating in the local cement sector.[54] However, were some new entrants from other backgrounds. Bestway Cement, for example, is a subsidiary of Bestway Group of the United Kingdom. It owns Bestway cash and carry and was set up by Sir Anwar Pervaiz as an Asian food store in West London in 1962.[55] In 2007, Bestway reported revenues of Rs5.6 billion but a PBT of 0 per cent.[56]

Several textile mills have also diversified into the cement sector. Lucky Cement, for example, was the market leader in 2008 in both capacity (with 18.7 per cent of the total) and sales.[57] It is part of Yunus Brothers, a large textile group, and in 2007 had a turnover of Rs17.0 billion with a PBT of 13.6 per cent.[58] DG Khan Cement is a unit of the Nishat Group – Pakistan's largest textile exporter – and entered the sector in 1992 with the purchase of a privatised unit.[59] The firm reported revenues of Rs6.4 billion in 2007 with a PBT of 26.8 per cent.[60] Maple Leaf Cement became part of the Kohinoor Group – owner of Kohinoor Weaving and Kohinoor (Textile) Mills – in 1992 following the privatisation of the unit. In 2007 reported revenues of Rs3.7 billion but with a loss before tax of 3.8 per cent.[61]

One textile firm outlined its reasons for entering the cement sector and challenges they faced when doing so. The case highlights the motivations for firm entry, as well as the application of transferable knowledge to the new sector. Firm 50 is an established textile trader and manufacturer that commenced cement production in the 1990s. The founding chairman was described as having "the idea for cement" when seeing the construction boom in the neighbouring Middle East as well as the likely future development of Pakistan itself. According to the current Director, the father would have considered other opportunities, but a particular attraction was the taxation

[54] Fauji Fertilizer Bin Qasim, http://www.ffbl.com.pk/, accessed 25 March 2009.
[55] Bestway Group, http://www.bestwaygroup.co.uk, accessed 25 March 2009.
[56] Bestway Cement, Annual Report 2008. Another one of its group companies is United Bank in Pakistan as well as a property investment division in the UK.
[57] Lucky Cement Company, Analysis of financial statements year 2003-2008, Business Recorder, 6 Oct 2008
[58] Lucky Cement, Annual Report 2008
[59] D.G. Khan Cement Company, About Us, http://www.dgcement.com/article.php?nCatId=113, accessed 25 March 2009.
[60] D.G. Khan Cement Company, Annual Report 2008
[61] Kohinoor Maple Leaf Group, Company profile, http://www.kmlg.com/kmlg/cement_history.php, accessed 25 March 2009.

incentives to enter the cement sector. The founder set out to become the largest producer in Pakistan. The unit was later managed by his son, educated in Pakistan in business. While textiles drove the growth of the group for many years, it is now only reliant on textiles for 40 per cent of revenue (and has the aim of reducing this dependence to 20 per cent).

An initial investment of $100 million was made in the unit, with "complementary infrastructure" provided by the government. The firm took a commercial approach to the unit from the outset, including a strategy to fill knowledge and capability gaps. Consultants were hired to advise on the feasibility of the unit as well as on recruitment and the design of production. They also used established business contacts in recruitment because in the 1990s "staff were hard to get and there was a lack of professionalism". Experienced employees and marketing staff from the cement industry were hired to organise sales and distribute cement through network of dealers.

It took twelve months in total to construct the unit and growth was slow at first. Indeed, production was running only at 50-60 per cent of capacity between 1998 and 1999. However, the attitude to improving performance was one which they had also expressed when moving into higher value-added textile products (they succeeded in maintaining textile exports in the post-quota period). They attempted to get a better return from the plant and considered "cost, quality and distribution" as necessary to maintain a competitive edge. The firm diversified away from 100 per cent sales in the local market to the export market – cited by the Director as the best strategic move they had made. When asked about obstacles in creating the new unit, there were some difficulties in transporting machinery and "interest rates were high". But over time the reputation of the mill was built and the firm was performing well in 2007 – at the time of interview the firm had managed to increase its sales five-fold.

However, cement is one of the many of Pakistan's local industries that remain protected. Between 2008 and 2009 white and aluminous cement was still subject to a

tariff of 20 per cent[62]. According to a Business Recorder report, in 2008 the Competition Commission of Pakistan was investigating a price fixing cartel of cement companies within Pakistan.[63] Indeed, industry protection was cited as a motivation to enter among one textile mill. The current director of Firm 9 explained that over the years the family group had tended to enter sectors that were relatively protected – including cement – as high profitability was guaranteed. But the textile mills of this group had failed to maintain sales in the post-quota period and exhibited poor organisational capabilities (such as a lack of targets and monitoring). In 2007, the cement unit gained profit after tax of under 5 per cent in contrast with over 20 per cent in Firm 50 above.

As a result, while the cement sector has shown some export growth and new firm entry, the industry remains highly protected and economic policy has allowed the entry of some poorly-performing firms. Further, the underlying capabilities of firms are associated with performance even when facing a similar institutional environment. This suggests similar findings in the relationship between accumulated capability and performance as outlined in the textile sector above.

Fertiliser

Fertiliser was also identified above as a growth sector above and saw its final privatisations in the post-2000 period. However, the industry has also continued to be extensively protected in economic policies. A stated objective of the 2001 Fertilizer Policy, for example, was "[t]o enable local fertilizer price to stay below imported fertilizer prices" – particularly from the Middle East – through adaption of feed gas prices.[64] In 2007, there were only six urea manufacturers in Pakistan and in 2008 there were zero exports of fertiliser.[65] While managerial capabilities remain important, there is also a large presence of both established business groups and army-run units. This

[62] Pakistan's customs tariffs 2008-2009, Federal Bureau of Revenue, http://www.fbr.gov.pk. There are also rumours of corruption in the industry in relation to firms' attempts to enter the sector.
[63] CCP seeks data of cement makers from FBR, Business Recorder 12 Sep 2008.
[64] Fertilizer Policy 2001, National Fertilizer Corporation of Pakistan, http://www.nfc.gov.pk, accessed 25 March 2009.
[65] Note: Urea is an input into fertiliser industry as well as natural gas. Sources for data: Pakistan Economic Survey 2007-8 and Federal Bureau of Statistics.

suggests that the sector is more restricted than that of cement, and all firms were making large profits in the post-2000 period.

Dawood Hercules, for example, has been involved in urea fertilizer production since 1968 when it was formed as a joint venture between Dawood Group of Industries and Hercules Inc USA.[66] It was the first private sector venture in Pakistan to receive a loan from the World Bank and was the largest ammonia plant in country at that time. The Chairman of Dawood Group, Hussain Dawood, obtained a degree in Metallurgy from the UK in 1966, followed by an MBA from the USA, showing a similar emphasis on professional training as in some textile firms.[67] Its sales in 2007 were Rs5.0 billion, with a PBT of 16.3 per cent.[68]

The army has two units in the cement sector, Fauji Fertiliser and Fauji Fertilizer Bin Qasim. Fauji Fertiliser, for example, claims to have 40 per cent of Urea manufacturing in Pakistan and was incorporated in 1978 as a joint venture between Fauji Foundation and Haldor Topsoe of Denmark. In 2007, Fauji Fertiliser had sales of Rs28.4 billion and a PBT of 27.5 per cent.[69] The Bin Qasim unit also had a large turnover – Rs12.2 billion in 2007 and a PBT of 31.9 per cent.[70] These levels of sales and profitability were some of the highest seen across the growth sectors. In 2002, the Fauji Foundation also acquired the Pak Saudi Fertilizers urea plant from the National Fertilizer Corporation through the privatisation process.[71]

There has also been a new entrant from the textile industry. In 2006, Azgard9 – a large jeans exporter that performed well in the post-quota period (see Chapter 6) – purchased Pak-American Fertilizer for $272m upon its privatization.[72] By 2007, it claimed to have captured 8 per cent of the urea market and consolidated accounts suggest revenues of Rs6.5 billion and a PBT of 13.5 per cent (in contrast with 17.4 per cent in apparel).

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[66] Dawood Group was engaged also in services with the creating of Central Insurance Company in 1960, jute in East Pakistan, and later in 2004 acquired a majority stake in Inbox Technologies, a computer brand in Pakistan.
[67] Si3 Board of Directors, http://www.s-iii.com/abt_bod_hd.htm, accessed 25 March 2009.
[68] PBT here has been adjusted to remove other sources of income not linked to operating profits.
[69] Fauji Fertiliser Annual Report 2008
[70] Fauji Fertiliser Bin Qasim Annual Report 2008
[71] Fauji Fertilizer Company, http://www.ffc.com.pk/contents/aboutffc.htm, accessed 25 March 2009.
[72] Azgard9, Chemical division, http://www.azgard9.com/chemical.htm

The concentration of this sector and limited degree of entry has implications for development. Aside from the impact on efficiency of the extensive protection of incumbents, concentration is also likely to have an impact on the agriculturalists that rely heavily on the fertiliser industry. Again, business groups, the army and textile firms dominate a traditional industry sector, showing little evidence of entry from other backgrounds based on prior experience.

Automobiles

The automobile and auto parts sector is another growth sector outlined above and contributed $3.6 billion to GDP in 2006.[73] However, the industry is also heavily protected. In 2006, tariffs were between 50 and 75 per cent on complete built units of cars, 90 per cent on motorcycles and 60 per cent on light commercial vehicles. Despite rapid growth in vehicle production and use in Pakistan, from 2005 to 2006 there were only 9 assembly units for cars. Likewise, the motorcycle segment was dominated by Honda Atlas that produced 48 per cent of the total 751,000 motorcycles in the same period.[74]

The sector is dominated by joint ventures between Pakistani business groups and foreign firms. Pak Suzuki Motors, for example, is the largest producer of cars in Pakistan and is a joint venture between Suzuki Motor Corporation of Japan and Pakistan Automobile Corporation (a government-established firm set up in 1973) which started production in 1984.[75] Toyota cars are the next largest brand in production through the Indus Motor Company which is a joint venture between the House of Habib (which set up the first Muslim bank in pre-Partition India and entered into retail with Makro, the cash and carry store), Toyota Motor Corporation and Toyota Tsusho Corporation.[76] It has manufactured and marketed Toyota and Daihatsu vehicles in Pakistan since 1990. Honda is the third largest brand produced, and Honda

[73] Pakistan Board of Investment, 'Automobile Sector', date unknown but estimated to be 2007, accessed 23 March 2009, http://www.pakboi.gov.pk/word/Automobile%20.doc

[74] Honda Atlas showed poor financial performance between 2004 and 2008 and PBT was no more than 5 per cent in any year between 2005 and 2008 (with a loss within one year). This is very low for a protected sector with such high growth, suggesting poor performance. Source: Honda Atlas Annual Reports.

[75] Source: Pakistan Automobile Corporation, Export Development Bureau overview, accessed 23 March 2009 (no longer available) http://www.edb.gov.pk/Corporations/PACO/PACO.pdf and http://www.paksuzuki.com.pk/company_profile.html, accessed 23 March 2009.

[76] Indus Motor, History, accessed 23 March 2009, http://www.toyota-indus.com/company/history.asp

Atlas Cars Pakistan is a joint venture between Honda Motor Company Limited Japan, and the Atlas Group of Companies in Pakistan, a group also engaged in financial services and lubricants. One textile group, Dewan Group, is also involved in the import and assembly of Hyundai and KIA cars with 9.1 per cent of Pakistan's total car production capacity.[77]

However, local firms have remained dependent on the technical skills of their foreign partners. In Honda Atlas, for example, senior technical roles within these joint ventures such as Chief Engineer Paint Shop and Chief Engineer Assembly shop in 2008 were allocated to technical staff from the foreign partner.[78] Similarly, the Director of manufacturing in Indus Motor Company in 2008 was also Japanese[79]. Further, export values for auto parts from Pakistan are still tiny at $16.9 million in 2006, in contrast with textiles exports of $13 billion, suggesting a lack of international competitiveness in the sector.[80]

When outlining its entry to the auto sector one firm demonstrated capability in connections rather than production. Firm 51 started motorcycle production in the 1960s through a joint venture with an overseas partner. The founder was the son of a farmer but from a family he described as "rich". Following an early career in journalism and then the civil service, the founder left to set up his own company based on the experience he had gained in the government's income tax department in "accounts, finance and how markets operate". Together with a colleague and a friend (who was also from a wealthy family) they borrowed money and invested in a new business.

Initially they created a small finance company engaged in leasing, but the founder had visited a motorcycle plant in India and the idea "stuck in [his] mind". They travelled over the world to look for a partner with whom they could manufacture cycles in Pakistan. It was necessary to obtain a licence to manufacture according to the

[77] Pakistan Board of Investment, 'Automobile Sector', as above.
[78] Atlas Honda, Annual Report 2008
[79] Toyota Indus Motor Company, http://www.toyota-indus.com/company/management.asp, accessed 25 March 2009.
[80] Source: Pakistan Board of Investment, Pakistan Light Engineering Sector, date known, p. 38, accessed 23 March 2009, http://www.pakboi.gov.pk/pdf/Light%20Engineering.pdf

prevailing system, which the founders succeeded in doing.[81] Initially they found one firm who already had a distributor in Pakistan, and another that had poor manufacturing capabilities. They started manufacturing with this latter company as their previous local partner wanted to exit. I asked how the firm showed manufacturing capabilities in order to obtain the joint venture, he responded: "we had the licence". In terms of his contribution to the new unit, the founder interviewed was responsible for accounts, sales and the management of the factory with "a small staff".

The company has grown over time to be a large manufacturer in Pakistan. The founder explains that he company's biggest advantage was the technical co-operation with the overseas partner. He admitted that over time management of the firm has improved: previously staff were 'less educated', but now they assist staff in obtaining diplomas and send a couple of senior staff abroad for executive MBAs each year. He himself completed an MBA in the late 1970s in order to learn "how to manage in the right manner". However, the founder commented that his son who is now engaged in the firm "asks why we didn't choose an easy sector". He also commented that "we don't know we chose engineering" and attributes their success down to being "lucky".

This case illustrates the lack of dynamism in the industry and the negative impact of the protective policy environment. The impact is apparent when travelling between India and Pakistan. In India, the latest motorcycles and cars fill the roads, while in Pakistan there is an absence of newer models and an associated impact on the quality of vehicles available for Pakistani businesses and consumers.

