Soviet Economic and Technical Cooperation with Developing Countries: the Turkish Case

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Abstract

This is a study of Soviet relations with developing countries up to the mid-1980s. The focus of the research is on the Soviet development assistance programme, or 'economic and technical cooperation' as it is called in the Soviet Union. Cooperation has been used to build over 2,000 industrial and agricultural enterprises in over eighty countries. In most developing countries, economic and technical cooperation is the major form which the Soviet presence takes.

The Soviet Union's main way of combating what it sees as the negative effects of trade, private investment and aid from the West is economic and technical cooperation. With the central belief that true political independence and the ability to overcome backwardness does not come while economic dependence still exists, the Soviet Union has sought to build up the economies of developing countries through economic and technical cooperation. The stated goals of this programme have been: to create and develop the economic, scientific and technical potential of the emerging nations, to expand equal and mutually beneficial relations on a stable and long-term basis, and to help the young countries to overcome backwardness and develop without any form of dependence, exploitation or interference in their internal affairs regardless of their social and state system. Soviet cooperation, it is claimed, offers a positive alternative to Western assistance because, unlike the West, the Soviet Union's goal is to increase the independence of developing countries.

The intention of this study is to 'go inside' Soviet development cooperation and, with particular reference to one case, that of Turkey, to analyse and evaluate its actual performance. What are the strengths and weaknesses of Soviet assistance and why do developing countries choose cooperation with the Soviet Union instead of involvement with the West? Does Soviet development cooperation at the factory level match the claims that are made? What is the quality of Soviet economic and technical cooperation as it is judged within enterprises in which it is used? Is development cooperation extended without demanding in return economic, political or military concessions? Does the Soviet Union meet the needs of individual developing countries in terms of their own specified development goals? Or, as an external supplier of technological and economic resources, does it impose its own goals? Soviet cooperation is also compared to Western involvement.

The issues addressed in this study are discussed in depth in the Soviet literature both at the theoretical level and at the policy level. The claims made in this literature are central to this research. A major aim is to test empirically explicit Soviet claims against actual practice. In addition to measuring Soviet behaviour against the standards set-out in the Soviet development literature, actual practice is also measured against: 1.) the demands of the South as expressed in the UN Code of Conduct on the Transfer of Technology, 2.) the development objectives of the case study country, and 3.) 'sound' practice as discussed in the Western technology and development literature.

Contents

Tables

Abbreviations

ALCOA - Aluminium Company of America
ALCAN - Aluminium Company of Canada
BOT - Build-Own-Transfer
CIA- Central Intelligence Agency
CMEA -Council for Mutual Economic Assistance
DAC - Development Assistance Committee (of OECD)
DFI - Direct Foreign Investment
DP- Democratic Party
EEC - European Economic Community
FCC - Fluidized Catalytic Cracking
IBRD - International Bank for Reconstruction and Development
IMF - International Monetary Fund
ITC - Indigenous Technological Capability
NATO - North Atlantic Treaty Organisation
NIEO - New International Economic Order
NIC - Newly Industrialising Country
NAP - Nationalist Action Party
NSP - National Salvation Party
OECD - Organisation for Economic Cooperation and Development
RPP - Republican Peoples Party
SCFER - USSR State Committee for Foreign Economic Relations
SEE - State Economic Enterprise
SPO - State Planning Organisation
STFA - Sezai Turkes Feyzi
TEK - Turkish Electricity Corporation
TL- Turkish Lira
TNC - Transnational Corporation
TOT - UN Conference on an International Code of Conduct on the Transfer of Technology
TUBITAK - Scientific and Technical Research Council of Turkey
UNCTAD - United Nations Conference on Trade and Development
UNESCO - United Nations Economic and Social Council
UNIDO - United Nations Industrial Development Organisation
UK - United Kingdom
UOP - United Oil Products
US - United States of America
US AID - US Agency for International Development
USSR - Union of Soviet Socialist Republics

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Notes on Terms and Concepts

It is worth defining at the outset terminology used in this study. Some of the terms may possibly be unfamiliar to the reader because they are used predominantly in the cooperation and development literature of the Soviet Union and in the technology and development literature of the West.

Economic and Technical Cooperation - the supply of credit, machinery, and know-how for specific projects. Soviet cooperation is extended on a bilateral and, generally, government to government basis. According to the Soviet Institute of Economics of the World Socialist System, the Soviet Union usually provides assistance to developing countries for those tasks they cannot perform themselves and for goods they cannot supply [UNCTAD: 1970]. This includes project preparation (design, site-survey, raw-materials survey, etc.), delivery of materials and equipment unobtainable locally, technical supervision of construction and of plant start-up, organisation of production (the transfer of documentation and know-how), and personnel training. The Soviet Union provides long-term credit to cover the cost of this work. The Soviet Union does not refer to cooperation as 'aid' because aid is considered to be compensation by former colonial powers for past exploitation.[1]

Indigenous Technological Capabilities (ITC) - the ability to locally adapt, assimilate, modify and/or create technology. It is the capacity, which is embodied in people, to alter and create additions to the stock of technology which, itself, includes the organisation of labour as well as the physical means of production. ITC can only be acquired through human capital formation, which involves formal education; on-the-job training, experience and specific efforts to adapt, assimilate, modify and/or create technology. This definition is adapted from Dahlman and Cortes [1984, p.602]. Without some sort of indigenous capability, developing countries would be unable to adapt transferred technologies to operating conditions that are different from those for which they were originally conceived. They would also be unable to make minor innovations, or to modify and maintain this technology. They would, instead, remain reliant on foreign personnel for these tasks. And because they would forego the

1 According to the OECD Development Assistance Committee's (DAC) criteria for aid (concessionality of 25 per cent or above, based on interest rates, repayment frequency, duration, and grace period), not all Soviet economic and technical cooperation projects fall into the aid category. The ones that do not are considered commercial transactions. The DAC criteria are the ones most commonly used in Western attempts to quantity Soviet assistance.

'learning' involved in assimilating, modifying and maintaining technology, they would also be less able to create new technology [Maxwell: 1976, Katz: 1978].

International Code of Conduct on the Transfer of Technology - the main impetus for the negotiations for a Code of Conduct has come from developing countries owing to dissatisfaction over certain practices of technology suppliers, generally from the industrialised countries. The UN General Assembly, in 1974, as part of its Programme of Action for the Establishment of a New International Economic Order, adopted the concept of a code of conduct responsive to the needs of developing countries. Since 1976, representatives of the developing countries (the Group of 77), the European socialist countries plus China, and the advanced Western countries have been meeting to negotiate a Code acceptable to each of the groups.

Packaging - the practice of including several components in a technology transfer agreement. Packaging will have a detrimental impact on the acquiring party under the following conditions: if in order to have access to required technology they must also purchase unwanted components; if the price of standardized technology is inflated because it accompanies innovative components in a package; or if in order to purchase required technology, future streams of inputs, spare parts, innovations, and/or services must also be purchased (in many cases these goods and services are overpriced by world market standards). Packaging may also be detrimental if the package includes technology that otherwise would have been obtained locally. Some forms of packaging might include stipulations for equity participation by the supplier and some degree of continuous control over management and engineers, over the export of goods produced, and over the nature of local research and development. Other forms of packaging are limited to the supply of technology and do not necessarily infringe upon local control.

Soviet - strictly speaking, this is a council and not a reference to people from the Soviet Union. But here the term is used to refer to persons from the Soviet Union because there is not an appropriate word for this in English.

Technology - Malkevich provides a Soviet definition: 'the totality of knowledge which makes it possible to turn out products or produce services' [1979: p.12]. This is similar to the definition by Stewart and commonly used in the Western literature: 'all the skills, knowledge, and procedures for making, using and doing useful things' [1977: p.1].

Technological Learning - In this study, the term 'learning' or 'technological learning' will, unless otherwise specified, mean the set of processes through which firms or economies accumulate technical knowledge and experience relevant to the planning, construction, operation, adaptation, improvement or replacement of their production processes. Learning can take many forms: learning-by-doing, learning by training, learning by hiring, learning by searching out, learning by studying or working abroad, learning by copying foreign products ('reverse engineering'), and so forth [Bell: 1982, Dahlman and Westphal: 1982]. Learning enhances indigenous technological capabilities.

Technological Mastery - the ability by a firm or country to effectively use technology. This is linked to the effort involved on the part of a firm or country in assimilating or adapting existing technology and/or creating new technology. The type of technology transfer will effect the development of indigenous technological mastery [Dahlman and Westphal: 1982].

Turnkey - a form of 'packaging' which generally refers to a single supplier having responsibility for organizing construction, erection, and the supply of integrated equipment and know-how, and for bringing the newly built facility up to specified operational parameters within a specified period of time at which the plant is handed over to the acquiring party. With regard to Soviet cooperation, personnel training is also carried-out as part of turnkey contracts. And, local construction and erection teams generally carry out these tasks under the supervision of Soviet advisors.

Chapter One

Introduction: Objective, Structure, Methodology

This is a study of Soviet relations with developing countries through the mid-1980s. The focus is on the Soviet development assistance programme, or 'economic and technical cooperation' as it is called in the Soviet Union. This programme is, to a large measure, the practical application of Soviet development thinking. Through cooperation, concepts such as 'strengthening the independence of developing countries' and 'creating a more equal and just international division of labour' are meant to be put into practice. Soviet officials and analysts claim economic and technical cooperation provides developing countries with the finance, the equipment and, more importantly, the skills to build their own economies. Assistance is given on the basis of mutual economic advantage, respect for political sovereignty, and friendly relations with countries regardless of political and economic system. In this research, the Soviet Union's claims with regard to economic and technical cooperation are investigated, and actual Soviet practice in developing countries is assessed.

The Soviet Union considered political independence achieved by the developing countries as only one step in the process of attaining full economic independence and overcoming backwardness. The realization of political sovereignty was viewed by many Soviet writers as a mere 'bridge' or 'moment' in the struggle. Though partial political independence may have been gained, economic independence was not yet within the reach of developing countries. With the central belief that true political independence and the ability to overcome backwardness does not come while economic dependence still exists, the Soviet Union has in the post-war period sought to strengthen the economies of developing countries through economic and technical cooperation. According to Soviet officials and scholars, the central purpose of cooperation has been the build-up of national capabilities so that developing countries could achieve full political and economic control.

The Soviet Union claims that it offers a more favourable relationship to developing countries than does the West. Among the strongest assertions are those pertaining to development assistance. According to Soviet authorities, long-term development needs of the developing countries are facilitated by cooperation with the Soviet Union. Conversely, these needs are said to be hindered by involvement with the West. By

providing extensive technical know-how, by focusing on basic industries and by exercising non-interference in domestic affairs, the Soviet Union asserts that economic and technical cooperation offers an alternative to dependence on the West.[1] Cooperation has been used to build over 2,000 industrial and agricultural enterprises in over 80 countries. In most developing countries, economic and technical cooperation is the major form which the Soviet presence takes.

Objective

The intention of this study is to 'go inside' Soviet development cooperation and, with particular reference to one case, that of Turkey, to analyse and evaluate its actual performance. What are the strengths and weaknesses of Soviet assistance and why do developing countries choose cooperation with the Soviet Union instead of involvement with the West? Does Soviet development cooperation at the factory level match the claims that are made? What is the quality of Soviet economic and technical cooperation as it is judged within enterprises in which it is used? Is development cooperation extended without demanding in return economic, political or military concessions? Does the Soviet Union meet the needs of individual developing countries in terms of their own specified development goals? Or, as an external supplier of technological and economic resources, does it impose its own goals?

The issues addressed in this study are discussed in depth in the Soviet literature both at the theoretical level and at the policy level. The claims made in this literature are central to this research on Soviet economic and technical cooperation. A major aim is to test empirically actual practice against explicit Soviet claims. Does actual Soviet behaviour live up to the assertions made in the Soviet literature?

A further aim is to test Soviet practice against demands made by the countries of the 'South' for greater access to the world's technological resources. For purposes of this research, the position of the Group of 77 will be relied upon as the major body of Southern opinion. This is because of its role in articulating the position of the South in the United Nations' debates on technology transfer, particularly within the framework of the United Nations Conference on Trade and Development (UNCTAD) negotiations for an International Code of Conduct on the Transfer of Technology. Despite the

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1 In the Soviet literature and in this study, 'dependence' and 'technological dependence' is used broadly to refer to the maintenance of some form of reliance, and not necessarily the absence of development altogether. This usage differs from that in the Western technology and development literature where it refers to the specific position held by the 'dependency school' [Sunkel: 1973, for example]. Dependency theory is criticized by other Western analysts [Cooper and Hoffman: 1978, for example] because it neglects local development that actually happens.

diversity, disjointedness and even occasional conflicts of interests within the South, its member nations have worked with considerable cohesion on this issue.[2]

This research also examines Soviet cooperation in relation to the development objectives of an individual recipient. The Republic of Turkey was chosen as the case study country because it has a long history of clearly expressed development goals and a long history of relations with the Soviet Union. It is also among the largest non-communist recipients of Soviet assistance. It is a country in which the political and economic system, as well as military alliances, differ greatly from the Soviet Union. Since 1952, Turkey has been a full member of NATO. Thus, the Republic of Turkey affords an opportunity to examine whether cooperation is conducted according to principles of mutual advantage, respect for national sovereignty, and friendly relations with countries regardless of economic and political system. Because Turkey shares a border with the Soviet Union it was one of the first developing countries to receive Soviet development cooperation. While this provides a case that can be studied over a significant period of time, it also presents a special case in that Soviet relations with countries on and near the Soviet border have, at various times, been given special attention. Nevertheless, the benefits of a long history of cooperation and the breath of cooperation within Turkey outweigh 'special case' considerations - which, in one form or another, would present problems for any country chosen.

Received wisdom in the West, as expressed in the technology and development literature,[3] is also used to assess Soviet cooperation. This literature provides the framework for understanding the complexities involved in transferring technologies from one country to another and, in particular, from countries with an advanced technological base to those that have little experience or 'capability' in assimilating, adapting, modifying and creating technology. This literature also sets out much of the value premise on which the study rests: the build-up of independent economic and technical capabilities is one of the main objectives of the development process. In this research, the build-up of local capabilities is considered the most important factor in assessing the technological aspects of cooperation. Although equipment quality is very

2 It is, however, recognized that on other issues there are divergent interests and positions between the countries of the South and that it is almost impossible to consider the South as a homogeneous entity.

3 The literature referred to is that of analysts from the industrially advanced Western countries and the countries of the South (excluding the socialist developing countries). They are grouped together because of a particular intellectual perspective rather than because they represent either national or regional groupings. See, for example, Bell [1982], Dahlman and Westphal [1982], Fransman and King, eds. [1984], and Katz [1978]. This literature is also referred to in this study as the indigenous technological capabilities literature (ITC).

important, in the context of increasing national capabilities other factors are given greater weight. To what extent are personnel trained? How thorough is the transfer of documentation? Can local personnel actually maintain the plant or are foreign personnel continuously needed? What are the legal limitations imposed by the technology supplier? If a second factory was built today, would local personnel have the skills to design, construct, operate and modify it? Or, would they remain as dependent on foreign skills as they were in the first place?

Differences between the Soviet Union and the West are also addressed. While comparing Soviet and Western involvement in developing countries is not the main purpose of this study, an analysis of strengths and weaknesses of each is important not least because these comparisons are prominent in Soviet claims. Many of the Soviet Union's claims refer to the advantages of Soviet cooperation as an alternative to involvement with the West.

Economic and technical cooperation is the focus of this study both due to its importance in the development process and because it helps illuminate relations between the South and the Soviet Union. In the South's long-standing and often heated debate with the advanced industrialised countries over access to technical and economic resources for development, the Soviet Union has been forced to articulate and clarify its position on its relations with developing countries.

Structure

This study proceeds as follows:

In this introductory chapter, the research problem is set-out, and the methodology is presented. The subsequent chapters fall into three parts. In Part I, the objective is to provide a broad overview of Soviet relations with developing countries and, most importantly, to set-out Soviet claims. In Chapter 2, the evolution of Soviet relations with developing countries is reviewed. In this background chapter, these relations are traced from the earliest days of the Bolshevik revolution, with Lenin's government declaring itself the natural ally of the oppressed, to the conflict that has arisen in recent years over the North-South dichotomy, with the Soviet Union arguing that it should not be 'lumped' in the same category as ex-colonial and neo-colonial powers. In Chapter 3, by relying exclusively on Soviet sources, the claims made regarding economic and technical cooperation are delineated. These claims address the terms on which Soviet assistance is offered and how, according to Soviet analysts, these compare to the terms

offered by Western governments and Western corporations.

The objective of Part II is to present findings of the Turkish case study. Chapter 4 reviews the history of Soviet-Turkish relations, thus providing the context for modern Soviet-Turkish cooperation. Turkey's development objectives are addressed and the roles of the Soviet Union and other powers in influencing these objectives are considered. The part played by economic and technical cooperation in the Soviet Union's rapprochement with Turkey is highlighted. In Chapter 5, fieldwork results on one main issue are presented: why technology is secured from one country or firm and not another. This encompasses the following questions. Why is Soviet or Western technology chosen? What are the most important considerations from the perspective of the people responsible for the acquisition of technology? Are decisions based on technological factors such as equipment quality, transfer of information, and personnel training? Are they based on financial factors such as cost, credit, and repayment terms? Are they based on business practice restrictions such as export prohibitions, patents, and royalties? Are decisions based on political factors such as ideology, military alliance, and level of diplomatic relations? Or, are there other factors at work? In Chapter 6, the results of factory level case studies are presented. The main concern is to assess the quality of Soviet economic and technical cooperation as it is judged within factories in which it is used. This chapter is based primarily on interviews with the technical and managerial personnel working in Soviet assisted factories. The extent of restrictive practices, the quality of documentation and of personnel training provide the main indicators by which the Soviet contribution to Turkey's economic and technical development is measured. Soviet assisted factories are also compared to those utilizing Western resources.

Part III pulls together the empirical findings. In Chapter 7, Soviet practice in Turkey is set against four yardsticks: Soviet claims, Southern demands, Turkish development objectives, and 'sound' technology transfer as it is defined in the Western technology and development literature. The key issues addressed are the build-up of indigenous economic and technological capabilities and the question of political interference. Chapter 8 summarizes the main conclusions, examines to what extent one can generalize the results of the field investigation, and suggests areas for further research. This is complemented by reflections on Soviet economic and technical cooperation in the Gorbachev era - to what extent does it constitute a break with the past?

Methodology

In the past decade there have been several important contributions on Soviet theory and scholarship regarding the developing countries. Valkenier [1983], Hough [1986], Light [1988] and Golan [1988] are amongst the main contributions. In this study these works and those of Soviet scholars are relied upon to provide an overview of Soviet theories of development and of the history of Soviet relations with developing countries. However, neither the emphasis nor the contribution of this study is theoretical. The original contribution it seeks to make is empirical. It is an exploration into the actual practice of Soviet cooperation with developing countries.

This study takes the form of a country case study. Within the country chosen, the Republic of Turkey, factory level investigations of eight Soviet assisted projects and, for comparative purposes, five Western assisted projects are undertaken. To date, country case studies of Soviet development assistance have been few and concentrate mainly on India. Clarkson's [1978] study is one of the most notable. Duncan's [1989] work is a more recent example. Factory level studies are even fewer than country studies. Desai's [1972] study of India's Bokaro steel plant is a rare exception. It is an excellent study of how the Soviet Union became involved in building this plant. However, its scope is limited mainly to India's negotiations with potential suppliers and, once chosen, the Soviet Union's strong negotiating position as the main supplier.

This study is, from the outset, qualitative in nature. There are several recent quantitative studies which are very useful when it comes to providing information on annual shifts in Soviet cooperation allocations and disbursements and on the countries, sectors and industries receiving assistance.[4] Such quantitative indicators are important but ultimately insufficient for assessing Soviet assistance to developing countries. There are two main reasons for this. First, a qualitative approach is required to investigate issues such as the contribution of development cooperation to the build-up of technological capability, or the use of development cooperation as an instrument of political influence. Second, the quantitative indicators used are generally restricted to measuring inputs. They do not examine the impact of assistance on development. Input figures based on disbursements have serious limitations even as indicators of how much aid is allocated. This has largely to do with peculiarities in Soviet pricing of economic and technical cooperation.[5] For example, the Soviet Union will offer oil

[4] A notable example is Bach [1987]. Others are US State Department-CIA (semi-annual), OECD Development Assistance Committee (annual), UK Foreign and Commonwealth Office [1983]. Definitions of what constitutes assistance are inconsistent between these studies, as is the coverage of countries. For instance, the State Department-CIA does not include socialist developing countries, the OECD DAC does include socialist countries except for Mongolia, the UK Foreign Office does include Mongolia and uses a different definition of what constitutes aid.

refinery equipment for $53 million when the world market price for comparable equipment is approximately $160 million.

Qualitative Measures

The first problem in assessing the quality of Soviet economic and technical cooperation is that standards are needed against which performance can be measured. In this study, four standards are chosen. First, are the claims made by Soviet officials and by Soviet development and technology experts. Soviet claims are the major yardstick by which Soviet performance is tested. While this can tell us if the Soviet Union lives up to its own criteria of what is good behaviour in developing countries, it does not tell us if these criteria and/or actual practice are sound from the vantage point of developing countries. Therefore, complementary yardsticks are brought in to the analysis.

The second standard against which Soviet practice is measured are the demands made by the South in the UN Conference on a Code of Conduct on the Transfer of Technology. The third standard is the stated development objectives of the case study country, the Republic of Turkey. And, fourth, is the Western literature on technology and development. These standards are set against the actual practice of Soviet cooperation in Turkey.

The information on Soviet practice comes primarily from eight Soviet assisted factories which were visited as part of this research.[6] Two of these factories had significant units purchased from the West. Thus, Soviet-Western comparisons could be undertaken at an intra-factory level. Three solely Western assisted factories were also visited for the purpose of inter-factory comparisons. Whereas the Soviet factories are representative of Soviet cooperation, the Western factories are not necessarily representative of Western involvement in Turkey. They are included in this research because they are in the same industrial branches as the Soviet factories, not because they represent a random sample of Western firms.

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5 Pricing oddities have not been ignored in the literature, but they have mainly concerned subsidies to CMEA developing countries in terms of trade prices. See, for example, Marcella and Papp [1981].

6 There are nine in all in Turkey. The Artvin fibre board factory, the smallest project, was not visited for practical reasons rather than factors specific to the plant. As will be seen, the Soviet case studies are very consistent with one another. From my knowledge of the Artvin factory, no new information would have been unearthed. Thus, in view of the difficulty in getting to this part of Turkey and the judgement that the time involved would be better spent talking with officials and double checking data, this plant was not visited.

At the plant level, interviews were conducted with managerial and technical staff (see Appendix 1 for interview schedules). Questions pertained to cost, credit terms, repayment, equipment quality, personnel training, documentation, division of labour between Soviet and Turkish personnel, business practice restrictions and modifications. Moreover, several days were spent at each plant observing operations and cross checking information by talking further to personnel, and by going over documents. Whenever possible, outside consultancy studies were obtained. In cases in which Soviet experts were still present at the factory, they were interviewed. However, most information was obtained from Turkish personnel. Within factories, it is their perception of the Soviet transfer that is regarded as the most important for this study.

Six of the Soviet assisted factories belong to state enterprises. Two of the factories are private enterprises. In the case of state enterprises, the government agencies responsible for each of the factories were visited. Often these agencies control more than one facility in the same industrial branch. This made it possible to obtain comparative data on a number of factories and on technology suppliers from several countries. In the case of the two private enterprises, board members and technical staff at corporate headquarters were interviewed. Again, in addition to information about the Soviet assisted factories, information concerning similar Western assisted factories was obtained. Technology transfer terms were also discussed at the Turkish agencies responsible for assessing technology. For comparative purposes, information on Western technology transfer was also obtained from these agencies.

Factory case studies could answer only part of the research objectives. Interviews with past and present government officials were also conducted. The issues addressed concerned the overall environment of Soviet-Turkish cooperation. Has the Soviet Union interfered in internal affairs? Why was Soviet cooperation chosen? Has the Soviet Union refused to supply certain technologies or refused to cooperate with the private sector? How has cooperation with the Soviet Union affected Turkey's bargaining position with the West? Were strings attached to external assistance? How were credit and repayment terms negotiated? Information was also sought relating to the political, economic and military influence exercised by other governments and firms in relation to their commercial and aid involvement in Turkey (see Appendix 1 for interview schedules).

Research Problems

This study is primarily about East-South relations. It also involves East-West

comparisons. Mainly, but not exclusively, with regard to these East-West comparisons, problems of ideology enter into the study. To some extent these could be side-stepped in field investigations by focusing on a very concrete issue that is seemingly less politically explosive, namely, technology transfer. Nevertheless, it was expected that biases would influence respondents' replies. Because East-West biases have, in some instances, had a significant impact on the way decisions have been made and on what decisions have been taken, some of these biases make up an integral part of this study (see Chapter 5).

While the biases of decision makers were important for some aspects of this study, throughout the fieldwork corroborative information pertaining to factual matters was sought. For example, instead of relying solely on officials' recall of technology transfer terms, the original Soviet-Turkish contracts and addenda were also studied. At each plant, several (sometimes over a dozen) engineers and managers were asked the same questions. Government and corporate officials were also queried about information that had been ascertained from other sources. And, information gathered at factories was checked against information gathered at state and private headquarters. Sources occasionally provided widely divergent interpretations of events. In some cases more investigation could uncover the most 'correct' version and in some cases a judgement had to be made as to which version to believe or that an educated guess could not be made at all.

As regards the researcher's own biases, it should be noted that one reason for testing Soviet claims is that they were not entirely believed. Clarkson [1978] notes that the Soviet literature on development is often written in such a way that it is hard to swallow: what the Soviet Union does is good and what the West does is bad. He asserts that this style, particularly the lack of self-criticism, often undermines what is actually a very good record on the part of the Soviet Union. This is very possibly the case. Nonetheless, this research was framed with the idea that claims needed to be tested.

Two points regarding the scope of this research need to be made. This study concerns developing countries that are not members of the Council for Mutual Economic Assistance (CMEA). The CMEA developing countries: Cuba, Mongolia, and Vietnam, have different relations with the Soviet Union. This study also concerns cooperation that was negotiated and, for the most part, implemented in the pre-Gorbachev era.

Chapter Two

Soviet Relations with Developing Countries: Theory and Practice

The objective of this chapter is to provide a historical overview of Soviet relations with developing countries. The Soviet assistance programme is reviewed within the context of overall Soviet policy towards the developing world. It is discussed in greater detail in subsequent chapters.

This background chapter proceeds as follows. Part I reviews Soviet relations with the colonial areas and the independence movements up to World War II. This includes a discussion of how early theories of imperialism shaped the Soviet Union's ties with developing countries under Lenin as well as the subsequent changes under Stalin. In Part II, the post-war period is reviewed. With the independence of most of the 'backward' countries, as they were referred to by Soviet analysts at the time, and with the Soviet Union's emergence as a great power after the Second World War, Soviet relations with developing countries took on renewed prominence. Throughout the Khrushchev period, the Soviet Union was optimistic about the revolutionary prospects of the newly emerging countries. In the years that followed, owing to events occurring in the developing countries and to problems in the Soviet domestic economy, the complexity of socialist transition has been emphasised and a more gradual approach to socialism has been advanced. The Soviet Union has continued to help developing countries, but within limits.

Western and Soviet sources are used in this chapter. In some areas of theoretical and historical interpretation differences between Western and Soviet sources are noted, as are some of the differences among Soviet scholars and among Western scholars. In neither the West nor the Soviet Union is there unanimity of opinion regarding the Soviet Union's involvement in the developing world or the development process itself. In terms of presenting 'official' Soviet attitudes a word of caution is necessary. Reference is made generally to leading Soviet researchers, many of whom work within the Communist Party research institutes and many of whom have close links with ruling circles. However, it would be dubious to suggest that their work is a steadfast reflection of official opinion. There is considerable diversity among Soviet researchers and some of the liveliest debate over the past few decades has been on the subject of developing countries. Thus, views expressed by Soviet scholars will be neither

monolithic nor a perfect mirror of the motives, intentions and views of Soviet policymakers.

Part I

Soviet Relations with the Colonies and Semi-Colonies

At the time of the October revolution the newly formed Russian Socialist Federal Soviet Republic [RSFSR] was virtually cut off from the rest of the world. Relations with Europe and America were hostile throughout the Russian civil war, with the Western countries openly extending support to the white army in hope of overthrowing the Bolshevik government.

The new government was faced with hostilities on its soil and isolation from the Western powers. But possibly even more problematic for its survival and that of the Russian revolution, was that in the years immediately following Russia's civil war it had became clear that revolution in the advanced Western countries was not imminent. At the time of the October Revolution, the international communist movement believed that revolution in Europe, especially in Germany, would occur in a matter of months. Yet, all attempts to set up socialist governments met with defeat. The 1919 Berlin uprising failed. The Munich soviet lasted only a few weeks. The Hungarian soviet collapsed. And, in 1920, rather than welcoming the red army, the Poles launched a counter attack. This not only devastated the hopes for socialism in Poland, it also brought to an end hopes for early revolution in Europe [Kapur: 1972].

By the time of the Second Communist International (Comintern), held in July 1920, Lenin and other leaders of the Comintern had to admit to the current stability of capitalism in Europe. For the time being, Soviet Russia would have to look elsewhere for survival. The government could not depend upon revolution in an advanced country to offer protection or to push forward socialism by sharing technical and material wealth that was absent in Russia.

With the RSFSR's inability to extend revolution into Western Europe, the Bolshevik government reevaluated its foreign policy. Soviet leaders, faced with the hostile West, postulated a new foreign policy based on a world divided into two camps: a socialist and a capitalist camp of countries. The threat from the capitalist camp would be a constant factor which Soviet foreign policy would have to take into account. Until such time that capitalism was weakened, the Soviet regime would be forced to pursue a

dual, and sometimes conflicting, foreign policy - the encouragement of world revolution and the preservation of its own national security, with the latter taking precedence and resulting in a policy of coexistence between capitalist and socialist states[1] [Carr: 1964, Muchie and van Zon: 1989].

Proletarian internationalism and the need for peaceful coexistence had became cardinal principles of Soviet foreign policy. The former entailed support for workers' movements in the colonies and the advanced countries. The latter suggested the Soviet government should enter into state-to-state relations with capitalist and pre-capitalist countries. Lenin denounced those in the party who saw these goals as contradictory. Proletarian internationalism was the cornerstone of Soviet policy and, in theory, the maintenance of state-to-state relations was not to be equated with Soviet approval of the domestic policies of capitalist powers or of their suppression of revolutionary movements in the colonies [Muchie and van Zon: 1989].

As prospects for European socialism receded, Lenin and other representatives to the Comintern began to give greater weight to the role of the peoples of the East in bringing about world revolution. However, as Müller [1970] points out, it would be wrong to assume that Lenin only discovered the national liberation movements when the world revolution of the West's industrial proletariat failed to materialize. Prior to the October revolution, Lenin had spoken out about colonialism and the national liberation struggle.[2] In an article written in 1912, he insisted that 'the hundreds of millions of toilers of Asia have a reliable ally in proletariat of all civilized countries' and that victory of this proletariat 'will free the peoples of Europe and the peoples of Asia' [cited in Carr: 1978, p.645]. After the revolution, one of the first acts of the new Russian government was to proclaim its solidarity with the peoples of the East, as the developing countries were then called. The Bolsheviks, Lenin had announced, would work alongside the countries of the East in the common struggle against imperialism [Lenin: 1986c].

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1 See Carr [1964, Part V, Chapter XXV], for a review of the early conflicts which arose within the international communist movement and within the Soviet government as a result of the latter's desire to maintain its own security and, thus, cooperate with capitalist governments whenever it would serve this end. See also Carr [1978, Vol. 3, Chapter LXXXII], for conflicts pertaining more specifically to developing countries. Carr writes, 'promotion of communism among the peoples of Asia was an act of militancy against the hostile imperialist Powers. Henceforth it fitted into the larger framework of Soviet foreign policy. It was a weapon of diplomacy, to be actively and vigorously used against any Power whom it was desired to harass and oppose, but muffled or relegated to subterranean channels when good relations were sought' [p.647]. In Carr's view, relations with the Western countries took precedence over liberation struggles in the colonies.

2 See also Carrére d' Encausse and Schram [1969] for an excellent discussion of Lenin's views on the colonial areas.

Lenin's analysis of imperialism pertained not only to the effects of foreign exploitation and oppression within the colonies, it also pertained to the role of the East in the world revolutionary process. Imperialist policies, by staving off revolution in the West, made the 'Eastern question' inseparable from the Western proletarian struggle. Because Lenin's theory of imperialism and his tactics for national independence struggles were at the centre of early Soviet theory concerning developing countries, these are discussed in the following sections. Lenin's theory of imperialism was a departure from the ideas espoused by Marx. These are reviewed in the next section.

The Fight Against Imperialism: Marx

Without capitalism, which was only beginning to take shape in the developing countries during Marx's time, the conditions for communist revolution in these areas did not exist. Marx and Engels' writings on developing countries were limited mainly to the role European countries played in destroying their natural economies.[3] It would be through relations with European countries that capitalism and cultural advancement would spread to the East.[4] Imperialism, in Marx's estimation, was a historically necessary and progressive process. It would bring with it class divisions with consequent antagonisms and new relations of production, thus destroying the stagnant Asiatic mode of production, and laying the groundwork for further revolutionary development.

While Marx commented extensively on the progressive forces of colonialism, he was not insensitive to the selfish motives and harsh methods of the imperial powers. Only by accident, and not by design, would imperialism release the creative forces of human society. In 'The British Rule in India', Marx wrote:

> England, it is true, in causing a social revolution in Hindustan was actuated only by the vilest interests, and was stupid in her manner of enforcing them. The question is, can mankind fulfil its destiny without a fundamental revolution in the social state of India? If not, whatever

3 Light [1988] points out that Marx and Engels' writings on developing countries were mainly journalistic analyses of current events rather than theoretical formulations. Furthermore, their interest in these countries was generally limited to the effects that events in the colonies would have on the metropolitan countries.

4 The constructive impact of colonialism was so strong in Engels' view that in a letter written in 1882 to Kautsky, he went as far as positing that in the event of proletariat revolution in the advanced countries, those colonies remaining at a primitive stage of development would have to be taken over by the proletariat of the metropolitan countries and led as quickly as possible towards independence. This view did not go unchallenged. Kautsky argued that a colonial policy which was of necessity based on domination and conquest could never be civilizing in its impact, as it degraded the colonized [MacFarlane, 1985, p.19-20].

may have been the crimes of England she was the unconscious tool of history in bringing about that revolution. [1976, p.41]

Sickening as British imperialism may be to the human spirit, what it replaces is even worse:

> ...we must not forget that these idyllic village communities, inoffensive though they may appear, have always been the solid foundation of Oriental despotism, that they restrained the human mind within the smallest possible compass, making it the unresisting tool of superstition, enslaving it beneath traditional rules, depriving it of all grandeur and historical energies. We must not forget that these little communities were contaminated by distinctions of caste and by slavery, that they subjugated man to external circumstances instead of elevating man to be the sovereign of circumstances, that they transformed a self-developing social state into never changing natural destiny, and thus brought about a brutalizing worship of nature, exhibiting its degradation in the fact that man, the sovereign of nature, fell down on his knees in adoration of Hanuman, the monkey, and Sabbala, the cow. [ibid., p.40-41]

Marx insisted that upheavals in the backward regions would not only have a constructive impact on these areas, they would also potentially serve the cause of proletarian revolution in the advanced countries, his major area of concern. Crisis in colonial markets could disrupt the advanced countries' supplies of raw materials and their exports of manufactured goods. This according to Marx, in 'Revolution in China and in Europe', written in 1853, could set in motion the wheels of proletariat revolution. 'Now, England having brought about the revolution in China,' he wrote, 'the question is how that revolution will in time react on England, and through England on Europe' [1976a, p.21]. His answer was:

> ...it may be safely augured that the Chinese revolution will throw the spark into the overloaded mine of the present industrial system and cause the explosion of the long-prepared general crisis, which, spreading abroad [from England], will be closely followed by political revolutions on the Continent. [ibid., p.24]

Although Marx argued that national liberation movements in the colonies and semi-colonies could have a positive impact on the advanced countries in terms of accelerating proletarian revolution in Europe, the weight of the socialist movement, nevertheless, remained unquestionably on the shoulders of the most advanced countries. It was in Europe where socialist revolutions would occur first.[5]

[5] It was mainly in his last writings that Marx acknowledged that socialist revolution in backward countries was possible. But here, he was referring to revolution in Russia, a country which was at an early stage of capitalist development. But even revolution in Russia would require revolution in the most advanced countries in order to survive. See Shanin [1984].

Marx had anticipated that European revolutions would occur by the beginning of the twentieth century. The falling rate of profit and the increasing misery of the masses would force capitalism to falter under its own contradictions. How then were communists to view the increasing real wages of workers in the early 1900s? Lenin, Luxemburg, and other communist intellectuals offered explanations centred around imperialist relations with the backwards countries.[6] With the new analyses of imperialism, the East was made more central to socialist theory than it had been in earlier Marxist theory. This was particularly evident in Lenin's theory.

The Fight Against Imperialism: Lenin

Lenin, unlike Marx, devoted much attention to the question of colonialism and colonial revolution. He stressed the oppressive nature of colonialism. Indeed, the 'demand for self-determination' was, in Lenin's judgement, 'obligatory for every Marxist' [Lenin: 1986, p.213]. He argued vociferously for self-determination of the colonies and he asserted that socialists, when in power, would not continue the practice of imperialism. In 1916 he wrote:

> We demand from our governments that they quit the colonies, or, to put it in precise political terms rather than agitational outcries - that they *grant* the colonies full *freedom* of secession, the genuine *right* to *self-determination*, and we ourselves are sure to implement this right, and grant this freedom, as soon as we capture power. We demand this from existing governments and we will do this when we are the government.... [ibid., 1986, p.218]

Similar to Marx and Engels, Lenin was primarily interested in the impact of colonial upheavals on the European countries. While Marx and Engels emphasised the civilizing force of imperialism and the possibility that it could ignite a crisis in the West, Lenin emphasised its role in retarding socialist revolution in the capitalist countries. Lenin's theory of imperialism asserted that capitalism, instead of having developed internal contradictions to a point where socialist revolution was inevitable, had found a way out by expanding into the world in search of labour that could be exploited; cheap raw materials; and a market for goods and excess capital. Through imperialist expansion, capital could stop the falling rate of profit in the advanced countries. Moreover, with the super profits that capitalists extracted from the colonies they could buy off the proletariat, thereby staving off revolution at home [Lenin: 1940].

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6 See Owen and Sutcliffe [1972] for a review of theories of imperialism. See also Brown [1974, Chapter 3].

Imperialism was viewed as an exploitative relationship with the colonies and as an effective way of robbing the proletariat of its revolutionary character. While contradictions and the subsequent potential for revolts between the imperialist powers, and between the imperialist powers and the colonies would grow; contradictions within the advanced countries between the proletariat and capitalist would, for a time, subside. It was Lenin's view that the elimination of super profits as a result of colonial revolution would end the process of bribery, thus opening the door to proletariat revolution [ibid.].

Owing to the links between proletariat revolutions in the West and nationalist struggles in the colonies, Lenin concluded that there must be an alliance between the revolutionary proletariat and the national liberation movement against imperialism. 'The socialist revolution,' insisted Lenin, 'will not be solely, or chiefly, a struggle of the revolutionary proletarians in each country against their bourgeoisie - no, it will be a struggle of all the imperialist-oppressed colonies and countries against international imperialism' [Lenin: 1964, p.159].