Other textile diversification trends

In addition to the sectors mentioned above, textile groups have also diversified into other growth sectors such as retail, services, construction and real estate development.

The retail sector has been a choice of industry for many. Kohinoor Group, for example, has moved into retail as well as energy production and cement. The group opened the first store of its Q-Mart chain in District Sargodha in April 2006, a

[81] Informal sources informed me that this particular founder used his connections in the government system to obtain this, but this was not revealed to me at the time of the interview.

discounter which stocks products ranging from food and home maintenance to electronics and is focused on market outside the main metropolitan cities.[82] Crescent Group, which manufactures jeans at its Crescent Bahuman unit, set up a chain of 'Stone Age Jeans' stores in Lahore, Karachi, and Faisalabad.[83] Firm 50 – the cement manufacturer – was also considering a move into the retail sector to "cater to the masses" of Pakistan. In particular it was considering local furniture retail as it complemented the existing home-textile business.

A handful of textile firms have also entered selected manufacturing segments such as tin and paper. Pakistan's best known business group, Nishat, has diversified into banking, paper packaging, cement and power generation since its formation in 1951. Siddiqsons Group, one of the largest privately held exporters of woven garments under the MFA, created Siddiqsons Tin Plate in 1999. The firm describes itself as 'Pakistan's first and only tin plate industry' and was established in collaboration with Sollac of France and Mitsubishi Corporation of Japan. By 2007 its sales had grown to Rs3.4 billion with a PBT of 7.9 per cent. Sapphire Group, which has two of the largest textile units on the KSE and is entering the independent power sector, was reported to be in the process of establishing a joint venture with Shanghai Baosteel Group Corporation in the field of steel manufacturing.[84]

A number of textile firms have chosen to move into construction and real estate development. Firm 36 chose to move into real estate development in 2006 – and the hotel sector in particular - because of the perceived income growth in the economy of Pakistan and an increase in the number of overseas visitors coming to the country. The underlying motivation of this strategy was that it creates demand for the company's existing product – towels and home textiles inside the hotels, for example – as firm integration is the main priority. Firm 25 had also moved into the construction sector, citing the policy of the government to move to make Pakistan a 'rental economy' and expressing dismay at the poor environment for manufacturing projects in the country. At the time of interview in 2006, Firm 28 was also considering diversifying into the real estate sector.

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[82] Q-Mart, accessed 25 March 2009, http://www.qmart.com.pk/stores.php.
[83] Stone Age Jeans, accessed 25 March 2009, http://www.stoneagejeans.com/storelocator.htm
[84] '40 new Pak-China joint ventures to add existing 42 JVs in private/public sectors', The Pakistan Newswire, 14 May 2007

Services were of interest to several textile firms. Banking, for example, has been a focus of groups like Nishat which owns Muslim Commercial Bank.[85] Firm 26, a spinner and weaver, entered the logistics and transportation sector in partnership with an experienced firm with whom the management had contacts. They were brought in to contribute the capital. A couple of firms also entered, or had plans to move into, the agriculture sector. Quetta Textile Mills, an established textile and leather producer, moved into livestock production in 2007. Firm 41, a garment manufacturer, explained its interest in entering the olive oil producing sector in Pakistan in partnership with an overseas contact.

However, on the whole these moves reflected the application of existing transferable capabilities such as marketing, organisational design and management practices. Only a few firms have moved into manufacturing or more 'modern' industrial sectors in the post-2000 period. Indeed, when asked why diversification into export products was not considered, however, the CEO of Firm 50 stated that it is "not possible to manufacture competitively" in Pakistan. Others had decided not to diversify in order to focus on their existing textile business in the post-MFA era, such as Firm 12, a large garment producer. There are only a few exceptions. Firm 29, for example, a small spinner, had a chemical unit as part of the business created by his son who had completed an undergraduate in chemistry in the UK. Firm 42, had created a spinoff of its IT unit following heavy investments in IT in response to the demands of a foreign buyer. The Financial Times has also reported that the Gul Ahmed Textile Mills in Karachi had opened its own business process outsourcing company.[86]

Underlying capability was an important driver of diversification paths. In its joint venture in logistics with friends of the family who are involved in the transport sector, Firm 26 contributed management expertise as well as finance for the new venture. According to the Director, it is important to "pick up the skills from the existing company" when choosing the target industry for diversification. Several textile firms also set up independent power companies alongside in-house power generation in the

[85] Although there have been several allegations of corruption in the way this privatisation took place (a number of directors of textile firms are on the board of Muslim Commercial Bank) and of cartelisation among certain banks. Source for cartel reference: 'Tareen sees banks' cartel behind currency fall', Business Recorder, 9 October 2008.
[86] 'Minnow plans to become big fish', Financial Times, 1 Jun 2005.

textile mill, and include Gul Ahmed Energy, Kohinoor Energy and Liberty Power.[87] In firms 12 and 29 above, the move into IT and chemicals was shaped by the education and accumulated experience of family members. However, the economic policy environment and existing business connections had clearly shaped the choice of target industry.

The presence of export quotas under the Multifibre Agreement also appears to have shaped diversification trends among Pakistan's textile firms. Many cited declining profits in the textile and clothing sectors as their recent motivations for diversification. The Director of Firm 12, a leading garment unit, stated that "companies are starting to regret that they didn't invest their money more wisely during the quota". Several others were trying to rapidly reduce their reliance on textiles. Indeed, the MFA distorted the industry, making it more profitable for the quota holder than it would have been otherwise. This suggests that the quota policy which was designed to help firms in developing countries actually discouraged their diversification into potentially more profitable industries.

7.4 The origins of growth in knowledge-intensive sectors: pharmaceuticals, chemicals and information technology

Knowledge-intensive 'modern' sectors such as pharmaceuticals, chemicals and information technology (IT) have also shown growth in recent years in Pakistan. The origins of these firms indicate that diversification into the 'new economy' in Pakistan tends to be driven by entrants with industry-specific education and experience rather than general management experience, capital or even connections. As a result, there is only a limited presence of firms originally involved in textiles and clothing or those originating from business groups.

[87] Pakistan Board of Investment, 'Pakistan Power Sector', date unknown but approximately 2005, http://www.pakboi.gov.pk. Competitors in this sector included Hub Power, set up in 1985 with the help of the World Bank, and now run by National Power of the United Kingdom, and Fauji Kabirwala Power was set up by the Pakistan army's Fauji Foundation in 1994. Sources: Hub Power, History, http://www.hubpower.com/history.php and Power Generation, Fauji Foundation, http://www.fauji.org.pk.

Pharmaceuticals

According to Weiss only a few firms were operating in Pakistan's pharmaceutical sector prior to 1947. New entrants after Partition had previously been involved in trading and "felt that there were profits to be made in repacking and manufacturing pharmaceuticals" (1991:52). Founders had no previous knowledge of the industry but hired skilled technicians and were helped by foreign manufacturers to set up joint ventures. It was only in the 1970s that pharmacy graduates or experienced workers chose to enter the sector and many firms started off by converting bulk pharmaceuticals into dosage form (ibid:62).

As a result, the pharmaceuticals sector in Pakistan has been historically dominated by multinational firms such as Johnson & Johnson, Aventis, Roche, Abbott Labs, Novartis and Pfizer. According to Basant, interview data suggest that in the early 1990s the share of MNCs in the entire pharmaceutical segment was about 80 per cent (Basant, 2007:3971) and in 2006 GSK was the market leader followed by Abbott and Pfizer, with the highest local firm – Hilton Pharma – in tenth position.[88] Foreign firms have a monopoly over the premium market with a market share of over 90 per cent (ibid). However, there is evidence that many domestic firms have recently entered pharmaceutical segments which were previously dominated by foreign firms.[89] Pakistan's Board of Investment estimates that between 1999 and 2003 the share of local producers in the pharmaceutical market rose from 39.0 to 43.8 per cent.[90]

[88] 'Pakistan health and pharmaceuticals sector', Board of Investment, Government of Pakistan, date unknown (earliest 2006), accessed 25 March 2009 from http://www.pakboi.gov.pk/sectors.htm.

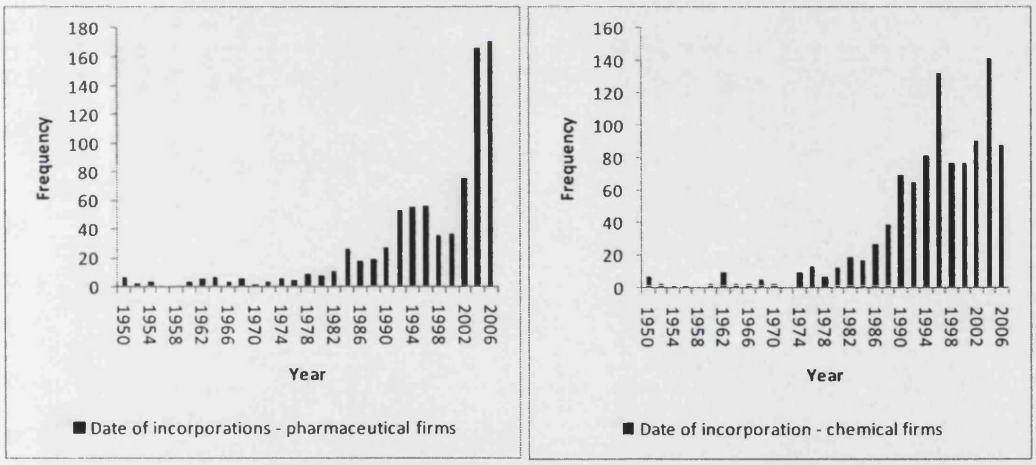
[89] A number of policy changes shaped the composition of the industry. The Generic Act of 1972 meant that brand names were no longer to be used in medicines and were only to be sold under generic name in order to make quality drugs more accessible (1991:80). The 1976 Drugs Act required companies to apply for licences to produce each drug, a hurdle that larger firms found easier than smaller firms to overcome according to Weiss (1991:81). A complex regulatory environment has continued into the post-2000 period, and in 2007 the Ministry of Health still sets the price for each drug in the market. It is accepted that Pakistan has achieved self-sufficiency in the manufacture of pharmaceuticals, but critiques of the sector include a dependence on imports for raw materials. A total of 90-95 per cent of the active ingredients for pharmaceutical products are imported, with as little as 35 pharmaceutical chemicals produced in Pakistan (Basant, 2007:3971). This is in contrast with India where two thirds of the raw material is produced internally, and is often argued to be the result of the small size of the Pakistan market (ibid). Further, according to the CEO of Firm 49, only 4 or 5 companies were exporting to Africa and South Asia and there was a need for a certain level of infrastructure for that such as an air handling system, filtration.

[90] Pakistan Board of Investment, 'Pakistan health and pharmaceuticals sector' as above. Although it is noted that without original data, that this could just be random variation in the market share.

Further, in the two decades leading up to 2007, Pakistani producers have been able to take over virtually all of the market for branded and bulk generics.[91]

At the firm level, there was a large rise in firm incorporations in the pharmaceutical sector from the 1980s onwards (see Figure 7-5). Of the 835 firms listed in 2006, only 18.4 per cent were incorporated before 1990. However, the CEO of Firm 49, a large local manufacturer, explained that in terms of performance it is mostly the older players that control the market and there are only "a couple of new people" from the 1990s. Indeed, he also explained that the SECP incorporation list is likely to be overstating entry post-2000 as many will not be manufacturers but rather ex-employees of pharmaceutical firms (who retire and set up their own shops to market a small number of products). He also said that on average spinoffs have not been successful in most cases due to a lack of finance, product knowledge and adequate production setup.

Figure 7-5 Incorporation trends in pharmaceuticals and chemicals (1947-2006)



SOURCE: Securities and Exchange Commission of Pakistan

However, the backgrounds of pharmaceutical firms show greater industry-related experience than those in traditional industrial sectors outlined above. Adnan Naseemullah has classified Pakistan's pharmaceutical firms into two categories, 'international origin' and 'local origin'.[92] International origin firms include a Pakistan

[91] Personal correspondence with Adnan Nassemullah, University of California Berkeley who is researching Pakistan's pharmaceutical sector, 2008.
[92] ibid

educated-doctor with work experience in Bahrain who returned to Pakistan with his own capital; a banker with experience in the Middle East who wanted to enter a technology intensive industry; an individual with an MSc in pharmaceutical chemistry from Pakistan who had worked as a pharmacist in a US hospital; and a founder with an undergraduate in pharmacy from Pakistan who traded in pharmaceutical products before obtaining a licence to manufacture. Those of local origin include a founder with a degree in pharmacy and an MBA-educated founder who worked for family business, as well as an established business group whose pharmaceutical unit is currently being managed by the overseas- and business-educated third generation of the family.

While performance data on pharmaceutical firms were not available, the origins of the largest firms by paid-up capital in 2006 could be traced.[93] The evolution of these firms show the entry routes and presence of both new and old actors, and how they have moved from producing and marketing of products for multinationals to the sale of their own branded products. While many firms are smaller than multinationals, such as GSK with a turnover of Rs10.6 billion in 2007 and a PBT of 25.1 per cent, they can often show strengths in product development and manufacturing and exhibit similar profitability.

Himont Chemicals, for example, is the 11th largest pharmaceutical firm by paid up capital and was set up in 1994 by a group of professionals mostly returning from the USA. They formed the unit after completing their education and several years of experience with multinationals such as GSK, Novartis, Aventis and Servier.[94] The primary objective of the firm was to a establish high quality, branded-generics company to represent multinationals in Pakistan via a bulk drug plant in line with both European and Food and Drug Administration (of the United States) specifications. The company established its first plant for active pharmaceutical ingredients (APIs) in 1996 with technology acquired from an experienced Taiwanese engineering company and succeeded in selling products to buyers such as GSK, Roche and Boots. Following the sale of this unit to a pharmaceutical company in 2006, in 2007 it

[93] Source: Securities and Exchange Commission of Pakistan, 2006
[94] Himont Chemicals, 'History' and 'Active pharmaceutical ingredients', http://www.himont.com/, accessed 25 March 2009.

established a new bulk chemicals facility for manufacture APIs and this time developed its own technology for the unit.

Highnoon Laboratories was incorporated in 1984 in Lahore and was the 14th largest firm by paid-up capital. Over the years has established strategic alliances with well-known foreign pharmaceutical firms.[95] The firm works with multinational companies to licence products in the local market and has emerged with a focus on products for cardiology, gastroenterology, and psychiatry. The Chairman of Highnoon Group of Companies, Jawaid Tariq Khan, is described as a former senior banker.[96] The firm started off by marketing a number of Japanese products, but in 1986 built its own manufacturing facility in Lahore followed by the introduction of in-house R&D activities in 1986. It started local manufacturing of Duphar's (now Solvay) – a pharmaceutical and chemical group – products in 1993, and in 1997 launched its own brand of product. In 2004, it secured a patent in the UK for an oral rehydration formulation and introduced a range of new products in 2007 and 2008.[97] In 2007, Highnoon had a turnover of Rs1.9 billion and a PBT of 6.6 per cent, a similar profile to many textile firms.

Diversification in the pharmaceutical sector was also driven by incumbents. Ferozsons Laboratories was Pakistan's first local pharmaceutical company to be listed on the country's stock exchanges (in 1960) and initially started production in 1956. It is currently the 31st largest firm by paid-up capital. The company was originally established in 1894 as a publishing house – Ferozsons Limited – which still has bookshops in Pakistan. The firm started out manufacturing drugs for companies such as Boots and Procter and Gamble, but now has own line of branded generics in segments such as gastrointestinal and cardiovascular medicine.[98] In 2007 announced creation of a bioscience subsidiary, BF Biosciences, also has a retail venture called Farmacia. This case shows how the entry of firms into higher value sectors such as biosciences – or growth sectors such as a retail – can be driven by existing firms in

[95] Highnoon Laboratories, http://www.highnoon-labs.com, accessed 25 March 2009.
[96] 'Highnoon offers free solar electrification of a village', Business Recorder, 6 Nov 2008
[97] Note: the firm has a textile unit which failed to maintain its sales after the ending of the MFA, and has recently moved into energy sector, Highnoon Solar. Source: http://www.highnooninternational.com/home.html, accessed 25 March 2009.
[98] Ferozsons Laboratories, http://www.ferozsons-labs.com/about_us.htm, accessed 25 March 2009.

related sectors. The turnover of the firm in 2007 was Rs922m, with a PBT of 28.1 per cent, making it still profitable after more than 50 years of operation.

Firm 49 – the 53rd largest firm by paid-up capital – outlined its own entry into the pharmaceutical sector. The case illustrated the role of education and pre-founder experience in shaping firm entry strategy, as well as how the firm accumulated production and organisation capabilities over time. The founder graduated with a Ph.D in pharmacy from an overseas university. He returned to Pakistan for family reasons after which when he began to teach in a university (as he did not want a job within the government and all the multinational firms were located in Karachi when he was located in Punjab). While still at the university, he partnered with a relative already in the pharmacy business to buy a "shop size unit" with 8 or 9 staff, using his own savings and a loan from his father (but described the initial finances as "not great"). He later left the university in 1978 but was invited to be the president of one of a trade associations as he had been teaching the technical directors of many of the members.

The founder's education helped shaped the new firm's entry strategy. When planning the new venture, he wanted to enter a "difficult area" that not everyone would be able to enter and saw a gap in the market for good quality eye medicines. At three per cent of the market, it was not a segment that many other firms were choosing to enter and there were no 'big players' competing at the time. It was not part of the founder's original Ph.D research, but in the final year of his PhD, supervision of other students had opened him up to other types of pharmaceutical research. The founders examined what the local companies were producing, and aimed to deliver a better quality product and become "number one" in the market. Most ophthalmic products were imported at that time and there was no technology available locally.

The prior education and experience of the founder was also important in shaping the capabilities of the new firm. From the outset, an R&D unit was created inside the firm because the founder himself was a "research person". In contrast, other firms in the market were just "following the books". Professionals were recruited early into the business as the founder saw that "each step should be done by a pharmacist", in contrast to other firms that "wanted to cut costs with no professionals". The firm often

sold on credit or gave discounts to attract first-time buyers, and started their own distribution system, going door-to-door to pharmacies and purchasing doctors to convince them that their product was better. A particular strategy was to target "far flung areas" in each district. Profits were reinvested into the business over time.

This initial start shaped the firm's rate of capability accumulation and growth trajectory. The company is continually engaged in product and process development and its engineers make use of exhibitions and visits to other plants in order to upgrade knowledge. They also make extensive use of good consultants with whom he is able to build a relationship based on being a "research person" rather than just a businessperson. Their goal was to reach number one position in the niche segment, and the founder argues it was this goal that helped attract the best employees from multinational firms. The founder was also attempting to hire non-resident Pakistanis from abroad, many of whom were classmates who later worked in the US pharmaceutical industry. There were several achievements: they had started producing ear, nose and throat products a few years before the interview, and were looking into new technologies such as chewable tablets in their development research. Further, while the company was not initially in the prescription market since it was "controlled by multinational companies", by the 1990s the firm had managed to enter this segment. In order to break into the brand segment, they hired a new marketing manager: the targets were different in the new approach, and were evaluated every three months.

These backgrounds show that these firms tended to come from education and employment backgrounds closely related to the pharmaceutical industry itself. This stands in contrast to entry into sectors such as cement and fertiliser outlined above which have attracted textile firms and business groups with transferable organisational capabilities. It also shows that firms have been able to develop in-house capacity based on founder experience and strategic partnerships. This has implications for the kind of diversification that Pakistan will follow in the absence of higher levels of educational achievement or potential founders with industry-related experience.

Chemicals

Pakistan's chemical industry, which covers industries such as pesticides, paints, varnishes, dyes and pigments and petrochemicals was dominated by the state after Partition. In the early 1950s a number of chemical companies were set up including Pak American Fertilizers and Pak Dyes & Chemical, while in the 1960s another chemical complex was set up at Kala Shah Kalu in Lahore.[99] In the 1970s, however, several private chemical firms were nationalised and the industry started to decline. As late as the post-2000 period Pakistan lacked facilities to produce basic petrochemicals like ethylene, propylene, butadiene and styrene and relied on bulk imports (ibid). Many chemicals are subject to import tariffs of up to 25 per cent so this lack of development of the local market has occurred while protection has remained in place. However, more recently the chemical sector has witnessed export growth and shown an increase in firm entry similar to that of the pharmaceutical sector (see Figure 7-5 above). Of the 971 firms listed as operational in 2006, 86.5 per cent of had entered since 1990.

Data suggest that both local and foreign firms have played an important part in this rise in incorporations. Clariant, for example, is the subsidiary of the Swiss multinational company and has factories in Karachi, Lahore and Jamshoro in Sindh. Established in Pakistan in 1996, it produces textile, leather and paper chemicals, pigments and additives. It has seen both growing sales from 2002 to 2007 (with sales of Rs5.0 billion in 2007) and stable PBT (between 11.6 and 14.0 per cent since formation).[100] Jotun group of Norway was incorporated in 1995 in Lahore and set up its first production facility in 2004 (following its exports to Pakistan since the early 1980s). It produces powder coatings for decorative and construction markets and its aim was to supply the Pakistani market as well as rising demand from the Middle East.[101] Some older multinationals also continue to have a large presence. ICI Pakistan, now part of AkzoNobel Group, originally set up a soda ash manufacturing

[99] Experts Advisory Cell, Ministry of Industries and Production, Prospects of Chemical Industry in Pakistan, April 2003, accessed 25 March 2009 from http://www.pakistan.gov.pk/divisions/industriesandproduction-division/media/chemicalindustry.pdf.
[100] Clariant Pakistan. Our Divisions, http://www.clariant.com.pk, accessed 25 March 2009.
[101] Sources: Experts Advisory Cell, Prospects of Chemical Industry in Pakistan, as above and Jotun press release, 'Jotun meets Pakistan's president', 23 January 2006, accessed 25 March 2009 http://www.jotun.com/www/20020059.nsf/viewUNID/FD4A4351BE9EF6D8C12571000032D734?OpenDocument&r=2

facility in Khewra in 1944. This facility was sited next to the salt range as rock salt and limestone; two key raw materials for manufacturing soda ash. Today ICI manufactures polyester staple fibres, soda ash, sodium bicarbonate, paints, specialty chemicals, and adhesives.[102] The firm had a large turnover in 2007 of Rs26.0 billion – nearly twice the size of the largest textile mill on the KSE – and a PBT of 11.4 per cent.

Similarly, there has also been an increase of local firms entering the sector. The Director of Firm 52, a Lahore-based chemical manufacturer, explained that there have been some small spinoffs from established firms in the industry. All the local paint firms, for example, were created by former staff members of ICI. There have even been spinoffs from Firm 52, and some are "doing well". While there is a lack of data for market share in chemicals, the list of top firms by paid-up capital includes names such as Engro Asahi Polymer and Chemicals (4th) and Olympia Chemicals (13th).[103] These case studies highlight the origins of these local companies as well as the role of founder experience in shaping firm performance and growth.

Engro Chemical grew out of the operations of Esso in Pakistan. The company established a fertiliser plant in 1968 and was the largest foreign investment at that time.[104] In 1991, however, Exxon Chemical (as it is now known) divested the unit. The employees of Exxon purchased 75 per cent of the company's equity and renamed the firm ENGRO Chemical. The purchase was assisted by international institutions such as Actis – the British development finance company – and the International Finance Corporation (that has made several investments in Engro between 1991 and 1998).[105] Performance was good in the firm. The company continued the fertiliser business and by 2008 it was the second largest producer of urea fertiliser.[106] In 1995 it also established a bulk liquid terminal at Port Qasim in a 50:50 joint venture with Royal Vopak of the Netherlands. In 2008, the company was constructing Pakistan's first ethylene storage facility, while Engro Polymer and Chemical is engaged in the manufacture of polyvinyl chloride (PVC). The group established a dairy processing

[102] 'ICI Pakistan, Analysis of financial statements, 2002-2008', Business Recorder, 9 October 2008.
[103] Securities and Exchange Commission of Pakistan
[104] Pakistan Board of Investment document, http://www.pakboi.gov.pk/pdf/Success%20Stories/Engro_SS.pdf, accessed 25 March 2009.
[105] Biography of David Morley, partner at Actis, http://www.act.is, accessed 25 March 2009.
[106] 'Engro Chemicals, Analysis of financial statements 2003-2008', Business Recorder, 10 Nov 2008

food arm in 2007 and immediately gained 18 per cent market share for its milk and cream brands. Engro Chemical alone had a turnover of Rs23.1 billion in 2007 with a PBT of 18.3 per cent.

Some textile firms have moved into the chemical industry, highlighting the close synergies with a sector which is a large consumer of chemicals. Olympia Chemicals, for example, incorporated in 1995, is the second largest producer of soda ash and sodium bicarbonate in Pakistan and is part of Olympia group of companies. This group is run by the Monnoo family which has operated in Pakistan for several decades in sectors such as yarn, synthetics and carpets as well as and poultry farming. The President of the group completed his higher education in textiles in North Carolina, USA, and is now involved in politics, holding positions in the privatisation, commerce and textile ministries in 2008.[107] Financial performance information was not available for this firm, but it the company itself states that they have been exporting to the United Arab Emirates, South Africa, and Bangladesh.[108] Sitara Chemical Industries also started as a textile weaving unit in 1956 under the leadership of two brothers.[109] Sitara Chemical was established in 1981 and since then it has moved into the production of caustic soda (1985), liquid chlorine, specialty chemicals and export (2001) and agri-chemicals (2003). In 1995, it also entered into textile spinning. More recently the firm has created a new unit, Sitara Peroxide, and established a captive power plant with installed capacity of 80 MW.

One local firm explained its history in the chemical industry and its recent strategy. Firm 52 specialises in the production of polyester resins, acrylic emulsions and textile chemicals and was set up in Pakistan in the early 1980s. The current Director is a family member who joined the business in 2001 following a degree in industrial engineering and an MBA. The firm was initially part of a larger business group which was set up after Partition but following a family split the founder set up the company on his own. The original group was active in products such as textiles, fertiliser and petroleum. The founder was an engineer himself and saw that there was no

[107] Press release, Privatization Commission, 'Monnoo gets additional charge of Ministry of Privatisation and Investment', http://www.privatisation.gov.pk, accessed 25 March 2009.
[108] Olympia Chemicals, http://www.ocl.com.pk, accessed 25 March 2009.
[109] Sitara Group, http://www.sitara.com.pk, accessed 25 March 2009.

professional engineering contracting company operating in Pakistan, so decided to enter this sector in the 1970s.

The firm started off small, but over time moved into larger construction projects such as dams, fertiliser plants, cement and refineries. The entry into the chemicals sector was described as 'ad hoc' when the firm bought a sulphuric acid plant and found itself as one of the only firms producing this chemical. This unit was later sold when several small plants entered the market and the profitability shrunk. However, more recently the firm has been trying to move into speciality chemicals. Important drivers of this product innovation were a shift was the vision inside the company as well as the Director's own push for exports. Until 2001, for example, they had none of what the Director described as "foreign qualified individuals" but now they have five Ph.Ds on staff, and a small R&D team to build "in-house capability for development". The firm now has only professional CEOs with no family members in these positions. Further, the Directors also attempt to give the staff freedom to take risks and referred to a three-day strategy session that had taken place the week before.

He also gave the example of a recent printing and packaging product developed inside the firm – a metallic film which is printed on top and used in potato crisp packets. It is an item that is not being produced in Pakistan at present as it is "hard to manufacture" and is thus usually imported by local buyers. In order to develop manufacturing capability in-house, he hired people from the printing ink industry who then developed the product inside the firm. It was now starting to capture market share, and according to the Director the investment "pays off even if you have to make mistakes or lose money".

His education in engineering and business was also useful in knowing where to look for information regarding new product or process developments. A challenge, for example, was to acquire technology already established in the worldwide chemicals industry as it is "not in the interest" of companies such as Dow and Bayer to share technology with the firm (royalties are high to acquire the technology, making the investment expensive, and if they were approached with machinery they would be concerned it was obsolete). Another challenge is to find individuals with the right know-how as there are only a few people around the world who have knowledge of

how to manufacture such products. One route the firm has used was to place an advertisement in an overseas newspaper for specialist staff. An individual contacted them through this method and they have now formed a business relationship, which has opened up other contacts in the industry. In another instance it was "sheer luck" that they came across someone who was looking to sell technology within Pakistan. For marketing, to find the first overseas buyer the firm spent two years finding an appropriate agent for its specialised chemical products. This agent helped establish relationships with customers who now go directly to the firm.