It was through theories of imperialism that backward countries were given a prominent place in socialist analyses. It was, however, the failure of socialist revolutions in Europe that brought the backward countries to the forefront of socialist struggle and socialist debate. One of the most contentious issues between socialists was the formation in the East of a united front strategy with the national bourgeois movements in order to fight the imperialist powers. This is discussed in the following section.

The United Front and National Bourgeois Movements

The role of the East was strongly debated at the Second Comintern, which was held in 1920. While the general theme of liberation of oppressed people through worldwide proletarian revolution was acceptable to all, serious differences arose concerning the class character of the eastern revolutionary movements and the role of the national bourgeoisie. The major protagonists were Lenin and the Indian Communist, M.N. Roy. Their differences centred on the degree of support to be given to the national bourgeoisie and to the proletarian movements.[7] They also differed on whether world revolution depended on movements in both Europe and the East, as Lenin argued, or whether it depended entirely on revolution in the East, the position taken by Roy.[8]

7 For a review of the modern debate on this same issue, see Golan [1988, Chapter 5].

The debate which ensued had a profound effect upon the Comintern and upon future Soviet policy towards the developing countries.

Lenin calculated that similar to Russia in 1905, both the national bourgeois and the proletarian movements were in opposition to the existing imperialist order and, thus, potentially revolutionary [Carr: 1964]. He argued that communists in backward countries must be prepared to support every national liberation movement, even of bourgeois-democratic character. He also called on all liberation movements to form close alliances with Soviet Russia [Lenin: 1986a]. He asserted that an alliance, or a 'united front', with the national bourgeoisie would be temporary, lasting until such time that the local proletariat, currently in embryonic form, could launch a struggle. Furthermore, he argued that struggles in the East, due to the level of development, could not be socialist; they could only be bourgeois democratic:

> It is beyond doubt that any national movement can only be a bourgeois-democratic movement since the overwhelming population in the backwards countries consist of peasants who represent bourgeois-capitalist relationships. It would be utopian to believe that proletarian parties in these backwards countries, if indeed they can emerge in them, can pursue communist tactics and a communist policy, without establishing definite relations with the peasant movement and without giving it effective support. [1986b, p.285]

Lenin's proposal for a united front strategy with the national bourgeoisie met with bitter opposition from many Eastern communists who claimed that the national bourgeoisie in the East were unreliable allies and that they would turn against the communists at the first opportunity. Roy and his supporters charged that the bourgeoisie in dependent countries were reactionary. From his own experience in India, Roy asserted that they were no different than the existing social order in either cultural or economic terms. He argued for the Comintern's support for the formation of communist parties in Asia which would organise peasants and workers and lead them to the establishment of soviet republics [Kapur: 1972, Dawisha: 1979]. Roy believed the communists should assume leadership from the very beginning so as to isolate the national bourgeoisie who would compromise with Western imperialism against the proletariat and peasants and would entrench a capitalist order once they gained independence. He argued:

> To support the struggle for the destruction of foreign overlordship does not therefore mean to underwrite the nationalistic aspirations of the homegrown bourgeoisie, but to open the road to

8 See Carrère d' Encausse and Schram [1969] for a detailed account of the Soviet Union's various positions over the years on the relative importance of Eastern and European revolution.

> liberty for the proletariat of the colonies.... There are two distinct movements that grow farther apart every day. One is the bourgeois-democratic national movement, whose programme calls for political independence within a capitalistic order. The other is that of the poor and backward peasants and workers.... In its initial phase the revolution in the colonies will not be a communistic one. But if at the very outset a communist vanguard moves to the forefront, the revolutionary masses...will reach the set goal.... The leadership of the revolution must not be in the hands of a democratic bourgeoisie. [cited in Müller: 1970, p.9-10]

In spite of the considerable support given to Roy's thesis, Lenin's view that the national bourgeoisie were progressive and, in fact, revolutionary, became the basis of Soviet theory and policy.[9] However, Roy's thesis was partially integrated into Lenin's thesis. Recognizing that some national bourgeoisie were reactionary, Lenin decided that a distinction must be made between truly 'national-revolutionary' bourgeois movements and those which cooperate with the imperialist oppressors for their own gain. Only the national revolutionary movements would be supported [Lenin: 1986b]. In practice, however, the distinction was not always easily recognizable.

Lenin's view also prevailed with respect to the importance of revolution in Europe. Although he believed in the importance of movements within the colonies, neither he nor the majority of the Comintern could accept Roy's position that revolution in Europe depended entirely on Asiatic revolution [Carrère d' Encausse and Schram: 1969].

Faced with animosity from the advanced capitalist countries, Lenin had turned to the less advanced countries. He did not, however, abandon all hope for revolution in Europe. Nor did he refrain from relations with the Western bourgeois governments. Soon after the Second Congress, the Soviet Union sought increased economic and diplomatic ties with the advanced capitalist countries. Soviet Russia needed credits, technology, and trade to increase its level of development and to speed up its economic recovery from years of world war, revolution, and civil war. At the price of promising not to spread revolutionary propaganda in Britain's colonies,[10] the Soviet Union

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9 According to Light [1988, p.87-88], Lenin's thesis prevailed for three reasons. First, it was a policy which was very similar to the one which had worked for the Bolsheviks in Russia. Second, Lenin's thesis was less radical than Roy's and, thus, corresponded to Soviet and Comintern policy that had become increasingly more compromise oriented. And, third, although revolution in the East was considered vital to world revolution, the Bolshevik's and the Comintern's interest remained focused on Europe. Colonial revolutions led by the national bourgeoisie rather than the weak communist organisations were believed to be far more likely to succeed and, thus, weaken European countries, making socialist revolutions more likely.

10 To get around the dilemma posed by this clause in the agreement, Soviet leaders turned to Comintern as the main organ through which the Soviet Union could mobilize support. At the same time the

signed a trade agreement with Great Britain on 16 March 1921, the same day as the signing of a treaty with Turkey, and only a month after the first foreign treaties were signed, with Afghanistan and Persia. In 1922, a treaty was signed with Germany and, in 1924, the Soviet Union was recognized by Italy and France [Carr: 1979]. For the Soviet Union's own survival, Lenin pursued a strategy of peaceful coexistence with states of differing economic and social systems.

Stalin: From Alliance to Isolation

When Stalin came to power after Lenin's death in 1924, he continued the united front strategy which he had originally helped to formulate and which had been adopted by the Second Comintern. The Soviet Union's cooperation with bourgeois-nationalist parties proved, however, to be disappointing in terms of nurturing proletarian movements. Although Stalin sought to mediate between local communists and bourgeois-nationalists, communist-nationalist alliances were short-lived in each of the Eastern countries gaining independence or succeeding in anti-feudal revolutions. In Turkey, the nationalist government began suppressing local communists shortly after it came to power in 1921 [Hale: 1981]. In Egypt, which was granted independence by Britain in 1922, when communist supported strikes broke out in 1924, the Communist Party was suppressed and the entire Central Committee was imprisoned [Dawisha: 1979]. The most severe blow to the united front strategy was dealt by China. In 1927, the Chinese nationalists, the Kuomintang, which had been heavily supported by Moscow, turned against the Soviet Union and led an attack against local communists and the trade union movement [Carr: 1964].

The failure of united front policies throughout the East, and particularly in China where thousands of communists were killed, led to disenchantment with bourgeois nationalist liberation movements. This was reflected in the resolutions of the Sixth Comintern, held in July 1928. Bourgeois nationalism became a discredited force and, although the revolutionary potential of the petty bourgeoisie and the peasantry was cautiously acknowledged, the weight of moral support shifted to the revolutionary proletariat. Local communists were asked to build communist parties, to infiltrate trade unions, to organise the peasantry, and, if necessary, to prepare the way for armed struggle [Carrère d' Encausse and Schram: 1969].

Soviet government dissociated with the Comintern in an attempt to publicly maintain the thesis that Comintern was an independent international institution, outside the responsibility of the Soviet government. It was largely through Comintern that the SU lent its support to movements in the East and to the proletarian struggle in the West. See Carr [1964, p.13].

With only limited success of revolutionary movements abroad, Stalin turned his attention inward, to consolidation of power within the Soviet Union and to building socialism in one country. Whereas the continued existence of the Soviet Union had previously been dependent on the success of European revolution and then, when this had failed, on Eastern revolution, in Soviet eyes world revolution was now made increasingly dependent on the survival and the strength of the Soviet Union [Dawisha: 1979, p.4]. With the exception of support to some non-colonial developing countries, particularly in Asia and on or close to Soviet borders, and to a limited number of independence movements, the Soviet Union after 1928 removed itself from the centre of the anti-imperialist struggles which it had helped inspire. Stalin's government held almost no hope that the developing countries were ready for socialist transformation [Simoniya: 1985, Kapur: 1972].

Because of the Soviet Union's own military and economic requirements, only limited moral and material support could be lent to independent governments, such as Kemal's in Turkey, and to liberation movements in the colonies. There was no question of lending support to governments in the colonies as this would be tantamount to supporting the imperialist powers. Moreover, the imperialist powers in control of the colonies and semi-colonies often prohibited contacts with the Soviet Union [Azov and Rubinstein: 1986]. Economic aid and relations in the inter-war period were, therefore, largely confined to a handful of relatively independent countries such as Turkey, Iran, and Afghanistan [Gu: 1983].

Throughout Stalin's rule, controversy over the national bourgeoisie continued. At one moment they were considered progressive and deserving of Soviet and Comintern support. At the next moment they were seen as being in league with the imperialist oppressors. The debate continued to revolve around the arguments articulated by Lenin and Roy: were the nationalists progressive and democratic or were they reactionary. According to MacFarlane [1985] and Dawisha [1979], these vacillations in Soviet outlook during the Stalin years were largely dependent on the Soviet Union's calculations of its own security. With the approach of World War II, the Soviet Union moderated its tone in the colonies, first with regard to communist struggles and then even with regard to bourgeois nationalist struggles. At the Seventh Comintern, convened in 1935, it was agreed that the 'class against class' tactics in Germany had aided Hitler's rise to power by preventing an alliance between communists and Social Democrats. Consequently, the Comintern decided that a return to the broadest possible united front strategy, one that included capitalists in all countries, was the only effective deterrent against the further spread of fascism. This policy was pursued with reference

to the West and to the colonial world. In the latter, any policy which might weaken the anti-fascist front was discouraged. The Soviet Union neither wanted to antagonize potential allies in the West nor to divert Western resources through colonial struggles [Dawisha: 1979, Carrère d' Encausse and Schram: 1969].

With the rise of fascism, Soviet interest in the colonies had ceased almost entirely. After the war, the East reached new prominence in Soviet international relations. The Soviet Union had emerged from World War II as a great power while many of her adversaries had been considerably weakened and in the decade following the war much of central Europe had been brought under her control. Once Soviet power in Eastern Europe was consolidated, the Soviet Union could turn her attention to the East where new struggles against imperialism were emerging. The colonies were gaining their independence and new hopes for socialism would arise.

To summarize Part I of this chapter, early Soviet thought regarding the national liberation movements and the struggle against imperialism has been reviewed. Soviet policy underwent frequent shifts to adjust to changing circumstances in Europe and in the colonies. As hopes faded for socialist revolutions in both these areas, the Soviet Union turned inwards. In Part II, the post war period is discussed. With the Soviet Union's emergence as a major world power and with the independence of the colonial areas, Soviet relations with developing countries have taken on major importance in the global context.

Part II

The Soviet Union and the Emerging Nations

In the years immediately following the Second World War, Soviet policy towards developing countries reflected a number of contradictory themes that evolved in response to a dramatically changing international landscape. The Soviet Union was ill prepared for the emergence of independent states in the East. Years of almost virtual isolation from events occurring in developing countries had left the Soviets with no way of conceptually coping with these states, particularly as the majority of the newly independent countries subscribed to a neutral foreign policy, choosing to remain outside the two major power blocs.

The Soviet concept of 'two world camps,' reaffirmed by Zhdanov and Stalin in 1947, did not allow any place for non-alignment or for a third camp. In a world that

was viewed in rigidly bipolar terms,[11] staying outside the conflict between the two opposing camps, particularly between the US and the USSR, was judged to be reactionary and actively assisting the imperialists. If a developing country was not overtly pro-communist it was considered to be in the Western camp, even if its leaders championed the cause of neutrality. According to Müller [1971, p.20], Soviet theoreticians saw in neutralism a maneuver to disguise developing countries' incorporation into the imperialist camp.

The two-camp thesis put a formal end to the earlier Soviet approach of cooperation with the national bourgeoisie. It was argued that once the nationalists were in power they would cease 'their oppositional role and become the obedient tools of the ruling circles of the colonial powers' [ibid.]. Imperialist rule, the Soviet leadership insisted, had only been shifted from a direct role to an indirect role. So-called neutrality and anti-Americanism were considered temporary aberrations as long as the developing states remained capitalist. It was thought that capitalist development would inevitably lead to dependence on the Western powers. According to Hough [1986, p.227], Stalin believed that the third world bourgeoisie pursuing capitalist development would evolve in a pro-Western manner as had Turkey under Atatürk and China under Chiang Kai-shek. Bourgeois-nationalism, Stalin claimed, had led to the transformation of these countries into appendages of imperialism. Because he regarded the nationalist leaders such as Nehru and Nasser as Western puppets, Stalin supported local communists in their struggle against these leaders.[12]

A slight reorientation in Soviet policy began in the early 1950s, with the first signs of improvement coming in the sphere of trade relations. Prior to this time, trade with developing countries had been as strained as political relations [Smith: 1973]. At the UN Commission for Asia and the Far East Conference in Singapore, held in 1951, Soviet representatives publicly suggested for the first time that the Soviet Union might replace the West as a market for Asian exports and as a source of industrial machinery and goods. In the following year, at the International Economic Conference in Moscow, Soviet officials stated that they were prepared to enter into full trading relations with third world governments[13] [Smith: 1973, Dawisha: 1979].

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11 See Furedi [1988] for an account of the US's brand of bi-polar thinking in the post-war period.

12 According to Hough [1986, p.226-228], even this support was only minimal and Stalin pursued a largely isolationist policy towards the developing countries in his later years.

13 There were some trade ties with colonial and former colonial developing countries immediately following the war. But these were minimal and only because there was a strict economic need. Not only was trade kept low because newly independent countries such as India, Pakistan, Ceylon and Burma were looked upon with disfavour by the Soviet leadership, it was also low because Stalin pursued an

According to Valkenier [1983], the initial motives for increased ties with developing countries were apolitical. Soviet authorities were anticipating overproduction in capital goods and wanted to find markets in exchange for raw material supplies. It had been suggested by Nesterov, the President of the Soviet Chamber of Commerce, that the USSR could export machinery and equipment to Southeast Asia and the Middle East and receive in return cotton, jute, rubber, leather, foodstuffs, and nonferrous metals.

Smith [1973] also argues that Soviet economic requirements were a major reason for advances in Soviet-developing country relations in the early 1950s. However, in contrast to Valkenier, he stresses that the Soviet Union wanted to increase its trade with the developing countries mainly due to Soviet import needs rather than excess supply of potential export goods. As Soviet industry had developed, so had demands for industrial raw materials and later for foodstuffs. Smith argues that because many of the import goods the Soviet Union needed were produced mainly or solely in the developing countries, the Soviet Union had little choice but to trade with these countries. In order to pay for imported goods required by the Soviet economy, exports had to be increased. The USSR's trade with developing countries gained in importance partially due to Cold War tensions, which had resulted in Western countries restricting their trade with the Soviet Bloc.

While there was modest economic rapprochement, there was not a wholesale shift in Soviet policy prior to Stalin's death in 1953. In terms of ideology, the nationalist leaders of the emerging countries remained outcasts. In his last speech, at the 19th Party Congress in 1952, Stalin again denounced the nationalist bourgeoisie:

> The bourgeoisie itself - the chief enemy of the liberation movement - has become different from what it was.... Earlier the bourgeoisie allowed itself to take liberal actions. It defended bourgeois-democratic freedom and thus created popularity for itself in the people. Now not a trace of liberalism remains.... Earlier the bourgeoisie was considered the head of the nation, placing it 'highest of all.' Now not a trace of the 'national principle' remains. Now the bourgeoisie sells the rights and the dependence of the nation for dollars. [cited in Hough: 1986, p.114]

Khrushchev: Winning Over the Developing World

Major reorientation of Soviet policy towards the developing countries only became possible after Stalin's death. The new Soviet leadership embarked almost immediately

economic policy based largely on the principles of autarky. Thus, imports were kept to a minimum. Consumer oriented goods and foodstuffs were practically non-existent until the consumer drive initiated after Stalin's death. See Smith [1973, Chapter 7].

upon efforts to expand contacts with the emerging states. The new Soviet outlook towards the developing countries is discussed in this section. Assessments by Western and Soviet analysts of the motives behind increased involvement are also discussed.

By the mid-1950s, the new party leader, Nikita Khrushchev, was openly courting the leaders of the non-aligned governments in Asia. Khrushchev and Prime Minister Bulganin made highly publicized visits to India, Burma, and Afghanistan in 1955. In the same year, Nehru was given a hero's welcome when he visited Moscow. Khrushchev publicly described India as a 'great power' and, moreover, declared that professions of neutrality by the emerging countries 'met with the full understanding and support' of the USSR [cited in Saivetz and Woodby: 1985, p.36]. The developing countries were considered natural allies of the Soviet Union, as they had been during Lenin's leadership.

The Soviet Union went full circle after Stalin's death and accepted a policy of peaceful coexistence with countries having different ideological orientations. In doing so, it adopted the five principles of peaceful coexistence advocated by Nehru and prominent within the non-aligned movement: 1.) mutual respect for territorial inviolability; 2.) mutual nonaggression; 3.) mutual nonintervention in internal affairs; 4.) equality and mutual benefit; and 5.) peaceful relations. These principles which had formed the basis of some of the earliest relations between the Soviet Union and the developing nations were formally adopted in 1956 at the Soviet Union's Twentieth Party Congress[14] [Müller: 1970].

At the Twentieth Party Congress, Khrushchev initiated the 'zone of peace' which was meant to include all the socialist and nonaligned nations. The neutral developing countries were welcomed into the 'world camp of peace forces' opposed to the capitalist West. It was assumed, according to Legvold, 'that the emerging countries were rejecting the capitalist alternative, and following another, more progressive path of development; that they had been profoundly alienated from the West and now felt seriously imperiled by the forces of neocolonialism; and that increasingly they would close ranks with the socialist countries' [1970, p.332]. The evolving Soviet world view permitted the Soviet Union to be active in the developing world: formal diplomatic relations were established with many of the developing countries and the Soviets made offers of economic and military aid were made. In Khrushchev's spirit of cooperation, even monarchies, such as those in Morocco and Yemen, were offered assistance, as

[14] The new policy of peaceful coexistence was also applied to relations with the West, albeit in a matter which allowed for competition. See Khrushchev [1961a, p.44].

was the Shah of Iran [Saivetz and Woodby: 1985]. According to Carrère d' Encausse and Schram [1969], as long as non-European countries refused to follow the lead of the Western powers in external relations, their internal tendencies could be overlooked.

No longer were non-aligned countries, such as India and Egypt, viewed as appendages of the Western powers. They were instead regarded as independent states with interests in many areas coinciding with those of the Soviet Union. The socialist revolutions, the anti-imperialistic revolutions, and the democratic revolutions became part of a homogeneous process which was undermining capitalism. Movements within the developing world had once again become an important part of the world revolutionary struggle, even where the national bourgeoisie rather than local communists might be playing the major role in the fight against imperialism [Hosmer and Wolfe: 1983]. It was believed that owing to nationalist interests, the national bourgeoisie could transcend their class character and cooperate with socialist countries throughout the entire period of imperialism [Carrère d' Encausse and Schram: 1969].

During the Khrushchev years, the 'peace-loving' developing countries were considered progressive and their neutrality was judged to be anti-Western. Acceptance of neutrality did, however, fall short of acceptance of a third force, a so-called 'third world'.[15] A rigid division between the socialist world and the 'third world' did not exist. Khrushchev argued that only the deceptions of bourgeois and revisionist officials led to a separation between the newly independent states and the socialist movement:

> Bourgeois and revisionist politicians claim that the national- liberation movement develops independently of the struggle by the working class for socialism, independently of the support of the socialist countries, and that the colonialists themselves bestow freedom on the peoples of the former colonies. These fabrications are designed to isolate the newly-independent states from the socialist camp and are an attempt to prove that they should act the role of a "third force" in the international arena instead of opposing imperialism. Needless to say, this is a falsehood. [Khrushchev: 1961, p.19]

In spite of these protestations, there was general optimism during the Khrushchev years that the former colonies and the international system were moving towards socialism.

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[15] It should be noted that the non-aligned movement from the outset vehemently denied an intent to create a third bloc of nations. According to LeoGrande [1980, p.37], 'There consensus was that the division of the world into opposing blocs was precisely the cause of world tension; the demolition of such blocs was their goal.' For some recent Soviet views on the non-aligned movement, see Brutents [1985], Alimov [1987], and Benevolensky [1985].

There are numerous explanations given by Western analysts for Khrushchev's acceptance of the national bourgeoisie-led developing countries and for the Soviet Union's growing interest in the developing world. Valkenier [1974] argues it was clear that the Soviet Union could no longer view the national bourgeois leaders as reactionaries and lackeys of imperialism who would be swept away by communist revolutions. The limits of local communist revolts had become apparent by the mid-1950s. With the exception of North Vietnam, none of the newly independent states had achieved their independence as a result of action by local communists. India, Indonesia, and Egypt, among others, had achieved their political sovereignty by the efforts of the national bourgeoisie. If the Soviet Union was to establish relations with these states, it had no other choice than to accept the bourgeois governments. Valkenier [1975] also maintains that in Khrushchev's acceptance of 'peaceful coexistence' and the 'zone of peace', he was not necessarily promoting tranquility and maintenance of the status quo. She argues that these were 'dynamic concepts meant to encourage the LDCs to nibble away at the territorial, strategic, political, and economic balance of power in Moscow's favour' [p.4].

According to Kanet [1988, 1989], the Soviet Union's interest in expanding its military and political power was the central issue in establishing relations with the developing countries. At the time of Stalin's death, the Soviet Union maintained virtually no diplomatic or economic relations with developing countries. At the same time, the USSR's Western opponents had established economic, political, and military relations with all regions of the world. The US policy of containing Soviet power had resulted in the creation of a massive network of air and naval bases around the USSR. If the Soviets were going to be able to project military and political power they would have to extend its relations with the developing countries.

Furedi [1988], Fukuyama [1986], and Donaldson [1982] also argue that the US policy of containment had a major role to play in the Soviet Union's acceptance and courtship of developing country governments. However, as Furedi asserts, the Soviet Union's main goal was its own internal security, rather than the expansionary interest of projecting military and political power. 'Probably the most pressing concern in Moscow was to prevent the USA from transforming Third World regimes into anti-Soviet bases' [p.131]. Fukuyama, arguing along the same lines, notes that Khrushchev's diplomacy was focused near its own borders. 'Moscow's chief concern was to undermine the series of US sponsored pacts being erected around its borders...' [p.186]. Similarly, Donaldson argues that the initial thrust of the Soviet entry into the Third World came in response to 'Washington's efforts in 1954-1955 to enlarge the ring

of containment by enlisting allies on the Soviet Union's southern periphery (Pakistan, Iran, Iraq)' [p.313]. According to Donaldson, it was Khrushchev's belief, as it was Lenin's, that as long as the independence movements in the developing countries were aimed against the imperialist West the security interests of the Communist world would be served. It was the community of interest against a common enemy that brought Khrushchev's government together with those of the developing countries.

Legvold [1970] similarly attributes the shift in Soviet policy towards developing countries to Soviet foreign policy objectives vis-à-vis the Western powers. The developing countries, by opposing Western influence, would reinforce the interests of the Soviet Union. This was predicated on the belief that the process of decolonisation was yielding new governments hostile to Western Europe and the US. Without ignoring Khrushchev's optimism concerning the revolutionary prospects of the developing countries, Legvold maintains that the fact that the developing countries were not communist did not matter: 'it was sufficient under the strange mercantilism of the cold war that one side lose and not the other side win' [p.66]. Legvold asserts that by establishing US imperialism as the principal enemy of the developing countries, the struggle against US policy, rather than the conventional struggle to overthrow feudalism or capitalism, made it easier for the Soviet leadership to embrace nationalist bourgeois forces, particularly given that in many developing countries the working class was practically non-existent.

Cooper and Fogarty [1981] add that in addition to eroding Western influence and substituting its own, another important factor contributing to Soviet interest in developing countries was the growing Chinese challenge to Soviet leadership of national liberation movements. The Soviets wanted to persuade developing countries that the Soviet system was the only viable solution to their economic problems and that the Soviet Union was the natural leader of the world revolutionary movement.

Clarkson [1978] points to more ideological reasoning from within the Soviet Union. Part of the theoretical shift which had helped legitimize the Soviet Union's post-Stalinist policy change was a reassessment of state capitalism in favour of its progressiveness. By strengthening independent national development, state capitalism would undermine foreign capital and imperialism. In Clarkson's view, this shift in thought away from the stalinist line that all capitalism was reactionary 'provided an ideological sanction for Soviet scholarship to approach the non-Communist developing countries with a more open mind, since capitalism no longer prevented their being considered progressive' [p.45]. Clarkson also argues that 'the ideological reappraisal

helped legitimize Khrushchev's new commitment to distribute economic aid in the third world, a foreign policy change that, according to the old stalinist line, would have implied supporting reactionary capitalist systems' [p.46].

Security interests, expansionary intentions, political objectives of socialist transformation of the developing countries and, as discussed earlier, economic needs are often cited by Western analysts as the Soviet Union's reasons for establishing relations with developing countries in the post World War II period. Soviet commentators often stress the fact that prior to this time there were but a handful of developing countries that were not under the control of the imperialist powers. Thus, it would have been impossible to establish wide-spread relations. Soviet analysts, unlike many of their Western counterparts,[16] see the breakdown of colonial ties as the major reason for changes in Soviet-developing country relations following the war[17] [Azov and Rubinstein: 1986, Krasnov: 1982, Chernorutskaya: 1973]. However, Stalin's obstinacy towards ties with the already independent countries and those achieving their independence during his rule must also be recognized.

Under Khrushchev, Soviet assistance to developing countries played a major role in establishing ties with the former colonies. This is discussed in the following section.

Economic and Technical Cooperation: The Khrushchev Years

The Soviet Union's ideological shift regarding the newly independent states was accompanied by a major shift in its view towards foreign aid, most of which had been suspended during the latter part of the Stalin era. It was shortly after Stalin's death that active courtship of the newly emerging countries began. A major tool used was economic assistance. In July 1953, the Soviet Union broke with its previous isolation and announced that it would contribute to the United Nations Expanded Technical Assistance Programme. Earlier, the Soviet Union had refused to support existing multilateral aid programmes, arguing that they were designed to make developing countries into raw material appendages of the West and to keep the former colonies in

16 For major exceptions, see Blasier [1983] who argues that in the case of Latin America, ties with the Soviet Union were often prohibited by entrenched Latin American leaders who used the USSR as 'whipping boys' for domestic political reasons, and by the US when these countries were under the US's control. See also Hough [1986] who adds that much of Africa while under colonial rule was permitted no diplomatic representation. Colonial authorities even tried to prevent Soviet scholars from entering the colonies.

17 Simoniya [1985, p.207] also points out that the Soviet Union prior to World War II had only limited finances available because of its own military, political, and economic situation. It wasn't until its own economic successes in the mid-1950s that sufficient funds were available for a widespread aid effort.

debt and dependent upon the rich capitalist countries [Valkenier: 1983]. Soviet aid, or economic and technical cooperation as it was called in the Soviet Union, by way of contrast, was designed to accelerate industrialisation and self-sustained growth by concentrating on key branches of the economy and by strengthening the public sector as the lasting base for national independence [UNCTAD: 1970].

At the Bandung Conference of Asian and African nations, convened in 1955, the Soviet Union ardently supported the nationalist governments. The Soviets offered economic and technical assistance to back-up their diplomatic support for the developing countries' desire for economic independence from the West. As part of its strategy of peaceful coexistence, the USSR was willing to assist any country that was not overtly pro-Western, i.e. that did not have Western military bases as part of Western alliances. This included governments that were not considered progressive, Ethiopia and Afghanistan for example. It would only be a few years later that the Soviet Union would also court pro-Western countries, as in the case of assistance offered to neighboring Turkey, a member of NATO.[18]

Throughout the Khrushchev era the Soviet Union stepped up its cooperation with the developing areas, Soviet assistance concentrated on building up industrial capacity and infrastructure. In August 1953, the USSR signed a trade agreement with Argentina which included the transfer of $30 million worth of capital equipment. In December of the same year, a five year trade pact was signed with India. Capital equipment would be exchanged for raw materials. In 1955, Afghanistan and the Soviet Union signed their first post-war agreements. The Soviet Union agreed to assist with road building and with the construction of a flour mill, two grain elevators and a mechanized bakery. In the same year, Moscow agreed to provide India with technical assistance to build a steel mill [Valkenier: 1983].

At the Twentieth Congress, held in 1956, when Khrushchev introduced the 'zone of peace' concept for the nonaligned states he proclaimed that they could draw on the economic assistance of the Soviet Union and, thus, unchain themselves from their former colonial masters:

> For the buildup of their independent national economy, as for the improvement of their people's standard of living, these nations may draw on the successes of the socialist world system, even though they

[18] Neighboring countries have had special status since the time of the Russian Revolution. See, for example Gromyko and Ponomaryov, eds., [1981, Vol. 1, Chapter 5]. They note that it has been considered particularly important to maintain friendly relations with Eastern countries bordering the Soviet Union so as to keep secure borders. As seen in Chapter 4, there have been major exceptions.

> are not members.... Today they no longer need plead with their former oppressors for modern industrial equipment. Such equipment is available to them in the socialist countries, with no political or military strings attached. [cited in Müller: 1970, p.201]

According to Valkenier, Khrushchev was convinced that 'a few large projects in the public sector would automatically inaugurate prosperity and progress, detach the former colonies from the West, and create allegiance to the Communist bloc' [1974, p.224]. Through the use of assistance, the Soviet Union was making friends and strengthening the developing countries. It was also strengthening its own position. Aid, according to Khrushchev's memoirs, contributed to 'weakening the camp of our enemies' [Khrushchev: 1971, p. 440].

Economic and technical assistance under Khrushchev had a distinctly political tinge. Khrushchev went beyond offers of sharing Soviet resources and experience. He openly challenged the West for economic predominance in the developing countries. The largest and most dramatic opportunity for the Soviet Union to assert itself in this direction came in Egypt in 1956. The Soviet Union stepped in with an offer to build the Aswan High Dam when the US withdrew its support. Khrushchev was able to provide a highly visible symbol of Soviet support for development in the face of Western opposition. Similarly, in Indonesia in 1958 the Soviet Union extended assistance for the country's first two steel mills at the same time as the Indonesians were embroiled in conflict with the Dutch and other Western countries. The Soviet Union was also the only country willing to assist Guinea when, in 1958, it chose full national independence instead of association with France and was, thereby, inflicted with harsh sanctions by de Gaulle. The Soviets responded immediately with public acclamation, political and cultural exchange, military aid, trade agreements, and economic credits which were needed to affirm Guinea's independence [Legvold: 1970, Clarkson: 1978]. Largely as a result of friction between the West and the developing areas, the Soviet Union was able to gain favour with the newly emerging developing countries. Cooperation eased the USSR's way.

Economic competition with the West was taken further after the 21st Party Congress, held in 1959. Khrushchev's consolidation of power within the Soviet Union was completed at this Congress. He was then freer to pursue his ambitious goals with regard to economic competition in the former colonies. By 1964, Soviet assistance was extended to some 34 developing countries [Lavigne and Renaudie: 1988]. While most was provided to governments which the Soviet Union considered progressive, such as Egypt; Iraq; Ghana; Guinea; Syria; Algeria and Indonesia, a large proportion also went

to non-aligned countries which were considered less progressive but shared borders with the USSR, such as Afghanistan and India.

Disappointments with the Gains from Aid

During Khrushchev's time, notions of mutual economic profit accruing from economic and technical cooperation agreements were often eschewed in favour of political gains that could be reaped from good will. Khrushchev, on occasion, boasted of pursuing policies that were economically disadvantageous to the Soviet Union. In a speech delivered in 1964, he asserted:

> When the Soviet Union helps the young developing countries giving them a portion of the wealth amassed by its own labour, then it is limiting its own possibilities for a certain period, of time. But we would be poor Communists, poor internationalists, if we thought only of ourselves.... Better to have a hundred friends than a hundred roubles. [cited in Legvold: 1970, p.232- 233]

It appears that while projects were used as a means of promoting better relations with developing countries, the Soviet Union's domestic economic interests were not entirely left out of the equation. Had this been the case then it seems likely that assistance would have been provided in the form of grants, thus, not requiring repayment.[19] However, repayment was required and the goods selected for repayment had to be of use to the Soviet economy [Smith: 1973]. The Aswan High Dam, according to Khrushchev's memoirs, is a prime example of Soviet cooperation meeting Soviet political goals and, at the same time, fulfilling domestic economic objectives. According to Khrushchev:

> we talked over the Egyptian request in the leadership and instructed our economists at the State Planning Commission to study the Egyptian proposal carefully. They did so and some time later gave us a projection of what the dam would yield in the way of economic as well as political return on our investment. We were interested in determining whether it would be a profitable business transaction. Naturally we would be glad to have an opportunity to bolster the economy of our friends and in so doing strengthen our relations with them. But that was a political consideration, and we had to also make sure that we wouldn't simply be giving our money away. We had to make sure that the Egyptians could repay us in regular deliveries of their best long-fiber cotton, rice, and other goods. [Khrushchev: 1971, p.440]

While many of the economic assistance projects agreed upon by Soviet officials did

19 Soviet assistance was generally extended in the form of loans carrying 2.5 - 3 per cent interest with repayment over 8 to 15 years beginning one year after project completion or machinery delivery.

reap economic benefits for the Soviet Union, in the rush to increase relations with some of the newly emerging nations, uneconomic projects were also undertaken. Large stadiums, sports complexes, and luxury hotels, for instance, may have gained friends and prestige for the Soviet Union in developing countries, but they did little to increase production, or to provide economic gains for the Soviet economy.

By the early 1960s, Soviet development experts were discussing the economic problems of Khrushchev's aid programme with growing urgency. These problems were becoming more pronounced as some recipient countries were unable to start debt repayments because of a combination of internal problems and unsound use of aid funds. Many officials and experts began to advocate the application of stricter cost criteria to project selection. They also recommended the use of market mechanisms for directing developing economies and many cautioned against the premature nationalization of private industry [Valkenier: 1983, Hough: 1986]. However, as Valkenier points out:

> so long as Khrushchev remained in command, there could be no thoroughgoing reorientation of the aid and trade programme, for this would have undermined its political thrust. Despite the evidence of other ways of thinking, the First Secretary's optimistic faith in rouble diplomacy remained the distinguishing characteristic of Soviet cooperation until his fall from power. [p.12]

Although having economic shortcomings which were felt at home and in the developing economies, the Soviet assistance programme under Khrushchev was successful in some major respects. The Soviet Union was able to assert itself as an alternative to the West. The Western monopoly on aid and technical assistance was broken by Soviet intervention on the world stage. The addition of competition to the West served the developing countries directly as an added source of external resources, and it served them indirectly by increasing their bargaining position vis-à-vis the West. Western countries and Western funding institutions lowered their interest rates in response to Soviet loan terms, they increased the amount of loans available, and they became more pliable in the types of projects they would assist; agreeing to some industrial sector funding and to some state sector funding [Smith: 1973, Clarkson: 1978, Nayyar: 1977, Bogomolov: 1979, Simoniya: 1985].

Mutually Advantageous Aid

In the end, Khrushchev's policies regarding the underdeveloped countries contributed to his downfall. The optimism of the Khrushchev years gave way to a

more cautious approach. His successors, who took power in 1964, were skeptical about the revolutionary potential of the newly independent states. By and large, they believed that Khrushchev had oversimplified the formidable problems involved in any genuine revolution. According to Valkenier [1983], this was due largely to various disappointments with expectations for Soviet-type policies and institutions to be formed in the ex-colonies.

Moscow's more 'realistic' and subdued interest in the developing world was reflected in its pattern of economic and technical cooperation. The Soviet Union began to adopt a more commercial attitude to aid. Economically profitable exchanges began to gain precedence over political objectives in the majority of developing countries. While Khrushchev believed that the international duty of the Soviet Union was to render assistance to the economically underdeveloped countries [1961, p.20], the new Soviet leadership believed that the USSR's first international duty was to build up its own economic system.[20]

At the 23rd Party Congress in 1966, Brezhnev stressed that 'the more quickly our country moves forward in building the new society, the more successfully will our international tasks be resolved' [cited in Valkenier, 1983, p.13]. By focusing their energies on strengthening their own national economies, the socialist countries, asserted the Soviet leadership, would fulfil their supreme duty to the workers of the world [Legvold: 1970, p. 231]. Also at the 23rd Congress, Kosygin remarked upon the practical use of aid and trade, stating that cooperation with the developing countries enabled the Soviet Union to make better use of the 'international division of labour'.[21] For the first time, the Soviet leadership had departed from the use of the concept 'socialist division of labour'. In the years to come it would forge links with the developing countries and with the West in an interdependent global economy.[22]

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20 See Golan [1988, Chapter 5] for an excellent discussion of the views expressed by leading Brezhnev-era Soviet scholars on the role of the Soviet economic assistance and/or of a strong Soviet Union in promoting the developing countries. Views ranged from providing direct aid to providing 'passive' aid. The latter entailed the presence of the Soviet Union as an example of socialism and as a deterrence to Western imperialism.

21 While the Soviet Union had decided to take advantage of the existing division of labour, it should be noted, however, that it remained the intention of Soviet economic and technical cooperation to gradually eliminate the unfavourable effects of this division. Soviet officials claimed that participation of the socialist countries in the international division of labour would introduce qualitative changes which would shape a new type of division of labour in which the developing states would find 'genuinely fair trade and economic relations.' See UNCTAD [1970, p.10-11].

22 The single global economy, in theory, consists of two subsystems: the socialist world economy and the capitalist world economy. See McMillan [1987, ch.2], for a concise discussion of the internal economic factors leading to the USSR's decision to open-up to the world economy. See also Valkenier [1979]. Both maintain that a major contributions were played by the imperatives for Western technology and for developing countries' raw materials for the new Soviet industrialisation drive.

Brezhnev's and Kosygin's remarks at the 23rd Congress provided the necessary ideological justification for the aid programme to follow the pursuit of economic advantage that many Soviet researchers had been counselling for years. The new emphasis on the primacy of the Soviet domestic economy over the Soviet Union's obligations to developing countries was reflected in the reorientation of Soviet assistance. The Soviet leadership was less willing to underwrite the survival of regimes, such as Mali, Indonesia and Burma, that were plagued with serious internal problems. Ultimately, just as it was the Soviet Union's primary responsibility to devote itself to its own problems, it was the responsibility of the peoples of the developing countries to assume primary responsibility for their own struggles.[23] This, however, did not mean withdrawing completely from involvement in these countries [Hough: 1986].

For many of the developing countries where assistance would continue to be given, it would have to produce concrete benefits for the Soviet economy. The Kremlin was taking the concept of 'mutually advantageous relations' (both sides must benefit without exploitation of one by the other) more seriously than at any time before.[24] Prestige projects received less support and those schemes that could produce a reasonable economic return were favoured. More stringent feasibility studies were conducted before granting aid, proposals were often made to expand or modernize existing facilities rather than to build new ones, some requests were turned down outright, and the Soviet Union began to insist on repayment [McMillan: 1979]. Not only were there changes in the Soviet Union's calculations of benefits from aid, there was also a shift away from doctrinaire assumptions about the role of heavy industry and state economic control. Private enterprise, agricultural products and light industry gained increasing acceptance [Valkenier: 1975].