As a result, the firm has been performing well in recent years. It has a small amount of exports and was assisted by external shifts in the policy environment where the government would refund 25 per cent of the freight costs if the firm exported more than $5m of products to a buyer. They have also recently added a hydrogen peroxide plant because there was no local manufacturing and because there are synergies with the cement, textile and paper sectors.

In the chemicals sector therefore it was again founders and Directors from industry-related education and employment backgrounds that have chosen to create new firms and drive innovation inside incumbent firms. In this case, a link with the textile industry was also present as it is heavily reliant on chemicals in the processing of cloth and finished fabric. However professional management practices and innovative marketing were also important in this sector to encourage new product development and firm growth.

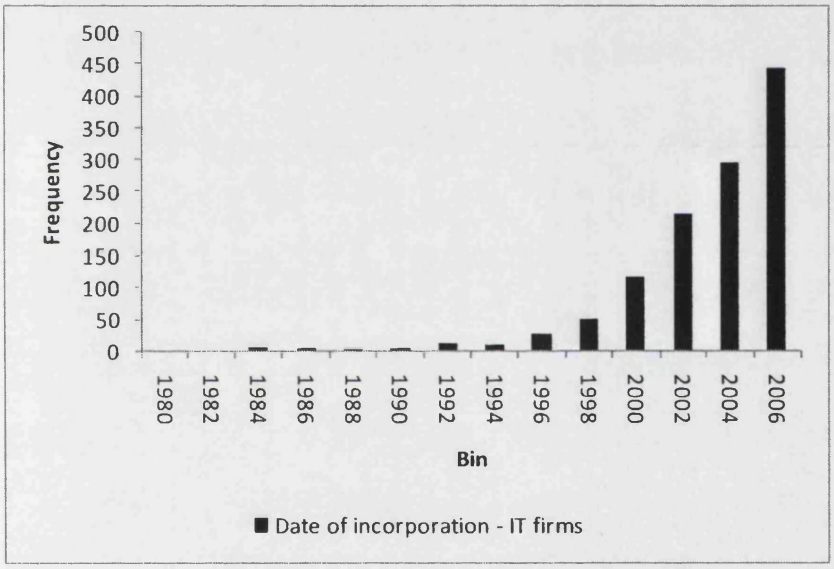
Information technology

The final 'modern' sector which has witnessed growth and a rise in new firm entry in Pakistan is software and information technology. As illustrated above, exports in computer and information services have shown some growth since 2005, and export data on electrical machinery and equipment show a rise from 0.3 per cent of total exports in 2002 to 0.7 per cent of the total in 2006.[110] The first software house to be

[110] UN Comtrade, HS2002 data, code 85. In fact, Pakistan's IT export figures are often considered to be unreliable due to the way they are recorded, and many industry observers believe revenues are kept in Dubai and could be much higher than export figures indicate.

established was Systems Limited in 1977 in Lahore, by Syed Babar Ali, the industrialist behind Packages Limited, and Aezaz Hussain a 'pioneer of IT' in Pakistan'.[111] Firm incorporation began in the late 1970s but since the 1990s there has been a rapid rise in firm formation (see Figure 7-6). The founder of Firm 53, a local software exporter, felt that growth within the IT sector was occurring as a result of the good reputation of Pakistani IT engineers in the US and the emergence of local talent. Several buyers also wanted to diversify sources from their reliance on Indian IT service providers. However, according to several interviewees, many firms were incorporated during the IT boom in the late 1990s and subsequently exited after the dotcom bust, 9/11, and as a result of poor management.

Figure 7-6 Incorporation of IT firms in Pakistan (1980-2006)



SOURCE: Securities and Exchange Commission of Pakistan

A study conducted by Pakistan's Software Export Board in 2007 (PSEB) identified a sample of 60 IT businesses. It found that 57 per cent made packaged software, 48 per cent provided IT services and 32 per cent were engaged in IT consulting. A total of 43 per cent were set up with savings of founders, 32 per cent from foreign partners, 13 per cent from a local business house, while other sources included cash flows, venture capital and banks (34 per cent). One third had revenues of more than £1m, one third

[111] Systems Limited, http://www.systemsltd.com/, accessed 25 March 2009. In 2008, Systems produces enterprise resource planning (ERP) systems for the textile spinning and sugar sectors and has a partnership with Microsoft to promote one of its ERP products.

between $200k and $1m, and 32 per cent had less than $200k. They found no differences in technical backgrounds among local or exporters but that high level contacts were important in establishing business relationships. They also found that better performing companies had employee friendly management practices such as profit sharing and high quality managerial talent (such as a mix of technical and business backgrounds, prior experience and financial discipline) than the rest of the industry.

Similar to the pharmaceutical and chemical industries outlined above, firms often grew out of the educational and employment experience of founders. In 2006, three firms were identified as the top exporters of IT products: NetSol Technologies, with $4.2m; Ovex Technologies, with $2.9m, and TRG, with $2.2m of exports.[112] NetSol was set up in 1999 as a software developer and Najeeb Ghauri – listed as the founder of the firm's US subsidiary – had acquired 15 years of combined marketing and management experience with Fortune 500 companies such as Unilever. [113] He manages both firms with Naeem Ghauri who has several years management and IT experience, and Salim Ghauri (both assumed to be family members) who has been a software developer since the 1980s. One of its main clients is Daimler-Chrysler, a car company that uses Netsol's leasing software to manage its auto-leasing operation in several countries in the Asia-Pacific region.[114] Revenues in 2007 were Rs1.1 billion and it had 31.0 per cent retained profit, one of the highest figures witnessed in any of the sectors covered in this chapter. This stands in contrast to the highest level of profit after tax among Pakistan's listed textile firms in 2007 of 19.1 per cent in Azgard9, the jeans exporter.[115]

Ovex Technologies was founded by Omar Saeed in 2003. It is a provider of IT outsourcing services to support the design, installation, operation, management, and improvement of IT infrastructure in client companies. The employment experience of

[112] 'Industry Overview', Pakistan Software Export Board (PSEB), accessed February 2007 (but no longer available), http://www.pseb.org.pk/page.php?pid=2,
[113] NetSol Technologies, Management Team, accessed 25 March 2009, http://www.netsoltech.com/html/about_us/management.html
[114] 'Pakistan's Software Industry Best Practices & Strategic Challenges: An exploratory analysis' (2005) Pakistan Software Export Board (PSEB), February 2005, p66. Accessed 25 March 2009, http://www.pseb.org.pk/UserFiles/documents/Best_Practices_Study.pdf,.
[115] Azgard9 Annual Report 2007, Karachi Stock Exchange

Saeed includes two Silicon Valley companies: the first an early stage employee at Homewarehouse.com which was acquired by Walmart, and the second a supply chain company that was founded by McKinsey and Co. Now run with professional management, Saeed remains the Chairman of the firm and in 2006 it was acquired by Nasdaq-listed En Pointe Technologies, a US corporation which offers hardware, software and consulting services.[116] Saeed has an undergraduate degree from Brown University and an MBA from Harvard Business School.

The role of overseas technical education among founders and an IT-educated workforce were also continued themes among many of the firms. Xavor Corporation, for instance, is rated as one of the top 40 IT firms in Pakistan by the PSEB, and is a Lahore-based management and technology consulting firm. One of the firm's co-founders, Humayun Rashid, has a Bachelors degree in Information Systems from the University of Texas, an MBA and a doctorate in Management.[117] Rashid also worked and consulted with companies such as AST Computers, Paramount Pictures, Boeing, Broadcom, Standard Chartered Bank, IBM and Microsoft prior to founding Xavor in 1995 in functions related to IT-enabled business transformation and change management. Several of the company's staff also have undergraduate or postgraduate degrees in computer science.

Returnees from overseas were also present in the sector. Si3 was set up in 2003 in Karachi by Amer Ahmed Hashmi.[118] Following a business degree he spent ten years at MCI Systemhouse and IBM Global Services managing projects in the US and Canada. For the founding of Si3, he attracted the interest of Khalid Rafi, a former senior partner at PricewaterhouseCoopers in Pakistan and now Si3's chairman, and the industrialist Hussain Dawood of Dawood Group. The company's first contract was for $2 million with the National Logistic Cell – a company owned by the Pakistani army and the largest logistics company in the country – for which it was in competition with Siemens and KPMG. In 2005, it entered a $5 million, seven-year

[116] Ovex Technologies, Board of Directors, http://www.ovextech.com/bofd.html, accessed 25 March 2009.
[117] Xavor, http://www.xavor.com/AboutUs/OurLeadership.aspx, accessed 25 March 2009.
[118] 'Techies Come Home', Forbes Asia, 19 Jun 2006 (reprinted on http://www.s-iii.com/nr_press_media.htm, accessed 25 Nov 08)

outsourcing deal with Mybank, a Karachi bank with 50 branches in 22 cities. The firm is also considered one of the top 40 IT firms in Pakistan by the PSEB.

There are also several firms created by IT specialists with local industry experience in Pakistan. Vectracom, for example, a wireless information provider based in Karachi was set up in 1999 by Emran Ahmad Riyaz. Riyaz obtained his Bachelor degree in Electrical Engineering from Pakistan's NED University of Engineering & Technology, Karachi in 1988, after which he worked in several IT-related roles such as the design of digital communications, digital radio, and software development. In 1997, he left CresSoft, a IT company created by the Crescent Group, to form a company dedicated to the design and development of Wireless Messaging Solutions.[119] There are now four companies in the Vectracom group covering software and wireless services and the firm has an international office in Dubai. It also counted firms such as ABN Amro Bank, the mobile operator Mobilink, and Muslim Commercial Bank among its clients.[120]. The Group Operations Director, Asim Zafar, is also a former employee of CresSoft.

International investors have also taken an interest in firms created by educated and experienced founders in Pakistan's IT sector. LMKR is a technology company which provides Geo-Technology and Information Technology services to businesses and governments.[121] Founded in 1994, the company operates in over 20 countries the firm and has become known for its GIS solutions, especially for the petroleum industry, and is now attempting to diversify.[122] The firm is held within the Khan Group, headed by Atif Rais Khan, whose career profile includes an MS degree in Geology from the University of Karachi, an MS Degree in Petroleum Economics from Colorado School of Mines, and a 20 year professional career working in the US, Middle East and

[119] CresSoft was set up as a US corporation based in Denver, Colorado in 1994, and owned by the Crescent Group, one of Pakistan's best known business groups that grew out of the textile industry. The firm provided e-business and other IT solutions to Fortune 500 and other clients and offshores its design, coding and development work to Pakistan. However, it was reported in 2005 by the Pakistan Software Export Board that the firm was "all but eliminated" following its entry into the export market. Source: PSEB (2005) and CresSoft, Inc. http://www.cressoft.com.pk/overview.htm, accessed 25 March 2009.

[120] An exclusive interview with Chairman VectraGroup of Companies, 15 Jan 2007, http://www.vectracom.com/news_highlights/news/default.aspx?subcat=0&contentID=220, accessed 25 March 2009.

[121] LMKR, http://www.lmkr.com/about-us/index.html, accessed 25 March 2009.

[122] PSEB (2005)

Pakistan.[123] In 2007, Actis – the British private equity investor - acquired a 49 per cent interest in LMKR Holdings, stating that the firm had potential "to become a significant national and global player in oil and gas and IT enabled services".[124]

Business groups were less present in the sector. The PSEB notes that large business houses were a source of finance during the dotcom bubble, but following the "high-profile failures of several of these ventures" such as Cressoft and Atlas Software this activity has declined. One business group involved in chemicals, for example, Firm 52, failed to enter the IT sector despite one attempt. The company created an IT wing in the late 1990s to outsource their own IT work, formed with the company's own IT staff. However, the service provided was data entry based on low labour costs, and following an initial start with local clients in the insurance and real estate sector, the Director admitted that they have not been able to grow the business. They realised that they had failed to appoint professional outsourcing people for the role, in particular an aggressive enough manager to introduce the right product. The Director also admitted they did not have the understanding of the IT business needed to grow the firm.

The origins of some of Pakistan's IT firms therefore show that the founders have emerged from very different backgrounds than those in traditional industrial sectors. They often possess industry-related education and experience, and appear more likely to start with independent sources of capital. This suggests that the roots of industrial development may rest on education and accumulated knowhow not often available in existing industries, as was the case in the pharmaceuticals sector. The implication of these findings will be discussed further in Chapter 8.

Conclusion

In this chapter I examined the patterns of industrial diversification in Pakistan from 1947 to 2007, focusing mainly on the period since 1990 when barriers to firm entry

[123] PSEB CEO Forum 2007, Mr Atif Rais Khan, http://www.itcnasia.com/ceoforum/atif.htm, accessed 25 March 2009.
[124] Actis, a leading private equity investor acquires 49% interest in LMKR Holdings, Press release, 10 August 2007, accessed 23 March 2009, http://www.lmkr.com/about-us/news_events.asp?rec=50&kw=Actics

were rapidly removed. I outlined diversification trends in both industry and service sectors and identified firm backgrounds in high-growth traditional and knowledge-intensive industries. In particular, I examined how prior experience and capabilities shaped entry decisions among both incumbents and newly-created firms.

I find that some textile firms and business groups have diversified into growth sectors such as cement, fertiliser and services. Drivers of diversification included increased demand in particular sectors of the economy, changes in the policy or macroeconomic environment, education of a family member, or existing relationships with firms in other sectors. Some have used external consultants to gain knowledge of new industries while others have appointed professional staff. Firms have also exploited knowhow accumulated within the original firm – such as commercial strategy, organisational design and professional management – in their approach to the new unit.

However, I find that on average textile firms and business groups have moved into protected domestic segments. These firms have failed to enter export-oriented, knowledge-intensive sectors. Instead, they have built on existing managerial capabilities rather than industry-specific education and experience. Indeed, many firms seem to have relied on their existing presence in business – and perhaps political connections – as a route to diversification. Further, the protected nature of many of these sectors – and the minimal focus on exports (with the exception of cement) – shows a lack of competitiveness in the world market. This does not bode well for Pakistan's future development. Protection of the textile sector under the Multifibre Arrangement also seems to have delayed diversification in many of Pakistan's best firms.

In contrast, new firms that are emerging in higher value-added growth segments such as pharmaceuticals and information technology are typically formed by entrants with more industry-specific experience – these are among the few sectors showing export growth in the post-1990 period. In these cases the education and experience of founders or Directors is reflected in entry strategy, product choice and production capabilities. As a result, existing textile firms and business groups are not responsible for the transition into the export-oriented, knowledge-intensive industries that have

been associated with growth elsewhere. Instead, the move into such higher value-added sectors is more reliant in industry-specific education and experience than in traditional industries such as cement, real estate and services.

What remains to be discussed further are the implications of such findings for development theory and policy. It is to this wider context that I now turn in Chapter 8.

Chapter 8 The heterogeneous roots of development: rethinking industrial development theory and policy

Academic and policy research on industrial development has typically identified two important policy drivers of firm formation and growth. Firstly, the role of a stable macroeconomic and institutional environment in creating a demand side for entrepreneurship. Secondly, the role of state-led investments in infrastructure, education and publicly-funded research in shifting the economy towards higher value-added industries. The former has suggested that firms emerge and grow as a result of privatisation, deregulation and competition, while the latter suggests that industrial development is driven by a coherent state structure which takes proactive steps to direct firm learning and industrial growth. Both accounts been proposed as explanations for the rapid rate of economic development in East Asia and Latin America.

These accounts have also been present in this study in the analysis of firm entry, growth and diversification in Pakistan's textile industry during trade liberalisation. Economic policy at the national level limited firm entry and growth in Pakistan's early decades, while later liberalisation of entry at the end of the 1980s led to increased incentives for firm formation and diversification. Similarly, global trade policy in the form of the Multifibre Arrangement constrained the expansion of some firms, while prolonging the protection of others. The weakness of the Pakistani state has also shaped industrial development. Poor infrastructure and political instability have created a challenging operating environment for businesses, while limited investments in education have constrained opportunities for many to engage in the economic development process. These institutional and state-led factors go a long way to explain Pakistan's limited industrial development to date.

However, evidence from this research has also shown that within this policy environment firms have shown much variation in performance. In the textile and clothing industry, exports and product upgrading have been dominated by a small

number of firms, and an increase in competition during trade liberalisation led to shakeout and the reallocation of export share from poor to good performers. Similarly, I have argued that firm growth has been heterogeneous with very specific roots. A firm's initial capabilities, its subsequent rate of capability accumulation and its long-run firm performance is directly related to founder experience and the. Founders of companies in knowledge-intensive sectors also differ dramatically from those in traditional industrial sectors – they show greater industry-specific education and experience than the textile firms and business groups that have expanded in protected domestic industries.

I propose that an analytical framework that acknowledges the heterogeneous roots of industry growth offers the opportunity to reconsider dominant understandings of industrial development. Firstly, I show how an analysis of the supply side of industrial development – including employment experience, organisational capabilities and firm heterogeneity – can improve our understandings of industrial development in addition to the 'demand side' of either a stable institutional environment or state-led industrial policy. In particular, I argue that it is the entry of high capability firms can actually help developing countries break out of a low equilibrium of industrial development. Secondly, I argue that greater policy attention should be addressed to the accumulation of industry-related experience among workers. Specifically, I highlight the role of competition in breaking down the dominance (and often inefficiency) of family business groups, as well as the need for an increased focus on industry-related placements, the potential role of experienced expatriate workers, mentoring, and efforts to attract overseas investors. Finally, I outline how these findings contribute to our understandings of the association between pre-founder experience and firm performance and offer directions for future research.

8.1 Macroeconomics, institutions and industrial development

Academic and policy research has typically identified two important policy drivers of industrial development. The first is the importance of a stable macroeconomic environment in providing the incentives for firm formation and growth. This includes policy predictability, low inflation and fiscal prudence and an institutional environment which enforces property rights and financial regulation as well as

adequate investments in physical and human capital. This set of policies has come to be known as the 'post-Washington Consensus' – as described by Joseph Stiglitz in his position as World Bank Chief Economist in 1998 – and has moved beyond the previous policy consensus of liberalised trade, privatisation and the deregulation of industry. It is also what Khan has described as the "service delivery model" (2004:165) of the state and can be understood as the demand side of firm formation and growth.

Several authors have outlined the central role of the institutional environment in the rapid emergence of several economies. In its assessment of the 'Asian economic miracle' in 1993, the World Bank attributed Asian growth to "getting the basics rights" (1993:5): private domestic investment, human capital accumulation and good macroeconomic management. According to Nelson and Pack (1999), the stable policy environment of East Asian economies (in relation to inflation and exchange rates) meant that firms could focus instead on addressing on productivity improvements (1999:417). Sutton notes that the institutional environment also shapes the country-specific cost of doing business – a reduction in the cost of doing business is equivalent to a rise in capability across all firms in the country concerned (2007b:485). More generally, the institutional environment can also shape the degree of technology acquisition, foreign investment and learning. Branstetter et al (2006) have shown that in environments with more clearly defined property rights, for example, greater technology transfer takes place between foreign and local firms.

This understanding of how economic development occurs has also been dominant in policy making among development institutions. The top spending priority for global World Bank lending in 2007, for example, was Law, Justice and Public Administration (with 22.1 per cent of the total), followed by transportation (20 per cent) and Water and Sanitation (12.4 per cent) (see Table 8-1). Similarly, in South Asia the top priority for regional spending was Law, Justice and Public Administration (with 20.7 per cent of the total), followed by Health and Other Social Services (17.9 per cent) and Agriculture, Fishing and Forestry (13.0 per cent). Likewise, the activities of the International Finance Corporation include the development of financial markets and the provision of advisory services to improve

the regulatory environment.[1] Further, in the private sector policy of the United Kingdom's Department for International Development in 2005, the focus was on reducing regulation and red-tape, reforming competition policy, developing infrastructure, strengthening international trade, and making financial markets work for the poor.

Table 8-1 World Bank spending by theme: World and South Asia (2007)

	World		South Asia	
1	Law & Justice & Public Admin.	22.1	Law & Justice & Public Admin.	20.7
2	Transportation	20.0	Health & Other Social Services	17.9
3	Water, Sanitation, Flood Protection	12.4	Agriculture, Fishing & Forestry	13.0
4	Health and Other Social Services	11.1	Education	12.9
5	Education	8.2	Finance	12.0
6	Energy and mining	7.2	Transportation	9.9
7	Agriculture, Fishing & Forestry	7.0	Industry and trade	5.2
8	Finance	6.5	Energy and mining	4.3
9	Industry and trade	4.8	Water, Sanitation, Flood Protection	4.0
10	Information and Communication	0.6	Information and Communication	0.1

SOURCE: World Bank Annual Report 2008

The account of Pakistan's industrial development presented in this thesis indeed suggests that the macroeconomic and institutional environment directly shaped levels of economic development. A lack of transparent institutions and effective economic policy, for example – as embodied in Pakistan's licence system – meant that the entry of many firms occurred on the basis of connections rather than capability in the early decades of Pakistan's formation. The use of political influence on banks in the 1990s led to the entry of several poor performers and the accumulation of large number of non-performing loans, which have only reduced in the post-2000 period following the privatisation of much of the banking sector. Similarly, the turnaround in policy towards the end of the 1980s led to a rapid rise in firm entry and competition in several industries. However, a lack of competition policy has led to concerns over cartel activity in banking, sugar and cement, and domestic markets for products such as automobiles remain protected and often inefficient.

Macroeconomic policy has also constrained opportunities for development and growth. As mentioned in Chapter 2, there was a rapid build up in external debt during the Zia-ul-Haq era, and the several financial crises of the 1990s (alongside other

[1] International Finance Corporation, http://www.ifc.org

political developments) led to instability and the eventual coup of Pervez Musharraf in 1999. Firms have had to operate in the face of balance of payments crises and rising interest rates and inflation, while frequent changes of government have led to uncertainty and a lack of policy continuity. There were drops in industry activity in the 1970s, 1990s and towards the end of 2007 when the political environment was less conducive for business. In contrast, firm entry and industrial growth picked up during the period of relative stability under the rule of both Ayub Khan and Pervez Musharraf (albeit correlated with fluctuations in global GDP growth). Ethnic violence in the traditional business city of Karachi has also reduced new levels of firm incorporation, while similar issues in Balochistan have interrupted fuel supplies to industry.

In 2008, there was a particularly dramatic change in Pakistan's operating environment – including Pakistan's receipt of a loan from the International Monetary Fund to address its current account deficit and the deterioration in Pakistan's internal politics.[2] This shift started to take its toll on some of Pakistan's best textile and clothing exporters. Financial data from 2008 on textile firms listed on the Karachi Stock Exchange showed, for example, that Chenab Limited – the owner of the Chen One chain of stories and a leading exporter of garments and home textiles – made its first annual loss throughout the period of study. In its 2008 annual report, Kohinoor Textile Mills also stated that "The financial year under review was perhaps the most difficult year since the Company's inception", citing political uncertainty, heightened terrorist activity and seriously deteriorating economic conditions. Kohinoor also explained in this report that the recession in the United States was dampening demand and lower prices in home textiles.

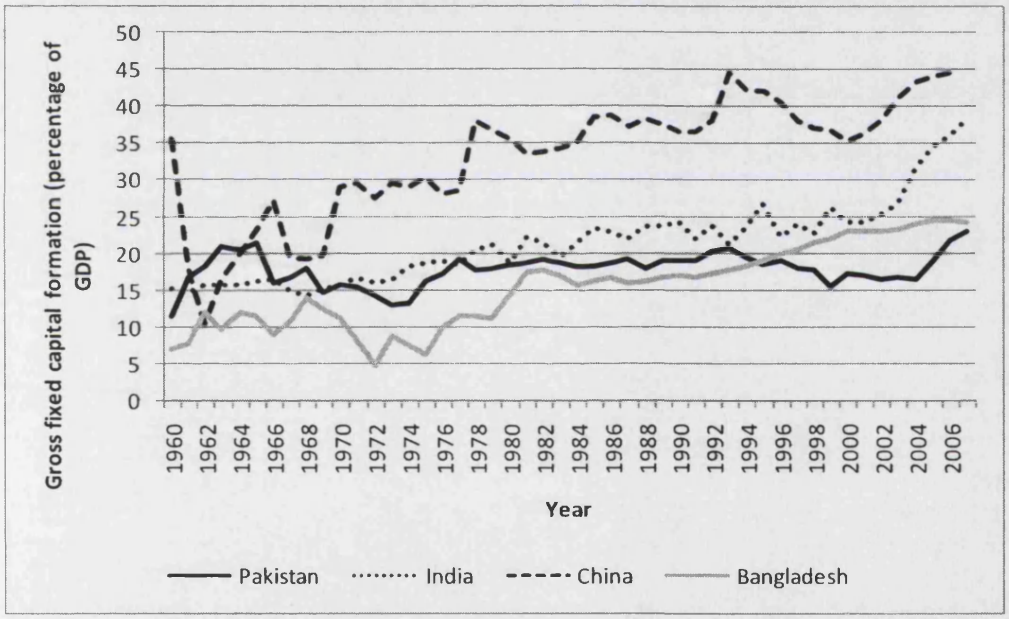
Investments in physical and human capital in Pakistan have also been poor and have constrained economic development. In gross fixed capital formation, for example, Pakistan has trailed India since the early 1980s (see Figure 8-1) and in the post-2000 period levels were lower than Bangladesh, China and India.[3] According to Lorie and

[2] Pakistan Gets $7.6 Billion Loan from IMF, IMF Survey online, http://www.imf.org/external/pubs/ft/survey/so/2008/CAR112408C.htm, Accessed 17 Feb 2009.

[3] Source: World Development Indicators, December 2008. Definition of gross fixed capital formation (formerly gross domestic fixed investment) includes land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like,

Iqbal the current state of the physical infrastructure of the country contributes to the high cost of doing business (2005:24). Pakistan has also invested less in education as a percentage of GDP than India, China, Korea and Bangladesh (see Table 8-2). Indeed, firms have had to be collectively proactive in the provision of energy, skills and basic local services, often internalising power production and implementing skills development programmes. The members of one trade association in Faisalabad had joined together to establish a local fire service in order to be prepared in the event of a factory fire, while industrialists in the textile industry of Faisalabad were instrumental in setting up the Pakistan School of Fashion Design to address the shortage of trained fashion and textile designers in Pakistan.[4]

Figure 8-1 Gross capital formation as share of gross domestic product (1960-2007), Pakistan, India, China and Bangladesh



SOURCE: World Development Indicators, World Bank, December 2008

including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings.

[4] For GC University Faisalabad see http://www.gcuf.edu.pk/blue/about-gcuf.php and for Pakistan School of Fashion Design see http://www.psfd.edu.pk/history.htm, accessed 25 March 2009.