The allocation of economic and technical cooperation projects became more integrated with trade expansion. Cooperation was also used as an alternative to domestic investment in cases in which it would be cheaper to import certain goods than to produce them at home [UNCTAD: 1970, p.10, Teodorovich: 1979, p.41]. McMillan [1979, 1987] asserts that in this respect the cooperation programme was sometimes used

23 See Li [1971, p.72] for the additional Soviet justification that because the USSR was not responsible for colonial exploitation it should 'not set for itself the task of carrying all the material cost of providing external financing of the liberated countries.' Soviet aid responsibility became a major point of division in the New International Economic Order discussions.

24 See Teodorovich [1979] and Smirnov [1977], for example, for Soviet economic gains from cooperation with developing countries.

as an entrée to economic relations which differed only slightly from Western direct foreign investment. Locating enterprises for pragmatic economic reasons rather than for political or strategic reasons, the Soviet Union and East European countries in the 1970s and early 1980s were able to gain wider access to developing countries' raw materials and markets through assistance agreements and, in some cases, through equity participation.[25]

As a result of a five year effort to put the Soviet assistance programme in order, the volume of aid disbursement during 1965-70 fell for the first time since 1954 [Valkenier: 1988]. After its initial restructuring, economic and technical assistance grew in volume terms during much of the Brezhnev era. With the major exception of the developing country members of the Council for Mutual Economic Assistance (CMEA), many of the overtly political aspects of assistance under Khrushchev continued to subside while commercial aspects continued to gain in importance. For example, during the new wave of decolonisation in Africa, between 1975-1979, of the $2.7 billion in Soviet assistance disbursed to the continent, $2 billion was for mining phosphates in the conservative Kingdom of Morocco. This project was built on a pay-back basis, with planned repayment in terms of the project's output, phosphates, to be exported to the USSR (10 million tons a year over a 30 year period) to help relieve domestic and East European fertilizer shortages. The project, in dollar terms, dwarfed assistance that was given newly independent radical states such as Angola and Mozambique [Cooper and Fogarty: 1979, Valkenier: 1988, Olshany and Zevin: 1984].

Valkenier cites the shift to more economically promising partners as the most important change in Brezhnev's aid policy. She argues:

> States with a moderate pro-Western outlook that could boast of a solvent or dynamic economy as well as a sizable domestic market were no longer scorned as the pliant objects of imperialistic machinations. Both on the diplomatic and economic fronts, Moscow began to pursue a more evenhanded policy wherein state to state relations were based more on the obvious needs and capabilities of the two partners than on revolutionary calculations. [1983: p.15]

This view is borne out by the assistance agreements signed under Brezhnev. Turkey, for instance, became the Soviet Union's largest aid recipient in the late 1960s.

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25 By the end of 1983, the Soviet Union had equity participation in 27 enterprises in developing countries [McMillan: 1987, p.36-37]. McMillan notes that host countries sometimes insist on equity participation in full or partial payment for equipment and technology supplied [p.61]. It is important to note that in its position at UN bodies, the Soviet Union maintains that its enterprises are not geared primarily to profit making and are therefore qualitatively distinct from multinational enterprises originating from the private sector of advanced capitalist countries [ibid. 170-175].

Argentina also became a large aid and trade partner. This was at a time when the crackdown against the left was at its height. According to McMillan [1979], the issue was not so much the internal policies or the strategic location of a country as its level of development and the opportunities offered for mutual benefit. Bolstering the Soviet Union's sagging industrial productivity, raising domestic consumption, and creating linkages with the world economy were the Soviet Union's paramount objectives.

However, political factors have remained the overwhelmingly dominant force in Soviet assistance to Cuba, Mongolia, and Vietnam: the three developing country members of CMEA. Here, largely owing to the CMEA policy of 'evening out' the economic-development levels of its members, the Soviet Union sustains economic losses [Theriot and Matheson: 1979, Marcella and Papp: 1981, Fforde: 1985, Smith and Schnytzer: 1982]. Even with the levelling out policies within the CMEA, Soviet experts assert that economic factors and considerations of mutual advantage play a considerable role. Bogomolov states the Soviet position as follows:

> The effort to overcome the differences in economic-development levels meets both the interests of the less developed countries and those at a higher level of development. The latter countries take an interest in this effort not only for moral considerations of equality, but also for purely economic motives. The point is that any gap tends to reduce the possibilities for using the advantages of the international division of labour with the more developed countries and, in particular, hampers the deepening of international specialization and cooperation of production. [1980, p.10]

In the short-run, the cost is high and involves steep trade subsidies in addition to economic and technical assistance (often with repayment waived). Some Western analysts argue that because of the economic burden involved in maintaining poorer members, the Soviet Union (and even more fervently the East European members) is reticent to expand developing country participation in CMEA. Mozambique and Laos for example have been refused CMEA membership [Lawson: 1985, Wiles: 1982].

Since the 1970s, assistance to the Soviet Union's traditional partners[26] has decreased in relative terms while aid to CMEA developing countries has increased.[27] This appears to be due to two main factors. First, the admission of Vietnam to CMEA

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26 India, Iran, Iraq, Morocco, Pakistan, Syria, and Turkey were among the largest recipients in the 1970s. Between 1954 and 1984, Turkey and India were the largest non-socialist recipients according to CIA figures.

27 For quantitative estimates of Soviet allocations, see Bach [1988], OECD DAC [annual], CIA/State Department [semi-annual], Lawson [1987], UK Foreign Office [1983]. Because each of these studies differ with regard to country coverage and what constitutes aid, it is difficult to present a definitive picture of the ranking of countries in terms of disbursements.

in 1978 and the consequent integration of its economy within CMEA has resulted in a significant increase in intra-CMEA aid. Second, and more important with respect to the general pattern of aid allocations, the Soviet Union has been increasingly conducting its relations with non-CMEA developing countries on a more commercial basis. To a certain extent, the previous aid relationships are being replaced by trade and credit on more commercial terms; higher interest rates, for instance [McMillan: 1978]. This has been in part due to problems in the Soviet economy and the increasing importance placed on mutually advantageous exchanges, and it has been in part due to the disappointments arising from efforts to win over the developing countries through the use of aid. As discussed in the following section, the road to socialism has proved much more difficult than had been expected.

Set-backs and Disappointments: A Slower Approach to Socialism

Disappointments with events occurring in the developing countries continued throughout the 1960s and the early 1970s. In the 1960s, the Soviet Union witnessed the overthrow of allies such as Ben Bella in Algeria, Nkrumah in Ghana, and Keita in Mali. In the early 1970s, Soviet policy sustained more blows. Aid recipients, Guinea; Somalia; and Sudan switched from broad alignment with the USSR to pro-Western policies. And, in 1972, the Soviet Union suffered its biggest loss when Egypt, the USSR's main aid recipient, expelled all Soviet advisors.

Within the decision making bodies and the research institutes concerned with the nations of Africa, Asia, and Latin America it had become clear that if the Soviet Union was to have a greater impact on the emerging countries, it would first have to have a better understanding of the very complex forces at work within these countries.[28] It was evident that their transition to socialism would not be as straightforward as originally anticipated. In many of the developing countries, the hopes of rapidly turning 'primitive patriarchal societies' into socialist countries came to be seen as unrealistic utopian dreams [Ulyanovsky: 1971]. Scholars began taking a harder and closer look at the backwards social and economic conditions prevailing in the developing countries. According to Primakov [1982, p.84], the advance of history towards socialism could not be stopped, but progress would continue in 'zigzags', always with the danger of temporary set-backs.

28 See Valkenier [1983], Golan [1988], Light [1988], Hough [1986], Schwartz [1973], and Clarkson [1978] for a review of the very complex changes in Soviet theoretical perceptions (not all of which reflect a pessimistic view of the revolutionary potential of the developing countries) in the post independence period.

One outcome of the reassessment of development strategies during the 1960s and the 1970s was that a slower approach to socialist transformation was advocated by many scholars and officials. According to Soviet economist N.I. Gavrilov, with reference to the experience of some of the radical African countries in which hopes for a transition to socialism had been highest:

> The failures and setbacks of some African countries which have tried too rapidly to introduce measures of a socialist character show...that it is impossible to introduce socialism by decree and to jump across stages of democratic reform and immediately find oneself in a socialist society. The advance to socialism requires planned, systematic work, and the gradual creation of the economic and social base of the new system. [cited in Legvold, 1970, p.231]

In a similar view, expressed by Starushenko, the revolutionary-democratic leaders had tried to proceed too fast; they did not wait for political and economic conditions to ripen.[29] Some leaders had come to believe that poverty in itself was a sufficient ground for a socialist revolution; other preconditions for socialist revolution (e.g. a revolutionary class) and for building socialism (e.g. developed productive forces and democratic institutions) were overlooked. With reference to what happened in Mali, Starushenko explains:

> The Mali regime was not only overthrown as the result of anti-socialist propaganda in the country. It was overthrown above all because the final aim had been substituted for the immediate one. The ideals of socialism were compromised by a mistaken policy, and by incorrect "Leftist" methods. [cited in Morison: 1970, p.11]

According to many Soviet analysts, although imperialism was a major culprit, blame for the reversals in the more progressive developing countries did not rest entirely on outside factors. It was underdeveloped economic and social forces within these countries that allowed leaders to be overthrown or to support progressive changes one day and then the next day 'succumb to the propaganda of religious, chauvinistic and other reactionary elements' [Kremenyuk: 1974, p.63].

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29 Light [1988, p.121] notes the political predispositions of revolutionary democrats. 'They were opponents of capitalism, supporters of socialism and patriots who identified with the working class and scientific socialism.' Their class character varied across countries, but, in general, they were the petty bourgeois and intelligentsia who, because of the particular circumstances of Third World development, were considered progressive. See Golan [1988], p.118-123, for details of various positions concerning revolutionary democrats held by Soviet theoreticians. See Schwartz [1973] for the Soviet turnaround on the revolutionary democrats: their embrace under Khrushchev and their subsequent fall from grace. Also see Schwartz on the anti-communist revolutionary democrats, such as those in the Middle East, and Moscow's turning a blind eye.

Ulyanovsky, one of the Soviet Union's most influential theoreticians, argued that many of the developing countries lacked the technical, economic, cultural, and political prerequisites for building socialism. On the way to socialism the liberated countries would first have to develop these prerequisites during a transitional epoch of 'non-capitalist development'[30] (later called socialist-orientation) and, thus, 'clear the road for transition' [1971, p.30]. Because the new conceptual framework was a path rather than a description of an ideal, attention was directed to prescribing strategies that would promote continued progress towards socialism (consolidation of political autonomy, agrarian reform, gradual removal of foreign monopolies, build up of national industry, democratization of internal affairs, raising the standard of living, and furthering cultural and economic collaboration with the socialist countries).

While the non-capitalist path had initially been construed as an unequivocal path to socialism, the continuing set-backs of the 1960s and early 1970s made Soviet theorists acutely aware that it was possible for many of the non-capitalist path countries to revert to pro-capitalist policies [Chirkin and Yudin: 1983]. The possibility of stepping backwards (either through the efforts of the Right or through 'Leftist' opportunism) came to exemplify the difference between the processes taking place in countries pursuing non-capitalist development and those in the socialist countries. It was argued that in the latter, where transformation of society is carried out by a proletarian party the process is irreversible. In the former, where the working class holds little power and transformation is carried out by an alliance made up of mainly non-proletarian groups, the possibility remains for stepping backwards, towards bourgeois rule and capitalism. Ulyanovsky stresses:

> It would be a serious mistake to identify the processes taking place in the socialist-oriented countries with those in the socialist countries. That would mean disregarding such important factors of principle as the power of the working class and the peasantry, the guiding role of the Marxist-Leninist party, the ousting and complete elimination of capitalist relations and the irreversibility of such change. None of these circumstances, which are decisive in the building of socialism, as yet exist in the socialist-oriented states. [1980, p.19]

While the process of non-capitalist development is, according to many Soviet scholars, working in such countries as Ethiopia, Yemen (PDR), and Angola, it has

30 Valkenier [1975, p.5] notes the distinction between the use of the non-capitalist path concept in the Brezhnev period and in earlier periods. In the mid to late 1960s, it 'ceased to imply a prescriptive programme for speedy shortcuts to socialism and came to describe a long transitional period....' For an early view of non-capitalist development, see Lenin's 'Report of the Commission on the National and the Colonial Questions,' presented in 1920 [Lenin 1986b]. See also Ulyanovsky [1985, p.176-177] for reference to Marx and Engels' views towards a non-capitalist path as early as 1850.

failed in countries such as Ghana, Mali, and Egypt. Leaders in this later group of countries tried to proceed to socialism without building the necessary prerequisites. According to many prominent Soviet scholars, they also failed to involve the masses and, thus, opened the door for reaction [Kim: 1983, Ulyanovsky: 1978].

Rather than depending on autocratic leaders who could be overthrown with relative ease and whose removal could result in sudden regressive shifts in domestic policy and foreign alignment, the Soviet Union in the 1970s placed greater reliance on democratic mass organisations and on strong parties. Because in most developing countries the ground was not yet prepared for a Marxist-Leninist party, many Soviet theorists recommended the creation of a 'vanguard' party which would move in stages towards scientific socialism. The assimilation of Marxist-Leninist theory, according to Koshukin, would still be highly complex and would require 'painstaking and delicate work' in overcoming traditional communal and nationalistic views [cited in Golan: 1988, p.131].

The slower and more cautious approach to socialist transition and the view that socialism would have to come from within and from the lengthy process continued to be a dominant theme in the post-Brezhnev period. Striking a hesitant note regarding Soviet economic and, in particular, military commitment to developing countries, Yuri Andropov, Brezhnev's immediate successor, emphasised in June 1983 that: 'It is one thing to claim socialism as a goal and another thing to build it' [cited in Fukuyama: 1986, p.721]. He added that the Soviet Union would continue to support socialist-oriented states, but within limits:

> We contribute also, to the extent of our ability to [the socialist oriented states'] economic development. But on the whole their economic development, just as the entire social progress of those countries, can be, of course, only the result of the work of their peoples and of a correct policy of their leadership. [ibid., p.718-719]

The history of changes in allegiance and social-economic orientation of these aid recipients has contributed to the limits of Soviet ability to support these regimes. While it is one thing to even out levels of development of countries which are considered to be stable in their commitment to socialism and socialist economic integration, it is quite another to devote scarce resources to those countries in which commitment to socialism is open to question.

Capitalist-Oriented Developing Countries

Soviet scholars, while admitting in the 1960s and 1970s to set-backs with attempted socialist-oriented development, did not believe that countries pursuing capitalist development fared any better.[31] Nor, for that matter, did they believe that non-Marxist Western scholars advocating capitalist development escaped the reevaluations that Soviet scholars had to face in their own analyses. According to Mirsky:

> disappointment and pessimism began to creep into their [non-Marxist Western scholars] writings. Capitalism in the young states was not living up to their expectations. It became clear that in the majority of these states the national bourgeoisie was weak and did not command enough authority to assume leadership in society, was not inclined to invest in productive spheres and avoided risk in a situation of political instability. The course of events did not bear out the theory that predicted rapid growth of free enterprise in Asian and African countries and the assumption of power there by forces capable of becoming class allies of imperialism. The evolution of capitalism there turned out to be a complex and contradictory process. [1986, p.181-182]

The complexities of capitalist development abound also for Soviet scholars analysing the countries attempting to follow this path. And, there are many differences of opinion about the forms capitalism can take, about the level of development that can be achieved, and about the role of Western aid and foreign investment [Shenis: 1980, Kim: 1980, Mirsky: 1986, Kiva: 1988].

Because of developing countries' need for external resources and because of the Soviet Union's own limits, many Soviet analysts in the 1970s and early 1980s became more receptive to Western aid and investment in the capitalist-oriented developing countries.[32] However, Soviet analysts argued that without the developing countries' control over external resources, these countries would be drawn further into exploitation and backwardness. The advanced capitalist countries would be able to tighten their economic and technological grip [Gromyko: 1982, Kodachenko: 1984].

According to Kodachenko, it is not only the control exercised by developing countries that determines to what extent they can achieve growth while making use of Western resources. The intentions of the advanced capitalist countries are also important. Economic decline and structural crisis in the West has accentuated the need for healthy markets in the developing countries. Because of the changing and more

31 See Lavigne and Renaudie [1988], Light [1988], Hough [1986], and Mirsky, et.al. [1986] for a review of some of the frameworks Soviet scholars are attempting to devise to understand the processes taking place in the capitalist path developing countries.

32 There is still extensive debate on this subject and in many cases a favourable response towards Western aid and a negative response towards Western direct investment. See Bogomolov [1983, p.23-25], for example. See also Clarkson [1979 Chapters 8 and 9].

interrelated world economy, imperialism has had to modify its tactics. Kodachenko points out:

> in recent years imperialism has increasingly abandoned its erstwhile colonialist policy of total disregard for the needs and interests of the developing countries' socio-economic growth. The latter's undeveloped economy and growing lag behind the West in the main indices of scientific and technical progress hinder their exploitation and the use of modern means and methods, which makes it difficult to ensure a steady pace of techno-economic growth in the imperialist powers themselves. *This is why imperialism has increasingly sought to accelerate economic growth rate in the developing countries and to some extent modernize their production structure*....[1984, p.45-46, emphasis added]

Kodachenko concludes that while Western capital has changed its policies, the motives behind Western involvement in the developing countries and the subordinate role Western capital needs these countries to fulfil has not changed. Primakov expresses the same view when he argues that the strategic goal of the Western countries 'is to retain the emergent countries within the world capitalist economy...and to continue the exploitation of the emergent countries by methods and means in line with the changed conditions' [1978, p.67]. According to Sukhaparov, these new conditions require that the Western countries integrate the developing 'economies with the world capitalist economy and convert them from an agrarian-raw material into an industrial-raw material appendage of the capitalist world' [1982, p.48].

The impact of increased Western involvement in developing countries manufacturing has continued to be viewed in the early 1980s as largely negative. Although it has resulted in greater industrialisation, control has remained outside of the developing countries and national capabilities have not increased. Kodachenko explains that:

> The techno-economic growth of the developing countries is to be accelerated by setting up in these countries separate parts of what amounts to an international production conveyer, rather than complete and independent technological complexes, with the main scientific and technological components of that conveyer remaining in the developed capitalist countries. [1984: p.46]

According to Volkov and Zimenkov [1986], while many of the changes taking place in the capitalist oriented developing countries have been a result of the advanced capitalist countries' requirement for an industrial enclave and skilled workforce for their manufacturing activities in the developing countries, other, more positive, changes have occurred owing to the developing countries' struggle for economic independence and

the alternative of Soviet assistance. These two factors have compelled the developed capitalist states to make some concessions within the international capitalist division of labour.

Soviet assistance, it is claimed, unlike Western aid and foreign investment, helps developing countries to develop independently; to overcome backwardness; and to assume a more equal place in the global economy. Simoniya [1985], asserts that the majority of developing countries can achieve independent development only with the help of the socialist countries.

> We would like to underline right at the outset that it is our profound belief that, were it not for the existence of the world socialist system and the relevant alternative for equitable and mutually advantageous co-operation, one could not speak of any genuinely independent national development for the absolute majority of the Eastern countries.... this prospect would have generally been barred given the undivided domination of the developed imperialist powers. [p.205]

While throughout the 1970s and early 1980s, Soviet assistance was viewed within the USSR as the positive alternative to Western aid and foreign investment, the view from developing countries was less sanguine. The Soviet assistance programme was criticized by the developing countries for being inadequate. The position of the developing countries and the Soviet Union's response are discussed in the final section.

Cooperation, not Conscience Money

As assistance in the 1970s was taking on more commercial tones and as the Soviet Union became reticent to commit itself to upholding potentially unstable regimes, there was increasing disquiet from developing countries. The more radical regimes had expected greater support from Soviet aid. Furthermore, the Group of 77 was dissatisfied with the Soviet Union's overall aid commitment to developing countries and began placing pressure on the Soviet Union to disburse more aid as a proportion of GNP and to extend its preferential pricing arrangements for developing countries' exports.

Soviet officials took particular exception to the decision of the Group of 77 at the Fourth session of UNCTAD, held in 1976, to impose the same demands for trade concessions and aid on capitalist and socialist countries alike. The Soviet Union interpreted this as being held equally responsible for the plight of the developing countries. The Soviet response came in the form of a joint statement of all the CMEA

countries with the exception of Romania.[33] They asserted that the Western powers were entirely to blame for the poverty of developing countries and rejected the idea that they should share responsibility with the West. According to the Joint Statement:

> The critical situation which has arisen in recent years with respect to the financial indebtedness and the deterioration in the balance of payments of the developing countries is due to factors engendered by the serious crisis in the world capitalist system as a whole. The socialist countries bear no responsibility whatsoever for the emergence of such phenomena in the development of the world capitalist economy as accelerated inflation, currency depreciation and fluctuations in exchange rates, which have played a decisive role in the sudden aggravation of the monetary and financial difficulties besetting the developing countries.
>
> In view of the foregoing, the socialist states consider it unfounded to appeal to them to share the responsibility and material costs of eliminating the consequences of colonialism, neo-colonialism and the trade and monetary crisis of the capitalist economy. [CMEA: 1976, p.14]

Rather than forming a common front against imperialism, the Soviet Union found itself in a new relationship with the developing countries. The division of the world had become North-South, with the Soviet Union lumped together with the Western capitalist powers. Foreign Minister Gromyko responded loudly to this conceptual framework:

> We shall never accept, either in theory or in practice, the false concept of the world being divided into "rich" or "poor" countries, which equates the socialist countries and certain other states that have extracted so much from countries under the colonial yoke. [cited in Steele: 1983, p.176]

Throughout the late 1970s and the early 1980s, the Group of 77 continued to call for the Soviet Union to increase its aid to meet UN targets. This was regarded as particularly annoying. The Soviet Union from the very beginning of its cooperation with developing countries had considered its material support as fundamentally different from that of the West. It was mutually beneficial assistance from a friend and an ally, not conscience money for past exploitation. In 1981, Oleg Bogomolov, Director of the Institute for the World Economic System, wrote:

> The West's aid can and must be increased taking into account its historic responsibility and the scale of its current exploitation of the developing countries' resources. The socialist countries have never plundered the developing countries; nor do they derive today any unilateral advantages from their relations with them. Therefore, the socialist countries do not, and cannot, regard it as their "moral duty" to allot a fixed share of their

[33] Romania, having declared itself a developing country, is a member of the Group of 77 as well as a CMEA member.

GNP to them in the form of aid. [p.251-252]

Nevertheless, the Soviet Union did announce in 1982 that it had surpassed the UN's target of .7 percent net aid/GNP ratio and had thereby satisfied the demands of the Group of 77 [UNESCO: 1982]. While this claim is widely disputed [UK Foreign and Commonwealth Office: 1983, OECD: 1983], partially because there are a great deal of methodological problems in calculating Soviet assistance [Schrenk: 1981, Bach: 1987], it does nevertheless indicate that the Soviet Union has wanted to be *seen* as satisfying the developing countries.[34]

While some Soviet officials argue that Soviet assistance has met UN targets and that it is superior to Western assistance on the basis of quantity, most Soviet experts, instead, base their arguments of superiority on the qualitative merits of Soviet assistance. Simoniya, for instance, argues that Soviet aid 'in absolute figures is far less than Western aid' [1985, p.206]. However, he adds that one cannot assess Soviet assistance on the basis of figures. The Soviet contribution, he argues, goes far beyond what the figures might indicate. Soviet assistance has built industries which the West refused, has supplied credit on preferential terms without political strings attached, has helped to build facilities that stimulate economic development throughout the entire economy, has increased the skills of local personnel, and has forced the Western countries to improve the terms of their aid.

The quality of Soviet aid, as viewed by Soviet analysts, is discussed in detail in the following chapter. Soviet claims regarding its development cooperation are delineated. Comparisons drawn by Soviet analysts of Western and Soviet involvement in developing countries are also discussed.

Conclusion

In this chapter the evolution of Soviet involvement, beginning with the underpinnings of Marxist thought on 'backward' countries, was reviewed. It was seen that there were two main - and sometimes contradictory - factors at play in Soviet relations with the developing countries: proletarian internationalism and the Soviet Union's own security and development requirements. There was also the interrelated tactical question: who was more deserving of support, the national bourgeoisie or the proletariat.

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[34] According to many Western accounts, Soviet aid did substantially increase after the Fourth UNCTAD. Causality, however, is not argued. See Cooper and Fogarty [1979], and Lawson [1980].

In the post War period, with the emergence of the Soviet Union as a great power and with the success of independence movements against colonialism, the Soviet Union was able to take a deeper interest in the developing world. Khrushchev believed that the newly independent countries would turn away from the advanced Western countries and join the socialist system, the natural ally of the oppressed former colonies. Through the use of aid, the Soviet Union would win friends in the developing world and help transfer poor exploited economies into modern industrial nations. Soviet assistance, unlike its Western counterpart, would promote growth and independence.

However, events occurring in the developing countries had their own momentum which often proved beyond the grasp of Soviet doctrine and resulted in disappointments and reappraisals. Expectations for revolutionary advance in the developing countries were replaced by a greater recognition of the economic and social backwardness prevailing in these countries and by acceptance of a long and complex transition period to socialism. With the Soviet Union's own domestic economic problems, Moscow could ill afford to maintain countries that might switch from broad alignment with the Soviet Union to allegiance to the West. Thus, the emphasis of Soviet assistance changed from promoting progressive regimes, such as they were, to promoting Soviet economic gains, with mutual advantage for recipient countries. While political objectives have by no means been abandoned altogether, they have, for the majority of the developing world, been put into abeyance until such time that the developing countries build up the preconditions for socialist transition and until such time that the Soviet economy is itself strengthened.

Chapter Three

Economic and Technical Cooperation: Soviet Claims

To this day, the principles set out at the Twentieth Party Congress: mutual benefit, peaceful coexistence, and non-interference in the internal affairs of other nations provide the ideological underpinning for the Soviet economic and technical cooperation programme. Soviet cooperation, it is claimed, offers a positive alternative to Western assistance because of this underlying philosophy and because, unlike the West, the Soviet Union's goal is to increase the independence of developing countries. By supporting developing countries' efforts to build-up technological capabilities and to diversify their economies, the Soviet Union claims to help the emerging countries pursue economic and political independence.

In this chapter, the main objective is to examine Soviet claims regarding the economic and technical cooperation programme. The reasons for economic and technical cooperation are discussed, and claims are delineated. The first part of this chapter is devoted to the philosophy behind Soviet development cooperation as expressed by Soviet analysts. The second part addresses the terms on which Soviet assistance is offered and how these compare to the terms in which the West involves itself in developing countries. The main period under discussion is the post-Stalinist era up to the mid-1980s.[1]

It is important in this chapter to rely predominantly on the Soviet literature for an explanation of the economic and technical assistance programme. Of primary concern are the claims emanating from the Soviet Union. Later chapters will examine how these claims hold up to investigation. While this chapter draws as much as possible on Soviet sources, subsequent chapters will draw on field investigations of actual Soviet practice and compare this with claims made by Soviet officials and analysts. This assessment will furthermore be informed by the literature from the South and West.

As noted in Chapter 2, there is tremendous diversity of opinion among Soviet researchers. The material presented in this chapter represents the most influential thinking in terms of determining Soviet policy. In a sense, it constitutes the orthodoxy of the time. However, it is important to stress that not all writers fitted this orthodox

[1] The claims tested in this thesis are those made prior to restructuring under Gorbachev.

mould.

Part I

Breaking the Chains of Dependence

Political independence achieved by the less developed countries was only one step in the process of achieving full independence and overcoming backwardness. President Sukarno of Indonesia - as Soviet writers in the 1960s liked to quote - stated it well when he explained that political independence was 'a mere bridge, a mere condition, a mere moment in the struggle' [cited in Ponomaryov, et al.: 1967, p.325]. According to Soviet analysts, for most of the newly emerging nations, political independence meant shifting the role of imperialism from direct control to indirect control. In the post-war years, Soviet officials and scholars asserted that although political sovereignty may have been gained by the developing countries, economic independence was not yet within their reach. As one Soviet writer explained:

> It should be borne in mind that so far it is mainly the political relations between the imperialist powers and their former colonies that have been affected, while their economic relations have in most cases not gone through any substantial change. The old economic bonds have remained as a rule, with the monopolies still holding the key positions. The emergent countries are still with the capitalist international division of labour. Even the political independence in many of the countries is purely relative. [Plyshevsky, 1961, p.31]

In the 1960s, in *World Revolutionary Movement of the Working Class*, a work which brought together many of the Soviet Union's leading development theorists, the Soviet position was made clear. Ponomaryov, et al. argued that the national liberation struggle had not ended with the withdrawal of colonial administrators. Without true economic independence there could not be true political independence. And without political and economic independence, the gains sought by the liberation movements - the alleviation of poverty, hunger and illiteracy - would not come to fruition [1967, p.325]. 'Therefore, in the new stage of the development of the national liberation revolution, the anti-imperialist struggle in the economically less developed countries is predominantly a fight for economic independence, against imperialist *economic* domination' [p.325-326].

The authors of *World Revolutionary Movement* asserted that in order to safeguard the economic interests of the monopolies, the old colonial powers and the United States had found new ways of 'enslaving' the less developed states: 'colonialism exists,

changes its appearance and adapts itself to new conditions. This is colonialism without empires - neo-colonialism' [p.319].

With great continuity of thought, Tarabrin, two decades later, wrote on the same theme: imperialism's steadfastness in seeking new forms of domination:

> the colonial system, if seen in the specifically historical aspect, is but a transitory form of the everpresent inherent urge of imperialism to oppress and exploit other nations. For the crash of the system meant, first and foremost, the elimination of its political institutions that made up the superstructure of the colonial regimes. However, their basis, that is economic, financial, military and other dependencies of the newly-liberated countries upon their former metropolitan states remained intact, and more important still, so did the social and economic backwardness they inherited from colonialism.
>
> ...Imperialism would never put up with the prospect of losing the opportunity to exploit the emergent nations. But, since fundamental changes in the world made it impossible to maintain the relationships based on direct domination and extraeconomic coercion the imperialist states, clutching to the remaining grounds, institutes the search for the equivalent to the colonial system. [1984, p. 99]

As the crisis within capitalism was deepening, in the 1970s and early 1980s, neocolonialism was said to continue shifting its tactics to maintain imperialist domination of the former colonial areas:

> Imperialism is seeking in neocolonialism a way to keep it alive. Hence, neocolonialism is constantly evolving in the general context of those changes and irreversible processes which happen to capitalism itself at the stage of its deepening crisis. The increasing might and international authority of the world socialist system, the development of national-liberation revolutions into national-democratic ones, and the mounting heat of class battles in the citadels of capitalism - all these force neocolonialism to manoeuvre, vary their tactics, give up the methods with no promise of success and develop new complexes of political, ideological, economic and military capabilities in the attempt to hold their grounds in the former colonies and semi-colonies. [p.100]

A More Equitable Division of Labour with the Aid of Soviet Cooperation

The shift from colonialism to neocolonialism from the Soviet point of view meant, most simply, shifting the liberation struggle from primarily a political struggle to a fight for economic independence. While decolonisation did away with the overt political divisions by the imperialist powers, economic divisions would remain as long as the developing countries stayed within the patterns of production that prevailed during the colonial era.

> The one-time colonies and semi-colonies are part of the old system of the unequal capitalist division of labour; they are still sources of mineral and agricultural raw materials and purchasers of industrial commodities; and the disparities of the economic potentials of the advanced and less developed countries has been preserved to this day. [Ponomaryov, et al.: 1967, p. 320]

Ponomaryov, et al. argued that economic independence could be won 'only by struggling against the dominance of the foreign monopolies, for the abolition of the colonial structure of the economy, for the creation of an economy whose pattern will be totally different from the colonial economy' [1967, p.322, emphasis added]. Because of their easily exploited position within the capitalist division of labour, the emerging countries needed help to develop their economies and to break their reliance on the West as suppliers of goods and capital and as a market for their products. Soviet analysts asserted that as long as the developing countries relied on the West for aid, capital, and trade they would not only be kept in a perpetual state of backwardness, but would also continue to be compelled to make endless economic, military, and political concessions [Ovsyany, et al.: 1975].

The Soviet Union's main way of combating the negative influences of trade, private investment and aid from the West has been Soviet aid, or economic and technical cooperation, as it is called. With the central belief that true political independence and the ability to overcome backwardness does not come while economic dependence still exists, the Soviet Union has sought to build up the economies of developing countries through economic and technical cooperation. The stated goals of this programme have been to create and develop the economic, scientific and technical potential of the emerging nations, to expand equal and mutually beneficial relations on a stable and long-term basis, and to help the young countries to overcome backwardness and develop without any form of dependence, exploitation, or interference in their internal affairs regardless of their social and state system [Zimenkov: 1986, p.33].

Although a major development objective behind Soviet cooperation has been to weaken the ties between developing countries and the West, the intention of Soviet cooperation has not been to replace dependence on the West with dependence on the Soviet Union. Putting an end to unequal dependency relations has been the crux of the Soviet cooperation programme's differences with Western involvement in developing countries [Solovyov: 1973, Maksimova: 1979, Olshany and Zevin: 1984].

While economic independence was viewed as the key to breaking the developing countries away from their unequal ties with the West and to overcoming social and economic backwardness, economic and technical cooperation was the means. As discussed in Chapter 2, cooperation was linked inextricably to Soviet foreign policy in terms of promoting Soviet security interests and it was linked to the earliest ideals of Russian socialism expressed by Lenin: solidarity with the oppressed. It was also part and parcel of Soviet domestic economic objectives. Through cooperation agreements the USSR could obtain products which could not be produced at home or would be more costly than if imported. These objectives have taken on varying degrees of relative importance since the mid-1950s.

The major concern of this study, however, are not the motives behind cooperation but the impact which cooperation has had on the developing countries themselves as seen from the Soviet perspective and that of the developing countries. In its claims about economic and technical cooperation, the Soviet Union asserts that because its assistance is qualitatively different from the West, the developing countries benefit by achieving independent productive capabilities otherwise unavailable to them through involvement with the West. These claims are set-out in detail in the next part.

Part II

The Soviet Economic and Technical Cooperation Programme: Western Technology Transfer Lagging by Comparison

In this part, Soviet claims about economic and technical cooperation are delineated. The claims express what developing countries can gain from economic and technical cooperation with the Soviet Union and in what ways these gains differ from cooperation with the West.

Technology Transfer for Development

From the point of view of Soviet development analysts, the struggle to reduce technological dependence is linked inextricably to the post colonial struggle for economic independence. Technological capabilities are considered to be of paramount importance in fighting foreign domination, overcoming backwardness, and building up the economic independence of a state. Without these capabilities, claim Soviet analysts, developing countries would remain forever dependent on the productive capacities of the more advanced countries. They would continue to be exploited by the Western

industrial powers which would offer them over priced manufactured goods in exchange for under priced agricultural products and raw materials.

The developing countries could, however, catch up if the production capability of the advanced countries was transferred to them. With external technical resources and with the economic resources needed to finance them, the developing countries would be able to acquire the machinery, equipment, and know-how necessary to modernize their agriculture and industry. They could thereby assume a more equal position in the international division of labour [Baskin: 1985, p.9].

Although both the West and the Soviet Union have taken part in transferring technology to the developing countries, the kinds of technology and the way in which they are transferred mark a crucial difference between Soviet and Western involvement in the development process. According to Soviet analysts, Soviet cooperation and Western involvement differ with regard to financial terms, economic and political strings, technological restrictions, personnel training, documentation, restrictive business practices, sectoral concentration and the overall availability of industrial technology. Each of these will be discussed. Before turning to specific claims made by the Soviet Union, the framework which is being used to assess technology transfer is reviewed and the general Soviet view of technology transfer is addressed.

According to the Western indigenous technological capability (ITC) literature, without the capability to assimilate; adapt; modify; and create technology, developing countries would remain technically and economically dependent upon the advanced countries, the early industrialisers. Successful technology transfer is judged by enhanced capabilities to adapt, assimilate, modify, and, eventually, create technology at the firm level and in the economy as a whole. Although national policies have a great deal to do with the extent to which indigenous capabilities are facilitated or hindered and vary widely from country to country [Fransman and King, eds.: 1984, Bell, et al.: 1980, Enos: 1984], the concern of this study is with the policies pursued by technology suppliers - the Soviet Union, and for purposes of comparison, the Western countries. These policies have an enormous impact on the amount of technological learning which can take place within developing countries and on the extent to which industrialisation can occur within a given country.

The literature on Soviet development cooperation, similar to the ITC literature, stresses building up indigenous capabilities so that the young states can reduce their technical and economic dependence. The dependency referred to in the Soviet literature

is, however, limited to dependence on the Western countries. Soviet cooperation, unlike involvement on the part of Western aid agencies and Western corporations, is seen as promoting national capabilities. This is due to the way the Soviet Union transfers technology; that it includes the personnel training, the legal rights, and the documentation necessary for increasing the indigenous technological base. Moreover, the USSR provides technologies that the West refuses to make available at all or will make available only under terms unacceptable to the developing countries [Egorov, et al.: 1978, Simoniya: 1985].

Because of the way technology is transferred from the Soviet Union, the developing countries are 'bound in the long run to achieve the independent growth of their own scientific and technological capacity...' [Ushakova and Zevin: 1978, p.182]. This has wide-ranging implications, not only for overcoming domestic backwardness but also for changing global economic relations, both of which are central themes of Soviet development cooperation. Cooperation 'offers an opportunity for the young states to change their unequal status in international economic relations and makes it possible to shape a new just international division of labour which opposes the system of imperialist exploitation' [Tsukanov and Kukin: 1982, p.6]. In contrast, because of the way in which the West transfers its technology (or, in many cases, withholds it) the developing countries suffer from 'the preservation of backwardness and in new forms of dependence '[p.65]. Technology transfer from the West, it is argued, poses a threat to autonomous economic development and leads to technological dependence.

Soviet claims regarding Western refusals to supply technology and availability from the Soviet Union are the subject of the next section.

Technologies for Industrialisation: Soviet Availability versus Western Refusals

Explicit in Soviet economic and technical cooperation is the assumption that the way to overcome backwardness is by the creation of modern industry. By building up industrial capacity through the transfer of technological equipment and know-how,[2] developing nations can use Soviet assistance to increase their employment possibilities, alter social relations and end their dependence on the industrialised nations [Zevin: 1986, Volkov: 1972]. The developing countries would no longer have to supply raw

2 Equipment and know-how are combined in cooperation agreements in a modified form of 'packaging' or 'turnkey' agreement. Soviet experts claim that at the request of developing countries projects are built on a turnkey basis. At early stages of industrialisation, supplying developing countries with complete plants is most efficient, claim Soviet analysts, because it enables them to master technologies in the shortest period of time and because projects are guaranteed to be completed on schedule and in accordance with full design standards.

materials and agricultural goods to the West in exchange for industrial goods on terms that they could not affect, nor afford. With assistance from the socialist countries, they would be able to diversify their economies and compete on a more equal and just basis. As Baskin states:

> Economic and technical cooperation with countries of the world socialist system is of great importance for the developing states not only as a major material factor of socio-economic transformations in these states, but also as a powerful instrument in the struggle to restructure the whole system of their economic relations with the West. [1985, p.8]

In helping to restructure economic relations, the Soviet Union encourages the developing countries' industrial growth by its offers of cooperation to first, key branches of industry serving as the bases for newly industrialising economies, and later, to more specialized branches. Experts from the Institute of Economics of the World Socialist System argue that by concentrating assistance on the construction of projects which form the core of the national economy, the Soviet Union 'lays the foundations for accelerating the rates of self-sustained growth' [UNCTAD: 1970, p.6]. The USSR State Committee for Foreign Economic Relations (SCFER) points out the main areas of cooperation during early stages of industrialisation:

> The Soviet Union is backing industrialisation of the developing countries aimed at securing their economic independence. Its support takes the form of economic and technical cooperation, with the USSR giving the developing countries diverse assistance in founding and expanding a variety of basic industries - iron and steel, nonferrous metals, engineering and metalworking, electrotechnical, chemical, and petrochemical. Much aid is also given to other industries, such as building materials, woodworking, pulp and paper, light, food, and so on. [USSR SCFER: 1984, p.58]

Soviet experts have been exacting in pointing out the difference between the USSR's willingness to provide key industrial technologies and the Western countries' resistance: 'The imperialist powers are bent on preventing industrialisation of developing countries because it erodes the foundation for their exploitation by Western monopoly capital...' [ibid.]. In the years following decolonisation, Soviet analysts argued that the West would have, if possible, prevented industrial development in the emerging countries so as to retain these countries as markets for processed and manufactured goods and as suppliers of raw materials[3] [Bylinyak: 1983].