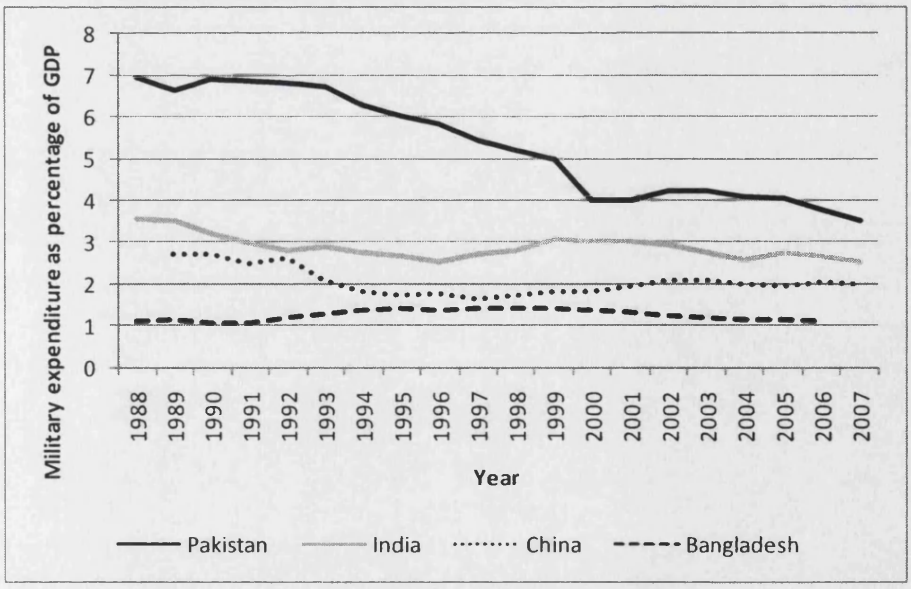
Table 8-2 Public spending on education as percentage of gross domestic product, selected years, Pakistan, India, Republic of Korea, China and Bangladesh

Country	1999	2003	2004	2005
Pakistan	2.0	2.0	2.0	2.3
India	3.6	3.7	3.8	3.3
Rep. Korea	3.7	4.6	4.6	-
China	1.9	-	-	-
Bangladesh	-	2.4	2.3	2.7

SOURCE: World Development Indicators, World Bank, December 2008

A particular concern in Pakistan is the presence of the military in both politics and economics. In addition to its control of the governmental on several occasions, military expenditure as a proportion of GDP remains higher than countries such as India, China and Bangladesh (see Figure 8-2). Although it has been dropping continuously since 1991, according to the IMF (2002) high military expenditures and a rising debt service burden have "squeezed social expenditures" over the past two decades (2002:18). Further, according to Siddiqa-Agha, the defence establishment "plays a key role in obtaining public-sector business contracts and securing industrial or financial inputs at subsidized rates", preventing the creation of a level playing field (2007:117).

Figure 8-2 Military expenditure as share of gross domestic product (1988-2007), Pakistan, India, China and Bangladesh



SOURCE: World Development Indicators, World Bank, December 2008

The policy environment has also shaped firm-level diversification decisions, even among good performers. The majority of industrial development by some of the most able industrial groups has taken place in the protected domestic sector rather than in exports. Local industrialists move into sectors such as real estate and retail have been motivated by Pakistan's move towards a 'rental economy', while others have state that "exporting is impossible" given current levels of human and physical capital. According to Saqib Sherani, Chief Economist of the Royal Bank of Scotland in Pakistan many large businesses have often been reluctant to invest money back into the Pakistani economy. Indeed, some business observers comment that most of Pakistan's industrial wealth from sectors such as information technology has accumulated in the Middle East.

As a result of this institutional and policy environment, industry in Pakistan has been unable to replicate the patterns of export-oriented industrialisation observed in economies in East Asia and Latin America which have involved the move from labour intensive to skill-intensive exports.[5] While Pakistani firms have achieved commodity exports, primary import substitution and secondary import substitution, they have only become internationally competitive in products such as cement and petrochemicals rather than automobiles or heavy machinery. Exports have remained labour-intensive, with only a marginal shift into technology-intensive products in the post-2000 period. Further, the local market remains closed to foreign competition in many cases, and – even when protected – some leading automobile manufacturers remain reliant on overseas partners for technical input and show poor profitability. Consequently, this framework goes a long way in explaining Pakistan's limited industrial diversification to date.

[5] Gereffi and Wyman (1990) identify production phases that both East Asian and Latin American economies have passed through. This includes the shift from commodity exports to primary and secondary import substitution (from goods such as textiles to automobiles and steel), and then to export oriented industrialisation (from labour intensive to skill-intensive exports). According to Gereffi and Wyman, primary import substitution industrialisation (ISI) covers the production of local manufacture of goods such as textiles and footwear, while secondary ISI includes capital and technology-intensive goods (such as automobiles), intermediate goods (petrochemicals and steel) and capital goods (heavy machinery). Primary export oriented industrialisation (EOI) includes labour intensive products, while secondary EOI covers skill-intensive products.

8.2 The developmental state?

Several authors have challenged the above institutional account as limited in its ability to explain economic growth, particularly in East Asian economies. Instead, they focus on the role of state capacity in delivering economic and social development. Wade has described the 'developmental state' as one which is "able to influence the use of public and private resources in line with a vision of how the industrial structure of the country should be evolving" (Wade, 1990:233). It is what Khan has also called social transformation: "the transformation of essentially precapitalist and pre-industrial societies into dynamic and essentially industrial, capitalist ones" (2004:165).

Chang, for example, argues that neo-liberalism – which refers to privatisation, deregulation, the opening of goods and capital markets and the tightening of macroeconomic policy – has a "miserable economic record [and] simply has not been able to generate rapid growth" (2003:5). Lall argues that "[f]ree trade leads to latecomers under-investing in 'difficult' technologies, because firms cannot fully recoup their costs when faced with competitors that have already undergone learning or have stronger national learning systems" (2003:292). Lall also argues that in contrast to the institutional account, Korea set up a massive technology infrastructure geared to the needs of selected industries and that it ignored intellectual property rights to promote copying and reverse engineering" (2003: 293-294). Indeed, Cimoli et al (forthcoming) point out that knowledge accumulation does not occur exclusively within business firms but is supported by applied research, training and the work of universities and public laboratories to adapt technologies to local conditions. Further, Stiglitz notes that several African countries that have reformed economic policy have not been able to attract investors (2002:6).

Instead, authors provide several accounts of the positive role of state intervention in industrial development. Amsden and Chu, for example, have argued that "the Taiwan government has systematically planned and promoted the growth poles around which networks and high paid jobs have emerged" (2003:7). In this case, the government was responsible for the creation of new market segments, the incubation of start-ups (using spinoffs from government labs and science parks), investments in publicly funded research institutes, and promotion of private R&D" (ibid:78). Breznitz (2007)

gives an account of how the Israeli state from the late 1960s supplied financial backing to R&D projects developed and executed by private firms and entrepreneurs, leading to the emergence of a dynamic IT industry. Amsden (1989) argues that South Korea grew faster than other developing countries because the state selectively invested in industry by subsidizing certain industries to stimulate growth" (1989:v), setting stringent performance standards in exchange for subsidies (such as the loan of long-term capital at negative real interest rates). Further, Stiglitz (1998) argues that the East Asian economies emphasized the role of government in providing universal education which, left to itself, the market will tend to under provide human capital. At the very least, as Cimoli et al point out, "countries have the choice of steering their future paths of capability accumulation, and together their patterns of production and trade" (forthcoming).

This account also challenges the apolitical view of the state as a provider of services and highlights the political roots of effective states. According to Schrank, East Asian policy makers were "indeed made out of flesh and blood" (2007:186) and were enabled by power relations in the agrarian-social structure – such as land reform – which prevented opposition to policies desired by the landed elite. In his comparison of the economic performance of East Asia and Latin America, Kay (2002) adds that while landlords can still halt agrarian reforms in Brazil, they were swept from power at the time of reform in Korea and Taiwan.

A key foundation of policy effectiveness was also the quality of governmental staff in newly emerged economies. Indeed, Wade (2004) describes state officials in East Asia as well-motivated, 'learning directors', who aggregated the preferences of industrialists. Similarly, Breznitz (2007) notes that in the Israel's Office of the Chief Scientists in the Ministry of Trade and Industry (Israel's science and technology industrial development agency) the heads are recruited outside the agency, with a particularly large number of executives and employees brought on either as consultants or recruited directly from other organizations. In Taiwan, Breznitz also notes that almost all the top bureaucrats of the development agencies and ministries have doctoral degrees in various engineering disciplines.

Several aspects of this approach help understand Pakistan's failure to deliver economic and social development. Firstly, the balance of power in society has often prevented progressive policy change. There has been an ongoing power struggle between the military and elected politicians often related the Pakistan's ongoing 'cold war' with India as well as internal struggles for power between ethnic, political and regional groups. Frequent government changes have led to a lack of momentum and consensus on economic and social development. Secondly, Pakistan's feudal structure has also led to power struggles between landlords and development interests, and land reform has been limited. According to Easterly, the large feudal landowners that dominate rural areas have been present in virtually all Pakistani government coalitions and able to block direct taxation of agricultural income, preventing an important source of revenue for government (2003:460-461). Further, according to Easterly, class (elite dominance) and ethnic fractionalisation in Pakistan is related to poor levels of human capital investment for its level of income (ibid:467). Easterly argues that the Pakistan story is consistent with political economy models of growth in which the educated elite do not want to invest in the human capital of the majority. As a result, there been a failure to make necessary investments in physical and human capital for growth, a lack of effective policy making capacity, and the absence of proactive approaches to industrial development.

If proactive action on the part of states to invest heavily in education, for example, has been a driver of growth in other countries, Pakistan has lagged behind. While men's and women's literacy has improved (as shown in the 12-18 percentage point gap in youth and adult literacy in 2005), Pakistan is still trailing countries such as India, China and Bangladesh (see Table 8-3). Youth female literacy in Pakistan in 2005, for instance, was 53.1 per cent, in contrast with 60.3 per cent in Bangladesh, 67.7 per cent in India and 98.5 per cent in China. Literacy rates also vary widely across Pakistan – as low as 22 per cent among women in Balochistan in 2007 (where only 20 per cent of women have ever attended school) and 28 per cent in the North West Frontier Province (see Table 8-4). This shows an interaction between educational achievement and cultural and religious beliefs, as well as poverty. Political instability also reduces the time horizon for people to invest in their own education. According to the Director of an agricultural trade association in Punjab, it was only in the post-2000 period that families began to send their children back to school. A lack of literacy and education

also undermine the accumulation of both worker and managerial skills and capabilities: at the very least, workers on the shop-floor have to be able to follow quality instructions. Further, according to Lorie and Iqbal, Pakistan's workforce is often ill-equipped with the skills for higher value-added production (2005:24).

Table 8-3 Literacy rates of adults and youths by gender (per cent), Pakistan, India, China, Bangladesh and Thailand

Country	Year	Adult female	Adult male	Youth female	Youth male
Pakistan	2005	35.4	64.1	53.1	76.7
India	2003	47.8	73.4	67.7	84.2
China	2000	86.5	95.1	98.5	99.2
Bangladesh	2001	40.8	53.9	60.3	67.2
Thailand	2000	90.5	94.9	97.8	98.1

NOTE: The latest year of data available is included in the table
SOURCE: World Development Indicators, World Bank, December 2008

Table 8-4 Literacy rates in Pakistan's provinces (10 years and above) (2006-7)

Location	Male (per cent)	Female (per cent)
Pakistan (All)	67	42
Punjab	67	48
Sindh	67	42
NWFP	67	28
Balochistan	58	22
	Urban	Rural
Pakistan (All)	72	45

SOURCE: Pakistan Economic Survey 2008, Ministry of Finance, Government of Pakistan

There has also been a lack of a formal approach to institutional building and policy research. Professionalisation of key institutions such as the Securities and Exchange Commission has only commenced in the post-2000 period, where employees now receive professional development training and electronic data systems are being implemented.[6] The Ministry of Commerce only established a World Trade Organization Cell in 2000 to formalise its trade negotiations.[7] Industry-related policy makers have been put in place within ministries, however it has often been members of the older, large business groups rather than those appointed on the basis of effective policy experience. Army staff have been given positions in trade associations and in the running of enterprises, while in the textile sector leading quota holders under the

[6] Own observations.
[7] Source: Hussain, R. Managing the challenges of WTO participation, Case Study 34, World Trade Organization, accessed 23 March 2009, http://www.wto.org/english/res_e/booksp_e/casestudies_e/case34_e.htm

Multifibre Arrangement were invited to negotiating sessions in Washington DC.[8] Further, as outlined in Chapter 1, policy decisions were historically made in relation to personal interest and rent-seeking, rather than in the best interest of the economy.

Finally, the Government of Pakistan has also failed in its attempts to implement industrial policy. According to Hardy and di Patti, in the period before deregulation the activities of the financial sector in Pakistan were largely directed by the government as a means to implement its development strategy: "banks were given detailed instructions on the allocation of credit to specific sectors, and a plethora of administrative interest rates were set for various purposes." (2001:4) However, banks often had "little incentive and scant means" to make lending decisions based on creditworthiness (ibid), leading (in the textile industry) to rapid exit amongst inexperienced firms and a build up of nonperforming loans in the industry. During the 1990s, the state-owned Pakistan Steel Mills, Pakistan International Airlines, and Pakistan Railways incurred substantial losses, and poor governance was singled out frequently as a key cause (IMF, 2004:58). As GDP growth slipped downwards in the 1990s, leaders were accused of having "failed to create any independent economic or industrial development programme" (Zaidi, 2004:105).

As a result, the state-led approach to understanding processes of industrial development also sheds light on the failure of Pakistan to deliver economic and social development.

8.3 The heterogeneous roots of development

However, evidence in this thesis has also shown heterogeneity in firm capabilities and performance when facing the same institutional environment. In particular, the findings suggest that a small number of firms are responsible for much of industry growth, and that variation in education, employment experience and industry exposure are important determinants of heterogeneous firm entry, growth and diversification. This makes explicit the role of firm-level factors driving industrial development, complementing institutional and state-led accounts and draws attention

[8] Own observations.

to the role of policy in assisting the accumulation of high quality, industry-related education and employment experience.

Firm entry, growth and diversification in Pakistan – the role of founder experience

The most important finding from this thesis was the positive and significant association between pre-founder experience (PFE) and firm performance. Firms with industry-related PFE were initially larger, had an elevated growth trajectory, and were more likely to survive and maintain export sales in the period following the ending of the Multifibre Agreement. PFE shaped the firm's entry strategy – including product choice and market niche – as well as the production capabilities and organisational structure which shaped long-term learning and growth. The education and experience of Directors and technical managers was also an impetus for shop-floor improvements. There was also strong evidence that a small number of firms were responsible for the bulk of exports, drawing attention to the very specific roots of aggregate industry growth.

Evidence from this research also made explicit the role of industry-related education and experience in driving industrial diversification. Diversification trends of textile firms were often driven by accumulated production and organisational capabilities, including commercial awareness and general management practices. In contrast, firms in knowledge-intensive sectors were more likely to have closer industry-related employment experience. Further, among firm founders in higher value-added sectors, industry exposure and experience was a key driver of firm development in addition to founder education.[9] The evidence of the emergence of spinoffs in the Pakistani economy – often with this combination of education and industry experience – also highlighted the particular origins of important new competitors to the existing business groups.

[9] However, I note that this channel of capability accumulation is more particular to manufacturing industries. In knowledge-intensive industries such as biotechnology and computer science, the capabilities required for firm entry and growth are more closely related to the activities carried out in an academic research environment. This is another case of how industry structure is strongly related to technology and demand in that particular sector.