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[3] Since around the mid-1970s, there have been concessions made in the Soviet literature to changes which have occurred between the advanced Western capitalist countries and the developing countries. Bylinyak [1983, p.115] argues that the former division of labour between these sets of countries no longer meets the interest of the Western monopolies. The narrowness of its home market and shortage

According to the State Committee for Foreign Economic Relations, a major contribution of Soviet economic and technical cooperation with the developing nations has been that it has ended the Western monopoly on deliveries of machinery, equipment, and technological processes. By providing technical and economic assistance in areas in which Western governments and private corporations refused, the Soviet Union has frustrated Western efforts to block the creation of basic industries which would lead to greater economic and technological independence [USSR SCFER: 1984, p. 14].

Soviet analysts and officials argue that if the Soviet Union and the other socialist countries did not provide the technology for industrial sector development, then many of the developing countries would not have been able to pursue their chosen development goals [Simoniya: 1985, Yakubov: 1985]. According to Soviet sources, in the case of requests for technology in a number of industrial branches, developing countries have been refused machinery, equipment, and processes outright or they have been offered these only at terms (insufficient finance, high prices, restrictive terms on the use of technology and/or destiny of products, foreign control, etc.) unacceptable to their own development goals. An example cited in Soviet literature is the private Turkish firm Kromson's attempts to purchase sodium bichromate technology. The Western countries which held this chromium processing technology turned down Turkish requests which would have enabled indigenous processing of Turkish raw materials. The reasons for Western refusals were to maintain the monopoly on production and to keep the developing countries, including Turkey, as a market for Western products [USSR SCFER: 1984, p.74].

Because of the Soviet Union's willingness to assist the developing countries the West has been compelled to increase its technological exchange. This claim is discussed in the following section.

The Broken Monopoly: The West Is Forced to Compete

There have been several factors affecting Western exports of technical equipment and financing. A major factor has been the role played by the Soviet Union and other advanced socialist countries in breaking the Western monopoly on supplies of

of skilled labour force are having adverse impacts on the expansion of Western monopolies. Thus, a new neocolonialist division of labour supporting some industrialisation has appeared. See also Kodachenko [1984], and Vasilyev [1988], who is quoted at length in part III of this chapter. See also Melnikov [1977] for a branch analysis of the chemical industry.

equipment and credit. This was noted in Soviet analyses in the early years of the post-colonial assistance programme:

> By assisting the young states the socialist countries are forcing a sort of a competition on the capitalists of the imperialist powers. Since Western capital has lost its monopoly on delivering equipment and granting credits, and an alternative in the form of growing economic ties with the socialist countries has appeared, the capitalists, in an effort to preserve their influence and positions in the newly free countries, in some cases lower the interests on credits and build factories in these countries, though, in the final analysis, it is not advantageous to them. Consequently, under conditions of peaceful coexistence, the less developed countries are also indirectly benefitting from the competition between the two systems. [Ponomaryov, et al.: 1967, p.330]

Similar arguments have been put forward over the years [Soloyov: 1973, Bogomolov: 1979]. In 1985, Simoniya recalled the positive impact Soviet and other CMEA cooperation has had on Western involvement:

> it was the development as of the mid-1950s of extensive cooperation between the USSR and other socialist countries on the one hand, and the developing countries on the other, which forced the imperialist powers to wholly revise their aid strategy. Prior to that, the capitalist countries' assistance programmes were completely subordinated to the Cold War strategy, and the principal accent was providing military aid to their allies in various military blocs. However, only after the socialist countries began providing the developing countries en masse with complete sets of industrial equipment, thus bringing an essentially new feature to international relations, only after metallurgical plants began to rise in Bhilai and Bokaro (both in India) along with hydropower complexes on the Nile (Egypt) and the Euphrates (Syria), and only after the nucleus of the state sector began to coalesce in several developing countries, was foreign state-monopoly capital forced to seek new ways and to agree to real compromises and concessions. [p.206-207]

As Ponomaryov, et al. and Simoniya point out, with Soviet cooperation the developing countries not only gained a new source of equipment and credit but also they were able to increase their bargaining position vis-à-vis the advanced capitalist countries. Kalashnikov [1973] cites the example of the Soviet-Indian agreement to build the Bhilai iron and steel works. This agreement increased India's bargaining position in negotiations for iron and steel mills to be built in Durgapur and Rourkela by British and West German firms:

> The success of the Soviet-Indian talks and the signing of the Agreement on the Construction of the Bhilai Iron and Steel Plant as well as the extension of a long-term credit on easy terms (for a period of 12 years at 2.5 per cent per annum) compelled the British and West German firms to abandon their dragging-on tactics with a view of obtaining various concessions and forced them to reconsider some of their demands, in

particular, to ease their credit terms.

> As a result, the British side granted the Indian government credits to the amount similar to that of the Soviet credit but at the rate of 4.75 to 5.5 per cent per annum for periods of 7 to 15 years, while the West German firms extended a credit for 12 years at 6 per cent per annum as against the 12 per cent they had originally asked for. [p.16]

In terms of their industrial growth and access to technology, the hand of the developing countries has been strengthened even further, according to Soviet writers, by their own collective efforts (and with the support of the Soviet Union) to institute a New International Order[4] and an International Code of Conduct on the Transfer of Technology.

Many Soviet writers contend that although progress has been slower than what was hoped for following independence, the gains which have been made would not have been possible were it not for the support of the socialist countries. In terms of foreign assistance, Soviet cooperation in building production facilities and infrastructure projects, mainly in the state sector, has laid the basis for further development in the young states. This is discussed in the following section.

Sectoral Orientation: State or Private

Because of the Soviet Union's desire to strengthen the national economies of the developing countries and to help the young nations break away from reliance on Western capital, the Soviet Union has concentrated development cooperation on state sector industrialisation. Olshany and Zevin maintain that the Soviet Union and other CMEA countries involvement with state sector projects 'is one of the major differences between the assistance rendered by the CMEA countries and the "aid" provided by the capitalist countries, which view a strong and independent state sector as an obstacle for the activity of private capital and, above all, transnationals in the developing countries' [1984: p.29].

Olshany and Zevin [p.29] argue that owing to the deformed nature of the developing countries' economies resulting from their painful colonial legacy a strong state sector is needed to play the role as the most important source of internal accumulation. The position of the SCFER is that even in countries following capitalist

4 Astapovich [1979, Chapter 5] explains that while the Soviet Union, in general, supports the aims of the NIEO, there are points of contention. He cites, for example, the developing countries hold both the advanced socialist and capitalist countries responsible for their backwardness.

development the state and the state sector are important because they can play a leading role in economic and social development [USSR SCFER: 1984 p.23]. A strong state sector can also contribute to improved international economic relations. Solovyov notes, for example, Soviet cooperation in India, by strengthening the state sector, has appreciably weakened dependence on the imperialist powers and strengthened India's position in the world capitalist market [1973, p.6]. Volkov adds that a strong state sector can act to keep the negative consequences of foreign capital to a minimum by directing and controlling investment. With a strong state sector, foreign capital may be able to play a useful part in building national industry [1972, p.76].

By strengthening the state sector, the Soviet Union also believes that it is curbing domination by Western monopoly capital and sections of the local bourgeoisie which, in the pursuit of narrow self interest, cooperate with foreign capital [Skachkov: 1974, p. 10]. Ponomaryov, et al. note that in addition to contributing to the struggle against foreign capital, state sector industrialisation promotes 'the growth of those branches of industry that are indispensable for the country and not those that bring maximum profit to their owners' [1967, p.331]. If left to their own devices, private capitalists, either local or foreign, would invest in enterprises which could bring them the greatest profit at the least risk. Enterprises needed to meet the needs of a developing economy, i.e. basic industries and infrastructure, would most likely be overlooked because of long pay-back periods and the large capital out-lays required.

Zimenkov, noting another benefit of a strong state sector, stresses that 'development of the state sector makes it possible to achieve greater efficiency in introducing the first elements of planning and, what is even more important for many developing countries, this development meets the interests of not only isolated groups and sections but of the overwhelming majority' [1986, p.35]. Planning is also facilitated by long-term agreements between the Soviet Union and the developing countries. These normally cover a period of 5-15 years, thus providing developing countries with stable markets for technological cooperation and for the export of their products [Olshany and Zevin: 1984].

The sectoral orientation in Soviet writing in the 1980s has been less attached to state sector development. Zevin [1989], for instance, argues for greater involvement with the private sector in developing countries. It should be pointed out, however, that Soviet assistance prior to the 1980s was not contingent upon projects being in the state sector. While channelling the bulk of credits to the public sector, the Soviet Union did not refuse to cooperate with local private capital as long as this met the interests of the

countries concerned and as long as mutual benefit was ensured [UNCTAD: 1970, p.7].

Branch Concentration: Assistance for Production Capability versus Assistance for Consumption Goods

Soviet cooperation has been primarily devoted to increasing production capabilities. This is why developing the key economic branches has been given such strong emphasis. Those manufacturing, agricultural, and infrastructure projects with the greatest linkage effects have been given first priority in the Soviet assistance programme.

The Soviets believe that their emphasis on developing productive branches of the economy is where their assistance fundamentally differs from Western aid. Western assistance is criticized for being furnished mainly in the form of consumer goods whereas Soviet assistance is in the form of production goods. Kapranov and Dogayev elaborate on the benefits of Soviet assistance:

> The Soviet Union's economic and technological assistance to the developing countries is concentrated first and foremost in the sphere of material production: nearly 80 per cent of all aid is directed towards industry and the power industry. The channelling of this cooperation into the sphere of production, above all into industry, reflects the developing countries dire need to create their own base for independent economic development. This approach promotes the development of their productive forces, makes the latest achievements of engineering and technology accessible to them, allows them to create effective prerequisites for the successful implementation of their policy to strengthen economic independence and the effective solution of acute socio-economic problems....
>
> Highly important to the young national states is the fact that Soviet economic assistance is channelled first and foremost into the basic branches of their national economies, that is precisely what is avoided by Western countries and firms. When they do agree to this it is only because the world of socialism has long eliminated their monopoly on economic relations with the developing countries. [1986, p.29]

Noting also that Western aid to the agricultural sector in developing countries is largely in the form of food aid (a consumption good) rather than productive capability, Kapranov and Dogayev proclaim, 'there is a radical difference in the approach of the USSR to the agricultural problem in these countries and that of the Western states whose "aid" usually boils down to deliveries of foodstuffs, which takes care only of immediate requirements' [ibid., p.32]. In contrast, the Soviet cooperation programme:

> renders the newly free countries substantial assistance in developing

> their agricultural economies and food industries, thereby laying the foundations for a sound and lasting material base that will make it possible to increase their agricultural output, ensure its processing, and provide their peoples with a reliable supply of food products. Help is rendered in the form of developing new lands and building irrigation systems, setting up state crop-growing and animal husbandry farms, building machine and tractor stations and providing them with machinery, building and equipping workshops, veterinary laboratories and stations, research laboratories, research and experiment stations. [p.31-32]

As already discussed, Soviet assistance concentrates on industries with the greatest linkage effects, while foreign private investment is seen to concentrate on the individual enterprise and its ability to generate profit. In their choice of technology 'foreign companies are exclusively guided by what benefits them and not in the least concerned about the developing countries' national interests' [Egorov, et al.: 1978, p.144]. According to Egorov, et al., in the case of Western involvement foreign capital itself selects the industries in which it can gain the greatest profit and only by accident will this choice coincide with the needs of developing countries.

> The aim of foreign private capital in developing countries is to obtain more profit than it can in the country exporting capital or in other industrially developed countries. For this reason it is normally invested in industries where the pay-off is quick and profitability is high, but which are by no means always among those which, from the national point of view, require priority development. Not infrequently, therefore, enterprises which are of secondary importance as, for example, chewing gum or soft drinks factories operate at a higher technological level than basic sectors of the economy. [ibid.]

Moreover, when the West does supply technology to industries which are vital for economic growth the new technology does not become available to the developing countries: 'As a rule, it does not pass beyond the gates of the foreign owned enterprises' [ibid.]. Through licensing and other restrictions Western suppliers prohibit technological gains from being diffused economy wide and perpetuate reliance on external suppliers.

To summarize, it is claimed that Soviet assistance is designed to increase a sustainable and growing capacity to produce whereas Western aid will only temporarily satisfy needs and will maintain an on-going dependence. This difference transcends all aspects of the Soviet and Western assistance programmes. But nowhere probably is this difference more noticeable than in the manner in which technology is transferred at the plant level. The use of machinery, equipment, and know-how and the degree to which personnel are trained result in technology transfer from the Soviet Union

facilitating independent capabilities and that from the Western countries promoting continued dependence. This is elaborated on in the following sections.

Personnel Training

In its development cooperation, the Soviet Union has taken the position that it is not enough merely to transfer industrial equipment and know-how without the infrastructure and a skilled workforce necessary to assimilate the technology. Without this, states Zevin,' it seems highly improbable that the developing countries will be able to benefit from foreign equipment and technology or adapt it to local conditions, to develop their own scientific and technological potential and benefit from world scientific and technical progress' [1986 p.134]. According to Zevin, experience has proven that 'technical innovations and associated know-how coming from abroad fail to produce the desired effect and remain a foreign body in a developing economy unless their introduction is accompanied by the large-scale training of specialists and the creation of an extensive scientific and technical infrastructure' [1978, p.184]. This infrastructure should include a network of schools offering general, technical, and vocational training and it should include programmes to train local specialists who will work on projects using imported technologies. Other government mechanisms such as planning are also needed so that over the long-run indigenous scientific and technical potential can be realized.

In the developing countries, the Soviet Union contributes to training local personnel by funding special vocational training centres and by providing courses and on-the-job training at building sites of economic and technical cooperation projects. On-site training is carried out at every level, covering all stages of construction and operation of plants. This allows the recipient country to undertake full scale construction and operation of projects in the future relying on indigenous skills [Ivashov: 1978, Zevin: 1978].

According to the State Committee for Foreign Economic Relations, 'the most experienced Soviet specialists and workers are selected to train national personnel, and readily share their knowledge, technique, and know-how as they assist in building and assembly, starting up machinery, adjusting production and, in some cases, ironing problems in planning and organizing production' [USSR SCFER: 1984, p.101].

According to Morozov, for a large number of projects not only are the know-how to build and operate plants transferred to developing country personnel, but Soviet

specialists also set up training centres and train local staff to teach additional personnel. 'While they organise the training process, the Soviet specialists prepare their own successors from among the local citizens' [1973, p.14].

As a further part of Soviet cooperation agreements, local personnel receive training and experience at Soviet factories and installations such as the Bratsk hydropower station, the Cherepovets and Novolipetsky iron and steel works, and the Minsk tractor factory [Yasenev: 1982]. Training is provided at both the theoretical and operational levels. According to Kapranov and Dogayev, training of developing country personnel within the USSR 'introduces them to the latest achievements of science and technology, provides the use of equipment identical to the kind that is delivered to the projects built with Soviet economic and technical assistance, and is in tune with the practical tasks that will have to be tackled by the national specialists in their own countries' [1986, p.34].

The Soviet position on personnel training is, argues Baskin [1985], in line with the growing awareness of developing countries that the need for technical assistance should be obviated altogether by the training of local personnel. As Kapranov and Dogayev put it: 'with the training of national personnel in their own countries, the number of Soviet specialists is systematically decreased and the production is gradually transferred to national cadres' [p.33].

As of 1985, the USSR has claimed to have trained 900,000 workers on-site in developing countries. 88,000 specialists and workers have received vocational and technical training in the Soviet Union (this does not include full-time foreign students of which, in 1985 alone, there were 80,000 from 113 developing countries). In 1984, there were 7,500 specialists and workers from 28 countries undergoing training in the USSR. Additionally, the Soviet Union has helped to build over 300 schools (with an additional 150 under construction), and vocational centres which have trained about 500,000 workers in 26 developing countries [Kapranov and Dogayev: 1986, p.34].

In contrast to the Soviet practice of training local personnel, Baskin argues that foreign capital is essentially hostile to training local personnel, 'fearing that as a result of such training private capital could eventually be ousted from the DCs [developing countries] altogether' [1985, p.125]. The practice of Western governments and private capital with regard to technical assistance is often to *substitute* their own experience for the efforts of recipient states. According to Baskin:

> The volume and direction of technical assistance are determined as the simple difference between DC's [developing countries] requirements for know-how and experience in this or that field and the available internal resources. The fundamental proposition that technical assistance should primarily help to *transfer* know-how and experience to local personnel is usually ignored. [p.132]

Also in contrast to Western practice, the Soviet Union does not encourage and, in fact, discourages highly trained personnel from leaving their home countries to work permanently in the USSR. According to Zevin, 'the Soviet Union supports the just demands of the developing countries for an end to the practice whereby their specialists are encouraged to go and work in the highly developed countries, a practice commonly known as "the brain drain"' [1978, p.190].

Documentation

While know-how can be gained from training and from experience, particularly the experience of making and analysing changes, it is facilitated by technological documentation. This can include operating manuals, blue-prints, drawings, results of experiments, formulae, calculations, and maintenance and repair manuals.

Soviet cooperation experts believe that building up the developing countries' scientific and technological potential to master technology requires the transfer of necessary documents for operating and adapting machinery and equipment. According to Olshany and Zevin:

> While supplying the developing nations with modern technology, the socialist countries take into consideration the need to create the economic and technical conditions for mastering this technology. This is why, together with their machinery and equipment, they supply the necessary technical documents and train national cadres. The developing countries receive technical projects and the blueprints of enterprises and installations, the schemes and technical documents for the equipment and machinery supplied, descriptions of technological processes, labour organisation plans, and so on. [1984, p.65-66]

Soviet analysts assert that when Western firms transfer machinery and processes they often refuse to supply adequate documentation. The developing nations must constantly refer back to the supplier for additional information. When the Soviet Union delivers complete plants, they hand over to the recipient nation the necessary technical documentation 'practically free of charge, requesting payment merely to cover the costs of preparing the documents. In cases when a lot of extra work has to be done to adapt

the designs to the specific conditions in a particular country, then agreement is reached on meeting the costs of the design organisation' [Ushakova and Zevin: 1978, p.185].

Legal Rights and Restrictive Business Practices

This section presents Soviet claims on the use of restrictive business practices, such as limiting access to technology and controlling the distribution of products produced with transferred technology. The Soviet Union, in its economic and technical cooperation and in its positions within international organisations, such as UNCTAD, claims that it is opposed to restrictive business practices in the transfer of technology. In fact, such practices are often defined by Soviet analysts as a purely capitalist phenomena: 'a set of methods for applying monopolistic pressure on trading partners and consumers and used by the TNCs to seize, maintain and exploit a dominant position on the capitalist market'[5] [Bereznoy: 1983, p.44]. According to Bereznoy, these restrictive practices take on individual and group forms:

> In these cases a dominant position on the market is gained either by the individual suppression of competition and the individual domination of a monopoly on the given market, or by collusion of several corporations which not only wage a collective struggle against outsiders but also sign agreements to eliminate and regulate competition between themselves. [ibid.]

Western enterprises, either acting alone or through collusion, often refuse to supply technologies. At other times, they supply technologies if they remain outside the ownership and control of the recipient country - subsidiaries, for example. Unless the Soviet Union or other socialist countries can provide similar technologies, developing countries often have little choice but to accept what is offered.

There is another set of restrictions placed on developing countries which relate to the purchaser's use of transferred technology. When Western governments and Western corporations sell technology they often restrict the recipient's access to know-how. They often place restrictions on the technology's output, sometimes restricting exports and/or quantity that can be produced, and sometimes fixing prices on the final product.[6] In many cases, the recipient country's engineers are prohibited from tampering with plant technology, a form of protecting the supplier's technological secrets and of maintaining dependence on the supplier. Maintenance, repairs,

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5 Within the Western technology and development literature, these practices refer more generally to any seller.

6 Astapovich [1978, p.259] argues that over 90 per cent of TNC contracts in Mexico, Peru, and Chile and over 70 per cent in Bolivia, Colombia, and Ecuador contained restrictive clauses on exports.

modifications and adaptations can only be performed by calling in the suppliers technicians [Astapovich: 1983]. The technological 'black box' cannot be opened by developing country personnel. Thus, opportunities to learn are foregone. Through having to rely on foreign suppliers and through not being allowed to tinker, technological dependence remains.

In addition to continual dependence on the suppliers services, another kind of dependence is often written into contracts; technological 'packaging' of inputs [Astapovich: 1978, Volkov and Zimenkov: 1986]. This means that over a specified period of time (generally the plant's lifetime) developing countries have to purchase specified inputs such as chemicals or parts from the supplier rather than produce or purchase them locally or import them from lower price suppliers. The Soviet Union is opposed to this practice. Future inputs and parts can be bought from any source or, whenever feasible, they can be made locally. To facilitate the latter, as part of cooperation agreements, designs for spare parts are generally included with the original documentation [Litvinenko: 1977].

In some agreements with Western firms, restrictions also cover improvements made by developing countries' personnel. Instead of belonging to the firm or country using the technology and undertaking the change, the improvement becomes the property of the technology seller. Because of practices such as this, Astapovich notes that developing countries stay tied into future agreements with foreign firms and that technological gains cannot be disseminated throughout the economy:

> The scientific and technological dependence of the newly independent countries is considerably aggravated by stipulations to preserve the secrecy of acquired production expertise and hand back rights to this expertise, together with any improvement, to the licensor once the agreement has terminated. These stipulations prevent the spread of essential technology. As a result, national enterprises which do not have agreements with TNCs are deprived of access to know-how, managerial experience, etc., available in the country and are forced to have recourse to additional agreements with foreign monopolies. Hence, there is an inevitable increase in foreign exchange expenditures by developing countries on the repeated import of identical technology.... [p.260]

The Soviet Union asserts that as a rule, in stark contrast to Western practice, it does not restrict the use of technology. When obtaining licenses from the USSR, developing countries acquire rights to further improvements of the subject under license. This helps promote national research and design services and the design of

their own models of machines and equipment as well as national technologies' [Sukhoporov: 1982, p.50]. Nor, does the Soviet Union impose restrictive conditions on production and/or export of goods made under license [Volkov and Zimenkov: 1986]. As a matter of course, however, limited rights on patents are retained by the Soviet Union. However, royalties are not imposed.

Restrictions on the use of technology remain the most controversial area of the UNCTAD Conference on a Code of Conduct for the Transfer of Technology (ToT). In the ToT negotiations the Soviet Union and the advanced socialist countries assert that they are on the side of the developing countries (Group of 77) and largely in opposition to the Western countries. It is useful to focus on the Code of Conduct debate because the Soviet Union with the CMEA countries (and the other groups of countries) has been forced to articulate its position with regard to technical cooperation.

The Soviet Union asserts that it supports adopting a Code of Conduct that would satisfy developing countries' demands. It argues that these demands for fairer practices and easier access to technology should also apply to the socialist countries and not just to the developing countries. Thus, while being in support of Southern aspirations, the Soviet Union is also clear when articulating its own interests. The Soviet position is that all countries should have access to advanced technology 'with no discrimination, especially that based on differences in the political, economic and social systems of countries' [Bogomolov: 1983, p.29].

The Code of Conduct negotiations, which arose out of the 1974 UN General Assembly adopting the Programme of Action for the Establishment of a New International Economic Order, was at first designed to be responsive to the needs of developing countries within the context of a North-South problem. This caused dissension between the developing countries and the socialist bloc countries, the latter of which were adamant about being 'lumped' with the advanced capitalist countries. According to Leonidov [1980], the socialist countries favoured a universal approach for correcting unequal relations for all technology purchasers while at the same time granting the developing countries special treatment through cooperation agreements and other government measures.

With the agreement very early on in negotiations that the Code would have universal application, the major area of potential discord between the socialist bloc countries and the developing countries was averted. There have been few differences between these countries. For the most part, their interests have been identical [ibid.].

The main stumbling block to instituting a Code of Conduct has been the intransigence of the Western countries.[7] This has been particularly pronounced with regard to: 1.) restrictive practices to be avoided, 2.) what laws are applicable (individual contractual law or national legislation) in judging and governing technology transfer arrangements and how to settle disputes, and 3.) whether the code should be of a legally binding nature or a set of guidelines to be accepted voluntarily by signatory countries and their multinational corporations and other enterprises. The main protagonists in each case are the Group of 77 (developing countries) and Group B (Western countries). As with most other aspects of the negotiations, the socialist bloc is on the side of the developing countries. They agree on strict regulation of restrictive practices, they agree on applicable law and have successfully reached a compromise on arbitration, and they agree the code should be legally binding [Volkov and Zimenkov: 1986, Astapovich: 1978].[8]

Economic and Financial Terms of Cooperation

According to Soviet analysts, another important factor in rendering the world's technological achievements accessible to the young states is the role of finance in making technology affordable. The way in which Soviet cooperation is financed, in particular highly favourable repayment terms, is a major feature that distinguishes it from Western involvement.

The Soviet Union has provided the bulk of its assistance in the form of loans carrying 2.5 - 3 per cent interest rates which are low by the standards of most Western governments and banks. Repayment is over 8 to 15 years beginning one year after project completion or machinery delivery.[9] Credits are usually designed to cover geological surveying and design work in the pre-construction phase, delivery of materials, machinery and equipment that cannot be obtained locally, expenses of specialists, and personnel training.

The Soviet Union does not provide a large portion of assistance on a grant basis. It has long been the Soviet position that it would be a condescending gesture to give

7 For each group's positions, see, for example UNCTAD TD/AC.1/9: 1977, UNCTAD TD/CODE TOT/33: 1981, and UNCTAD TD/CODE TOT/47: 1985. Some positions haave varied over time.

8 It should be pointed out that the developing countries and the socialist countries have steadily supported continuation of negotiations to complete a Code of Conduct. The advanced market-economy countries have, at times, been opposed to reconvening negotiations. See UNCTAD [1988].

9 A small proportion of Soviet credits have been on commercial terms. For example, a $15 million commercial loan agreement was signed with Chile in 1967. Repayment was over 8 years and interest was 3-5.3 per cent/annum.

outright grants. Therefore, grants are usually restricted to emergencies, such as natural disasters [Maksimova: 1979]. In all other cases it is made clear that Soviet assistance is neither an act of charity nor a means of exploitation. Skachkov, while Chairperson of the State Committee of the Council of Ministers for Foreign Economic Relations, explained:

> Soviet economic assistance is not charity. It is given on a mutually advantageous basis and rests on the principles of equality and respect for mutual interests. It is therefore acquiring the character of stable division of labour as opposed to the international system of imperialist exploitation. [1973, p.6]

From the earliest days of the cooperation programme, repayment has been highly favourable, mainly taking the form of traditional exports or of a part of the goods produced by enterprises built with Soviet assistance, and also sometimes local currency. Thus, scarce foreign exchange could be saved for other purposes. In contrast to relations with the Western countries, a vast foreign debt is not incurred.[10] Also, because cooperation finances productive projects rather than consumption, repayment is facilitated. Another important advantage is that repayment in goods increases developing countries' exports and provides them with stable markets. The Soviet Union's record on repayment is stressed by the State Committee for Foreign Economic Relations. Once again, the Soviet record is held up to Western practice:

> productive use of Soviet credits provides for earnings (in cash and in kind) to repay them. Nearly all projects built on funds granted by the Soviet Union are functioning successfully, turning out products needed by the respective developing country and yielding profits in excess of the amount required to repay the credits on which they were built.
>
> That is why Soviet credits are not, nor can they be, a factor that increases the foreign debt to a point surpassing the country's capacity to repay it. It is, therefore, wrong to identify the developing countries' credit relations with the Soviet Union and those within the capitalist West.
>
> The Soviet Union takes the maximum account of the developing countries' foreign trade interest. It accepts goods in repayment of its credit. This is important because it eases the currency problems of the developing countries, and, indeed, also because it opens new markets for their goods.
>
> ...That is why the Soviet Union has nothing whatsoever to do with the current deterioration of the developing countries' economic and financial condition. The responsibility for this lies wholly with the Western

[10] Long before the current debt crisis, the Soviet Union was aware of foreign exchange constraints faced by the developing countries. This goes as far back as the first aid extended to developing countries. The assistance package to Turkey, for instance, extended in 1934, involved repayment in goods rather than foreign exchange.

states and their monopoly concerns. [1984, p.129-130]

The use of debt in controlling developing countries is strongly criticized by Soviet analysts. Strings attached to many Western agreements and, in particular, conditionality terms imposed by the IMF and the World Bank receive widespread attention in Soviet development literature [Panov: 1973, Bylinyak: 1983, Baskin: 1982]. Andrianov refers to the use of the debt crisis as a means of forcing developing countries to follow a capitalist development path. In exchange for emergency aid and postponing debt repayment:

> the imperialist states and the financial organisations they control .... insist on liberalisation of imports and private foreign investments, liquidation of the state sector, a policy of "strict economy", curtailment of national socio-economic development programmes, devaluation of national currency, and even participation in drawing up the developing countries' state budgets. [1985: p.48]

Unlike the West, the Soviet Union does not use credit as a means to interfere in domestic affairs. According to an UNCTAD report prepared by Soviet experts:

> No credit agreement has provisions that would infringe the national or economic sovereignty of the developing country nor does it contain any political terms or demand for control over the economy, on the pretext of supervising the use of the credits. [UNCTAD: 1970, p.6-7]

Additionally, the Soviet Union refrains from using credit as a means to interfere at the level of individual enterprises:

> The Soviet organisations do not lay claim to participation in the capital, profits or management of the enterprises built with their assistance and do not require special rights or privileges for their specialists. [Soloyov: 1973, p.4]

The strings - military and political, in addition to economic - attached to assistance are the subject of the next section.

Strings Attached to Assistance and Political-Social Orientation

The Soviet Union asserts that it provides economic and technical cooperation to states without political, economic, or military strings attached. Assistance is rendered according to principles of mutual benefit and respect for each country's sovereignty. There are no conditions for interference in internal affairs such as asking for repayments in the form of military, political or economic commitments.

According to Baskin, unlike with the West, cooperation is not conditional upon relinquishing sovereignty over resources and national autonomy. He explains:

> The political, economic and cultural links between the socialist and developing states can with good reason be described as an essentially new type of international relations. Their cooperation is based on scrupulous and consistent observance of the partners' equality, mutual advantage, respect for sovereignty and non-interference in each other's internal affairs. In contrast to capitalist "aid", cooperation with the socialist countries has no political or other strings which would infringe upon their national interests. [1985: p.181]

Soviet analysts have traditionally characterized Western technology transfer as reinforcing capitalist economic relations as well as maintaining young states' dependence. Volkov and Zimenkov argue:

> In its own hands the USA has concentrated an enormous part of the latest scientific and technological achievements and uses them as one of the most important control levers for political and economic pressure on developing countries. [1986, p.6]

Because of their 'economic, scientific and technological supremacy' [ibid.], the USA and other advanced Western countries have been able to use the selected export of technology to tie the developing countries into technical and economic dependence so that they could continue to exploit and subjugate these countries.

Tying aid to the political orientation of developing countries is another common method employed by Western countries to reinforce capitalist relations. In the case of US government assistance, which is generally the most highly criticized by Soviet analysts, aid is allocated on the basis of political orientation, with socialist countries excluded. Countries that 'steer an independent course in international relations' are also excluded. [Kaprov: 1984, p.46] According to Kaprov, US aid is extended most generously to governments which are closely aligned with Western foreign policy and which are committed to providing an economic environment conducive to foreign private investment. He provides the example of the Caribbean Basin Initiative in which the US increased its assistance to those countries that supported US aggression against Grenada:

> The actual aims of the "Initiative" can be seen from the fact that the preliminary conditions for participation include, apart from loyalty to US foreign policy, the obligation not to expropriate or nationalize foreign private property but to encourage private enterprise, including

the uncontrolled activity of American TNCs.... [p.46]

Practices such as the ones in which Kaprov refers to are institutionalized in the US assistance programme. Volkov and Zimenkov note that the terms of the US Foreign Assistance Act 'makes scientific and technical aid to newly independent countries directly contingent on the establishment of conditions essential for the penetration of American private capital' [1986: p.27].

Soviet analysts argue that once in a country, foreign capital continues to exert pressure on the host government, wringing out tax concessions and interfering in internal political affairs so that business conditions will remain conducive to foreign investment and to funneling out profit. In contrast to Western investment, projects financed by Soviet economic and technical cooperation are wholly owned by the recipient country. No concessions are asked and no demands are made for a share in future profits. The USSR, argues Simoniya [1985, p.209], does not allow for funneling out of profits. Traditionally, the Soviet government has stressed that it was not seeking equity or a share in the management of projects built with Soviet assistance. Holding equity in developing countries has been seen as leverage for interference in internal affairs and as a means to extract superprofits, both of which are common to private foreign investment [Trofimenko: 1981, Simoniya: 1985].[11]

Another Western practice that continues to receive recognition in the Soviet development literature of the 1970s and 1980s is the use of economic sanctions on economic, scientific and technical ties. Kaprov argues that the West continually tries to blackmail the developing countries by the use of coercive measures, such as restrictions on trade and aid, embargoes, and blockades. Western countries, argues Kaprov, ignore the norms of the international community and continue to impose coercive measures:

> The gross violation by the imperialist powers of basic principles of international economic intercourse conflicts with the UN Charter and such programme documents as the Declaration on the Establishment of a New International Economic Order and the Charter of Economic Rights and duties of States. As clearly pointed out in Article 4 of the Charter "every State has the right to engage in international trade and other forms of economic cooperation irrespective of any differences in political, economic and social systems. No state shall be subjected to discrimination of any kind based solely on such differences." [p.46]

11 Other socialist countries have experience with joint ventures, see UNCTAD [1970, p.26-27] See also Olshany and Zevin [1984, p.116-121] for the distinction between joint ventures in developing countries with socialist countries and those with only Western involvement. See Boguslavsky, M., and Smirnov, P. [1989], for changes underway in the Soviet Union in the late 1980s.

To ensure that all countries follow less coercive tactics in aid and trade relations, the Soviet Union has joined with other CMEA countries and the developing countries to support UNCTAD Resolution 152 (VI), Rejection of Coercive Economic Measures. Moreôver, the Soviet Union, in its development cooperation, has been consistently guided by principles of sovereignty and non-interference in the domestic affairs of other states. According to Kaprov, this is evident in the fact that the Soviet Union has extended aid relations and trade relations to countries with capitalist, mixed, and socialist systems.

Conclusion

The purpose of this chapter has been to present Soviet claims regarding economic and technical cooperation. In Chapter 7, these claims are assessed against actual Soviet practice. To summarize, the Soviet Union makes the following claims:

1. The Soviet Union cooperates with developing countries on the basis of mutual advantage and good neighborliness and does not discriminate against countries on the basis of differing social systems.

2. In contrast to Western countries, the Soviet Union does not demand economic, political, or military concessions or privileges in exchange for its assistance to developing countries.

3. Soviet cooperation gives developing countries an alternative to dependence on Western corporations and Western governments.

4. In accordance with the requests of developing countries' governments, the Soviet Union gives priority to strengthening the public sector. Unlike Western countries which oppose a strong state sector because it is an obstacle to their economic and political influence, the USSR believes that this sector is the most effective for developing the national economy and supports it with economic and technical cooperation.

5. While channelling the bulk of resources to the public sector, the Soviet Union does not refuse to cooperate with local private capital if this meets the interests of the countries concerned and ensures mutual benefit.

6. Soviet credits as a rule are paid back with either traditional exports or the output of Soviet assisted enterprises. Foreign exchange is generally not required. Thus, the Soviet Union does not aggravate developing countries' debt problems.

7. In contrast to Western governments and financial institutions, the Soviet Union does not infringe upon or demand control over the national economy of a developing country under the pretext of supervising the use of credits.

8. Upon completion of Soviet projects, these come under the full control of the host country. The Soviet Union does not share in the ownership or profit of Soviet assisted projects, nor does it demand control. This is in contrast to the practices of Western TNCs and to the practice by many Western governments of rendering assistance only if the enterprise and/or host government opens its doors to Western involvement.

9. Developing countries benefit from long-term contracts with the Soviet Union by acquiring stable technical assistance and stable markets for their exports. Cooperation agreements usually cover commitments of 5-15 years.

10. Soviet assistance improves the bargaining position of developing countries vis-à-vis the West and has caused the Western countries to improve their assistance.

11. In supplying developing countries with economic and technical assistance, the Soviet Union takes into consideration the need to create conditions for mastering technology.

12. The Soviet Union delivers to developing countries as part of its cooperation: management and labour organisation plans; blueprints; operation, repair, and maintenance manuals; and unrestricted use of products and processes transferred under license.

13. Developing countries are not subject to restrictions on production and export of goods under license. Additionally, the Soviet Union gives developing countries the right to continue developing the subject under license, thus, further promoting national design and research skills.

14. The Soviet Union does not charge for technical documentation accompanying industrial facilities. They charge only for the cost of preparing documents if additional costs are incurred in making adaptations for specific local conditions.

15. Personnel training takes place on-site with local personnel and Soviet experts working side-by-side. Other forms of training include working at industrial establishments in the USSR, attending courses in the USSR, and attending courses at training centres built with Soviet assistance in the home country.

16. Local personnel are trained at all stages of construction and operation of projects, thus enabling establishments to be run entirely by local specialists and enabling developing countries to acquire know-how. This allows the countries concerned to undertake full-scale construction and operation of projects in the future relying on their own skills.

17. By transferring know-how and experience to local personnel, the Soviet Union offers an advantageous alternative to Western assistance which tends to substitutes foreign expertise for local capabilities. This form of Western assistance serves to perpetuate technological dependence, whereas by enhancing indigenous capabilities, Soviet cooperation obviates the need for outside personnel.

18. Foreign personnel perform only that part of the work on Soviet assisted projects that cannot be carried out by local personnel.

19. Cautious of 'brain drain', the Soviet Union insists that all developing country personnel trained in the USSR must return to their home countries.

20. The Soviet Union supports adopting an International Code of Conduct on the Transfer of Technology that would satisfy the developing countries' demands for fairer practices.

21. Soviet experts claim that, at the request of developing countries, projects are built on a turnkey basis. At early stages of industrialisation, supplying developing countries with complete plants is most efficient because projects are guaranteed to be completed on schedule and in accordance with full design standards.

Chapter Four

Turkish Development and Foreign Influence: a Historical Overview

In this chapter, there are three main objectives. The first is to review the history of Soviet-Turkish relations and provide the context for modern Soviet-Turkish cooperation. The second is to review Turkey's relations with Western countries, particularly as they have influenced or have been influenced by changes in Soviet-Turkish relations. The third is to review Turkey's development objectives and the role that foreign powers have played in the pursuit of these objectives.