Additionally, I identified the channels through which firms were able to improve performance as competition increased during trade reform. Similar to the findings of other empirical studies, age was related to firm performance as firms gained experience through the use of consultants, recruitment, trial and error, and interactions with buyers and suppliers. However, evidence from this study also suggests that firms learned at very different rates. Specifically, the effectiveness of learning was shaped by the initial conditions of the firm, including both production capabilities and organisational design. This stands in contrast to academic work which associates upgrading with 'technology transfer' or 'buyer-led upgrading'. I argue instead that firms actively self-select into ventures with overseas partners and export markets based on prior capability, and that the focus on buyers as a source of learning in aggregate is misplaced. Entry, growth and diversification in the textile and clothing sector is a very challenging activity in itself, a counter-intuitive finding for many development scholars.

A determinant of performance was also the innovative environment present inside the firm as a result of professional management practices. Indeed, while most companies were engaged in imitation rather than innovation, it required considerable effort and expertise to acquire new technology and product knowledge. As Teece et al point out, most technology does not enter the market as firms are unwilling to sell it as it cannot be protected or because it is difficult to transact (2002:345), as illustrated in the case of the chemical firm. Instead, at the core of innovative activity was a focused, high-incentive environment which encouraged worker autonomy and the delivery of new product development on the shop floor. As a result, the academic focus should be on making explicit these underlying drivers of firm performance as well as channels such as recruitment and in-house adaptation of products and processes.

Finally, I identified the role of competition in driving upgrading and diversification at the firm level – and thus aggregate industry performance. Indeed, it was the rapid increase in competition that led firms to invest in additional capacity, improve processes and organisational capabilities and conduct new product development. Firms that had previously relied on personal or political connections for firm entry and growth, or tolerated poor quality in production, saw a fall in sales, while those with the most innovative approaches acquired new buyers and greater export share. In

particular, firms with professional management were more likely to remain in the market and saw shop-floor improvements as a direct result of the autonomy and incentives given to workers. Further, an increase in competition often provoked firms to consider other economic sectors such as cement, services and logistics, although their diversification choices were limited by the capabilities accumulated in the textile sector.

In summary, these findings challenge the exclusivity of the demand environment in driving firm entry, growth and diversification. It suggests that a good deal of knowledge accumulation takes place within firms, outside of the realm of institutional or state control. Instead, the drivers of industrial development are capability accumulation prior to firm entry, and subsequent incentive-based learning and performance.

Rethinking industrial development theory and policy

These are powerful findings for development research and policy and can help rethink several building blocks of development research and policy. These include how rapid industry growth occurs, how the transition between industrial paradigms within countries takes place, and the conditions under which how capability transfer occurs between firms. The findings also highlight the role of competition in driving capability accumulation and poverty reduction, as well as the negative impacts of industry protection. The analysis points to new areas for development research and policy and the potential rewards from the analysis of firm heterogeneity and managerial quality.

Firstly, many accounts of industry in poor countries identify the relative technological and managerial 'backwardness' of firms in relation to overseas competitors. However, if a founder with industry-related technical and organisational knowledge can enter the industry in a developing country above the minimum 'window' needed to compete in price and quality this firm could be relatively 'forward' in comparison with competitors. Consequently, the firm could increase capability accumulation at the worker level, raise the likelihood of spinoff formation, and induce an equilibrium breaking shift in industrial growth. Indeed, the high-profile performance of firms

founded by overseas-educated and experienced workers – such as Infosys in India, one of the most successful of the country's IT firms – show the potential impact of such an entrant.[10] Of course, the performance of a firm is intricately related to its operating environment. There will be an upper bound on firm performance as the costs of in-house provision of energy and training in a country such as Pakistan raise the cost and competitiveness of the business. However, firm formation by such experienced founders challenge conventional accounts of development and often matches trends observed in 'the new economy'. This insight could open up a new field of academic research in this area of how shifts in industrial paradigms take place within developing countries.

In terms of economic policy, the attraction of overseas workers back to the country of origin takes on the potential to induce an equilibrium breaking shift in industrial development. Indeed, Nelson describes how all successful cases of catch-up have included considerable cross-border flow of people, ranging from the import of textile manufacturing methods to the USA by British technicians, the use of overseas technical advisors in the development of Japanese industry, and the development of Korean and Taiwanese electronics industries by people who had studied and worked in the USA (2007:7). The same application of highly experienced individuals can be applied to policy making. In Taiwan, for example, Morris Chang went to Taiwan at the government's invitation in 1985 to head the Industrial Technology Research Institute and later the Taiwan Semiconductor Manufacturing Company (Amsden and Chu, 2003:107). Chang had been a senior vice president in Texas Instruments and the highest ranking Chinese-American in the US high-tech industry. Again, the impact of individuals with high-quality, industry-related experience gives additional insights into the potential of economic policy to shape firm formation and growth through the application of experience.

Surprisingly, the analysis of heterogeneity among firms is minimal in most academic or policy studies of industrial development, either in the institutional or state-led traditions. When such a combination of analysis has been conducted, the outcomes

[10] Infosys was founded by Narayana Murthy (with six friends), an electrical engineer with a Masters degree from IIT Kanpur and experience developing software for the air traffic control system at Paris' Charles de Gaulle airport. Source: Infosys Technologies profile, Hoovers, accessed October 2006.

have been powerful, as in the study of Taiwan's industrial development by Amsden and Chu (2003), and the analysis of the social foundations of export diversification in the Dominican Republic by Schrank (2005). Roy (1999) has also challenged dominant understandings of the impact of colonial rule on industrial development in India by showing that the impact of British exports on the local textile industry varied by product and had both a negative and creative impact on local industry through increased competition, the availability of inputs and capital and the adoption of new methods.

An analysis of heterogeneity rather than the emergence of winners would offer richer insights into the firm-level drivers of development. It could be used in the analysis of newly emerging industries such as biotechnology in Taiwan, in the emergence of firms in China's economy, or to evaluate the role of industrial policy in economies such as Mexico when individuals firms such as Volkswagen may have actually played a central role in the emergence of sectors such as automobiles.[11] Specifically, an area of future research in Pakistan could be the extent of spinoffs from leading multinational firms such as Siemens, GSK, Unilever or Telenor and their contribution to industrial development. More generally the analysis of spinoffs may offer insights into financial sector development, and the impact of the presence of multinational firms in developing countries.

A specific industry application of the PFE framework of contemporary relevant to development policy could be use to analyse managerial quality in the banking sector. Indeed, banking is an industry where performance is dependent on managerial quality as well as the incentives provided by the regulatory environment. Further, the sector is of central importance in financing entrepreneurship. Research on this sector could reveal the extent to which finance is allocated in developing countries by contacts rather than on active management of investments by bank managers to firms which offer attractive returns (such as firms created by small, but experienced founders). One leading Chartered Accountant in Pakistan, for example, believes that banks still

[11] See Mathews and Hu (2007) for a discussion of the relationship between universities and sectors such as biotechnology in Taiwan, as well as Wade (2004) for a discussion of the role of industrial policy in the growth of Mexico's automobile industry. An episode of the BBC radio programme 'In Business', for example, found that many new manufacturers in China's manufacturing sector were previously traders of the same goods. Source: Cracked China, 15 Jan 2009, accessed 20 March 2009, http://www.bbc.co.uk/radio4/news/inbusiness/inbusiness_20090115.shtml.

operate according to patterns of influence and that many applicants are still not receiving loans on merit.[12] In theory, this would reduce the returns to banks and their performance. Many Pakistanis have worked in the banking sector overseas, only to return to take up positions in local banks or financial institutions, including former Prime Minister Shaukat Aziz (a former employee of Citibank[13]), and Syed Salim Raza who was appointed State Bank Governor in 2009 (also a former employee of Citibank).[14] An investigation of whether such experience matters for bank performance could offer useful academic and policy insights. Some donors have already taken note of this possibility. DFID's work in Pakistan, for example, supports the banking sector project which aims to strengthen standards of reporting and supervision in Pakistan (Nadvi and Robinson, 2003).

A second implication of this study is the need for increased emphasis in policy making on the provision of industry-related education and work experience. Indeed, while education has been recognised as a key aspect of economic development policy, evidence in this thesis suggests that it should be complemented by industry experience. In particular, this study has drawn attention to the role of organisational – or managerial – capabilities in shaping firm growth and diversification. While there has been academic and policy recognition of the importance of technology transfer and technical education, there has been a lack of attention on the accumulation of organisational capabilities. However, these capabilities are a direct complement to education and skills held in the workforce and may themselves be a source of externalities in the economy. Engerman and Sokoloff state, for example, that "[s]tudies of both agriculture and manufacturing have found that productivity increased substantially during the first stages of industrialization and that the advances were based largely on changes in organizations, methods, and designs that did not require much in the way of capital deepening or dramatically new capital equipment" (1997:282-283).

[12] On a positive note, he estimated that between 20 and 30 per cent of loans were now being allocated to emerging business groups.
[13] Profile: Shaukat Aziz, BBC News, 19 August 2004, Accessed 20 March 2009. http://news.bbc.co.uk/2/hi/south_asia/3941185.stm
[14] Present Governor of the State Bank of Pakistan, Syed Salim Raza, State Bank of Pakistan, Accessed 20 March 2009. http://www.sbp.gov.pk/about/governors/index.htm. Mr Raza was also interviewed for this thesis in his former capacity as CEO of the Pakistan Business Council.

However, according to Nelson these organisational and managerial aspects of operating a technology often are "much more difficult to master" than the engineering aspects (2007:5). In addition, performance can also be driven by marketing and other forms of non-technological skills. Indeed, some of the most successful activity among Pakistan's textile firms has been the move into branding and the targeting of local consumers. This places greater emphasis on the role of these capabilities in firm formation and growth rather than technology transfer in both theoretical and policy work. As a result, this presents new academic and policy challenges as well as the scope to increase the provision of opportunities to acquire such capabilities through education and work experience.

Examples could be the provision of funded industrial placements in local or international firms as part of educational training – particularly important in countries like Pakistan where personal connections and individual wealth limit access to such opportunities. Another possibility could be mentoring schemes at the local level between experienced and less-experienced managers. Support for the development of organisational capabilities among technical managers in particular could help break through the 'marble ceiling'.

Thirdly, the findings in this study indicate that the accumulation of experience is reliant on the existing stock of firms in the economy. This can leave developing countries in a trap when the local 'stock' of firms is low, as in Pakistan and several African countries. Capabilities are difficult to construct and are typically built up in a high-incentive, competitive environment. This gives additional impetus to the need to attract high capability, overseas firms to the country to increase the potential stock of 'spawning' firms. Further, it draws attention to the need to improve provision of education in the workforce (either via the public or private sectors) as a route towards capability accumulation and to attract foreign firms.

In fact, findings from this thesis help understand how – in relation to foreign investment – industrial policy might be effective. It can help understand why academics from two very different traditions – Robert Wade and John Sutton – both concluded that local content requirements had led to capability accumulation among firms. In his study of productivity and quality standards among Chinese and Indian

auto-component producers, Sutton (2002a) found that in the decade prior to entry to the World Trade Organization (WTO), both countries used domestic content restrictions to stimulate development of the component industry. However, he discovered that following WTO entry instead of taking advantage of the ability to now source components abroad, international car makers would not attempt to import components and sub-assemblies. According to Sutton, "This suggests that the development of the local supply chain under local content restrictions in the years prior to WTO entry has, in these industries, been highly successful" (2002a:25).

Similarly, according to Wade, "below the radar" industrial policy in Taiwan (involving officials of the Industrial Development Bureau) was successful. This involved "nudging" foreign firms to switch supplies from imports to domestic producers, or nudging established industries quickly to provide markets for firms in innovative sectors (Wade, 2004:xxi). In these cases, it appears that if high-capability firms are keen to access particular markets for manufacturing or retail, they will have a high incentive to transfer capabilities, even if it requires local sourcing from less efficient producers. It was this high-incentive environment – specific to a small number of firms – that encouraged the deep transfer of capabilities between workers.

However, the ability to do so also relates to the relative bargaining power of the government. Indeed, informally one business observer in Pakistan lamented the fact that the government had failed to negotiate local content agreements upon the arrival of Makro in Pakistan. This is likely to be as much a result of political instability as the poor human and physical capital available in the Pakistani economy.

Fourthly, in addition to the role of competition in fostering entry and growth of efficient firms (as in the institutional account), analysis in this thesis suggests that competition also has a role in capability accumulation. In a society based on familial and personal connections – as in Pakistan's textile and clothing industry – the failure to introduce professional management has led to suboptimal firm performance and limited industrial development.[15] This structure also means that opportunities to acquire PFE are closed to many regardless of the quality of education acquired by

[15] Further, if finance for new ventures mainly comes from existing businesses, then family members would be reluctant to finance a venture of a non-family member.

individuals. In contrast, an increase in competition during trade liberalisation led to a rapid shakeout among such firms. As price and quality competition increased, those firms with better quality management practices saw relatively stronger growth and were able to upgrade, both inside and outside the textile industry (and raised the aggregate level of management practices as poor performers exited).

As a result, an increase in competition currently protected industrial sectors in Pakistan could reward firms on the basis of capability and encourage upgrading and diversification. Indeed, a lack of competition can act as a bottleneck on the accumulation of capability among the best workers, the formation of spinoffs, diversification and aggregate industrial development. Alongside improvements in access to finance, greater opportunities for the accumulation of experience among workers, for example, could raise the likelihood of spinoffs. A rise in competition in the workplace could also help break down the often-cited "marble ceiling" in Pakistan in which very few technicians rise to top management in firms. In these cases, an increase in competition could be an equilibrium breaking shift and can lead to rise in the aggregate quality of management, capability accumulation and industry growth.