This chapter proceeds as follows. Part I focuses on the historical evolution of the Turkish Republic in terms of its international relations, particularly with its neighbor to the North and in terms of its political orientation and economic goals. The role of foreign assistance in achieving these goals is also highlighted. This part is broken down in terms of historical period: the Russian and Ottoman Empire period in which these empires were at war, the early Soviet and Turkish Republic period of cooperation, the 1945 break in relations and the strengthening of Turkish military and economic relations with Western countries. The modern era of rapprochement with the Soviet Union is the primary subject of Part II. Soviet-Turkish cooperation projects are discussed in this part. Secondary and primary data including personal interviews are used in this chapter.

Part I

Shifting Alliances and Economic Strategies: Turkish Development through the Cold War Period

Ottoman-Russian Rivalry

In the 400 years prior to the Russian Revolution and the dissolution of the Ottoman Empire, the Russian and Ottoman Empires went to war 13 times, the last as adversaries in World War I. Throughout the centuries, regions traded hands between the two empires and third-party alliances were forged with the major purpose of halting the advance of the rival.

At its height, in the seventeenth century, Ottoman rule extended deep into southern Russia, the Balkans, and the Caucasus. Under Peter the Great's reign, Russia emerged as a threat to Ottoman rule and by the latter half of the eighteenth century, Russia had become the dominant power in the rivalry. Under the terms of the Treaty of Kuchuk-Kainārji that ended the Russo-Turkish War of 1768-1774, the Ottoman Empire ceded the Crimea and the northern coast of the Black Sea. Russia was then able to emerge as a naval power in what had previously been an internal Ottoman lake. Russia also acquired open access for commercial ships through the highly strategic Bosphorus and the Dardanelles Straits [Vali: 1971]. For the first time, Russia had an outlet to the Mediterranean. This posed a threat to Great Britain, the power which was most determined to keep the Russian fleet contained in the Black Sea. According to Kapur [1966], Britain's principal fear was that the opening of the Straits to Russia would threaten the safety of her route to India.

Russia's emergence as a great power, to the detriment of the Ottoman Empire, resulted in a major shift in the balance of European power. The interests of the Hapsburg Empire, Britain, and France were contravened. Each preferred the continued rule of the weak Ottoman Empire, their former rival, rather than the rule of the expanding Russian Empire. Thus, they supported the Ottoman leader, the Sublime Porte, in the struggle against Russia. Uneasy alliances were forged to protect the Straits and Constantinople from Russian control. According to Vali:

> Amid increasing power rivalries and threats to its independent existence, the Sublime Porte soon recognized that its survival depended on the skillful employment of a balancing diplomacy, built upon a central strategy of inhibiting the most dangerous and threatening power by invoking the assistance of others. Generally, but not exclusively, the empire of the tsar was considered the most immediate and formidable danger. [1971, p.8-9]

In 1856, Russia was defeated in the Crimean War by Britain and France which were allied with the Ottoman Empire. While prevented from gaining the strategically valuable Straits, Russia was, nevertheless, able to advance in Central Asia. Samarkand, Bokhara, and Khiva were annexed. By the end of the century, the Ottoman districts of Kars, Ardahan, and Batum were also ceded to Russia.

Largely because of the protection of the British and the French, the Straits and the coveted city of Constantinople remained elusive to the Russian Empire throughout its rivalry with the Ottoman Empire. However, as a result of Turkey entering World War I on the side of the Central Powers, Britain and France were forced to relinquish their

role in keeping Russia at bay. As a condition for entering the War against the Central Powers, Tsar Nicholas II demanded special rights for Russian warships in the Straits. He also demanded that Constantinople be ceded to Russia upon partition of the Ottoman Empire. Britain and France, in secret consultations with Russia, agreed [Howard: 1966].

Russia would have the share of the Ottoman Empire which she most coveted, and which, at the onset of the war, caused her the greatest problems. In October 1914, Turkish forces, under German command, attacked the Russian Black Sea fleet and towns along Russia's coastline. In the hands of Russia's major enemy, the closure of the Straits proved to be a major problem for the duration of the war. Deprived of access to the Straits, Russia was cut off from maritime supply lines with the Western allies [ibid.].

At the close of the War, the Entente Powers broke the agreement which had ceded Constantinople and the Straits to Russia. It had been signed between the Entente and Tsarist Russia and, thus, would not be honoured now that a new state emerged in 1917. To the contrary, fear of Bolshevism by the European victors led to moves to isolate the Soviet state. The British government, in particular, sought to build up an anti-Soviet coalition of states [Kapur: 1966].

Soviet-Turkish Relations: Cooperation among the Emerging States

The new Soviet state did not attempt to enforce the Entente agreements. To the contrary, in the first action taken by the Soviet government regarding the East, all secret agreements between Tsarist Russia and the Entente concerning the partition of Turkey were repudiated. The Council of the People's Commissars announced that it was opposed to partitioning Turkey. The Council's 7 December 1917 proclamation, 'To All Muslim Toilers of Russia and the East', stated:

> the secret treaties of the dethroned Tsar regarding the annexation of Constantinople, confirmed by the deposed Kerensky, are now null and void. The Russian Republic and its Government, the Council of People's Commisars, are opposed to the seizure of foreign territory; Constantinople must remain in the hands of the Moslems. [Degras: 1951, p.15]

The proclamation invited the peoples of the East to rise up against foreign intervention. This was repeated in 1919 by a call specifically addressed to the workers and peasants of Turkey to rise up against foreign oppression.[1] In the same year, at

[1] Appeal from Chicherin to the Workers and Peasants of Turkey', dated 13 September 1919. See Degras

the request of Turkish nationalists led by Kemal Pasha,[2] Soviet Russia supplied the nationalist resistance with financial and military assistance for its struggle against Western occupation in Turkey. The government in Moscow stood firmly on the side of nationalist struggle in Turkey.

The Ottoman Empire was dissolved on 20 January 1921. On this day, nationalist revolutionaries who had fought against the Sultan's government passed a constitutional act proclaiming the formation of the Republic of Turkey. Kemal Pasha, soon to be named Atatürk ('Father of Turkey'), became the country's first leader. Two months later, on 16 March 1921, the Republic's leaders signed a treaty of friendship with the Soviet Union.[3] This was the first major international treaty for each country. They both vowed to establish relations based on the 'principle of the brotherhood of all nations and the right to self-determination, taking note in their solidarity in the struggle against imperialism, as well as the fact that any difficulty created for one of the two nations worsens the position of the other.'[4]

A new cooperation arose as these countries looked to each other for support against a common threat, fear of Western intervention. After centuries of acrimony, Soviet-Turkish relations began a new era. According to Rubinstein:

> Soviet-Turkish accommodation was triggered by a number of convergent considerations: fear of foreign intervention; a commitment to anti-imperialism; a desire to overthrow the Versailles peace settlement imposed by the victorious Western powers; a preference that the Straits remain under Turkish control; and a suspicion of the League of Nations, which neither country was initially invited to join [1982, p.4].

Soviet Russia's own safety was dependent upon the outcome of negotiations held by the Western powers to further partition Turkey and to decide the fate of the Straits. The sovereignty of Turkey over the Straits would help to assure their neutrality, whereas control by the Western powers could pose a threat to Soviet Russia. As an almost land-locked country, passage from the Black Sea through the Straits to the Mediterranean was a sensitive issue. With depleted naval forces and an acute fear of

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[1951, p.164-167].

2 According to Kapur [1966], it was clear to the Turkish nationalists that their goals could only be realized by seeking outside assistance. It would not be possible to single-handedly establish an autonomous state when threatened by a number of powerful countries. At the Erzerum Congress, convened in 1919, it was agreed that assistance would be sought from a great power having no imperialist interest, either the United States or the Soviet Union. The US was ruled out largely on the basis of its support for an independent Armenia.

3 For the text of this treaty, see Degras [1951, p.237-242].

4 Ibid., p. 237.

foreign intervention, Soviet Russia's security was tied to the destiny of the Straits [Carr, 1979]. Thus, in 1922, when the Western governments proposed that the Straits be placed under control of a League of Nations commission, the Soviet government argued steadfastly for continued Turkish control. Turkey and Soviet Russia had already agreed upon complete Turkish sovereignty in the 1921 Treaty of Friendship. Article V of the Treaty stipulated that:

> In order to secure the opening of the Straits to the freedom of passage through the Straits for the commerce of all nations, both contracting parties agree to entrust the final elaboration of an international statute for the Black Sea and the Straits to a specific conference of delegates of the littoral countries on condition that any decisions they arrive at shall not involve any derogation of Turkey's complete sovereignty or of the security of Turkey and its capital, Constantinople. [Degras: 1951, p.237]

The inclusion of this article strengthened Soviet Russia's position by shifting settlement of the Straits to the littoral states rather than the Western states. The question of the Straits was, however, to cause further controversy. With the October, 1922, signing of an armistice between Turkey and Greece, Turkey and the Western Entente powers found a political solution to their disputes. As Turkey's isolation from the West subsided, her reliance on Soviet Russia was reduced. There was less need for Soviet support and less willingness to maintain close ties.

Shortly after renewing relations with the West, the Turkish government banned the Turkish Communist Party and arrested 200 of its leaders. Trade links with Russia were also cut. Most importantly, Turkey changed her policy regarding the Straits. The question would be resolved by an international conference rather than a conference with only the Black Sea states. The Soviet government, in fact, was not even invited by the Entente powers to this conference. It was only at the request of Kemal Pasha that Russia, Georgia, and the Ukrainian Soviets were asked to join.[5]

The Lausanne conference, held in December 1922, once again found the Russians and the British as adversaries over the Straits. The Russians wanted an assurance of neutrality in the Black Sea; conversely, Great Britain wanted passage through the Straits into the Black Sea open to warships from all countries. Against strong protests

5 The Soviet Union's participation was, however, limited by the Western powers to matters concerning the Straits. They could not participate in the overall peace settlements between Turkey and the other powers. Kemal Pasha did not support the Soviets on this point. He argued: 'Turkey considers it natural to conclude peace independently with those states with which she is in a state of war'. Cited in Aralov, [1960, p.100].

from Chicherin, the Russian representative, Turkey accepted the British solution with only a few modifications. In August of the following year, Russia finally became a signatory to the convention on the Straits. However, she never ratified it.

With the suppression of local communists and with the strongly nationalistic policies that were pursued, Turkey's revolution clearly could not be interpreted as communist in nature. But, it was anti-imperialist, and so deserving of support according to the Comintern. With the abandonment of the hope of early world revolution, the Soviet government argued for the Comintern's support of anti-imperialist movements in the East, including that of the Kemalists. According to the Soviet position, progressive movements, even those that suppress local communist parties must be encouraged. Bukharin argued that Turkey, 'in spite of all persecutions of the communists, plays a revolutionary role, since she is a destructive instrument in relation to the imperialist system as a whole' [cited in Carr: 1961, p.484]. Faced with losing the confidence of those in power in Turkey, the Soviet Union decided that backing the communists would be against the best interests of the Soviet Union.

Although the Soviet government maintained its support for Turkey, representatives of the Forth Congress of the Comintern, convened in November 1922, were increasingly hostile towards the Turkish cause. The Congress drafted an open letter condemning the nationalist Turkish government for persecuting local communists [Kapur: 1966]. Despite opposition, the Soviet position dominated. The Comintern maintained its overall support. Anti-imperialist allies in the East were needed, even if they did not support class struggle.

In order to understand how Turkey's relationship with the Soviet Union and with the West developed further, one needs to understand the Turkish government's domestic policies and objectives. In the following sections these are discussed.

The Kemalist Revolution: Modernisation

Turkey's revolution was seen by the Soviet Union as progressive, but, it differed appreciably from the revolution which had occurred in the Soviet state. According to Rubinstein:

> The Russian and Turkish revolutions... shared a commitment to secularism, modernisation, and radical social transformation. They differed, though, in important respects: whereas the Russian revolution was internationalist in its outreach, the Turkish was nationalistic and introspective; whereas the Soviet quest for modernisation was

> doctrinally rooted, the Turkish model was West European; whereas the Soviet Union aspired to an activist foreign policy, Turkey cultivated an isolationist course [1982, p.4].

With the exception of the fight against imperialism, the Soviet and Turkish revolûtions followed different paths. It was security considerations that had brought the two countries together and which led Atatürk to sign treaties with the Soviet Union. However, it was to the West that he looked for a model. 'It was there, and not Soviet communism, that he turned for ideas, institutions, economic and technological expertise, and possible guidelines' [ibid., p.8].

Externally, the Turkish revolution was a war against foreign control; within Turkey, it was economic, political, and social. A republic was forged where once there stood the Empire of the Sultans. Secularism replaced religious authority. Women were accorded equal rights. The Latin alphabet replaced Arabic script. The European calendar was adopted. The Swiss Civil Code, the Italian Penal Code and the German Commercial Code were introduced.

Representative democracy and laissez-faire capitalism were envisaged by the country's leaders. The obstacles to each were formidable. The economic, social and political bases were weak. The Republic had been founded on the determination of a small enlightened political and military elite, rather than on the efforts of the masses. This group believed that far-reaching reforms were necessary in order to save the country from future invasions. These reforms were imposed from above, mainly by the strong personality of Kemal Atatürk and the party he created, the Republican Peoples Party (RPP) [Hershlag: 1968].

On the eve of the country's independence, industrial and agricultural levels were basic. Eighty per cent of the population consisted of peasants, most of whom lived at subsistence level. High land rents and excessive taxes coupled with low agricultural prices prevented investment. With only a small group of large landowners with surpluses, little domestic capital was available for industrial investment. Furthermore, investing in industry in conditions of low domestic demand and inadequate infrastructure was considered to be risky. The industry that did exist was generally controlled by foreign capital or by non-Muslim Turks, most of whom left Turkey or were expelled during or right after the war. This exodus left the country with a dearth of private capital and entrepreneurial skills [Hale: 1981].

The little industry there was in the years immediately following the founding of the

Republic was small-scale, with 70 per cent of manufactures employing no more than three workers. With its legacy of Capitulations (trading privileges the Ottoman Sultans granted to foreign interests) and with the burden of Ottoman debts, Turkey was in a handicapped position to begin industrialising. In 1923, the Republic was further burdened by the Lausanne Treaty which prohibited the government from altering tariffs or otherwise intervening in foreign trade until 1929 [Ansal: 1988, Keyder: 1987].

Independence Through Industrialisation

In the Republic's early years, the government tried to avoid direct interference in economic activity. It instead chose to set up the basic conditions to accelerate the growth of private enterprise. In line with quasi-Western liberalism, the main economic role was granted to the private sector.

Modern manufacturing industry was the focus of the new economic approach. The country's leaders argued that national independence rested on national industry.[6] Without industrial development, the country would be left open to the dangers of semi-colonial status and dependence. 'Modernisation' and 'industrial rationalization' were the slogans of the new Turkey. According to Hershlag [1968], technology and industrialisation became the symbols of national emancipation. Westernisation of the economy became synonymous with higher economic standards, as well as political and social progress.

Although the Republic's leaders admired the progress achieved in the developed capitalist countries, they were faced with several dilemmas. In a backward country, with insufficient capital and a virtually non-existent industrial base, some government interference was deemed necessary in order to meet national goals. Turkey would pursue laissez-faire capitalism but not at the expense of dependence on foreigners. Agriculture would be promoted but not at the expense of industry. The international division of labour would not be adhered to if it meant extreme division between agricultural and industrial countries, with Turkey being among the former and at the mercy of the latter [Hershlag: 1968].

Thus in 1923, at the Economic Congress held in Izmir, the government sanctioned

6 According to Krueger and Tuncer, the inability to control the instruments of foreign trade during the period of Capitulations and under the Lausanne Treaty and the 'obvious fact that Turkey did not develop under the enforced laissez-faire policy' led to 'the suspicion that foreign trade benefits mostly foreigners and a desire that Turkey not be entirely dependent on foreign sources for "essential manufactures"...'. [1979, p.135]

tariff protection for infant industries; creation of better infrastructure; improved credit facilities and technical education for industry. In 1927, the government strengthened its support of industry. Incentives included the provision of free land, installation of telegraph and telephone lines with free use, tax exemptions, and subsidies [Hale: 1981. Hershlag, 1968].

Notwithstanding generous incentives, the country's leaders faced severe constraints in achieving industrialisation objectives. Lack of capital and lack of willingness to invest what capital was available in private hands could not be quickly overcome. Economic progress was slow and it was considered unsatisfactory by the country's leaders.

Exacerbating the already troubled situation was world economic crisis, the 1929 Depression. Its effects on Turkey were multifaceted. Prices for agricultural goods, Turkey's major exports, fell sharply. Due to the worsening balance of payments, higher levels of protection against imports had to be enforced. The crisis emphasised the country's lack of industrial diversity and led to a greater role by the government not only in trade policy but also in directing economic development.

The reaction by the industrialised capitalist countries to the Depression also affected the course that was taken by Turkey. First, these countries were concerned with their own losses and had few resources to devote to 'backward' countries. Second, the necessity of government interference in economic life was gaining prominence in the West. If Western countries, with their already advanced economies, might need to resort to greater government interference, it seemed that in Turkey, a country with weak private capital, the government would have to play a large role in steering the economy. Or, so it was increasingly proposed by the majority of the country's leaders. Western models had, in their opinion, failed. Moreover, they were inappropriate to the needs of a backward country intent on quickly achieving economic standards equivalent to those of the developed countries [Ilkin: 1979-80, Hershlag: 1968].

Étatism: the Turkish Model

While Western laissez-faire capitalism had failed, Turkish leaders were ideologically opposed to communism or collectivism. They wanted to direct the economy, but under a system that was not in theoretical opposition to private property. The system chosen, étatism or 'state economy', was announced by Atatürk and his Prime Minister, Ismet Inönü, in 1931. The new approach to economic affairs and to the

country's development was a firm reaction against economic liberalism and, at the same time, against Soviet style collectivism. Étatism had no pretensions of being a universal ideology.[7] Atatürk argued that étatism was a system particular to the Turkish State. At a speech given in 1935, he explained the concept:

> Turkish étatism is not a system which borrows ideas that have been constantly harped on by socialist theoreticians in the 19th century; it is a system peculiar to Turkey, which has evolved from the principle of the private activity of the individual, but places on the State responsibility for the national economy, with consideration of the needs of a great nation and a large country, and of many things that have not been done so far. The Turkish Republican State wanted to do quickly the things which had not been done throughout the centuries in the Turkish motherland by individual or private activity.... This road which we have followed is, as we have seen, a system different from liberalism. [cited in Hershlag: 1968, p.71]

The State would steer the economy in the name of national development and national autonomy. It would do so because private capital had proved to be too weak. Industry and infrastructure in which private capital would not or could not invest, and which the State believed important for development, would be held as State monopolies.

While many of Turkey's leaders continued to stress the importance of private enterprise and the temporary nature of étatism, the government's role in the country's economic development in the 1930s completely eclipsed that of private initiative. The government decided on development goals and maintained responsibility for carrying them out. Practical expression of these goals was given in additional laws and in five-year development plans. In order to carry out these plans, the government borrowed from abroad to a limited extent. It mainly relied on its own capital raised by agricultural exports. Investment funds were administered to state owned enterprises by two large holding companies established by the government. These were the Sumerbank, which oversaw manufacturing activities, and Etibank, which primarily specialized in mining activities and power generation.

Thus, Turkey's private enterprise period lasted only a short time. Some analysts, such as advisors to the US State Department, Thornburg, Spry, and Soule [1949], believe that the adoption of étatism was premature and should not have occurred. Others, such as development economist Morris Singer [1977], argue that the business

[7] Hershlag notes that unlike ideologies such as socialism, communism or fascism; étatism was adopted for expediency rather than principle. Furthermore, it was the economic constituent of a larger programme, rather than a comprehensive socio-economic-political system itself. [1988, p.4-5]

climate of the day encouraged short-term ventures rather than riskier, long-term large investments that industry often required. Without linkage effects and multipliers arising from key industries, the country would not have developed. In Singer's opinion, taking the economy out of the hands of private capital was necessary and the policy proved to be successful. Whereas the economy was stagnant in the 1920s, growth rates after the introduction of étatism were positive. Value added in industry grew at approximately 13 per cent in real terms from 1935 to 1939, and the net national product increased by an average annual rate of 5.2 per cent from 1933 to 1938.

Soviet Assistance and the New Republic

The Soviet Union lent its support before state planning and state ownership were instituted in Turkey. In the 1920s, a period of professed Westernisation and state encouraged private enterprise, the first treaties were signed. Assistance was not contingent upon Turkey following a development path similar to the Soviet Union. To the contrary, it is widely held within Turkey that during this period Soviet Russia respected the principle of non-interference. Even in light of Turkish persecution of local communists in the 1920s, the Soviet government offered diplomatic and financial support.

While étatism was, according to Atatürk, a uniquely Turkish solution, it did, nevertheless, draw from other countries for ideas and for assistance in setting up key industries. Among them, was the Soviet Union. The Turkish government was impressed by the success of the Soviet experiment, particularly regarding industrialisation efforts. In 1932, Turkey asked for Soviet assistance in the preparation of its first five-year plan. The Turkish plan would mainly encompass the industrial sector, not the economy as a whole as in the Soviet Union. Soviet experts would be brought in as technicians to set-up the 'machinery' of the plan. The Turks would operate it for their own objectives.

Turkey's interest in Soviet planning dates back to 1930 when Foreign Minister Teyfik Rustu Aras led a delegation to the Soviet Union. One of the members of his delegation, Turkish intellectual Falih Rifki Atay, remained behind in Moscow to undertake a detailed study of the Soviet planning system. In 1932 a second expedition visited Moscow. This was made up of a committee including Prime Minister Ismet Inönü, several members of Parliament, journalists, and economic experts.[8] The

8 Inönü and a group of experts also visited Italy. They were interested in Italian town planning, provincial party organisation, and propaganda organisations. The Italians agreed to a loan. However, it

committee met with Soviet leaders and toured factories in Odessa, Leningrad, and Moscow [Ilkin: 1979-80].

This visit led to several new initiatives. One of these was an agreement that Soviet planning experts would come to Turkey to make recommendations on what industries should be established. Another major development arising from the 1932 trip was that the Soviet Union opened an interest free credit of eight million gold dollars with repayment in 20 years. This was the first case of Soviet economic and technical assistance to the Republic. It was also Turkey's first intergovernmental loan.[9] The credit took the form of Soviet supplied machinery and equipment of the Turkish government's choice. Prices were set by world prices and repayment would consist of Turkish export goods rather than foreign exchange.[10] Also included in the agreement was a provision that technical training would take place in Soviet factories and on-site at the factories built with Soviet assistance [Hershlag: 1968]. As with cooperation in planning, the Soviet Union's role would be to provide expertise, train Turkish personnel, and supply the machinery. It would be Turkey's role to specify what kind of machinery and to operate it.

One of Turkey's major problems, where to get the capital resources for investment and the technical assistance for efficient production, was partially resolved. With the Depression in the West, foreign loans in many of these countries were frozen. Furthermore, with surplus goods in their own markets, Western countries were not very interested in imported goods from the underdeveloped countries. Largely shielded from the Depression, the Soviet Union had been a logical alternative for both funds and expertise for key industries [Walstedt: 1980, Berberoglu: 1982].

Soviet planners, under the leadership of Professor Orlof, one of the Soviet Union's leading economists, came to Turkey in August 1932. They met with Turkish experts who had undertaken preliminary surveys of potential industrial sites. The Soviet team's recommendations pertained mainly to the textile industry, but also included paper, ceramics, glass, cement, sulphur, sulphuric acid, superphosphates, chlorine,

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never came through due to a decline in political relations between the two countries. See Ilkin [1979-80].

9 This was Turkey's second foreign loan. The first was a private loan from the American-Turkish Investment Corporation in affiliation with the Ivar Krueger Concern (US). The loan was considered to be unfavourable to Turkish interests. One of the stipulations was that the government would grant the Corporation a monopoly on matches and briquettes. The loan carried 6.5 per cent interest over 25 years. See Hershlag [1968, p.93].

10 'Protocol on the Granting of a Credit of $8 Million to Turkey,' 21 January 1934. Reprinted in Degras [1953, p. 61-65].

caustic soda, semicoke, and iron and steel. They prepared a report, 'Cotton, Hemp, Chemical and Iron Industries in Turkey', which consisted of feasibility studies for import substitution in these industries. This report served as the basis for Turkey's first industrialisation plan (1933-1938) [Ilkin: 1979-80]. With the exception of iron and steel, most of the development projects foreseen for the planning period were realized [Hale, 1981]. Turkey had become the second country, after the Soviet Union, to implement the concept of mandatory central planning, with the focus on accelerated industrialisation.

While the Soviet Union was helping Inönü prepare a plan, Minister of Economy Celal Bayar was seeking an alternative to the strong state sector proposed by Inönü. The seeds of later divisions between the two leaders were sown in the discussions over the first industrialisation plan. Bayar wanted more privileges to be given to the private industrial sector and argued that 'extreme étatism' was against the nation's manifesto. He not only sought the advice of American consultants, but he also wanted to give them authority to develop the economy. Inönü opposed the idea of giving managerial and political responsibility to foreigners. In a compromise between Bayar and Inönü, it was agreed that American involvement would be limited to an exchange of technical information. According to Ilkin, American recommendations were not made until 1934 and, therefore, did not influence the first industrial plan which was completed at the end of 1933.

Prime Minister Inönü was extremely impressed with the work of the Soviet experts in Turkey. He was particularly gratified by their willingness to help and, more importantly, by their honesty. In his memoirs, Inönü cites Professor Orlof's advice to acquire certain machinery, such as looms for thin fabrics, from the West on account of its superior performance.

> The leader of the Soviet committee told me openly which of the necessary machinery for the application of the plan they would be able to provide us with and explained that we would have to try to obtain the remaining machinery from the West. [cited in Ilkin, 1979-80, p.272. Translation from Turkish.]

With the Soviet credit, Turkey decided to purchase textile factories from the Soviet Union.[11] Prior to the development of the textile sector, imports of cotton yarn and cotton fabrics comprised a large proportion of Turkey's import bill. In 1930, the country was dependent on imports for over 70 per cent of its cotton fabrics [Ilkin: 1979-80, Hershlag: 1968].

[11] A small hemp factory and a small power facility were also purchased with the Soviet credits.

The Soviet plants, built at at Kayseri and Nazilli, were successful in terms of import substitution. Moreover, according to Hershlag, the textile sector in general, and the Kayseri mill in particular 'excelled in important technical advances and the improvement of worker conditions' [1968, p.102].

The only other major loan received by Turkey prior to World War II, was $49 million from the British government in 1938 for the British firm, H. A. Brassert and Co., to construct an iron and steel mill to be located at Karabuk. According to Thornburg, et al. [1949], the British offered the loan largely as a reaction against Nazi Germany's growing influence in Turkey. There was a fear among many Western nations that Germany was trying to bring Turkey into its orbit.[12] According to Robertson, the British offer of credits came 'mainly as a political bribe, in view of the importance of the British fleet being able to use Turkish ports in the event of war' [1986, p.11].

The Soviet Union was not consulted on the Karabuk iron and steel mill. This was partially due to the policies of Minister of Economy, Celel Bayar. According to Turkish historians, Selim Ilkin and Ilhan Tekili [1982], Bayar, who was becoming less and less supportive of étatism, was largely responsible for closing the door to greater economic cooperation with the Soviet Union in the mid-1930s. The Soviet Union had offered to supply additional plants to Turkey, but these were vetoed by Bayar.[13]

Hershlag [1968] and Laqueur [1959] argue that another reason why the Soviet Union was no longer as involved in Turkish development was that relations between the two countries were beginning to deteriorate as a result of the 1936 Montreux Convention which set forward a new Straits regime. Similar to the Lausanne Conference settlement, the Montreux regime was unfavourable to Soviet interests.[14]

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12 According to Thornburg et al. [1949], one of the reasons why this failed was that Germany's intentions were to supply Turkey with manufactured goods in exchange for Turkish raw materials. Because Turkey wanted to become self-sufficient in manufacturers (not to mention its staunch nationalism) this arrangement was unsatisfactory.

13 Personal interview with Tekili, 2 June 1987. See also Ilkin [1979-80], and Ilkin and Tekili [1982].

14 At both Lausanne and Montreux, the Soviet government unsuccessfully argued that warships of non-Black Sea nations should be excluded or heavily restricted from the Black Sea. Unlike other international straits and canals, the Turkish straits lead nowhere - only to a dead end. Thus, according to the Soviet position, warships of nonriparian powers should not have free passage. At Montreux, as at Lausanne, the Soviet position clashed with those of Turkey and Great Britain. See Rubinstein [1982] for Soviet and Western positions through the Cold War period.

Laqueur [1959] cites an additional reason why relations between Turkey and the Soviets were strained. The Soviet Union, like the West, had serious misgivings about the increased German presence in Turkey and began voicing these in 1936. With the strengthening position of Bayar and other anti-statist politicians, the Soviet Union feared that Turkey was opening the door to fascist interests.

Relations between Turkey and the Soviet Union steadily worsened over the following decade. The problems that occurred and the controversy surrounding them are the subject of the next section.

The War Years: Fractured Relations

The foreign policy of Atatürk had been one of neutrality. He urged nations to work out their differences through international organisations and not through wars. His neutrality was, however, tested shortly before his death in 1938. It appeared Turkey would not be able to escape from the ensuing conflicts among the European powers. External aggression would force Atatürk and his successor, Ismet Inönü, to take a more active role in foreign affairs. Whereas social and economic reforms within the country had been the major issues in the 1920s and 1930s, foreign policy questions would take on equal importance in the 1940s.

During most of World War II, Turkey was able to maintain an official policy of neutrality. Early in the War, Inönü pleaded a lack of war materials as one of the reasons for not entering on the side of the Allies. At the same time, Turkey signed a Treaty of Friendship and Non-Aggression (June 1941) with the Germans which called for respect for the integrity of the other's boundaries. In May 1941, the government had assured the Germans that in the event of a German-Russian conflict, Turkey would be more than benevolently neutral towards Germany and that any quantity of German arms and troops could pass through the Straits [Robertson, 1986]. According to Robertson, Turkey went through an 'overtly pro-German' phase in 1941 and 1942, but as an Axis defeat became more evident, Turkey asserted herself in favour of the Allies.

> Although the Turks were still upholders of the Anglo-Turkish alliance, a number of concessions began to be made to the Axis which indicated which way the wind was blowing. The signing of a Turco-German Treaty of non-aggression caused the allies much concern that the Turks were about to change sides. But the Turks realised only too well the value of a reinsurance treaty with Germany. Turkey's view of her relations with both camps was inextricably tied up with military fortunes; and as the tide of war turned in favour of the allies the Turks became more accommodating in their interpretation of their obligations

to the alliance. [1986, p.265]

Turkey staunchly refused all Anglo-American and Soviet overtures to join the war. In 1943, she did, however, allow the Allies use of Turkish facilities. Nevertheless, even as late as June 1944, Turkey was allowing German warships through the Straits. This was in violation of the Montreux Convention and was strongly denounced by the allies. Turkey severed diplomatic and economic relations with Germany in August 1944, but only after the British and Americans agreed to grant a number of economic concessions, ostensibly to make up for the loss of trade with Germany [ibid.]. On 23 February 1945, Turkey declared war on Germany and Japan, a move which would allow her to join the United Nations. The following day, Turkey signed the UN Charter.

Turkey's neutrality during the War had negative repercussions on relations with the Soviet Union. At the Moscow Conference of American, British, and Soviet Foreign Ministers, held in October 1943, the Soviets pressed for an Anglo-American commitment to force Turkey into the War. The Soviets believed that Turkey's neutrality secured the safety of the Balkan flank for Hitler's armies and allowed the Germans to concentrate their forces on the Soviet-German front [Weisband: 1973]. By the time Turkey severed relations with Germany, Stalin was highly annoyed. It was not enough for Turkey to break relations, the Soviets wanted her full participation in the war effort. Stalin's position was clear: Turkey should either declare war on Germany or be left isolated by the allies. In reply to Churchill's insistence that Turkey's break with Germany was sufficient, Stalin stated:

> As regards any half-hearted steps by Turkey I do not at the moment see how it can benefit the Allies. In view of the evasive and vague attitude which the Turkish Government has assumed in relation to Germany, it is better to leave Turkey to herself and to refrain from any further pressure on her. This implies, of course, that the claims of Turkey, who has evaded fighting Germany, to special rights in postwar affairs be disregarded. [cited in Weisband: 1973, p.271]

Stalin's positive attitude regarding Turkey early in the War had been altered by Turkey's opportunistic relations with Germany and then, upon German defeat, with the allies. Relations had also suffered from Turkey's behaviour regarding the Straits. The British were sympathetic to the Soviet Union's disquiet over the Straits, with Churchill at one point suggesting that the Soviets make proposals for revision of the Montreux regime [Robertson, 1986].

<u>The End of Neutrality</u>

On 19 March 1925, mounting tensions between the Soviet Union and Turkey culminated in the Soviet Union's refusal to extend the 1925 Soviet-Turkish Treaty of Neutrality and Non-Aggression until a more up to date and comprehensive treaty could be agreed upon. In a diplomatic note presented to the Turkish Ambassador in Moscow, the Soviet government stated that the Treaty 'no longer corresponds to actual conditions nor for the changes brought about by the war and thus requires fundamental alterations' [cited in Weisband, p.305]. On 4 April, Turkey's reply to the Russian note, stressed the desire to maintain good neighborly relations and a willingness to replace the treaty with one that would be more appropriate [Robertson: 1986].

On 7 June, Turkey's worst fears concerning her northern neighbor were realized. Molotov, the Soviet Union's representative, had conversations with Selim Sarper, representative of the Turkish government in Moscow, in which several demands were allegedly made.[15] The Soviet Union wanted the cession of Kars and Ardahan, which Moscow claimed had been ceded to Turkey in 1921 under duress. A revision of the Montreux Convention was also demanded as well as Soviet bases on the Dardanelles and Bosphorus. In a further meeting, held on 18 June, Molotov told Sarper that the Soviet Union would only require bases in the Straits in the event of war [Robertson: 1986, Vali: 1981].

These demands were repeated at a series of meetings held 22-24 July 1945, at the Potsdam Conference. While the US and Great Britain remained sympathetic to a revision of the Montreux Convention, the other matters were left up to Turkey and the Soviet Union to determine [Robertson: 1986].

In 1946, the Soviet government again demanded that the Straits be placed under the protection of the Black Sea powers. This was viewed in Ankara as tantamount to having Soviet military bases in Turkish territory, even in times of peace. The demands made in 1945 and 1946 resulted in a crisis situation between the two governments, with Turkey refusing to give in to Stalin's desires.

In Turkey's view, Stalinist policies were no different than those of the tsars. The perceived intention was the destruction of independent Turkey. 'The Soviet demands

15 There is some controversy as to if demands were actually made at this meeting as the Turkish government has not made substantiating documents publicly available. According to Robertson [1986], the US State Department at the time believed that demands were not made and that discussions were exploratory in nature. The British believed that demands were made.

and the manner of their presentation', writes Vali, 'left no doubt on the Turkish mind that their aim was not only control of the straits but also submission of Turkey to satellite status' [1971, p.173]. Although some foreign policy analysts have claimed that the US and Turkey knowingly exaggerated the expansionist threat of the USSR for their own gains,[16] relations between the two countries, nonetheless, suffered a severe set-back.

Distrust of the Soviet government and strong anti-Russian feelings replaced the atmosphere of cooperation that had grown out of the fight for independence. Militant anti-Communism within Turkey was an outcome of the increased level of enmity. A further outcome was Turkey's formal alignment with the Western military camp. In 1951, Turkey joined the North Atlantic Treaty Organisation. (Full membership was granted in 1952.) The Turkish government asserted that there was no other choice; she had to join NATO as a measure to secure her independence from the 'Soviet menace'.[17]

Soviet attempts to end the state of bitterness began after Stalin's death in 1953. Under Malenkov, the new Soviet government sought to put a quick end to the confusion and extreme tension in relations between the two countries. The Soviet government issued the following statement on 30 May 1953:

> The Soviet government has recently engaged in questions of relations of the U.S.S.R. with neighbors, and among these turned its attention to the state of Soviet-Turkish relations. As is known in connection with the expiration of the Soviet-Turkish Treaty of 1925, the question of regulating Soviet-Turkish relations was touched upon in the official talks of representatives of both States some years ago.
>
> In these talks there figured certain territorial claims of the Armenian Republic and the Georgia Republic on Turkey, and also consideration of the Soviet government relative to removal of the possible threat to the security of the Black Sea Straits. This was accepted badly by the Government and public circles of Turkey, which could not but in certain degree be reflected on Soviet-Turkish relations. In the name of preserving good neighborly relations and strengthening peace and security, the Governments of Armenia and Georgia have found it possible to renounce their territorial claims on Turkey.
>
> Concerning the question of the Straits the Soviet Government has reconsidered its former opinion on this question and considers possible

16 See Kucuk, Y., 1979, *Türkiye Üzerine Tezler: 1908-1978, (Thesis on Turkey: 1908-1978)*, Teken Yavinevi, Ankara.

17 Not only did Turkey formally end her own neutrality during this period, but the conservative government of the 1950s, according to Erogul [1987], sought to influence other countries into joining the Western camp. At the Bandung Conference, held in 1955, in which 29 African and Asian countries participated, the Turkish representative, Fatin Rustu Zorlu, argued on behalf of Western interests.

> the provision of security of the U.S.S.R. from the side of the Straits on conditions acceptable alike to the U.S.S.R. and to Turkey. Thus the Soviet Government declares that the Soviet Union has not any kind of territorial claims on Turkey. [Folliot, ed.,: 1956, p.277-278]

Despite Soviet overtures, relations between the two countries remained cold for another decade.

Western Influence: the Post-War Years

Turkish industrial growth was seriously affected by World War II, and by the changes that had occurred between the Soviet Union and Turkey during and immediately after the War. Fearful of the Soviet threat, approximately half of Turkey's post-war budget was allocated to military expenditures [Singer: 1977]. With a large portion of the population living at subsistence and sub-subsistence levels, hopes were placed on foreign aid to supplement inadequate domestic resources.

With the influence and wealth of the British greatly diminished, Turkey turned to the United States for military and economic aid. As part of its anti-communist strategy, the US took over much of the financial burden of Turkish military expenditures and, after initial hesitation, included Turkey in the Marshall Plan Aid Programme.

An explicit requisite for Marshall aid was that Turkey change her economic policies. An emphasis on promoting private enterprise was a precondition. According to Singer, the US 'was not prepared to offer capital and technical assistance without seeking to re-create the recipient nation in pretty much its own image' [1977, p.55]. The US insisted that Turkey give priority to agriculture production, mineral extraction, and road construction. Special emphasis was placed on increased agricultural exports, as European countries' food production suffered greatly during the war [Krueger: 1974].

Recommendations to make the agricultural sector the priority also came from a number of influential evaluations undertaken in the late 1940s. The most widely noted was a report prepared by Thornburg, Spry and Soule [1949] to assist the US State Department with its decisions on aid to Turkey. Thornburg, et al. claimed that Turkey was not ready to produce sophisticated goods such as machinery and chemical fertilizers. Even the iron and steel plant which had been built with British assistance should, according to the 'Thornburg Report', be liquidated so that the country could focus on more practical needs. Another influential evaluation of the Turkish economy was produced by the International Bank for Reconstruction and Development (IBRD).

The IBRD team was less critical of industrialisation per se, although they believed that Turkey was not yet ready. 'We do not suggest that Turkey should abandon its goal of industrialisation. We suggest rather that the quickest path to that goal is increased emphasis on agricultural development' [IBRD: 1951, p.33].

The policy prescriptions adopted by the US government differed significantly from those of the Turkish planning authorities. Officials in post-War Turkey, in keeping with Atatürk's stress on industrialisation, intended to take the country beyond consumer goods production and into heavy industry. In general, the government that succeeded Atatürk favoured étatist policies.