A further question underlying this thesis is whether 'ordinary' people in Pakistan can obtain opportunities to acquire industry experience given widespread family ownership and the frequent use of political and personal connections within industry. While academic commentary on livelihoods in Pakistan is limited, an insightful study on education and career paths in India by Jeffrey, Jeffrey and Jeffery (2008) shows the importance of personal connections, and social status, in gaining access to education and employment. In this account, access to the best schools is often obtained by bribes from parents, and as a result, many from less privileged backgrounds are excluded from places in English-medium schools.[16] In the attainment of government employment, even if the individual has obtained the necessary qualifications to compete, high-caste groups could often obtain the personal recommendations important to secure posts. Richer Jats (an Indian caste) established businesses such as internet cafes, shops, phone booths, fertiliser agencies with parental money (ibid:92),

[16] The authors point out that "Due to intense competition for places at English-medium schools, it was typically necessary for parents to pay large 'donations' to the school to ensure a child's admission, and parents and children were sometimes interviewed, chiefly to verify applicants' familiarity with urban middle class norms of comportment" (2008:46).

while Muslim men found jobs among the large Muslim middle class in Bijnor using relations based on caste or religion. As in Pakistan's textile and clothing industry, success often required beating the system. One individual – Zamir – was training in computing in order to get government employment: "Zamir perceived computing as a means of obtaining government employment without having to pay a bribe" as "people without computing skills who use bribes to secure government employment that entail computing found it impossible to maintain their position" (ibid:141).

As a result, increased competition can also help tackle deep rooted discrimination and disadvantage in society. I believe that increasing competition among other industrial sectors in Pakistan could lead to improvement in the market for talented of workers, regardless of class, religious or caste background. Indeed, as shown in the shakeout in Pakistan's local textile market, when under competitive pressure firms can no longer maintain suboptimal relationships with suppliers, partners or staff. Similar trends have been observed in more competitive industries in India. Harriss (2003) has shown that in the IT sector in India – which has witnessed a decline in family ownership – there were many new entrants from different class and caste backgrounds.

A direct corollary of this argument is a critique of the central role of protection underlying many accounts of industrial policy, where the central role of the 'developmental state' was often the application of tariffs and quantitative restrictions. Wade (2004), for example, argues that restrictions on the import of yarn were put in place in Taiwan in order to encourage development of the yarn sector. Similarly, Amsden (1989) argues that in Korea the state protected domestic markets in order to encourage industrial development but also required firms to sell abroad. Giving an indication of the process of capability accumulation under such an environment, Lall (2003) argues that because new technology is not simply transferred and used efficiently – hence full exposure to markets may not be beneficial. Wade summarises a common argument that "Almost all now-developed countries went through stages of industrial assistance policy before the capabilities of their firms reached the point where a policy of more (or less) free trade was declared to be in the national interest" (2004:xv).

The case of the MFA gives an opportunity to examine the heterogeneous firm performance under such an arrangement. As illustrated in this thesis, the MFA had many similar elements to industrial policy including guaranteed market access, lack of competition, and requirements for buyers to source products from specific countries. Certainly, buyers were compelled to work with several suppliers in the sample of firms interviewed. Further, some firms interviewed were protected between 1973 and 2004 – an adequate period of time in which to learn and acquire capability.

However, evidence from this period suggests that protection was not the direct driver of capability accumulation and firm performance and often had negative outcomes. Firstly, some firms entered the market in order to exploit the quota rents to be gained through guaranteed market access which led to inefficient production and later exit. Secondly, even though buyers were forced to source products from Pakistan and some technology transfer did take place, this interaction does not seem to have improved survival prospects in all cases. Thirdly, there was no direct relationship between quota participation and performance, indicating that additional factors were underlying firm survival and performance in the post-quota period. Fourthly, given that several firms have diversified in response to the final abolition of export quotas, it appears that protection actually held back the firms at the top end of the spectrum from diversifying into other industries due to ongoing high profits in this lower value-added sector. Instead, firm performance and the rate of capability accumulation over time was determined by factors underlying firm heterogeneity such as the education, experience and industry exposure of founders and Directors. In the chemical firm, for example, strategy was informed by the engineering education of the Director, while shop floor R&D – and types of product import substitution – relied on the technical and imitative capabilities of shop floor staff within a supportive learning environment.

Given that much academic research has also focused on the emergence of 'winners' in East Asia, it also begs the question of whether highly capable firms would have performed equally well under a less protected environment. In fact, the discussion of tariff protection itself has failed to acknowledge that firms in the economy may be at various degrees of development and sophistication, and that protection might hold back the emergence of firms at the top of the spectrum. Further, if capabilities are gained through education and employment experience in a high-incentive

environment, arguments that state intervention *per se* can directly generate these capabilities is unclear at best and the causal link between state policy and capability accumulation absent.

There may be a case for a gradual increase in industry competition. Evidence from this thesis shows that firms actively invested and prepared for the abolition of export quotas, and these investments were directly related to the firm's post-quota performance. Further, it appears that when the shock did hit and firms such as Nishat Mills and Quetta Textile Mills saw a drop in sales in the first year, they rebounded in the following three years (even in deteriorating economic circumstances). This suggests some form of gradual adjustment to the new competitive environment.

Further, while Kochar et al (2006) have argued that diversification and industrial development in India stemmed from the protectionist policies of the 1960s (allowing firms to 'experiment' in various industrial sectors), evidence in this thesis questions the validity of such a phenomenon in Pakistan. In the case of the chemical firm which entered the sector by accident in the 1980s, it was only later when the firm began to take the sector 'seriously' – implementing professional management, highly-educated shop-floor staff, and a Director educated in engineering himself – that the unit took off, suggesting separate drivers of firm growth. Performance trends among established older groups in particular also broke down in the post-quota period. Further, several new industries have emerged in the post-1990s period when many barriers to firm entry had already been removed and tariffs reduced. Firms have been accumulating capabilities in this period – in chemicals and information for example – without protection, and have seen a small rise in exports.

As a result, the findings from this thesis help rethink several key elements of development research and policy: how rapid industry growth occurs, the transition between industrial paradigms within countries and how capability transfer takes place between firms. The analysis also draws attention to the role of competition in driving capability accumulation and poverty reduction, as well as the negative impacts of industry protection. Evidence on the heterogeneous composition and performance of firms shows how a small number of good performers can generate equilibrium-breaking shifts in industrial composition even when facing a similar institutional

environment. While the institutional environment and the state contribute to the emergence of high ability firms, the evidence in this thesis illustrates the heterogeneous channel through which individual firms make significant contributions to industry growth and economic development.

8.4 Founder experience and firm performance: contributions and future research

In contrast to most studies examining the relationship between pre-founder experience and firm performance that have focused on highly-developed economies and industrial sectors, this thesis has contributed a unique case study from a developing country. I have found that an association between founder education, experience and firm performance is also observed in this particular developing economy despite a very different institutional environment. As a result, the study provides additional evidence for the association between founder experience and firm performance, and offers rich insights into the processes of firm growth and industrial development in emerging economies. The potential application of such a framework to the study of industrial transition in low-income countries is huge, but the research has also shown the need for an interpretation of the founder experience framework in the developing country context.

Firstly, the study has found relevance for existing tools such as the use of pre-founder experience as a proxy for firm capabilities. Specifically, the research has examined the relative contributions of pre-founder experience to production and organisational capabilities, explaining variation in performance by background as well as aggregate trends. The analysis of spinoffs has also proven fruitful – the emergence of true spinoffs in this context has shown to be an indicator of financial sector and economic development. Further, the research has uncovered determinants of inter-temporal learning in firms – an element of path dependency has been confirmed in how these capabilities interact to determine long-run trends in growth, with changes in performance only possible after a radical change of management or motivation among Directors. Finally, the study of the relationship between professional management and

performance has explained contradictions in the performance of the business groups dominating such emerging economies. The breakdown of performance in some business groups in response to competition due to poor management practices sheds light on the reasons why these groups are often identified as parasites as well as paragons.

Secondly, the study explored firm-level drivers of industrial diversification. The findings suggest that the diversification paths of firms are based on accumulated production and organisational capabilities, and that firms tend to diversify into sectors to exploit transferable capabilities. In this context, firms filled knowledge gaps with the use of consultants for technology and recruitment, or diversification can be driven by the education of a family member or changes in consumer demand. In contrast, firms in new, knowledge-intensive industries were not established by incumbents, but by new entrants with greater industry-specific education and experience. Consequently, firm-level factors emerge as important in escaping locked-in patterns of specialisation as well as country-specific factor endowments and the efficiency of individual industries (as recognised by Redding, 2002:300-301).

Thirdly, the study also provided new evidence on the relationship between firms, trade and development. It confirms Sutton's expectation, for example, that the shift in the cost and quality 'window' leads to a rise in the marginal returns from investing in quality improvements for all firms in which "remaining at the old levels of quality is not an equilibrium" (2007b:489). It also confirms that increase in quality competition and the size of the market lead firms to "firms re-assess the investments they made in fixing their respective levels of quality and productivity, in the light of their newly acquired access to the larger, global, market" (ibid:487). In terms of the relationship between firm-level capabilities and the institutional environment, it also offers evidence to Bernard, Redding and Schott (2007) proposal that country, industry and firm characteristics interact to determine nations' responses to trade liberalisation. Trade also appears to reallocates market share from less to more productive plants, and there is evidence that firms do diversify in response to increasing competition as the profitability of existing sectors fall.

Fourthly, the findings raise several opportunities for the future study of PFE itself. In many cases founders from a similar educational or industry background had very different impacts on performance. This raises future theoretical and empirical challenges regarding the separation of PFE from other determinants of performance (such as chance, demand, founder motivation or general distributions of unobservable factors). Indeed, as Dosi et al have previously pointed out, most of the work to find statistical proxies for capabilities is still to be done (2002:16).

Further, not all highly-experienced workers become entrepreneurs. This requires an interaction of the study of entrepreneurship – with its sociological and psychological dimension – with that of founder experience, and may require analyses of factors such as industry exposure in shaping the likelihood of firm formation.[17] Indeed, anecdotal evidence from Pakistan suggests that many entrants to industries such as knitwear, surgical instruments and sports goods were often 'inspired' to enter following the rapid growth witnessed in these sectors.[18]

There are also opportunities to explore the interaction of organisational and technical capabilities in shaping firm performance. Here founder experience was categorised by industry background, but management practices played a clear role in explaining variation within and across founder backgrounds. As mentioned above, the transfer of organisational capabilities have been less explored in the development literature, and further research could enhance the traditional study of 'technology transfer'.

Finally, the analysis of industry evolution in a developing country like Pakistan has required a change in concepts and methodology. The approach is complicated, for example, by the family business structure which increases industry exposure but

[17] This interaction has not been explicitly addressed in this thesis, but several studies of entrepreneurship show similar themes to that of the PFE framework. Djankov et al (2005), for example, find in a study of Russian entrepreneurs that that while individual characteristics such as motivation are important, entrepreneurs differ from non-entrepreneurs in family background. They find that the family members of entrepreneurs, for example, had more education, better jobs and were richer (2005:593). In a similar study conducted in China, Djankov et al (2006) find that the parents of entrepreneurs do not have a higher education than non-entrepreneurs but they were more likely to have been bosses or directors and were richer on average. While the Russian or Chinese contexts may have shaped these relations, and may be dissimilar to entrepreneurs in economies like the United States, this data raises the possibility that entrepreneurship is at least partly socially constructed and perhaps addressable with policy interventions.

[18] However, many business people referred to this as a negative characteristic of industry in Pakistan, terming it the 'sheep mentality'.

confuses incentives within the firm. It also obscures the impact of education and employment experience on performance. Further, the distinction between family spinoffs and true spinoffs requires a re-categorisation of the new unit. When analysing the relevance of the capabilities of family spinoffs, the quality of experienced gained within the existing firm became important, as well as the motivation of the firm founder or Director. As a result, new theoretical approaches are necessary to understand the emergence of firms in developing economies, part of which has been developed in this thesis.

The study of the impact of founder experience in low-income countries also requires a change in methodology. This study has triangulated several sets of performance data to gain insight into over half Pakistan's textile and clothing industry and used a unique opportunity to gain insights into the origins and evolution of firms, despite the lower quality of data. However, the experience showed the challenges of conducting fieldwork in a less-developed country where data sources are less formal and the importance of research design. Data collection required, for example, the building of a high-level network to access information making academic research itself more difficult. The lack of industry sources also made it difficult to trace industries since inception and analysis of survival by PFE since entry was only available for the smaller sample of KSE-listed firms. Further, data limitations often prevented the reach of the study to smaller and less formal firms. Indeed, in the absence of performance data any investigation of pre-founder experience among these firms would have lacked a framework for inference.

Consequently, some research questions remain open. Future research is required to assess whether the relationship between PFE and performance in small and less formal firms mirrors that observed in larger, more formal firms. Additional research could also assess the extent to which business groups continue to dominate via personal and political connections, or whether industrial transformation in Pakistan is occurring at a deeper level. There is also a need for additional evidence from developing countries on which firms drive industrial diversification over time and the firm-level factors which enable diversification. Fortunately, data collection in countries such as Pakistan is improving with computerisation, and firm Directors can now be identified by a unique number in both India and Pakistan. This creates many

new opportunities for research into the role of founder education and experience in firm entry, growth and diversification in emerging economies and highlights the potential application of this framework.

Conclusion

The exposure of Pakistan's textile industry to trade liberalisation between 1994 and 2004 provided a unique opportunity to identify determinants of firm performance and industrial development in an emerging economy. As price and quality competition increased during the phase-out of the Multifibre Arrangement, a large shakeout occurred in which only some firms survived and market share was gained by better performers. In this thesis I have argued that pre-founder experience – including education, employment experience and industry exposure – shaped firms' entry strategies, initial production capabilities and organisational design, and their subsequent ability to improve productivity, quality and marketing during liberalisation. Founder experience also shaped the rate of capability accumulation and the long-term ability to upgrade either within the textile and clothing industry or to diversify into other sectors.

While institutional and state-led accounts of development go a long way to explain Pakistan's development performance to date, this research has shown that – as argued by Sutton – the primary driver of growth is the gradual build-up in firms' capabilities (2002b:9). The findings also echo the assertion of Dosi et al that "[i]mproved understanding of the dynamics of capabilities at the level of the individual organization provides the foundation for an improved and qualitatively different understanding of the mechanisms of aggregate economic growth" (2002:18). In particular, I have argued that it is the formation of firms by founders with high quality industry-related education and employment experience that can deliver industrial diversification and equilibrium-breaking growth in low-income countries. In Pakistan specifically, if political reform could take hold, investments in education and infrastructure could build on the existing stock of capabilities in order to deliver long-term industrial growth and economic development.

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