With the end of the war in sight, planning commenced again in 1944. However, in keeping with Western views, the pro-industry goals of the 1944-1949 plan were altered in 1947. A new plan was designed to please the US government. One of the goals of this plan was the transfer of state enterprises to the private sector. A further goal was that 80 per cent of planned investment would be allocated, either directly or indirectly through infrastructure, to the agricultural sector [Singer:1977]. According to Gunce, the plan gave 'the impression that it was prepared as a prospectus to convince foreign aid-givers of the benefits of financing the country's "economic development through private enterprise". It conformed perfectly to the Turkish foreign policy of rapprochement with the capitalist West' [1967, p.25].

The revised plan was not implemented, but it served its purpose of influencing the US government to include Turkey in the Marshall Plan. By accepting, in principle, the US's conditions to concentrate on agriculture and to limit industry to the extraction of minerals, Turkey was provided with $183 million of initial Marshall aid (1948-1950).[18] This aid and Turkey's domestic resources were distributed according to American desires. Less than eight per cent went to manufacturing. The overwhelming majority went to infrastructure, particularly transportation, which was supposed to facilitate agricultural marketing and military security [Singer: 1977].

Marshall aid was an outstanding factor in Turkish development not only on account of its general economic impact but also because of its influence on Turkish economic ideas and policy. There was a fundamental change in the country's theoretical approach. According to Hale, Marshall aid 'acted as a significant boost to the Turkish economy, accounting for about half of the rise in imports, and some 40 per cent of the

[18] An additional $200 million of military aid was provided in the same period. This was undervalued according to US authorities. See Singer [1977, p.59].

rise in investment during this period - quite apart from its influence over the evolution of economic policy and, in particular, the revision, if not the abandonment, of étatist principles' [1981, p.75].

The Turkish Parliament had unanimously ratified the US treaty providing Marshall aid. In the same year, 1947, Turkey joined the International Bank for Reconstruction and Development, the International Monetary Fund, the Organisation for European Cooperation (a Marshall Plan affiliate, which later became the Organisation for Economic Cooperation and Development), and the European Council. According to Schick and Tonak, by agreeing to membership in these organisations:

> ... the Turkish state acquiesced to foreign intervention in domestic affairs. Under pressure from these organisations, the emphasis in government investment was shifted away from industry to agriculture and road construction, and Turkey agreed to cooperate with foreign governments in fighting any attempts to restrict free competition, control markets, or otherwise intervene in international trade. [1987, p.340]

In exchange, massive foreign loans were injected into the economy. The total value of foreign aid received from these organisations from 1946-1950 was $391 million. This was more than the total aid and credits received in the preceding 23 years of the Republic's history [ibid.].

A new era in Turkish foreign economic relations had begun. It would be one in which external assistance could influence domestic affairs and foreign debt would be a significant factor in economic affairs.

1950s: Changing Political Parties and National Objectives

The Republican People's Party (RPP) had enjoyed one party rule since the early days of the Republic. In 1950, it faced a major challenge from the conservative Democratic Party (DP) which was formed in 1946, under the leadership of Celal Bayar, who had held several prominent positions in the RPP governments, and Adnan Menderes, a large landowner. The basis of the DP was a rejection of a dirigiste approach. They believed in market incentives rather than state directives. With a platform which promised to abandon economic plans, seriously limit state enterprise, open the door to foreign investment, and provide greater credit to private enterprises and to agriculture, the Democrats were able to win the 1950 contest with a large majority.

The agricultural and minerals strategy promoted by the US and followed by the DP at the beginning of the 1950s was successful owing largely to favourable external conditions and to good weather. The Korean War boom stimulated the production and export of traditional export items and of a growing volume of metal ores. But Turkey experienced advantageous trading only as long as the Korean War lasted and as long as other countries were recovering from the World War. The end of the Korean War, European agricultural recovery, and Turkey's poor harvests in 1953 and 1954 combined to produce a sharp fall in exports [Hale: 1981]. Prosperity of the early 1950s gave way to chronic foreign exchange shortages, inflationary government spending, and a mounting international debt problem.

In response to these problems the government renewed import controls and exchange controls [Krueger: 1974]. With the reintroduction of restrictions on consumer goods imports, the private sector turned to import substitution. Protected by high tariffs and overvalued currency, and supported by foreign and domestic credit, private capital finally started investing in industry. Although the DP's programme declared that state owned factories would be sold-off, they actually doubled the number of state enterprises so that they could provide subsidized inputs to private sector industries [19] [Ansal: 1988]. Furthermore, the government was anxious to avoid a slowdown in growth so it used the state sector to make up for shortfalls. 'In effect, the pro-private enterprise commitment was abandoned, in the effort to maintain the appearance of increasing prosperity' [Hale: 1981, p.91].

The DP government not only invested in industry, it also invested heavily in agriculture. Finance for this investment came from expanding the money supply and from heavy foreign borrowing. By 1957, the total foreign debt had reached $1,011 million, or about three times the 1957 export earnings. Extreme concern was being expressed by Turkey's Western creditors. The US AID Mission in Ankara and the World Bank, both of which had been opposed to planning, went as far as suggesting that Turkey return to some degree of planned control over economic matters [Sonmez: 1967].

Turkey became the first country to overdraw its IMF quota, and the first to request an extension when payment became due. Total indebtedness exceeded 10 per cent of GNP. Aid had been reduced to a trickle, as all of Turkey's sources tied their aid to IMF approval, which was not forthcoming [Schick and Tonak: 1987]. In 1958, the

19 Ansal argues that the policies of the DPs actually support rather than contradict the need for a large state sector in countries that are late developers.

government could not come up with enough funds to service the debt. According to Krueger:

> These circumstances left the government no choices other than declaring international bankruptcy or accepting foreign credits and the conditions attached to them. At that point the government chose to borrow and accepted a Stabilization Programme as a condition for debt restructuring. [1974, p.21]

A dramatic devaluation was implemented, bank credits were frozen, price rationalization was imposed on state produced goods, and imports were reduced [Erogul: 1987]. According to Ansal [1988], the stabilization programme adopted by the government in 1958 placed the greatest burden on industry, while favouring agriculture by continuing to pay farmers high prices in spite of declining world prices. Industrial investments suffered heavily and new private industrial investments declined. It was only through the coup in 1960, which toppled the DP government, that a new era of industrial investment commenced.

The DP had not been able to stabilize Turkey's economy. Moreover, by the use of authoritarian methods, Menderes and his colleagues had antagonized the Republican opposition as well as most segments of their own Party's early supporters [Singer: 1977]. When, in April 1960, Menderes declared martial law to suppress his opposition, the army was faced with a choice between overthrowing him or acting on his behalf to crush the opposition. The Menderes government was overthrown on 21 May 1960. In September of the following year, Menderes and three of his closest associates, Foreign Minister Zorlu; Finance Minister Polatkin; and President Bayar, were given the death sentence. Bayar's sentence was commuted because of old age and his prominent position as one of the country's early leaders. A military government immediately followed the coup. In 1961, a new constitution was drawn up and approved by public referendum. A civilian government was formed.

The 1960's: A Return to Planning

The Democratic Party, during the 1950s, opposed any kind of economic planning. After Menderes' overthrow there was strong pressure to reverse this approach and to bring order into the development process. On 30 September, only four months after the coup, the Law establishing the State Planning Organisation (SPO) was promulgated. The new government and the constitution reinstated five year plans which the State Planning Organisation would be responsible for formulating. The SPO would draw up five year plans covering all aspects of economic development, together

with annual programmes and longer-term perspective plans covering a period of 15 years. State planning under the new constitution would encompass all the productive sectors of the economy, in contrast to earlier plans which were limited mainly to state sector industries [Torun: 1967, Sonmez: 1967].

As in the early days of the Republic, diversification of industry and the acquisition of modern technologies were considered essential to the development strategy. This was to be accomplished through import substitution, a strategy that, according to Krueger and Tuncer, 'academicians, planners, politicians, and bureaucrats all supported...' [1979, p.144].

State investments would be chosen on the basis of long-term development considerations, strategic considerations, and the fulfillment of gaps left by the private sector [Republic of Turkey: 1967]. It was envisaged in the early 1960s, that the state sector would consist primarily of infrastructure projects and intermediate goods industries such as iron and steel, petroleum products, aluminium, and other industries which, owing to long gestation periods and large capital requirements, the private sector could not or would not invest [Ansal: 1988]. As in the 1930s, there was the view among many government officials, that the private sector was generally conservative; either unwilling or unable to invest in manufacturing enterprises other than at low risk or the promise of fast and extremely high profits [Hale: 1981]. Incentive measures, it was argued, could not bring about the desired results. It was believed that many of the investments having the highest priority from the point of view of national development were precisely those that only become profitable in the long-run. Thus, government would have to step in [SPO: 1963].

Foreign Assistance: Western Donors

External assistance was needed to fill an expected trade gap, as planners were pessimistic that export revenues could cover import costs. They assumed that income and price elasticities for Turkish exports; mainly agricultural goods, were generally low [SPO: 1963]. At the same time, it was anticipated that imports, particularly for capital goods would increase even though the import substitution strategy would limit overall import growth. Import controls would restrict consumption goods and, in particular, luxury goods. With the objective of building up the industrial base, capital goods and raw materials necessary for domestic manufacturing activities would not be hindered. According to Okyar, 'the planners' hope was that new intermediate or capital goods industries set up through import-substitution would in time result in a volume and

pattern of home production, capable of meeting most of the needs of the Turkish economy, formerly covered by imports' [1976, p.25]. This would progressively reduce the foreign exchange gap and, consequently, the reliance on external finance.

The growth rate targeted for the first long-term planning period was set at 7 per cent per annum. This was to be achieved by investing approximately 18 per cent of GNP each year, 14 per cent of which would be financed from internal sources and 4 per cent from external sources [Bulutoglu: 1967]. It was estimated that for the first five year plan, $125 million would enter the country as private foreign capital, $290 million as PL480 food aid from the US, and $1,398 as foreign aid (1961 prices) [Cetin: 1967].

Foreign exchange requirements, it was envisaged during the preparation of the Plan, would be met by a consortium of aid donors. The idea of a consortium agreed to by the principal countries giving aid to Turkey. The US, in particular, supported the idea in hope that other countries would take a greater interest in sharing the aid burden. In July 1962, the consortium was formed. Members included Belgium, Canada, France, Germany, Italy, Luxembourg, the Netherlands, the UK, and the US. Denmark, Australia, Norway, Sweden, Switzerland, and the IBRD later joined.

According to Krueger and Tuncer, because of the magnitude of its credits, the consortium was able to exercise a certain amount of foreign influence on resource allocation. 'For one thing the Turkish priorities were always a subject of discussion at consortium meetings. More important, no less than 40 per cent of consortium credits were for projects where the creditors had a strong say on how their credits were to be used' [1979, p.142]. For example, the largest project credit in the first planning period, the Eregli Iron and Steel Mill, was planned as a public sector enterprise. Consortium members, however, would only provide funding if it was made a private sector project. Hershlag [1988], notes that consortium credits were also accompanied by conditions regarding Turkey's monetary policies.

There have been additional problems with respect to the consortium's contributions. Contrary to the intentions of the Turkish government, the consortium refused to finance the entire foreign component of the Plan or even to commit resources on the basis of five-year periods. Commitments were instead made on an annual basis, often in the second half of each planning year. Thus, planners had to draw up their programmes in a state of uncertainty about the amount of aid likely to be pledged. In the first years of planning, another frustration with the consortium's assistance was that not only were

the amounts committed less than those requested, but the funds actually disbursed were only 70 per cent of those promised. Furthermore, the consortium included the funds allocated by other multilateral institutions such as the IMF in their calculations of disbursements [Cetin: 1967]. Turkey was left with a considerable shortfall and with the necessity of finding other ways to supplement its foreign aid.

These economic problems as well as political tensions between the United States and Turkey, according to many observers, caused Turkey to seek other sources of foreign assistance in the 1960s. This is discussed in Part II.

Part II

Soviet-Turkish Rapprochement and Cooperation: the Modern Era

As already noted, relations with the Soviet Union had been severely strained in the 1940s and they remained cold during most of the 1950s, despite Soviet efforts to renew closer ties after Stalin's death in 1953. From 1953, the Soviet Union continuously offered assistance to Turkey. Menderes' government began to show some response to Soviet overtures in the latter half of the 1950s.

The first signs of a thaw came when the government encouraged the private Turkish Bottle and Glass Corporation to accept the Soviet Union's offer of economic and technical cooperation for a glass factory. The Turkish government had been offered credits, equipment for a full factory, and technical training of Turkish personnel. The government was hesitant to take-up the offer because relations between the two countries were unsettled. It, instead, preferred to have the private Bottle and Glass Corporation test the waters. An agreement was signed in April 1957 between this corporation and the Soviet government.

The Soviet Union, according to Aydin Yalcin, one of the Turkish negotiators of the glass factory assistance, enthusiastically jumped at any opportunity to improve its relations with Turkey.[20] With this in mind, according to Sehap Kocatopcu, head of the Bottle and Glass Corporation and one-time Minister of Industry and Technology, the Soviet Union appointed Rijvov as Soviet ambassador to Turkey. He had been in Turkey during the 1930s as a chief engineer erecting textile mills. Because of his earlier experience in Turkey, he was trusted and well respected in Turkish government circles. His appointment had, according to Kocatopcu, been considered as a sign of

[20] Personal interview with Yalcin, conducted 24 April 1987.

good faith on the part of the Soviet government.[21]

In April 1960, a month before the coup, Menderes announced that he would visit the Soviet Union in July and that he would host a return visit by Khrushchev at some future date. Four days after the May coup Moscow recognized the new military government and continued its offers of assistance [Rubinstein: 1982].

Until his own downfall in 1964, Khrushchev tried to improve relations with Turkey. According to Rubinstein, although Khrushchev acknowledged the Soviet government's desire for Turkish neutrality, it was not a condition for improving relations. He extended an olive branch, and expressed the desire that immediate steps be taken towards friendlier relations without waiting for all the major problems to be resolved. Withdrawing from NATO was not a precondition for Soviet assistance. In Khrushchev's estimation it had been Stalin's actions, after all, that had frightened Turkey into abandoning neutrality.[22]

The real breakthrough in Soviet-Turkish relations did not occur until 1967. Economic and technical cooperation was at the centre of reconciliation. The signing of a package agreement for six projects marked a new era of cooperation between the two countries. According to Prime Minister Demirel, the head of government at the time of the agreement, the decision to accept Soviet assistance was made on economic grounds; other countries would not provide the technology and credit. Western countries had been approached but flatly refused. Thus, the government turned to the Soviet Union, but this decision, according to Demirel, was not political. The problem facing the Turkish government in realizing its development plans was, Demirel argues, the inability of local capital to finance large-scale industrial projects. For national objectives to be met, credit had to be secured from external assistance. The Soviet Union was the only source available.[23]

Although the primary reason was economic in nature, there are political factors to consider. The change in relations between Turkey and her Western allies, the US in

21 Personal interview with Kocatopcu, conducted 15 May 1987.

22 According to Khrushchev's memoirs, Beria had goaded Stalin into seizing certain Turkish territories which had once belonged to Georgia. He led Stalin to believe that due to Turkey's weakness from World War II, the time was right. According to Khrushchev, 'the whole thing backfired. Beria didn't foresee that Turkey would respond to our demand by accepting American support. So Beria and Stalin succeeded only in frightening the Turks right into the open arms of the Americans. Because of Stalin's note to the Turkish government, the Americans were able to penetrate Turkey and set up bases right next to our borders.' [Khrushchev: 1974, p 296].

23 Personal interview with Demirel, conducted 26 May 1987.

particular, did shift Turkey's approach to the Soviet Union. Two events occurring in the early 1960s stand out. First, the aftermath of the Cuban missile crisis, and second, the US reaction to potential Turkish intervention in Cyprus.

The Cuban missile crisis in October 1962, is cited by Rubinstein [1982] as a turning point in Soviet-Turkish relations. Turkish faith in the US and NATO was shattered by what appeared to be Washington trading-off Turkish interests for the dismantling of Soviet missile sites in Cuba. Three months after the removal of Soviet missile sites, the US had its Jupiter missiles removed from Turkey. During the October crisis, Khrushchev had requested that they be removed in exchange for Soviet missiles in Cuba. Kennedy had refused but Washington's announcement only a few months later was viewed in Ankara as a sign of the US's lack of interest in Turkish security. The US had not even consulted Turkey on the decision. This added to Ankara's hostile reaction.

In 1964, a second major crisis occurred within the alliance. This time it was over Cyprus which was in the midst of communal violence between the Greek and Turkish populations. The Turkish government threatened military intervention on the island. It believed this was fully justified under the terms of the 1960 treaty which had established the Republic of Cyprus. In June 1964, President Lyndon Johnson sent a letter to the Turkish government in an attempt to discourage Turkish intervention. In the letter, he stated:

> I must call to your attention... the obligations of NATO. There can be no question in your mind that a Turkish intervention in Cyprus would lead to a military engagement between Turkish and Greek forces... Furthermore, a military intervention in Cyprus could lead to a direct involvement by the Soviet Union. I hope you will understand that your NATO allies have not had a chance to consider whether they have an obligation to protect Turkey against the Soviet Union if Turkey takes a step which results in Soviet intervention without the full consent and understanding of its NATO allies. [cited in Rubinstein, 1982, p.20]

The US attitude as expressed by the Johnson letter sent shock waves throughout Ankara. Turkey was in a position in which her foremost ally was trying to prevent her from intervening in Cyprus to halt the killing of fellow Turks, as provided by international treaty. Not only that, Turkey was informed that she could not expect to be protected against any possible Soviet threat [Erogul: 1987].

Because the Western alliance could not be counted on, the Turkish leadership accepted the need to explore other foreign policy options, one of which was improved

relations with the Soviet Union. According to Eren, 'President Johnson's letter removed what had remained of Turkish inhibitions about undertaking rapprochement with her Soviet neighbor.... Turkey no longer found her commitments to NATO incompatible with the development of friendly relations with the Soviet Union' [1977, p.17]. Suleyman Demirel, who was to become Prime Minister in the following year, saw the Johnson letter as a 'lesson to Turkey' and a sign that Turkey could 'expect trouble from the US and the West.'[24]

In October 1964, Turkish Foreign Minister Feriden Erkin visited the USSR. The avowed purpose of this visit was to end Turkey's one-sided role in the Cold War which had become out-dated as other members of the Western alliance were establishing links with the Soviet Union [Vali: 1971]. The Foreign Minister's visit initiated a series of official exchanges. In August 1965, Turkish Prime Minister Urguplu became the first prime minister since 1932 to visit the Soviet Union. He returned with a Soviet offer of credit and technical assistance to construct a number of industrial projects. In October of the same year, before a decision could be made whether to accept the latest Soviet offers, Urguplu was unseated as Prime Minister. In elections held in October, the Justice Party (the successor of the conservative Democratic Party which had been dissolved after the coup), headed by Suleyman Demirel, came to power. The Justice Party was known for its more conservative and pro-NATO elements. This, however, did not alter the Soviet Union's offers to assist Turkey.

For more than a year after Demirel came to power, the exchange of leaders was discontinued because of hesitation by the Turkish government. In December 1966, the exchange was renewed. Soviet Premier Alexi Kosygin visited Ankara. In the following year Prime Minister Demirel and a group of Parliamentarians returned the visit. Talks on both occasions, according to Vali, focused on the less political area of industrial development. According to Aydin Yalcin, one of the more conservative members of Parliament who accompanied Demirel, the Soviet Union did not push Turkey on any issue. It appeared that he USSR's main purpose was to build confidence. The Soviets again expressed their interest in improving relations and in doing so by extending credits to build factories in Turkey.[25]

Upon Demirel's return to Turkey, he announced that hostilities between the two countries had been eliminated. He also began to express an opinion that had been expressed by the Soviet Union almost a decade earlier; Turkey's membership in NATO

24 Personal interview with Demirel, 26 May 1987.

25 Personal interview with Yalcin, 24 April 1987

does not prevent friendlier relations with the Soviet Union. It was 26 March 1967, that these views were officially put into action. The Soviet Union and Turkey signed an economic and technical cooperation agreement. It was the first formal agreement between the countries since the 1925 Treaty of Neutrality and Non-Aggression was allowed to lapse in 1945.

The 1967 agreement consisted of credit, equipment, expertise, personnel training, and know-how for six projects: an iron and steel mill to be built at Iskenderun, a petroleum refinery which would be built at Aliaga, an aluminium works at Seydisehir, a sulphuric acid plan at Bandirma, a fibre board factory at Artvin, and electricity transmission lines connecting Seydisehir and Seyitomer. By international standards prevailing at the time, price and credit terms were generous. Furthermore, repayment, it was agreed, would be in goods decided upon jointly by both countries. Turkey, could pay back the debt with surplus goods rather than with scarce foreign exchange.

As previously mentioned, the agreement was, according to Demirel, signed for economic reasons and not for political ones. He had submitted each of the projects to Western sources for funding but they had not been forthcoming [see Chapter 5]. The projects were important for fulfilling the development plan. Credit and repayment terms were highly favourable. And, as long as cooperation would not entail interference in Turkey's internal affairs, Turkey could accept the Soviet offers. According to Demirel, the Soviet Union never attempted to interfere in domestic matters. 'I would have stopped cooperation if they had.' Relations in his opinion were those of 'a good neighbor'. Moreover, Demirel asserts that if he had remained in power, he would have continued large-scale economic and technical cooperation with the Soviet Union.[26]

Since the signing of the 1967 package of agreements, economic and technical cooperation between Turkey and the Soviet Union has occurred on a project-by-project basis. In 1976, a Joint Intergovernmental Soviet-Turkish Commission on Economic Cooperation was set up. It has met annually to discuss new projects and trade opportunities. In 1984, the Long Term Programme for the Development of Economic, Trade, Scientific and Technical Cooperation was signed. It initially covers a period of ten years. A five year trade agreement (1986-1990) has also been signed.

Despite regular meetings between the two countries, since the 1967 package Soviet economic and technical cooperation has not been heavily utilized by Turkey. In

26 Personal interview with Demirel, 26 May 1987.

addition to those projects already mentioned, as Table 4.1 shows, it has consisted of the following: major expansions of the Iskenderun iron and steel mill and the Aliaga refinery, a hydrogen peroxide plant at Bandirma, a sodium bichromate plant at Mersin and a power station at Orhaneli.

Table 4.1 Major Soviet Project Credits

Date	Project	Industry	Sector	($m)	Maturity	Grace	Interest	Repay
1957	Cayirova	Glass	Private	±16	6.5 yr	12 mo.	2.5	Goods
1967	Iskenderun	Iron and Steel	Public	97.6	15 yr	12 mo.	2.5	Goods
1967	Seydisehir	Aluminium	Public	76.6	15 yr	12 mo.	2.5	Goods
1967	Aliaga	Refinery	Public	29.6	15 yr	12 mo.	2.5	Goods
1967	Bandirma	Sulph. Acid	Public	2.9	15 yr	12 mo.	2.5	Goods
1967	Artvin	Fibre Board	Public	3.6	15 yr	12 mo.	2.5	Goods
1967	Seyitomer	Power Lines	Public	4.2	15 yr	12 mo.	2.5	Goods
69-76	Iskenderun	Iron and Steel	Public	326.7	5-12 yr.	12 mo.	2.5	Goods
1977	Bandirma	Hydrog.Perox	Public	17.3	-	81 mo.	5.5	Currency
1979	Iskenderun	Iron and Steel	Public	9.6	-	21 mo.	5.5	Currency
1978	Mersin	Sodium Bich	Private	13.9	6 yr.	24 mo.	5	Currency
1979	Orhaneli	Power Plant	Public	53	10 yr	12 mo.	3	Goods
1980	Aliaga	Refinery	Public	53	8 yr.	36 mo.	6	Currency
1980	Iskenderun	Iron and Steel	Public	3.2	-	32 mo.	6	Currency

Sources: Compiled from interviews at the Central Bank Agreements Department, the Bottle and Glass Corporation, and the Underssecretariat of Treasury and Foreign Trade

In the late 1970s, due to political turmoil within Turkey, there was little concern for new Soviet assisted development projects. Although Soviet-Turkish relations continued to improve, owing in part to Soviet support of Turkey in the 1974 renewal of conflict on Cyprus, many of the projects discussed by the Demirel and Ecevit governments with the Soviet Union were delayed indefinitely because of domestic conflicts [Rubinstein: 1982] and, later, because of changes in the country's economic priorities and institutional arrangements under the Ozal government in the 1980s. These problems are discussed in the following sections.

1970s: Political Instability and Economic Decline

With greater democracy arising from the 196l constitution, there was greater

political participation among the working class. Workers had been given the right to form unions, to engage in collective bargaining and to go on strike. From 1963 onwards, there were widespread strikes for higher real wages and for the continued right to join democratic unions [Isikli: 1987, Ramazanoglu: 1985]. Additionally, student unrest had heightened in the late 1960s. Conservatives grew increasingly alarmed about 'Marxist influence' among students as the major student organisations began to lend their support to workers' movements [Berberoglu: 1982].

The inability of the Demirel government to maintain political and economic stability during this period led to its ejection, in 1971, by the military which was concerned about what appeared to be an impending economic and political collapse. A more étatist and leftward leaning government replaced the Demirel government but it was unable to press through promised reforms in the two years it held power. Elections held in 1973 paved the way for new conservative parties. The National Salvation Party (NSP), which combined Islamic traditionalism with an emphasis on the protection of small businesses, took only 12 per cent of the vote but it held the balance of power since its support was necessary to form a workable coalition. The NSP joined forces with the more progressive Republican Peoples Party under the leadership of Bulent Ecevit. This unlikely alignment lasted for seven months in 1974.

The country was ruled for the next two years by a coalition of conservative parties that Demirel had united in a 'National Front' to regain power from the RPP. The economy floundered as foreign debts mounted and as the trade deficit grew. Foreign policy was in a crisis state, with increased hostilities in Cyprus and a US arms embargo. Domestically, the country was also reaching a state of chaos which was in large part due to the very conservative policies of the Nationalist Action Party (NAP) which had gained control of the schools and Universities. Violence, particularly among students, went virtually unchecked, with NAP supporters rooting out 'traitors and communists'. Violence also escalated in State Economic Enterprises (SEEs). Factories, such as the Iskenderun iron and steel mill, that had been used by politicians to employ their more militant supporters, required the army's presence to keep the peace among workers installed by left-wing and right-wing politicians. In 1978, Ecevit returned to power. His premiership alternated with that of Demirel over the next two years. Political stability eluded both and violence escalated. Over 5,000 people were killed in violent clashes - riots, assassinations, and massacres - in the three years prior to the 1980 coup.

Because the major parties in Parliament, the DP and RPP, were unable to cooperate

on almost any issue during this time, Parliament was paralyzed when it came to enacting legislation. Planning effectively ended with the Third Five Year Plan (1973-77). While the industrial growth rate remained high in the early 1970s, it began falling steadily after 1976. A negative industrial growth rate of 5.6 per cent was recorded in 1979 when the country was at the height of its crisis. In the same year, GNP growth fell to -0.4 per cent, following 4 per cent and 3 per cent growth in 1977 and 1978, respectively, and an average of slightly under 7 per cent between 1963 and 1977 [SPO: 1987, Keyder: 1987].

The high cost of oil since 1974 added to the economic strains caused by internal problems. Turkey was affected directly through higher prices for oil and indirectly through recession in Western Europe, which resulted in unemployment and a decline in workers' remittances. Moreover, the maintenance of a large military presence on Cyprus after the 1974 invasion and the resulting arms embargo by the US further depleted the Treasury. As the Treasury's net cash deficit rose from Turkish Lira (TL) 11.5 million at the end of fiscal 1972 to TL 121.7 million in 1980, planned state sector investments fell sharply behind the targets set [Economist Intelligence Unit: 1981].

Adding to the difficulties facing the country, there was growing pressure in the late 1970s from Western creditors to accept an austerity package. The IMF was urging Turkey to lower wages, increase taxes, devalue the lira, and give priority to the export sector. Because neither Ecevit or Demirel were willing to do this, the IMF refused to grant urgently needed loans in 1978 and 1979 [Ramazanoglu: 1985, Hale: 198l].

1980s: Liberalisation

In September 1980, the military took over, pointing to the vacuum of power in the country and the urgent need to halt the chaos which had erupted. They declared martial law and top commanders took over legislative functions. Responsibility for the country's economic life was left in the hands of Turgut Ozal, Demirel's economic affairs advisor. He was made Deputy Prime Minister and, in elections held in 1983, he became Prime Minister. Ozal would lead the country down a liberalisation path, largely in conjunction with the IMF. At the time of the coup, he had inherited a $15 billion debt, making Turkey one of the world's major debtor countries.

During the Ecevit and Demirel years, the prescriptions of the IMF were resisted whenever possible. Ozal, acting as head of the State Planning Organisation, announced

in January 1980, that an IMF package would be followed.[27] In a drastic break with the import substitution strategies of the past, the policies announced in 1980 and subsequent policies under Ozal's leadership have set the agenda for a more outward-looking liberal economy. Among the early measures taken by Ozal were: 1.) the maintenance of realistic exchange rates, 2.) encouragement of foreign investment, 3.) decreases in subsidies on state sector goods, 4.) tight control over the money supply and credit, and 5.) export promotion.

The immediate effect of these measures was to sharply reduce consumers' purchasing power. It was hoped that with a shrinking internal market and with generous export incentives, producers would turn to foreign markets which, in turn, would lead to increased exports and a lower balance of payments deficit.

Ozal's economic policies have increasingly emphasised private sector involvement. This, coupled with attempts to cut government spending deficits, has had a major impact on state sector projects. Not only is the government reviewing privatisation schemes,[28] it has also stopped new state sector investments in projects other than those which it considers absolutely necessary. To bring in more private foreign investment for infrastructure projects such as power plants, the Ozal government has devised a new scheme: Build-Operate-Transfer (BOT). BOT, or the 'Ozal Model' as it is sometimes called, requires a foreign consortium to build and operate a project as a joint venture with a local partner, most likely a government agency. The foreign investors are paid-off by the revenue generated by the project. At the time the specified repayment is reached, the foreign partner hands over ownership to the Turkish partner.

As discussed in the next section, the BOT scheme and several other changes made under Ozal's administration have had significant impacts on Soviet economic and technical cooperation. Political repercussions arising from Turkey's domestic political situation are also discussed.

Soviet Gains and Losses During the 1970s and 1980s

During the turbulence of the 1970s, Soviet-Turkish relations benefitted because of problems between Turkey and the US over the 1974 Turkish intervention in Cyprus and between Turkey and the European Common Market, also over Cyprus and the

27 At this time, even though Demirel was ostensibly in power, the army was given a free hand in helping to maintain economic and political stability. It was through there influence that the government accepted the IMF package. See Ramazanoglu [1985, p.91].

28 Major among these is the Morgan Bank's ' Privatization Master Plan' [1986], which has been carried out for the State Planning Organisation.

EEC's favourable treatment of Greece. At the same time, Soviet-Turkish relations suffered because of conditions internal to Turkey. The conservative coalition governments were anti-Soviet, even if their leader, Suleyman Demirel, was willing to build closer ties. Some of the right wing factions were blaming domestic violence on Soviet supported subversive activities, not helping the popularity of the USSR. Thus, the government was cautious in its dealings with the Soviet Union, despite persistent overtures by the Soviet Union for improvements in relations.

At the beginning of the 1970s the Soviet Union expressed its desire to renew the 1925 Friendship and Non-Aggression Treaty. Although the two countries agreed to sign a 'Declaration on Good-Neighborly Relations' in 1972, renewing the non-aggression pact met with a cold response from Ankara. When Soviet President Podgorny visited Turkey in 1972, amid the country's domestic political strife and a renewed anti-communist campaign by the right, Turkish officials expressed the view that Soviet proposals for closer ties were untimely. In 1975, Demirel's staunchly anti-communist coalition once again gave the cold shoulder to a treaty. Demirel did, however, agree to the preparation of a 'political document' on friendly relations and cooperation. It took a further three years for Turkey to actually sign such a document.

On 23 June 1978, Prime Minister Ecevit signed the Political Document on the Principle of Good-Neighborly and Friendly Cooperation.[29] This agreement pledged that the two neighbors would have no aggressive intentions and that they would respect one anothers independence, territory, regimes and way of life. It added little to the 1972 agreement. Ecevit asserted that the document would not lead to a deterioration in Turkey's commitment to NATO, and that it essentially reiterated the principles contained in the Final Act adopted at Helsinki [Financial Times: 24 June 1978].

Notwithstanding Turkey's coldness towards a non-aggression agreement, the Soviet Union continued with its offers of credits and technical assistance [Rubinstein: 1982, Roberts: 1977]. Offers of economic and technical cooperation neither gained the Soviet Union specific policy objectives, such as a non-aggression treaty, nor was cooperation contingent upon these policy objectives. In other words, assistance was not tied to political gains. At no time was assistance abandoned owing to Turkey's obstinacy regarding Soviet desires in the political field. Nor was assistance linked to changes in Turkey's leadership. Negotiations started under Ecevit would continue unaltered under the more conservative government of Demirel, and vice versa.

[29] The Document had been prepared by the Demirel government in the last weeks it was in power.

Soviet Cooperation: Changing Terms and Forms

In this final section, Soviet economic and technical cooperation with Turkey in the late 1970s and early 1980s is discussed. At the behest of the Turkish government some major changes have taken place, not all of which have been advantageous. Along with these changes, new forms of cooperation are also discussed.[30]

With numerous changes in the Turkish government in the 1960s, 1970s and 1980s, the Soviet position remained consistent; they would provide the technologies of the Turkish government's choice and they would do so on favourable terms including repayment in the form of Turkish goods. While, as shown in Table 4.1, interest rates for Soviet cooperation increased in the 1970s, this was not, according to Turkish negotiators, due to a hardening of terms on the part of the Soviet Union. It was instead due to changes in repayment terms.[31] For the earlier projects, payments were fixed according to the gold standard. For the later projects, repayment has been fixed to a basket of currencies which is considered to be a higher risk to the Soviet Union.[32] (For example, according to the Aliaga refinery's general manager, the refinery expansion has been paid back at approximately 25 per cent less in real terms owing to the basket of currencies specified in the agreement.) According to Ministry of Treasury and Foreign Trade credit experts, Soviet interest rates have remained below those offered by Western countries and IBRD in the 1970s and 1980s. It should also be noted that since the early 1970s the trend in Soviet economic and technical cooperation agreements with non-CMEA developing countries has been towards more 'commercial' interest rates, ranging from 4-6 per cent [McMillan: 1979, Steele, 1983].

The largest change in the terms of Soviet economic and technical cooperation agreements - one that seemingly does harm Turkish interests - has come at the behest of the Turkish government. In a further attempt to liberalise the economy, the government has introduced the 'invisible hand' into transactions concerning the Soviet Union. Cooperation credits and trade were, prior to 1983, conducted on a barter basis ('special accounts' in the case of cooperation, and 'clearing agreements' in the case of trade).

30 Most of the material presented in this section comes from interviews conducted between March and July 1987.

31 According to data available from other countries receiving Soviet economic and technical cooperation, figures of 3 to 6 per cent interest are not out of line. For example, see Bach [1987], and for the case of Nicaragua, see Berrios [1988]. In the latter case, concessionary credit between 1979-1983 required 2.5 to 5 per cent interest.

32 While repayment is in goods (until 1983), it is based on monetary values rather than on specific quantities of goods. Thus, for example, $50 million worth of Soviet equipment, for example, will be paid back in x number of years with $50 million plus interest worth of oranges.

According to the governments of the 1930s, 1960s, and 1970s, this arrangement had been highly beneficial to Turkey. Surplus agricultural and other goods could be used as repayment to the Soviet Union, and thus scarce foreign exchange could be saved for other purposes.[33]

Against the advice of several top advisors at the Ministry of Treasury and Foreign Trade and the Central Bank, the special accounts and clearing arrangements were altered in January 1983.[34] The reasons for disagreement within the government revolved around three main issues. First, repayment in goods saves foreign exchange. Second, special accounts and clearing help in planning the level of trade. Third, it was feared that trade in some goods, particularly agricultural produce, would decrease as a result of the new policy.

With regard to the third issue mentioned above, a top expert on Soviet trade at the Turkish Ministry of Treasury and Foreign Trade maintains that Turkish agricultural exporters often sent the Soviet Union poor quality goods. 'They dumped trash to the Soviet Union. They dumped junk and charged normal prices. Our firms were private and just wanted an easy profit. On the Soviet side, they were government agencies and had to be fair and honest and professional.' For example, according to this official, the Soviet Union would be sent oranges that were poorly packaged or not up to high enough standards to sell domestically or export to Europe. Now that the Soviet Union must use its own foreign exchange for these goods it is more likely to purchase them elsewhere, or go without them altogether. This problem has shown up in Turkish export figures, according to Mahir Barutcu, the Assistant Secretary of Treasury and Foreign Trade. Because of decreases in certain exports, the government is now considering a return to the previous system of 'special accounts', i.e. repayment in goods.[35]

Another system of repayment, referred to as 'compensation', has been proposed by

33 According to a former head of the State Planning Organisation's Economic Department, the Ozal government did not want to appear that it was short of foreign exchange and, thereby, in need of barter arrangements.

34 Resmi Gazete, (Official Gazette) 11 August 1982, 'Protocol between the Government of the Republic of Turkey and the Government of the Union of the Soviet Socialist Republics on the Transition in Payments to Freely Convertible Currency', p.4-5., official English translation. Exceptions concerning cooperation agreements are also specified, p.6-7. Agreements prior to 1979, it was decided, would continue to be paid off in goods. A 1979 and a 1981 agreement were left for further discussion. According to Central Bank officials, for these two agreements it was later decided that repayment scheduled to begin after January 1983 would be in convertible currency.

35 Personal interview with Barutcu, conducted 3 June 1987.

the Soviet Union and it is also under consideration by the Turkish government. With this form of repayment, the Soviet Union provides economic and technical assistance to build a facility and is then paid off with factory's output. For example, a watch factory is built in Turkey by the Soviet Union with a $6 million credit. Each year after production begins, the Soviet Union would receive $500,000 worth of watches until the credit amount is settled. Compensation projects under discussion in 1987 were a shoe factory, a battery factory and a soya bean processing factory. These would be in the form of agreements with the private sector. According to Barutcu, these projects, as well as any projects in the public sector, would have to financially stand on their own feet as state subsidies and import substitution oriented protectionist policies are giving way to an open economy.

Barutcu, who also serves as Head of the Technical Delegation of the Joint Soviet-Turkish Intergovernmental Commission, asserts that although it appears that Soviet-Turkish cooperation has decreased in the 1980s, relations are actually very sound and the Ozal government wants to increase economic ties with the Soviet Union. These, however, will have to fit into Turkey's new development plans, for instance, the Build-Operate-Transfer scheme. This form of joint venture will require changes in the way in which the Soviet Union cooperates with Turkey.

Some changes are already underway, as witnessed in a major trade deal, signed in 1984, involving Soviet supplies of natural gas to Turkey. Turkey agreed to purchase over 105 billion cubic meters natural gas from the Soviet Union from 1987 to 2011. In this extraordinary agreement one of the forms of Turkish repayment, which was negotiated in 1986, involves sending teams from Turkey's leading construction firms to the Soviet Union to build facilities such as shopping centres and hotels. The Turkish companies, which jointly call themselves 'Mir' for their work in the Soviet Union, hope that upon successful completion of the original projects, they will be asked to build harbour facilities and other large-scale projects in the Soviet Union. It is the first time that Turkish experts will work inside the USSR.

As previously mentioned, the government is considering the possibility of returning to special accounts. It has also, in practice, returned to a form of clearing for the natural gas deal referred to above. This project, the largest ever conducted between the two countries, will be repaid in goods and services. Because the burden of repayment in foreign exchange would be so great, the Soviet Union agreed - at Turkey's request, to a special arrangement in which it will take goods equivalent to 65-70 per cent of the value of total repayments. Through the course of subsequent negotiations, the two

countries have agreed to increase this to 100 per cent of the value. The goods and services that will be imported by the Soviet Union are to be in addition to normal imports.

The natural gas deal is indicative of the Turkish government's renewed faith in Soviet-Turkish relations. Because Soviet technicians working on cooperation projects have not tried to influence political affairs in Turkey and because cooperation and trade agreements have not been tied to specific policy objectives, little in the way of political motives are currently being ascribed to Soviet offers in economic related fields. Some representatives of Turkey's extreme right are more sceptical of the natural gas deal and Soviet motives in general. They argue that the government should not have agreed to the deal because it will cause a dependency on Soviet supplies and give the Soviet Union the ability to blackmail the government. This has been dismissed by officials involved with Soviet economic affairs. The dominant opinion emerging from interviews with officials from the State Planning Organisation and from various Ministries is that the Soviet Union conducts its economic and technical cooperation, and trade related matters on a 'professional' basis, separate from and seemingly unrelated to the world of politics.

Relations at the present time, it appears, are being viewed as pragmatic for both countries: it is in the best interest of each country to expand trade. For the Soviet Union, this may be dependent on being able to pay for Turkish products with its own goods: economic and technical cooperation projects, or natural gas, rather than with foreign exchange. For Turkey, trade expansion is part of the overall export led growth strategy adopted in the early 1980s. Furthermore, according to Barutcu, with growing protectionism in the US, with questions regarding Turkey's application for full EEC membership, and with expected increases in Soviet consumer demand, the USSR's domestic market is potentially a major export outlet. The Soviet Union, it is hoped, will increasingly desire the goods and services that Turkey has to offer.

Conclusion

The purpose of this chapter has been to set-out Turkish development goals, to review Soviet-Turkish relations, and to discuss the influence of the Soviet Union and other foreign powers on Turkish development objectives.

The role of the Soviet Union in Turkey's early development was most important when the newly independent country found itself struggling against foreign threats and

when it needed capital and expertise for national industries. Although the revolution in Turkey was not socialist in nature, it was considered progressive and thereby deserving of the Soviet government's support.

As relations with the West became established, Turkey turned away from the Soviet Union. Relations between the two countries reached their lowest point in the 1940s due to Turkey's relations with Germany during the first half of World War II and due to Soviet demands on Turkish territory directly after the War. Relations returned to the animosity of the Tsarist period. After Stalin's death, the Soviet Union tried to improve relations.

With the critical exception of the post-war excesses, brought about in part by Turkey's courtship with Germany, the Soviet Union has respected the political and territorial sovereignty of its Turkish neighbor. Soviet policies have concentrated on confidence building, not intimidation and not expansion. The one time the Soviet Union tried to exercise authority, under Stalin, she failed miserably. The end result was Turkey's alignment with the West and membership in NATO. Thus, the threat that the Soviet Union had feared most: an adversary on her border, became a reality.

The Soviet Union has paid dearly for Stalin's attempted encroachment and, it would appear, has learned a valuable lesson. It appears that the course of Soviet policy since this time has been directed at a return to friendly relations. Due to Turkey's need for industrial technologies and credit that could not be obtained from the West and, possibly due to a degree of estrangement from the West in the 1960s and 1970s, Soviet-Turkish relations have improved.

In the 1980s, because of changes in the ways in which development projects are financed, there has thus far been less of an opportunity for the Soviet Union to assist Turkey in terms of economic and technical cooperation. The gains made in Soviet-Turkish relations have been mainly in the area of trade agreements. These have constituted a step forward, particularly because several of the agreements are long-term pacts. They also indicate a basic level of trust that relations between the two countries can be conducted on the basis of mutual advantage and without political interference.

Chapter Five

Why Technology is Chosen from the Soviet Union or the West

The main focus of this chapter is **why** technology is secured from one country or firm and not another. **Why** is a specific supplier chosen? This question was posed within factories, within corporate headquarters and within government offices in Turkey. I wanted to know what was important from the perspective of the people responsible for the acquisition of technology. Are decisions based on financial factors such as cost, credit and repayment conditions? Are they based on technological factors such as quality of machinery and processes, transfer of technological documentation and personnel training? Are they based on business practice restrictions such as export prohibitions, patents and royalties? Are decisions based on political factors such as ideology, military alliance and level of diplomatic ties? Are there additional factors?

Rather than examining these factors separately, they are discussed on a case by case basis using the field data gathered in Turkey. Thus, for each of the Soviet and Western assisted factories visited, I relate the reasons for choosing the technology supplier as told to me by factory personnel, government officials and government or private negotiators. Interviews with members of the academic community and reports by government bodies and outside consultants are also included.[1] In addition to presenting data on factories which were visited, information is also included on factories that interview respondents thought were important for me to know about.

Simultaneous to presenting fieldwork findings regarding why Soviet or Western assistance is chosen, the opportunity is taken in this chapter to provide an initial introduction to factories visited. In Chapter 6, which the primary objective is to assess the quality of technical assistance, factories are described in far greater detail.

The structure of this chapter is as follows. In Part I, Soviet assisted factories are discussed in chronological order of contractual agreement. This begins with the 1957 agreement to build a glass factory, proceeds to the 1967 package of agreements, and then more recent agreements; and modifications; and expansions of factories built previously with Soviet assistance are discussed. In part II, Western assisted factories are discussed. As the Soviet Union rather than the West is the main focus of this

1 Information in this chapter is based almost exclusively on personal interviews held from March to July 1987.

research, this chapter contains less detail about Western factories. Western factories were visited largely as a reference point for comparison. There is unavoidable overlap between parts I and II because some of the Soviet assisted projects also contain substantial Western assisted facilities. The conclusion pulls together the main findings.

PART I

Soviet Assisted Projects: Re-establishing Development Cooperation

In the preceding chapter, the evolution of Turkish economic development and, in broad terms, the role of the Soviet Union and Western nations were reviewed. As explained, a new era of Soviet cooperation with Turkey began in 1967 when an economic package consisting of assistance to six industries was agreed upon. This industrial cooperation was, however, predated by a 1957 agreement between the Soviet Union and a private Turkish corporation to build a glass factory in Turkey. Why this corporation decided to seek technical assistance from the Soviet Union is the subject of the following section.

The Glass Industry

The Bottle and Glass Corporation, *Sise ve Cam Fabrikalari A.S.*,had been trying to attain flat glass production technology since the late 1940s. According to Sahap Kocatopcu, President of the Bottle and Glass Corporation at the time and later Minister of Industry, each of the Western flat glass patent holders and producers refused to sell their technology to Turkey. Their excuses were always the same: Turkey did not have the capability to use the technology and the Turkish domestic market was too small for optimum scale production. The implication was that Turkey should rely on imports. According to Kocatopcu, what Turkey was really facing was a cartel made up of a few very large producers, such as Pilkington Brothers -UK and Glaverbel -Belgium, trying to maintain their market dominance.

In 1957, when newly appointed Soviet Ambassador Rijvov offered industrial assistance, the Turkish government thought this might be a way for the Bottle and Glass Corporation to solve its problems. At the same time, domestic production could eliminate the country's shortage of flat glass which was mainly caused by the booming construction industry and by Turkey's new automobile industry. While the country's economic growth was increasing glass demand, technology acquisition problems and

balance of payments problems resulting in strict import quotas on glass left Turkey with a mounting shortage [Union of Chamber of Commerce, Industry and Commodity Exchanges: 1958].

Cooperation between the private sector Bottle and Glass Company and the Soviet Union was encouraged by the Turkish government. In fact, repayment arrangements were conducted on a government to government basis rather than firm to government. Nevertheless, rather than setting-up a government owned glass factory, cooperation with the Soviet Union was left to the private sector. According to Aydin Yalchin, a board member of Is Bank which had the controlling share in the Bottle and Glass Company, the government did not want to rush into renewing relations with the Soviet Union. It, instead, preferred 'to test the waters' through the private sector and thus not heavily commit itself.

In what Yalchin refers to as the 'Soviet Peace Offensive', the Soviet Union offered the latest industrial technologies to Turkey. They were willing to provide fully equipped factories on very attractive credit terms. According to Kocatopcu, this was because the Soviets wanted to renew friendly relations. He related a story in which Ambassador Rijvov told him and Turkish President Menderes: 'Long wars through the centuries don't help to bring us together, nor our being communist, nor your being NATO. Despite these three, my government has brought me here to provide you with industrial assistance at 2.5 per cent interest and long-term repayment. We are ready to build for you full industries. We are even ready to build industries that your allies would not build for you.'

Kocatopcu and Yalcin, both known for their strict anti-communist stances, were convinced that there could be little harm in accepting Soviet assistance. Furthermore, there was little choice if Turkey was to have flat-plate glass production capacity. In looking back over what has become one of Turkey's most successful industries, Kocatopcu reflects: 'We broke the ice with the Russian technology. If they did not help us, we would not have had the technology for a very long time. We were refused by the West. This is a cartel. They decide when the doors are closed to you.'

In April 1957, Kocatopcu signed a half page protocol in which the Soviet Union stated its willingness to build a complete flat-plate glass factory in Turkey. Technoexport, the Soviet supplier, would provide the factory with the Soviet's most advanced technology and at any capacity Turkey desired.

A team of negotiators from the Bottle and Glass Company went to the Soviet Union to visit factories using various glass making processes. They were to decide which process they wanted. Kocatopcu, one of the negotiators, says the Fourcault process was chosen because of its simplicity. The intention was to master the technology and then move on to more elaborate production technologies, preferably from the West. A 37,000 ton capacity was agreed upon. Soviet glass experts convinced the Turkish negotiators that due to more uniform heating in the furnaces this medium-scale capacity would be more efficient than the 20,000 ton capacity they were contemplating. The choice, however, was left entirely to the Turkish side.

In 1961, the 37,000 ton capacity glass factory commenced operations at its site in Cayirova. Prior to start-up, 60 workers from the Cayirova Glass Industry Inc. were sent to train in Soviet factories which used similar technology. Although Kocatopcu, Yalcin, and other fiercely anti-communist officials in private industry and in government expected that training would include ideological indoctrination, their fears proved to be unfounded. The three month training programme covered all aspects of glass manufacture, including packaging the final product. Theoretical training spanned the physical sciences, not the social sciences.

Once in operation, the technology proved to be sound. By January, 1962, Cayirova glass was competitive enough to be exported to the United States, even if in small quantities. By 1965, according to OECD statistics, Turkey was the lowest price exporter in the world. The average price of Cayirova sheet glass was US$111 per ton FOB. The OECD average was US$147 per ton FOB [SPO: 1970].

The Bottle and Glass Company approached all of the Western producers before approaching the Soviet Union. It was only because they were turned down by Western firms that Soviet technology was chosen. The Soviets were the supplier of last resort. Choosing the Soviet Union was not a matter of who would train personnel the best, who would provide the most know-how, who had efficient hardware, who would allow Turkey to fully own the factory. And, it was certainly not a matter of the private sector Bottle and Glass Company seeking relations with a country which most (but not all) Board members strongly opposed on ideological grounds. Choosing the Soviet Union was a matter of having no other option.

While Turkey received its first flat glass technology from the Soviet Union, management maintained its preference for Western technology. After all, as Kocatopcu stressed, 'Turkey is a Western looking nation.' In 1967, when the Bottle and Glass

Corporation wanted to expand the Cayirova factory the Soviet Union was, again, to be the supplier of last resort. This time, however, it was not necessary to turn to them. Western firms that had previously refused to sell technology to Turkey were now willing. According to the Glass Company's current Executive Vice-President Osman Nuri Torun, it was clear to these firms that Turkey would receive the technology from the Soviet Union anyway, thus the Western firms might as well sell it and receive profits through equipment sales and royalties.

The Cayirova factory's first expansion and modernization was undertaken by Detag-West Germany. The furnace they installed was put into operation in August, 1968. It collapsed a few months later and could not resume operations for a full year.[2] Subsequent expansions have involved mainly Cnud-Belgium and Pilkington Brothers-UK. These have been more successful.

Pilkington and the Soviet 'Threat'

There have been no further purchases from the Soviet Union for the Cayirova factory. Nor have there been for any other factories built by the Bottle and Glass Corporation. The only time the Soviet Union has had a role to play in Turkey's acquisition of glass technology following the 1957 agreement was in the case of the Trakya plant, Turkey's largest and most modern glass factory. It is an interesting case of the Soviet Union being used to increase the bargaining power of a private Turkish company.

According to Torun, Trakya would not exist today if it was not for the role, inadvertent as it was, of the Soviet Union. The float process, developed by Pilkington Brothers, is the most advanced and secretive glass technology in the world. For over ten years, from the mid-1960s to the mid-1970s, the Turkish company tried to obtain a license from Pilkington Brothers to produce flat glass using the float process. Pilkington refused. Torun finally decided to turn to the Soviet Union which had a license from Pilkington. It was a license to produce float glass, not to export the technology. This was understood by the Bottle and Glass Company officials. Nevertheless, they wrote to the Soviet Union asking if it would be possible to acquire the technology. They also wrote to Pilkington Brothers informing it of their intentions and they enclosed a copy of the letter sent to the Soviet Union. After ten years of

2 Arsal Cam ve Sanayi ve Ticaret A.S., 1969, *A Second Glass Industry in Turkey*. It is interesting to note that this was not mentioned in the interview with Kocatopcu when he was assessing the quality of Western hardware.

refusals, Pilkington Brothers immediately agreed to sell the technology to Turkey. Furthermore, according to Torun, they offered a 50 per cent discount on their normal royalties. Thus, with the Soviet Union increasing the Turkish Company's bargaining position, a float glass factory was set up in Trakya.

In the case of the Trakya factory, it cannot be assumed that the Soviet Union and Turkey would have actually signed an agreement to transfer float glass technology. This would have contravened the original license and both countries' glass industries could have been vulnerable to international sanctions. The Soviet Union was approached largely to increase the Bottle and Glass Company's bargaining position vis-à-vis Pilkinton Brothers. The choice of technology supplier was, in the end, decided by who had proprietary rights over the technology. Cost, credit, business practice restrictions, ideology and so forth had nothing to do with the decision to attain the float process from Pilkington. To stay within acceptable practice, the Bottle and Glass Company had to rely on the legal patent holder, even if this meant very costly and highly restrictive terms. The technology was also perceived to be the highest quality in the world.

In this section, it has been shown that the Soviet Union was the supplier of last resort. In both the initial instance, the Cayirova factory, and in subsequent efforts, the Soviet Union was given no consideration unless absolutely necessary. Despite the performance at Cayirova, management at the Bottle and Glass Corporation maintained their preference for the West. This preference was, in part, the result of top management's anti-communist ideology and, in part, the result of general attitudes in Turkey that Western technology is superior to technology from socialist countries.

The 1967 Agreements: National Industries

In this section, the 1967 agreements which heralded a new era of economic relations between the Soviet Union and Turkey are discussed. Once again, the focus is mainly on why the Soviet Union rather than any other country was chosen as the technical assistance partner. The individual projects contained within the agreement are treated very briefly, as the decision to choose the Soviet Union was similar for each and they were negotiated within a single package.

The 1967 package consisted of assistance to six projects. They were the Iskenderun Integrated Iron and Steel Factory, the Seydisehir Aluminium Works, the Aliaga Petroleum Refinery, the Bandirma Sulphuric Acid Plant, the Artvin Fibre Board

Factory, and electricity transmission lines connecting Seyitomer with Seydisehir. What is outstanding about this package is that five of the six projects were in the industrial sector. Murat Kudat, a department head at the Ministry of Treasury and Foreign Trade, notes that it was extremely rare at the time for foreign governments to extend credit to large-scale industrial projects. To have one country willing to build and finance five of these projects was 'truly remarkable'.

The financial terms accompanying the package were generous by international standards prevailing at the time. Credit was offered at 2.5 per cent interest repayable over 15 years with 1 year grace following the delivery of equipment. Furthermore, the credit would not have to be repaid in foreign exchange. Instead, Turkey could repay with goods decided upon jointly by both sides. Thus, as it happened, Turkey could pay off her debt with surplus oranges and nuts rather than with scarce foreign exchange.[3]

According to Suleyman Demirel, the Prime Minister responsible for the 1967 agreements, while terms offered by the Soviet Union were looked upon with favour by Turkish officials, the foremost reason for choosing the Soviet Union was that credit was offered at all. In interviews with Demirel, he noted that he had first approached the Western countries for funding. He also approached multilateral institutions such as the World Bank and the European Investment Bank. They would not provide credit for any of the projects. He says that renewing cooperation with the Soviet Union at the time was in Turkey's economic interest and that the decision to accept economic and technical cooperation was based on economic rather than political reasons. 'There was nothing political in such an action. I submitted the projects to Western sources and they were not willing.'

That credit and technical assistance were not forthcoming from the West was substantiated by the state economic enterprises involved (see Chapter 6). Nevertheless, as discussed in Chapter 4, there were several political factors at play in Turkey's rapprochement with the Soviet Union. Without this rapprochement, the 1967 government-to-government agreements would have been impossible. Thus, it should be noted that the change in Turkey's political environment played a crucial role in Turkish-Soviet economic and technical cooperation.

While credit was the reason for choosing the Soviet Union as technology supplier,

3 In the following chapter, these terms are compared with terms offered by Western countries and institutions. On average, Soviet terms are highly favourable.

it was not the sole reason why technology could not be obtained from the West. Credit was one impediment to securing enterprises in the industrial sector, but it was not the only one. For instance, in the steel industry another problem was encountered in the late 1950s when Turkey wanted to establish a modern steel plant. The US Agency for International Development was willing to provide credit but under one condition; the steel plant had to be private sector rather than public sector as the Turkish government had envisaged. The US, in keeping with its private sector philosophy, was only willing to provide credit for a private sector industrial enterprise. Turkey did agree to the conditions attached to the loan. The Eregli Iron and Steel Plant is currently operating within the private sector, albeit with the majority of its shares owned by government agencies. As with Soviet credits, the US credits were tied to the purchase of equipment and expertise from the loan granting country. Thus, the ostensibly private Eregli iron and steel factory received its technology from US firms. It would only be with the 1967 agreements that a fully nationally owned steel mill would be realized, namely in the form of the Iskenderun integrated iron and steel mill.

Aluminium was another problem area. Finance was not the only impediment the Turkish government faced. Since the 1930s, a state owned aluminium industry had been a national objective. Although development objectives changed over the decades a strong desire to secure domestic aluminium production resurfaced in the late 1950s and the early 1960s. Prices for the technology were so high at the time that this goal could not be attained. According to former Minister of Industry, Erhan Isil, it was widely believed that the Western aluminium companies were totally unwilling to sell the technology and thus priced it well out of Turkey's reach. The opinion among negotiators from Etibank, the state enterprise concerned, was that the Western producers wanted to retain Turkey as a market for their exports, and that they were afraid Turkey would flood the world market with low priced aluminium.

A further obstruction to Turkey's desire for a national aluminium industry resulted from the structure of much of the world aluminium industry. Multinationals, such as Reynolds International Inc., would only consider transferring their technology to Turkey through a subsidiary. Furthermore, they would only do so if certain conditions could be met. In the case of Reynolds, it withdrew its consideration of Turkey as host country because of the expected high cost of electricity, the major input for aluminium smelting. It, instead, chose Iran as its regional partner, believing that the resources could be procured at lower prices and that the economy and government were suitably stable [Turnball Inc.: 1966].

In the case of the three smallest and least important projects (Artvin fibre board, Bandirma sulphuric acid, and the 310 km of transmission lines connecting Seyitomer and Seydisehir), the Soviet Union was the sole source of outside finance and equipment. In procuring the technology for each of these projects, the experience previously gained in these industries was used in assessing the quality of Soviet technology. This was also true for the Aliaga petroleum refinery which, along with Seydisehir and Iskenderun, is among Turkey's most important industrial enterprises. Experience gained from the Izmit refinery, established in 1959 as a joint venture with US Caltex, was used in assessing Soviet technology.

Unlike the other factories mentioned above, the Soviet Union is not the sole outside supplier for the Aliaga refinery. Soviet economic and technical cooperation was used to establish the refinery. However, large units, using Western technology, were added after commissioning. As is the normal case for refineries, there have been constant modifications at Aliaga. These have been carried out with both Soviet and Western equipment and expertise. The reasons why post-1967 modifications have involved specific suppliers are discussed later in this chapter. It is, however, interesting to note here that in contrast to their refusals to set-up state sector industrial enterprises, Western governments, with exceptions, have provided export credits for expansions and modifications of these same enterprises.

The reason for the initial choice of the Soviet Union as supplier for Aliaga was that credit was offered. However, this is not to imply that other factors were not seriously considered. According to Tulin Cander, the State Planning Organisation's refinery expert, credit was the major factor but also influential in the decision were the appropriateness of the technology and the fact that the Soviet Union offered extensive personnel training. These factors, when combined with price, credit, and repayment in the form of goods, according to Ms. Cander, made the Soviet Union a highly prized technology supplier.

Similar to Aliaga, the other projects within the 1967 agreement were also considered on bases other than credit. Demirel, Isil, Cander, Torun and many others interviewed in this study, spoke of price and of the fact that repayment would not necessitate foreign exchange. In their judgement, the financial terms offered by the Soviet Union were extremely suitable for Turkey's economic situation. It was also held that Soviet technology for the six projects would be acceptable, although a final judgement would have to wait until after the start of operations.

Thus factories, and an entire industrial branch in the case of aluminium, which had been out of reach for Turkey were made possible by the Soviet Union's offer of economic and technical cooperation. The country's economic and technical base were being built-up by industries which would be under its own control.

Post 1967 Agreements

In this section, the economic and technical cooperation agreements signed after the Demirel government's 1967 package are discussed. Again, the major question is why the Soviet Union was the choice of technical cooperation partner. With these agreements patterns that were beginning to emerge take on a clearer shape. The reasons for choosing the Soviet Union are the same as those for Cayirova, Seydisehir, Iskenderun and other facilities. Soviet credit is of major importance, the Soviet Union will provide technologies that other countries/firms try to monopolize, and the price of Soviet equipment and expertise enhances the attractiveness of Soviet cooperation.

In the post-1967 period, Soviet-Turkish economic and technical cooperation has consisted mainly of a 1977 agreement to build a hydrogen peroxide plant at Bandirma, a 1979 agreement to build a thermal power station at Orhaneli, and a 1980 agreement to increase the capacity of Aliaga refinery from five million tons to ten million tons. These are all state sector projects. There has also been private sector cooperation. A sodium bichromate facility at Mersin was established by the private Cukurova Holding Company in cooperation with the Soviet Union. The focus of this section is on these projects as they have been the most important ones since the signing of the 1967 agreement.

The Soviet Union has also been involved in several expansions of the Iskendurun iron and steel plant and is currently under consideration for a major expansion. It has sold equipment to a steel factory in Gerede, to the state enterprise responsible for oil and gas exploration, to the state highway authority, and to the Istanbul municipality. These projects are all in the public sector and all, including the municipal transaction, involve repayment through the national government. With the exception of continued work on Iskenderun, these projects are of little importance to this study as they involve relatively small amounts of credit and are mainly equipment sales rather than 'complete packages' of equipment, construction and erection supervision, technical experts, and personnel training.

The projects are reviewed in chronological order of the date of contractual agreement. Major projects are discussed while those that are limited to sales of equipment are left out. The proposed Iskenderun iron and steel mill expansion is included even though it is still in the planning stage. It is of concern to this study as it is informative regarding how decisions are made with respect to the choice of technology supplier.

Bandirma Hydrogen Peroxide Factory

Etibank, the state enterprise which owns the Soviet assisted Seydisehir aluminium plant and the Bandirma sulphuric acid plant, decided to set-up a hydrogen peroxide factory at its Bandirma chemicals complex. It approached Western producers for the technical process. Similar to their earlier attempts with aluminium, these efforts were frustrated by the extremely high price attached to the license and to the equipment. Moreover, Etibank was turned down outright by most Western producers. The companies that were willing to sell attached highly restrictive conditions. Turkey would not be allowed to export the product. Thus, according to Etibank management, companies such as Dupont-US and Interox-Belgium could maintain their control over the market. They would be free to continue setting prices and dividing up geographic regions into sales territories. In other words, there were very strong feelings at the Turkish enterprise that Western producers were collaborating as a cartel.

Etibank was not interested in buying the technology under the conditions set by the Western companies. As Ates Taneri, chief engineer of the Bandirma complex, put it: 'It's not good for Turkey; if you can't sell it, what can you do with it?' The facility was desired for both the domestic market and as a source of export revenue.

The Soviet Union was once again the supplier of last resort. It was Western refusals and restrictions which caused Etibank to turn to the USSR. Sabri Karahan, head of the Operations Department, put it very succinctly: 'the Soviet Union does not turn down requests for technology.' According to Karahan, in Etibank's experience this is true of the Eastern bloc nations as a whole. For instance, in the 1960s, when the Western companies refused to sell borax and boric acid technology to Turkey, Etibank was able to attain it from Poland.

A contract was signed with the Soviet Union in March 1979. Despite Turkey's economic difficulties at the time and despite political instability, credit was included in the deal. This was an important factor, but it was not what determined the choice of

technology supplier. The determining factor, as already mentioned, was willingness to sell the technology and the lack of restrictions on the product. Etibank could decide its own selling price and it could decide where to sell. As the patent holder, however, the Soviet Union did not transfer the technological process completely without limitations. Seven patents were involved and they were to be kept secret for a period of seven years. However, the agreement on patents conveyed rights to both Turkey and the Soviet Union and, as discussed in Chapter 7, the terms were reasonable when judged by the standards set forward by the 'South' in the UN Conference on an International Code of Conduct on the Transfer of Technology.

In this case, Western refusals to sell the technology and business practice restrictions were the overriding reasons as to why the Soviet Union was chosen as technological cooperation partner. Credit was also felt to be important, but it was not the essential factor. In the judgement of Bilgin Kaynar, director of Etibank's Projects and Implementation Division, credit was seen more in terms of compensation because Soviet hydrogen peroxide technology was expected to be inferior to its Western counterpart.

Mersin Sodium Bichromate: Private Sector Cooperation

Turkey is a major producer of high quality chromite ore, the raw material for sodium bichromate production. It is also a large user of sodium bichromate, mainly for the leather tanning industry but also for chrome plating and for impregnating wood pigment. But because Turkey did not have the technology to process chromite ore and to produce sodium bichromate, the raw material was exported to other countries and Turkey had to import the higher value processed good. Given Turkey's natural resources and domestic and international demand for sodium bichromate, the private sector Cukurova Holding Company decided in the mid-1970s that it would begin domestic production.

When seeking to buy the technology from Western patent holders, Cukurova found that this was impossible. They approached every potential supplier, and each said no. More times than not, the company's product brochure was sent along with the letter of refusal. They politely offered to sell Cukurova the product while turning down requests for the technology to produce it. Once again, as in the glass industry and in the aluminium industry, the local perception was that the Western firms would not sell because they did not want to lose a market for their goods and because they were afraid that Turkey would produce the goods at a lower cost and possibly bring down world

prices.

Because the Western producers flatly refused to sell the technology, in early 1978 the private Cukurova Holding Company approached the Soviet Union. According to the plant's General Manager, they were immediately greeted with willingness on the Soviet side. Furthermore, the Soviet Union was willing to deal directly with Cukurova and did not require that the agreement be on a government to government basis. This also met with approval by the Turkish authorities. Thus, for the first time in the history of Turkish economic and technical cooperation with the Soviet Union, a major factory would be built with no government involvement, not even with the Central Bank as guarantor for the loan.

In 1978, the Soviet government and Cukurova signed a contract for the transfer of 13 patents (chemical processes for sodium bichromate and sodium sulphide), equipment, construction and start-up supervision, personnel training, and know-how comprising 'the Suppliers information allowing the Customer to comprehend the production process and operation of the equipment to be supplied' [Contract 71-030/80900, Nov. 1978, Neftekhimpromexport, Moscow]. Identical to the contract for hydrogen peroxide [71-030/61100, March 1977, Neftekhimpromexport], the patents carried a seven year secrecy period and protection and benefits for both the supplier and the customer.

Because the Western countries would not sell the technology, it was not possible for Cukurova management to compare prices. The only indication they have of a Soviet-West comparison comes from a Japanese firm's offer to sell know-how for chromic acid. This was a process the plant's chief engineer wanted after the 1984 commissioning of the plant. The Soviet Union did not have it, and thus another round of letters was sent to Western patent holders. For the one license, the Japanese firm asked more than the Soviet Union did for the entire factory, equipment and licenses included. Either it can be assumed that the Soviet Union provided the equipment and licenses very cheaply[4] or else the Japanese offer was a highly creative way of refusing. The plant's management believes both: the Japanese price was insincere and the Soviet Union's price was generous. In a major example of increased technological

4 The total cost of the plant including equipment, design, know-how, and technical experts was $17,370,000. According to Supplement 1 of the Neftekhimpromexport contract, the price for the patents and know-how was $1,345,000. The price for design work to accommodate the plant to Turkish geological conditions and to the desired capacity was $1,825,000. Credit was extended at 5 per cent interest and repayable over 6 years with 2 years grace (dollar values are based on Standard Drawing Rights).

capabilities, Turkish personnel at the plant have now created their own chromic acid technology and they intend to sell it to others.

Regulations on the technology were of little concern to Cukurova's decision on accepting the Soviet offer. In fact, when questioned about the rights accompanying the patents, the plant's technical and financial managers were totally unaware of these. Another factor which was of minor importance in accepting the Soviet Union's offer was personnel training, although the entire technical staff was sent to the Soviet Union for two months of training. A reasonable price and sound technology were major factors in accepting the offer.

In conclusion, asking for a Soviet offer in the first place had occurred only as a result of frustrated efforts with the West. Thus, once again, the reason why the Soviet Union was chosen as technology supplier was because of Western refusals. Prior to these refusals, the Cukurova Holding Company had not been open enough to accepting Soviet technology to even inquire about it.

Orhaneli Thermal Power Plant: East-West-South Cooperation

In the previous projects discussed in this chapter, two factors clearly stand-out. First, the Soviet Union is chosen as the supplier because Western countries and corporations refuse. Second, the Soviet Union is chosen as technology supplier because of attractive financial terms, particularly credit. These factors, either separately or in combination, account for the fact that the Soviet Union has been selected to undertake major industrial projects in Turkey.

With the Orhaneli thermal power plant, the picture is somewhat different even though credit played a large role. The Soviet Union was not the only country that could have offered credit. Western countries are often a source of thermal power technology and credit. Because electricity generation is considered to be infrastructure rather than industry, it is easier to obtain funding from a wide variety of Western countries and from international financial institutions such as the World Bank. Although restrictions are sometimes attached to credit (e.g. the World Bank insists that plants be in the private sector), the state's Turkish Electricity Corporation (TEK) has received significant outside funding from the West and the East.[5] Orhaneli is, in fact, an extremely interesting case because it has funding from both the East and the West.

5 Poland has been a major source of power generating technology in Turkey.

The Soviet-Turkish Joint Commission decided at its 1975 meeting to cooperate on four 210 megawatt power plants, two units at Orhaneli and two units at Can. Feasibility studies were prepared between 1975 and 1979. Given the high sulphur content of coal deposits in the Can area, it was decided not to locate there. Cooperation would be limited to the Orhaneli site. The Turkish side also decided that the plant would be built in two stages, initially one unit and then a second unit. The first unit would include the infrastructure for the additional unit. According to Kemal Taragay, the project's deputy manager, TEK wanted to test the first unit before agreeing to the Soviet Union as supplier of a second unit.

This approach is more cautious than the decision of the 1975 Joint Commission. However, this is not at all unusual. According to Ridvan Us, of the Ministry of Treasury and Foreign Trade's Soviet Division, the Joint Commission can only suggest areas of cooperation. It does not have the mandate to make commitments. It is up to individual enterprises, such as TEK, to decide if the cooperation is technically and economically feasible. According to Us, in the case of state sector projects, decisions on Soviet economic and technical cooperation always go through the channel of state enterprises. Thus, although they can be politically inspired, decisions should also have a firm economic and technical base. In the case of Orhaneli and Can, this resulted in the feasibility studies and the two-stage process.

According to Fikret Oncel, an outside consultant for the Orhaneli project, because thermal power generating technology is fairly standard the world over, it is not surprising that the Soviet Union was chosen to build Orhaneli once it offered economic and technical assistance. Oncel and Taragay both note that credit was of major importance in the decision to accept the Soviet offer. The Soviet Union would provide credit, and of added benefit, the Soviets had a reputation of being a low price supplier. Furthermore, at the time of the actual contract, 1979, Turkey was encountering extreme difficulties in securing project credits from the West. The country was in a state of economic crisis.

What was of far less importance were the other factors this study is concerned with: business practice restrictions and technical documentation and training. Because the technology is relatively standard, restrictions are minor. Because of TEK's experience with the technology, it did not consider factors such as personnel training to be of major importance. However, it should be pointed out that TEK's experience has not always been successful. Due to poorly trained personnel at one of Turkey's largest plants, Afsin-Elbistan, three units were accidentally blown up. According to a West

German technical expert at the plant, 'local personnel simply pushed the wrong buttons.' They did this on three separate occasions. Fortunately for TEK, each occasion was within the guarantee period. Thus, the Western firms that supplied the equipment were responsible for its replacement.

The Soviet Union is no longer the sole technology supplier for the Orhaneli project. They were originally awarded the contract to supply the complete plant. But, according to Vladimir Komarov, representative of the Soviet power equipment supplier, Technopromexport, because they did not have experience with coal of such poor quality as Orhaneli's they suggested two options. TEK could either contract the boiler to another country or they could allow Technopromexport an additional three years to design and build an appropriate boiler. TEK decided to take the former option. Taragay explained that this was because they wanted to avoid any delay.

The boiler was put up for international tender. Due to Turkey's tight financial situation, TEK asked for 100 per cent credit. A local content requirement was also attached. One offer was received, Steinmuller of West Germany. It would provide the design and materials for the boiler. The Turkish firm, Sungular, would undertake the fabrication work. The Soviet Union would provide the specifications so that the boiler would properly fit.

Thus, the Orhaneli power plant became a 'tripartite' project: East-West-South collaboration. It also became a fiasco. Although the Soviet Union promptly provided technical details for the boiler, the German and Turkish sides were unable to fulfil their commitments. As of my factory visit in summer 1987, the boiler still had not arrived (it was ordered in 1979). The Soviet, German, and Turkish sides of the Orhaneli project are discussed in more detail in Chapter 7.

For now, let it suffice to sum-up the reasons why the foreign partners were chosen. The Soviet Union was chosen because it was willing to offer credit at the time and it had the reputation of being a low price supplier. Steinmuller-West Germany was chosen because it was also willing to offer credit and because it had the technical capacity to build a boiler for coal of very low calorific value.

Aliaga Petroleum Refinery Expansion

The next project signed between the Turkish government and the Soviet Union was for the doubling of capacity at the Aliaga refinery. The contract was signed in June

1980, thirteen years after the initial contract to build the refinery. Aliaga, like Orhaneli, is a project involving technology from Eastern and Western sources.

Units sold by the Soviet Union and by Western countries were already existing within the Aliaga refinery at the time the decision was made to expand. Thus, management was familiar with the advantages and shortfalls of each. The decision to choose a supplier would be made with this benefit and with the benefit of the controlling state enterprise being in a sound financial position so that it could pay cash if absolutely necessary.

Why a decision was made to select the Soviet Union is very straightforward, according to Aliaga Assistant General Manager, Husametin Danis. If a Western firm supplied similar equipment as the Soviet Union, the price tag would be over three times higher. Danis had priced both. The five million ton capacity atmospheric distillation unit and the accompanying power generating station, LPG unit, cooling tower, waste treatment unit, and off-sides equipment were delivered for $53 million, a fraction of what they would have cost if bought from Western firms.

An additional factor, if one was needed, that made the Soviet technical cooperation package attractive was that credit terms were more favourable than those of Western firms, some of which only sell on a cash basis. Credit would be repaid over 11 years, with a 3 year grace period. Interest would be 6 per cent. Repayment, unlike the projects discussed above, would be in freely convertible currency. This was due to a decision by the new Turkish government to end market interference. Trading goods as repayment for technical cooperation was considered to be against the 'invisible hand ' of the market. However, the form of repayment was of no consequence to Aliaga management because, as a state enterprise, it must pay back credit to the Turkish government and not directly to the supplier. Thus, it is the government rather than the enterprise that organises either currency or goods exchanges.

Other factors important to this study were considered by management before making a choice of technology supplier. Certainly quality of the equipment was significant. In many respects, Soviet equipment was perceived by Aliaga engineers and plant management to be superior to Western equipment. However, in one very important respect, Soviet equipment was judged to be inferior. According to Danis, Soviet instrumentation falls short of Western standards due to the Soviet's lag in computer technology. However, he argues that it is more economical to buy from the

Soviet Union and, with a portion of the cost savings, later buy a Western computer system. 'You first have to have a unit. In a few years you change to Western instrumentation. But its good to first buy from the Soviet Union. Prices are low and it's on credit. Otherwise you pay too much and Western credit carries high interest, or they ask you to pay cash. The first investment is very important because it can take eight years before operations start. It wouldn't be profitable to start with the West.'

The question then arises as to why the Aliaga refinery is not composed entirely of Soviet units run by Western computers. It is, instead, a combination of Soviet and Western units. The major reason for this is that certain processes within the petroleum industry are available only from Western countries. Of major importance in refining are catalysts, and Western countries have held the lead in these. Thus, the fluid catalytic converter unit at Aliaga is under a patent held by Universal Oil Products (UOP) of the US. The lube oil complex has Foster Wheeler-Italy as contractor and uses patents held by Texaco-US and by British Petroleum-UK. While royalty payment for these technologies are not relished by Aliaga management, they feel they have little choice if they want the most efficient processes.

Largely because of previous experience with Soviet and Western personnel training, (their experience with the Soviet Union was better) Aliaga management felt this was also a factor in choice, although it was not a deciding factor. This is discussed in Chapter 6.

In conclusion, the decision to choose the Soviet Union was located within the controlling state enterprise and within the refinery's technical and financial management and was based partially on past experience. Price was the most important factor.

Iskenderun Iron and Steel

The Iskenderun iron and steel plant is Turkey's largest iron and steel factory and it is one of the largest factories in the country. It is also one of the most controversial. Plans are being made to increase its capacity from 2.2 million tons of steel per year to 4 million tons. The decision has not yet been made on who will supply the technology. The Soviet Union has expressed its desire to undertake the project.

Iskenderun was originally financed and built by the Soviet Union as part of the 1967 agreements. However, partially due to the fact that Turkey decided to double its capacity during the construction phase, it was completed later than the other projects in

the package. According to former Minister of Industry and Technology Erhan Isil, the 1975 commissioning of the plant was its downfall. It was the height of Turkey's 'jobs for votes' years. The hiring of workers was entirely a political process. 'For each 10 patronage jobs one side of the coalition government was allowed to hand out, the other side of the coalition was allowed 15. Jobs went to barbers, tailors, farmers, and so forth. Few went to trained engineers.' An additional problem is that management was also subject to political peculiarities. In the first 10 years of construction and operation, from 1970 to 1980, there were 16 successive managers. The end result, according to technical management at the plant, is that Iskenderun has been poorly run. This is discussed more fully in Chapter 6 when the quality of the technology transfer is assessed, but it is also of importance to the discussion of why a certain country is chosen as technology supplier.

It is argued by top management at the controlling state enterprise, the Turkish Iron and Steel Corporation, that the problem with Iskenderun is inferior technical equipment from the Soviet Union. Engineering management at the plant itself argue that the problem is not the technology at all, but is, instead, past management and labour problems. According to most of the engineering staff, the blame is placed on Soviet technology as a scapegoat for extremely poor management. Nevertheless, inferior technology is the explanation posited by the Iron and Steel Corporation's Board. Thus, in the present discussions on a major expansion of Iskenderun's capacity, they have unanimously voted against accepting the Soviet Union as supplier.

There is, however, according to the Iron and Steel corporation's Vice President in Charge of Finance, pressure from the government to continue with Soviet economic and technical cooperation at Iskenderun. According to him, the government believes that Soviet cooperation at Iskenderun would help promote Turkish export trade to the Soviet Union. When questioned about this, Assistant Minister of Treasury and Foreign Trade and technical head of the Turkish delegation of the Joint Commission, Mahir Barutcu, would only confirm the government's interest in expanding exports through Soviet-Turkish cooperation in general, and not Iskenderun in particular. Other government officials did confirm that, while the final decision will be left up to the Iron and Steel Corporation, the Ministry of Treasury and Foreign Trade's preference is the Soviet Union.

The other complicating factor in arriving at a clear idea of why a particular technology supplier will be chosen for the Iskenderun expansion is the problem of corruption. Some members of the technical staff assert that top management prefers

Western corporations because they offer bribes, whereas the Soviet Union does not have the mechanisms necessary to pay bribes. This is not the kind of information that can easily be substantiated but it is an explanation which deserves some consideration given the nature of the iron and steel industry within Turkey. One board member did, in fact, confirm the problem of bribes within the Corporation. He went as far as explaining cases in which bribes were an essential part of doing business. And it was not unusual to be told by top officials within the Corporation and within government that iron and steel is the most corrupt of Turkey's industries.

Mention of Iskenderun expansion could be left out of this study altogether because it is a case of 'planned' rather than 'actual' technological exchange. But it is included because it brings out a factor of technological cooperation that had been neglected in the initial framework of this study, corruption. Because of the very nature of this factor there is secrecy involved and, therefore, it is difficult to prove and to document. Nevertheless, it is important to recognize that it may exist and that it does, on some occasions, temper the choice of technology supply partner.

The Iskenderun expansion also brings out conflicts that occur in the assessment of a technology cooperation partner and future choice. As discussed more fully in Chapter 6, technical staff at the plant give high ratings to the technological equipment, supervision, training, and documentation provided by the Soviets. As mentioned above, they completely support the claim that there has been gross mismanagement at the plant and that this is the reason for inefficiency. Yet, the Board of the Iron and Steel Corporation hold strongly to their position that the technology is at fault.

The decision ultimately lies with the Board, based on sound judgement or otherwise. It is unclear whether the decision will be made based on technical factors such as quality of the equipment, on political factors such as pressure exercised in the hope of promoting increased trade, on financial factors such as credit and price, or factors that most likely can never be fully known, such as a cover for bad management and, possibly, bribes.

Part II

Western Assisted Projects

In this part, the Western factories visited as part of this study are discussed. Because it was not the main focus of this research, extensive field visits were limited to

two solely Western assisted projects, the Eregli iron and steel mill and the Izmit petroleum refinery. These factories were selected because they are in the same sectors as Soviet assisted factories. Thus, they are useful for comparative purposes.

Before discussing these projects, the main reasons why the Western facilities mentioned in Part I were chosen are summarized. The expansions at Cayirova glass factory were undertaken by Western companies because management perceived that Western technology was superior to Soviet technology. For the Trakya glass works, Pilkington Brothers-UK held proprietary rights over the float process, the most advanced in the glass industry. The Aliaga petroleum refinery contains Western units in cases in which the West has more efficient processes, such as catalysts, and more efficient equipment, such as computer instrumentation. Orhaneli thermal power station's West German boiler is the result of the Soviet Union not having the technology developed at the time of negotiations.

As shown in this section, it is not always possible to discern what is the determining factor in the choice of supplier. This is particularly true of the Eregli iron and steel mill.

Eregli Iron and Steel

The Eregli iron and steel mill was mentioned in Part I within the context of strings being attached to US assistance. This interference into Turkey's internal affairs was, nevertheless, accepted. According to former Prime Minister Demirel, the precedent for the assistance induced change from public to private enterprise had been set in 1952 by a World Bank funded hydro-electric project. The World Bank insisted that a private power company be set-up in connection with the project. US AID took a similar stance in the late 1950s, insisting that Eregli would have to be in the hands of a private corporation.

It is not known if Turkey agreed to the US terms and US technology for sound economic and technical reasons. The founding of Eregli is extremely controversial, even to this day. In 1961, the main figure in negotiations for the government, Foreign Minister Zorlu, was convicted on a number of counts of corruption. One of the major allegations was that he awarded the Eregli contract on the basis of his receipt of a substantial bribe. While this allegation may be unfounded, it again raises the point that there may be clandestine factors which influence the choice of technology.

Ostensibly, the reason for accepting technology from US firms was that funding was provided. In this case, in the form of US AID credits to finance the plant which would be built on a turnkey basis by Koppers-US. At the Eregli plant itself, no one would comment on the initial founding. Among government officials interviewed for this study there were mixed reactions. Some believed that a 10 per cent bribe was involved, otherwise Turkey would not have chosen such allegedly over priced equipment. Others believe that charges made at the time were based on political aspirations of opposition leaders.[6] For the purpose of this study, I will leave it simply that the reason for the choice of technology supplier remains unclear.

Expansions and modifications of Eregli have been undertaken by a number of Western firms, mainly from Japan, West Germany, the United States, Switzerland, and Belgium. The Soviet Union has not been considered as a potential supplier. The reason for this has been straightforward. The plant has received large amounts of World Bank funding and this funding is tied to suppliers in countries holding World Bank membership. Because credit is available, according to the plant's management, the main consideration is getting what it believes to be the highest quality technology at the lowest price. Procurement is open to bids. In fact, this is a general stipulation of the World Bank credit. Because of what management considers to be a lack of local expertise, technology suppliers are chosen with the help of a foreign consultant. Quality of hardware and reasonable prices govern the choice of technology supplier. That is, as long as the supplier is a World Bank member.[7]

Izmit Petroleum Refinery

A clearer case of why a supplier was originally chosen is that of the Izmit petroleum refinery. It was set-up in 1959 as a joint venture between the US firm California Texas Oil Corporation (Caltex) and the Turkish state enterprise responsible for petroleum refineries. The initiative came from Caltex. They wanted to have refining capacity in the Mediterranean. Because they were already selling oil in Turkey, the government was amenable to a partnership with them. An essential condition of the foreign partner was that the refinery would use only imported crude oil and that a large portion would be supplied by Caltex. After 10 years under this arrangement the refinery would be

6 Because Zorlu was executed for his alleged crimes, I, needless to say, could not go to the source.

7 According to the foreign consultant at Eregli, there is one other stipulation - the technology must have a proven track record. The very latest technology is never chosen. This is important to note because in some studies [Desai: 1972, for example] Soviet technology transferred to developing countries is criticized for not being the very latest Soviet vintage.

turned over to Turkey, by way of Caltex selling its shares to the Turkish government. Prior to this time it would be under the control of Caltex management. This schedule was adhered to, but it is estimated by the plant manager that by the time the refinery was relinquished to Turkey, in 1974, Caltex had recovered its investment 10 times over.

While Turkey wanted a national petroleum refinery, the advantage of the joint venture with the US firm was that investment funds and technical know-how would come from the foreign partner. At the time, Turkey was unable to secure credits from Western countries for a national refinery.

After passing into Turkish hands, new investments have been made to increase the plant's operating efficiency and its capacity. In each case, Western firms have been chosen as technology supplier. According to plant management, the most important considerations in choosing a supplier are credit, equipment quality, and cost over the entire period of its operation. In the case of the first major expansion undertaken by Turkish management, these three factors taken together led to the choice of Badgers, a UK firm. Another major factor is past knowledge of the equipment and processes used by Caltex. There is a strong tendency to stay with what is known. According to technical management, this is one reason why Universal Oil Products-US has remained a major recipient of contracts for the refinery's reforming units.

Business practice restrictions have had little bearing on the choice of technology supplier, but such restrictions did exist. For instance, some firms, such as UOP, package their technology. The refinery must obtain future services and materials from them. Furthermore, the refinery's technical staff has to rely on UOP for maintenance and modifications There are also royalties involved in many of Izmit's operations. This is considered common practice and given little thought by management. Politics have also had little bearing, with one major exception. The choice of supplier in the 1950s was limited to Western countries. It was only with the 1967 agreement that state enterprises were given the freedom to consider Soviet cooperation.

With the 1967 agreement, Soviet refinery technology was used by the Turkish Petroleum Corporation at its new Aliaga facility. It has also been used for expansions to this facility, whereas expansions to the Izmit refinery have, as previously discussed, been undertaken by Western firms. The preference for the West at Izmit has been based largely on managements' belief that Western equipment is better for 'fine tuning'. That is, the most efficient processes and equipment are owned by Western suppliers.

Thus, when the credit is available, Izmit management will always choose Western technology.

Conclusion

The purpose of this chapter has been to answer a single question: why a particular technology supplier is chosen. Is it on the basis of technological factors such as the quality of machinery and processes, technical documentation, and personnel training? Is it based on business practice restrictions such as export prohibitions, patents, and royalties? Is it based on financial factors such as credit, price, and terms of repayment? What is the role played by political factors? Are there other factors which deserve consideration?

Why a particular supplier is chosen is not always easily discernible. In some cases, there may not be a single answer. The perception as to why may differ from one respondent to another and the original architects may be unavailable or unwilling to reveal the answer. Nevertheless, in most of the cases described in this study the negotiators have been available and they have appeared to be forthright. Furthermore, there has been considerable agreement in responses. This is particularly true of Soviet assisted projects.

The Soviet assisted factories discussed have been varied in the form of their ownership, public sector and private sector. And they have been varied in their technological composition, some wholly Soviet, and some with a combination of Soviet and Western units. There has been little variation, however, in the major reasons for choosing Soviet technology. Financial considerations have had paramount importance along with the fact of Western refusals to sell certain technologies. These have been the two most important reasons behind Turkish-Soviet economic and technical cooperation projects.

Particularly noteworthy is the consistency in which Soviet technology was chosen as a last resort because of the two reasons mentioned above. This could be said of all of the facilities discussed in Part I, with the exceptions of the Aliaga refinery expansion and of the Orhaneli thermal power plant. In these two cases, Turkey had options from which to choose the most suitable terms.

The strength of an alternative was greater in the case of Aliaga. The Aliaga refinery expansion is the only case in which the Soviet Union is the choice of supplier based on

an assessment of options that were clearly available. Not only were there options to choose from, but there was also extensive knowledge of the strengths and weaknesses of Soviet and Western technology. The Soviet's price and credit terms were considered to be the most favourable, even given the perceived deficiency of the control system. For Orhaneli, while Western countries provide credit for the energy sector, credit during the mid to late 1970s was extremely tight. Nevertheless, it cannot be said that the Soviet Union was supplier of last resort. The Turkish Electricity Corporation accepted Soviet assistance without previously seeking funding for the project from other sources. In the other cases of assistance, the Soviet Union was turned to only after being refused credit and/or technology from other countries.

In the other cases, the only choice for nationally controlled industries was the Soviet Union or forgo the project altogether. This was the perception among negotiators within state and private enterprises and with high level government officials. This was clearest for the industries in which the sale of technology is highly restricted. In the case of Cayirova glass, no other patent holder would sell the technology. Clearly, the Soviet Union was the last resort. In the post-1967 period, again the Soviet Union was cast as supplier of last resort for the hydrogen peroxide facility at Bandirma, and the sodium bichromate plant at Mersin. In each of these industries, Turkey was facing attempts by producers to monopolize the technology and, thus, production. With the 1967 agreements, credits for state owned aluminium, iron and steel, sulphuric acid, fibre board, petroleum refining, and electric power transmission lines were not forthcoming from Western sources. Thus, the Turkish government turned to the Soviet Union. According to Prime Minister Demirel, they were the only willing suppliers.

Thus, Soviet-Turkish economic and technical cooperation owes a great deal to the reticence on the part of Western countries to provide credit and to Western firms to provide technologies. Cooperation is also dependent upon the general political environment, as was discussed in Chapter 4.

Politics plays additional roles in the selection of technology supplier, the role of individual and collective ideology; and that of political pressure placed upon decision makers at the enterprise level to select specific suppliers. It was evident in many of my interviews that Turkey's preference for the West extends to the field of technical choice. Put very simply, all that is Western is good, and all that is socialist is bad. Especially in cases in which Soviet technology was an unknown, it was judged very harshly. There was an automatic assumption that it was inferior. Biases against Soviet

technology were particularly evident at enterprise headquarters and government offices, where decisions are made. In its most perverse form, it is a strong anti-communist ideology. The bias did not, however, pervade factories in which Soviet technology is actually used.

There was only one case in which high level government officials appeared to assert political pressure on enterprise management to buy Soviet technology. This is for the expansion of the Iskenderun iron and steel mill. According to several government officials and the Iron and Steel Corporation's Directors, this is due to Turkey's desire to promote exports to the Soviet Union. A final decision on who will supply the plant has yet to be made.

The question of business practice restrictions is most important in the context of absolute refusals to sell technology. It did have a role to play in its more limited form, that of controls on exports, in the case of the Bandirma hydrogen peroxide facility. The few countries that would sell the technology would do so only under conditions that Turkey viewed to be undesirable. However, in general, patents, royalties, and restrictions on modifying the technology were not given a great deal of thought. There was little appreciation of the fact that Soviet technology has few restrictions.

There was also little appreciation among decision makers for other components in the technology transfer. Personnel training, and the supply of documentation such as operating manuals, blueprints, and repair and maintenance guides were rarely given consideration. At the factory level, these were held to be very important. This discrepancy between the users of the technology, the engineers and plant management, and the decision makers at the government level was due to the fact that the latter had to be concerned, to a larger degree, with financial factors such as credit and with overall access to technology: which countries would and would not offer these. Other factors were secondary to these concerns.

In the choice of Soviet technology, the quality of equipment and processes was also a secondary concern. In general, as mentioned above, Western technology was automatically assumed to be superior to Soviet technology. Yet, when this technology was unavailable, perceived quality differences would give way to the fact that the Soviet Union was the only choice. In most of the industries discussed, it was only necessity that caused Turkey to decide upon equipment and processes from the Soviet Union.

It is interesting to note that while the quality of equipment and processes was not a large factor in the decision to buy Soviet technology, it was a major factor in the decision to purchase Western technology and hence, in the decision against Soviet technology. This is the case for the Cayirova glass factory's expansions, the Trakya float glass factory, the Izmit refinery expansions, the Western units at Aliaga refinery, and the Western portion of the Orhaneli power plant. This is more difficult to determine with the Eregli iron and steel mill. Thus, in sharp contrast with Turkish cooperation with the Soviet Union, cooperation with the West is generally based on the perception that the highest quality equipment and processes are being secured.

To summarize, Turkey is a country whose rulers and economic leaders have ideologically looked towards the West. Because of this, there is a strong preference for Western technology. The preference is often also the result of superior quality of Western equipment and processes. Because of these preferences, Western technology is, in general, the first choice. If the technology cannot be obtained from the West, the Soviet Union is then consulted. The Soviet Union is often the supplier of last resort because Western technology and/or credit is not available.

As this chapter shows, the rating of Soviet technology by decision makers is quite low. Its availability and credit terms are the paramount reasons why it is chosen. Other factors are given little consideration. There is some appreciation for the fact that repayment is in goods. There is less appreciation for the fact that prices are relatively low; that the transfer of documentation is excellent; that personnel training is extensive; that there are few restrictions on the technology's use; and that the technology is sound and, in some respects, superior to its Western counterpart, while, in other respects, it falls behind. These would, in all likelihood, be surprising conclusions where most officials are concerned. Yet, as seen in Chapter 6, these are the conclusions that emerge from factory level interviews and consulted documents.

Chapter Six

The Quality of Soviet Technology Transfer

The main objective in this chapter is to assess the quality of Soviet technology transfer. Here, as throughout this study, 'technology' encompasses equipment, processes, and know-how. The ultimate aim of technology transfer as it is conceptualized in this research is the build up of indigenous technological capabilities. Are there particular aspects of the Soviet transfer which facilitate or hinder the build up of national capabilities?

In this chapter, results from field investigations within Turkish factories are presented. The main concern is the quality of Soviet economic and technical cooperation as it is judged within enterprises in which it is used. The issues addressed are those which are primarily the domain of technical and managerial personnel working in the Soviet-assisted factories. Questions asked within factories are derived from the UN Code of Conduct Debate on the Transfer of Technology, from the Western technology and development literature, and from the Soviet economic and technical cooperation literature.

In the preceding chapter, the conclusion was reached that Soviet technology in Turkey has been, on balance, chosen as a last resort. This is in part due to ideological biases within Turkey against the Soviet Union and in part due to the belief that Soviet technology is inferior to Western technology. The latter point is often taken as an unquestionable fact. It sometimes leads to the conclusion within Turkey that the contribution of Soviet assistance is of minor importance to the country's economic and technological development. Such a judgement is based on the view that equipment quality is the sole factor of importance in technology transfer. It neglects other aspects of technology transfer, such as documentation, personnel training, and restrictive practices. Before accepting the judgement that Soviet technology transfer is inferior and that it is of little importance, an assessment based on actual performance is necessary.

A great deal can be learned by 'going inside' Soviet cooperation and investigating performance. The questions asked within Turkish factories were ultimately intended to discern the extent to which independent capabilities could be built up. In this study,

this 'measure' of technology transfer was from the outset the most important, far outweighing a measurement based on state-of-the-art equipment and processes. Although equipment quality is very important, in the context of building up indigenous technological capabilities other factors are given greater weight. To what extent are personnel trained? How thorough is the transfer of documentation such as blue prints, operation manuals, repair and maintenance guides? Can local personnel actually maintain the plant or are foreign personnel continuously needed? What are the legal limitations on modifications? What role did Turkey play in constructing the factory? If a second factory was built today, would Turkish personnel have the skills to design, construct, operate and modify it? Or, would they remain as dependent on foreign skills as they were in the first place?

The most important points investigated in this chapter are: 1.) restrictions on the use of technology imposed by the supplier, 2.) documentation accompanying equipment, 3.) personnel training, and 4.) equipment quality. Taken together, these provide some idea of the quality of the transfer. The nature of restrictive practices, documentation quality and the quality of personnel training provide the main indicators in which the Soviet contribution to Turkey's independent economic and technical development is judged.[1]

In Part I of this chapter, case material is presented. The results of two factory visits, that of the Seydisehir aluminium works and of the Aliaga petroleum refinery, are discussed in detail. In Part II, similarities and differences between these factories and the other factories receiving Soviet assistance are discussed.[2] The Western factories included in this research are also compared. Main conclusions are drawn with respect to the strengths and weaknesses of Soviet and Western involvement.

Findings in this chapter, similar to Chapter 4, depend almost entirely upon the perceptions of interview respondents.

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1 International competitiveness of production in terms of price and quality is not used as a measure because Turkish domestic economic and social policies have a major bearing on price and/or quality. For example, state enterprises must purchase many of their inputs from other state enterprises rather than from the lowest price/highest quality supplier. This affects the cost and quality of the final product. State enterprises may also have to employ two to three times more workers than actually required to run a facility. This may also affect price and quality.

2 As will be seen, the Soviet assisted factories have many similar characteristics. By considering the data in this way (two detailed case studies and less detail on the other plants), it is hoped that repetition in presentation is avoided.

Part I

Aliaga Refinery and Seydisehir Aluminium Works

In this part, the Aliaga Petroleum Refinery and the Seydisehir Aluminium Works are discussed. These are chosen from among the Soviet factories visited because of special advantages afforded in data collection. The Aliaga refinery is discussed in detail because it has Western and Soviet units side by side. Part of the plant was built with Soviet economic and technical cooperation and part was built under separate contracts with Western companies. Thus, engineers at the plant have experience with Soviet and Western suppliers. Because they have worked with Eastern and Western documents, training, equipment and so forth, their insights are valuable for comparative purposes.

In the case of Seydisehir, this study has the benefit of drawing from plant assessments made by some of the aluminium industry's most experienced consultants. At the time of my factory visit to Seydisehir, a team from Bechtel Engineering and Kaiser Aluminium-US was undertaking a six month study of the plant.[3] They were able to provide me with invaluable assistance in going over blueprints and operating manuals. Because they had worked on many of the aluminium plants in the West and and in the South, they were also able to provide some basis for comparison on design, personnel training and equipment quality.

Equally invaluable was access provided to the factory's personnel and operations. In this case, as in the Aliaga refinery and the other factories in this study (with the exception of the Eregli iron and steel mill), I was provided with extremely generous assistance by the plant's engineering staff, and with access to the entire factory.

As mentioned before, the examination of case study factories will be roughly divided into four categories: 1.) business practice restrictions, 2.) documentation, 3.) personnel training, and 4.) equipment and process quality.

Aliaga Petroleum Refinery

The Aliaga refinery began operations in 1972, using crude oil refining technology provided by Soviet economic and technical cooperation. Refining capacity at the time was three million tons. The objective was for local personnel to learn how to operate

3 The main focus of their study is energy efficiency.

the plant efficiently at this capacity and then to step-up production to five million tons. This would be accomplished by 'debottlenecking', making slight changes with the intention of reaching the plant's installed capacity. In 1983, a major expansion to double the plant's refining capacity commenced. This effort has also been undertaken with Soviet economic and technical cooperation.

For the original five million ton capacity refinery, the Soviet Union provided a $25 million credit for equipment, design and know-how. Credit for the expansion was $53 million. According to the plant's financial management, the equipment and expertise purchased with the original credit would have been priced at twice as much if provided by the West. The 1983 expansion, as discussed in Chapter 4, if carried out by Western firms, would have cost three times as much. Thus, while the credit was set at $25 million and $53 million, these prices do not adequately reflect, in Western terms, the quantity of equipment and expertise actually transferred.[4]

Aliaga also contains units built with equipment and expertise from Western countries. In the early 1970s units were purchased, without the benefit of credit, from Western firms. The most important were a fluidized catalytic cracking unit (FCC) and a lube oil complex. The FCC unit uses processes under Universal Oil Products-US (UOP) license. The lube complex was built by Foster Wheeler-Italy. The processes were purchased from Texaco-US and British Petroleum. For basic refining equipment and processes, the Soviet Union is the main supplier for Aliaga. For operations involving highly sophisticated processes, as in fluidized cracking, Western countries are the main suppliers.

In the following sections concerning business practice restrictions, documentation, personnel training, and equipment quality, Soviet involvement at Aliaga is described and compared to Western involvement.

Business Practice Restrictions

The Soviet units at Aliaga are under no restrictions aside from the general stipulation that designs cannot be sold to third parties without remuneration to the Soviet Union. It is left entirely up to the plant's staff whether production is expanded,

4 This point is very important in the context of demands by the Group of 77 calling for a fixed percentage of industrialised countries' GNP to be devoted to aid (discussed in Chapter 3). If Soviet assistance is 'underpriced' then this shows up unfavourably in aid/GNP figures. If the Soviet Union charged higher prices then it would appear in disbursement figures that Soviet cooperation is greater. However, this would have negative consequences for developing countries in that they would have to repay larger amounts.

if the plant should be modified, who should undertake maintenance, where inputs should be bought and so forth. Furthermore, there are no licenses or royalties. The technology was sold outright. According to Aliaga management, the reason for this is that the atmospheric distillation technology supplied by the Soviet Union is standardized. Unlike newly developed processes and equipment, or that monopolized by a single firm or country, distillation technology is relatively simple and not highly secretive.[5]

The Western units at Aliaga utilize technology that is less well known. In contrast to the Soviet units, they are subject to numerous restrictions. They are also subject to royalties which extend for periods longer than those found in most Turkish industry. In many cases, they cover the expected lifetime of the unit. Thus, it is not uncommon to find royalty periods which far exceed the government's stipulated, but not enforced, limits of five to ten years. The lube oil complex, for instance, carries a 17 year royalty period. The FCC unit carries a 15 year royalty. Furthermore, the royalty is increased for each increase in output and it is extended when major improvements are introduced. The plant's technical chief commented that every time he tried to negotiate to lower the royalty period, he was turned down. 'If you say 10 years, they say 15 or no technology.'

Western firms' restrictions extend beyond patent protection and royalty payments for licenses. UOP, for instance, insists that any improvements undertaken by Turkish personnel are the property of UOP. Thus, if a patentable improvement is made it is owned by UOP rather than by the Turkish firm. There are also cases of technological packaging: initial contracts stipulate that firms must purchase future inputs of chemicals and services. The service contract for the FCC unit provides an example. On a regular basis, foreign experts from UOP visit Aliaga to carry out maintenance and to discuss improvements. Refinery personnel are generally not allowed to undertake these on their own. Nor are they given full information about how or why changes are being made. Inputs needed for the unit must also be bought from UOP. One engineer referring to Universal Oil Products commented that: 'The experts come here to sell a product. Not to show how to solve a problem.' The technology is so restricted that, according to the same engineer, 'we always have to depend on them.'

This problem is also associated with documentation that is provided along with equipment and processes. This is discussed in the following section.

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5 For background information on refinery technology, see Austin [1984, Chapter 37].

Documentation

This section presents findings regarding the quality of documentation. As argued throughout this study, the quality of technology transfer cannot be evaluated on the basis of equipment and processes alone. If there is a concern for building up independent capabilities, documentation, along with personnel training; business practice restrictions; and other factors influencing the transfer of know-how, are very important.

The matter of documentation quality was one in which plant engineers had widely varied opinions. Thus, it ended up being the issue in which the most people were questioned.

The chief design engineer argued that Soviet notations are difficult for most of the design team to work with because they were trained at university to use notations commonly used by Western countries. He also cited the detail provided in Soviet blueprints as being a drawback. They are, in his opinion, too detailed and thus take-up too many design sheets. It is then difficult to find the exact sheet one needs. On Western design sheets, broader information is presented. Thus, it is easier to get an overview. The chief design engineer and the chief mechanical engineer also said they would prefer that explanations be contained in tables rather than text, the general Soviet method. Sifting through the latter requires more time. The other major drawback cited concerning presentation is that Soviet documents are sometimes handwritten rather than printed.

Whereas the complaint about Soviet data is that it is too voluminous, the opposite problem was expressed by some of the plants mechanical and civil engineers with regard to Western data. One comment made by a chief civil engineer was that by using Soviet documents, Turkish personnel could build the plant themselves. With Western documents, this could not be done because too little information is provided. One of the mechanical engineers argued that while UOP presented their material in graphic form, the graphs did not provide enough information to carry out operations. She must continuously telex UOP to request more information. 'We have to ask them everything since they don't supply enough information. The catalysts in the reactor have very critical points, but they don't tell us in their graphs what the right temperatures are, or how much water and chloride to inject. We always need to ask more questions and then they have to visit.' She preferred working with the Soviet manuals since they

provide more complete information.

The same problem is encountered in the Western supplied lube oil complex. Not enough information is provided in guides. Thus, there is continuous dependence on outsiders for information. According to the lube oil manager, the information is not always forthcoming. Often he is simply told that everything is operating fine when, in his opinion, it is not. Husamettin Danis, the refinery's Assistant General Manager, commented on a sulphur unit with licenses from a US firm. Insufficient documentation has been provided. He has written to the firm for over ten years but has not received a reply. 'So the unit runs at half the minimum capacity it is supposed to have.'

In visiting the documentation archives and in observing documents being used throughout the plant, it is indeed evident that Soviet documents are more detailed than Western. It is also evident that their presentation is less concentrated in terms of tables and graphs than many of the Western firms' documents. A comment can be made upon one other point of presentation that was mentioned. The Soviet Union is not alone in the practice of hand written documentation, a practice which some engineers were highly critical of, citing it as proof that Soviet documentation is second-rate. Among the Western firms sending hand written documentation were Foster Wheeler and Mitsubishi Heavy Industries. The Soviet Union is criticized for hand writing their documents, whereas the Western firms are not. Criticizing Soviet 'faults' while overlooking the same 'faults' by Western firms is a bias that is repeated in many of the case studies.

Equipment Quality and Plant Design

Because the Soviet and Western units are not duplications of one another, it is not possible to compare the quality of the units in terms of operating efficiency. However, several points can be made. Distillation technology is considered to be relatively standard the world over. That is, there are few quality differences. This is one of the reasons that for the original purchase and for the expansion, Soviet technology was chosen. In units where the technology is fairly standardized, price and credit are the most important factors determining why a particular technology supplier is chosen.

For units at Aliaga in which clearly there are world leaders, equipment quality is the determining factor, overriding price; credit; and other considerations. Thus, in some cases units were purchased from Western companies because the technology was considered to work better than similar technology available from the Soviet Union.

Still, in other cases in which technology was purchased from the West, similar technology was not available from the Soviet Union. Additionally, individual pieces of equipment and processes were purchased from the West when it was considered to increase the operating efficiency of Soviet units. For instance, wherever possible, Soviet catalysts and Soviet instrumentation have been replaced with Western catalysts and instrumentation. In these two areas, both crucial for competitive production, Soviet technology has not kept up with Western technology. The Western technology was considered superior enough to the Soviet technology for the plant managers to replace technology already existing at the plant.

While Western refinery equipment is considered to be more efficient with regard to sophisticated processes and equipment, its drawback is cramped design and lack of durability. Numerous problems have been encountered in trying to maintain Western equipment because parts are placed right next to each other or directly on top of one another. This leaves little work space. One of the chief engineers commented:

> You can't work freely in the area. The furfurol units need regular maintenance but they are three levels above ground and there is no platform for maintenance work. Thus, we need to pull out the unit by tilting it. Can you imagine working 30 meters high with eight million tons of equipment? To do this we had to buy special equipment from Holland. This costs money and it is dangerous.

In the case of heat exchangers, the Western units are five floors high, whereas the Soviet units are on the ground. A crane has to be used and guard rails torn out in order to maintain or repair the Western exchangers. The same problem occurs with regard to expansion. 'There is no room. We have to close a road to modify the equipment. We have to build a new road.' The chief engineer sarcastically added: 'You have to be an excellent engineer to modify.'

An additional problem caused by the congestion of Western units is that there is too little air circulation, thus resulting in safety hazards. The general opinion regarding maintenance, repairs and modifications of Western equipment was summed up by the chief engineer of the lube oil complex: ' it takes more time, more money, it's dangerous and a critical problem.' The advantage of the Western design is that less material is used and thus it is less expensive than it would be if additional piping for a larger area were provided. These advantages, according to the plant's engineers, do not outweigh the disadvantages.

The difference in design between Western and Soviet units is readily observed at

the refinery. The columns in the Soviet distillation unit are almost three times farther apart than the columns in the Western lube oil complex. The Soviet heat exchangers are also placed wide enough apart so that additional heat exchangers will fit between them. The Western heat exchangers are spaced very tightly together. Room is not left for expansion or for maintenance and repairs.

Soviet equipment is spread out over a greater land area. On the Aliaga site, land is plentiful so this does not cause a problem. It, instead, facilitates expansion, maintenance and repair work. According to chief mechanical engineer, Oguz Işitman, 'The Soviet area is sufficient. You can use the existing spaces to double the capacity and there is plenty of room for maintenance. You have the ability to make modifications much easier than with Western equipment.'

The Soviet equipment was also noted for its reliability and for greater durability than Western equipment. This is especially important because there can be frequent fires in refineries. When these occur, little damage is suffered by the Soviet equipment. According to chief mechanical engineer, 'Soviet equipment lasts much longer than Western equipment and it can work in severe conditions.'

Thus, it is evident that both Soviet and Western equipment have their strengths and weaknesses. Soviet technology is considered superior in terms of design and durability. It is easier to maintain, repair, and expand. Western equipment is considered superior in terms of sophisticated processes and instrumentation, both of which have a significant impact on operating efficiency and are crucial for maintaining competitive production.

Personnel Training and Foreign Experts

Of major importance in the build up of technological capabilities is the training of local personnel. Are they capable of running a factory, of maintaining it, of modifying it? Or does the country remain dependent on the skills of foreigners?

Information on training mostly pertains to the Soviet units at Aliaga. Personnel training was undertaken by the Soviet Union as part of its technical and economic cooperation package. It was also undertaken by Western firms which sold technology. However, with the exception of training undertaken by Texaco, plant personnel remembered little about Western training and assert that it barely existed.

Dissatisfaction was expressed over the Texaco training. Twenty Texaco experts came to Aliaga for two months to start-up the lube oil complex. They did not actually train Turkish personnel, according to the lube oil manager. 'No special training was held. They showed us how to do a few things during start-up. There were misunderstandings and delays in answering our questions. It was not very helpful.' Turkish personnel requested but were not allowed to go to other Texaco plants to learn operations. According to the plant's Assistant General Manager, 'I was not impressed with their "experts". The people they sent could not have been "experts" so we had a hard time commissioning the plant. They just sold the technology and forgot about us. They received the license fee and that was it.'

With regard to the other Western units, staff felt that because of poor training they have had to continue to depend on Western experts rather than run the plant on their own. This has been a source of continuous problems because relevant information has sometimes been difficult to obtain. Thus, the plant has not run as efficiently as possible.

The Soviet training was looked upon with more favour. Turkish personnel went to train at refineries in the Soviet Union for three months. During Aliaga's erection, construction and start-up, Soviet experts worked with Turkish personnel, thus, providing further training. According to one of the engineers who received on-site training in the early phases of construction and operation, 'Soviet personnel solved the problems but we worked together so we were trained this way. They were there to help when they were needed. Overall, I was happy with the transfer.' This was the general opinion expressed by the plant's managerial and engineering staff. Compared with Western training, they learned more and they perceived that there was greater willingness on the part of Soviet experts to share their knowledge.

Soviet experts have not been relied upon in the same way as Western experts. Their main role has been to make sure that the plant is erected and constructed according to the project design and that local personnel are trained so that they can take over operations. Soviet specialists include training in maintenance and repairs so that local personnel are left with the capacity to keep the facility in operating order. This kind of training was not available from Western specialists at Aliaga.

In one other aspect Soviet experts have been accorded greater merit than their Western counterparts: they cost less. In 1987, a Soviet expert cost $1,800 per month.

The cost of a Western expert averages $6,500 per month. In the 1967 agreement, the cost of a Soviet expert was $730 for the supervising engineers, $710. for chief engineers, and $630 for senior engineers.

Modifications

If training and documentation are of high quality then it would be expected that through learning that takes place in the factory, personnel are able to undertake modifications, maintenance, and repairs without constantly referring to foreign experts for advice. It would be expected that local personnel acquire the capability to undertake these tasks themselves or with less dependence on outsiders. Because the build up of indigenous skills is important in this study, the ability to independently undertake modifications, maintenance, and repairs is important. It is a proxy, an imperfect one, to assess if there is greater indigenous capability.

Acquiring such capability can be held back by restrictions imposed by technology suppliers. As mentioned before, restrictions were imposed by some of the Western suppliers and indeed hindered learning by Turkish personnel. Several engineers commented that because they were not allowed to open up a piece of equipment to fix it, they could not learn enough to know how the equipment worked. Because of service contracts stipulating that the supplier would undertake maintenance and introduce improvements to the technology there was, once again, less avenue for local engineers to learn. Service contracts were found to pose a great problem. However, not all restrictions have to be closely adhered to. For instance, with restrictions on duplicating equipment, sometimes equipment would be copied and then local engineers would make one small change to circumvent legal regulations.

Unfortunately, there was no satisfactory way to ascertain to what degree, if any, personnel became more skilled by working on the Soviet or the Western units. Personnel cross over and work in many different areas of the refinery, Western and Soviet. And, in spite of service contracts and other restrictions imposed on the Western technology, there are still problems to be solved, and learning that comes from problem solving. The engineers do not simply push buttons. When it is allowed, they introduce changes and they carry out maintenance work. Their skills do appear to be enhanced. Take even the remark by the chief engineer concerning the difficulties encountered working with densely packed equipment, 'You have to be an excellent engineer to modify.'

Engineers may be held back by restrictions and the lack of detailed information from the supplier but they are not stopped altogether. For many of the engineers at Aliaga, there is a sense that being an engineer means improving things. Be it in a Soviet unit or a Western unit. In instances in which there would be a clear contractual infringement, engineers were hindered. But, in general, technological learning was not stopped altogether. Nevertheless, in those cases in which engineers and technicians have not been allowed to go inside the equipment or have access to process formulas, indigenous capability has suffered. Engineers have had to continuously rely on foreign experts because they have not been taught the skills or given the necessary access to equipment and documentation to teach themselves. This is the case with UOP and Texaco, according to most of the plant's engineers. There was no evidence of this with the Soviet equipment and processes.

Thus, if technology transfer is to be judged on the grounds of building up indigenous skills, the Soviet style transfer is preferred to the style exhibited by Western companies involved at Aliaga. In terms of documentation, personnel training and business practice restrictions, the Soviet Union has made a significant contribution to technological learning.[6]

Seydisehir Aluminium Works

In 1967, the $62 million agreement was signed for the Seydisehir aluminium works. This would be Turkey's first and only integrated aluminium facility. The Soviet Union agreed to supply design, know-how, and equipment for the factory which would contain a 600,000 ton/year capacity bauxite mill, a 120,000 ton/year capacity alumina plant, a 60,000 ton/year aluminium smelter, a foundry to produce semi-fabricated products such as ingots and billets, a rolling shop with 66,000 tons/year hot rolling capacity and 27,000 tons/year cold rolling capacity for finished products such as foil. A workshop for manufacturing spare parts and other auxiliary units such as laboratories and energy facilities were also included in the agreement. According to management and to former Minister of Industry and Technology Erhan Isil, the cost of these facilities if they could have been obtained from Western corporations would have been three times as high.[7]

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6 Some might question if this is a significant transfer given that the documentation, training and restrictions did not involve equipment quality and processes at the 'frontier' of knowledge. According to the majority of managerial and engineering staff interviewed at the refinery, it was, nevertheless, important that learning could occur.

7 Although great caution needs to be taken when comparing prices of technological equipment because equipment differs, it is still interesting to note some of the prices of alumina and aluminium equipment around the time of the Seydisehir contract. Figures cited by Brubaker [1967] support the contention that

In May 1973, Turkey produced its first alumina. In November 1974, the first aluminium was produced. These were produced with the help of Soviet technical experts who worked alongside and trained Turkish engineers. In 1979, without the aid of Soviet personnel, Turkish machine builders and engineers brought a new unit into production, a 45,000 ton/year capacity aluminium sulphate plant. As discussed in the following sections, the skills taught by Soviet experts, and other aspects of the transfer such as lack of restrictions, and the experience of operating and making changes have contributed to the increased capabilities of the Turkish staff. They could create new units of technology.

In the mid 1960s, when Turkey negotiated the project assistance with the Soviet Union, the aluminium industry was extremely concentrated. The structure of the industry at the time was one in which there was very little national ownership and control exercised by developing countries. Eighty two per cent of output in the West and the South was controlled by six multinational corporations: Reynolds, Kaiser, and ALCOA of the US; ALCAN of Canada; Pechiney of France; and Alusuisse of Switzerland. In addition to their control of aluminium smelting, they controlled each of the basic processes with the vertical integration of bauxite mining, alumina production, semi-fabrication, and fabrication. A nationally owned import-substitute oriented aluminium industry was all but unheard of in the South.

With few exceptions, the six multinational aluminium producers still dominate the industry in Western countries and in the South. Turkey has been able to control its aluminium industry by resorting to the Soviet Union for technical and economic cooperation. By doing so, it has avoided a web of concessions to multinational corporations. Turkey has also been able to avoid outside political interference that has so often plagued developing countries with foreign investment in aluminium.[8]

According to interviews with former Prime Minister Suleyman Demirel, there has never been political or economic interference by the Soviet Union in connection with Seydisehir (or other Soviet economic and technical assistance projects). There have been no concessions either asked for, or granted.

Business Practice Restrictions

Western equipment was priced significantly higher than the equipment made available by the Soviet Union.

8 See Graham [1982].

The Soviet Union has not therefore placed pressure on the Turkish government with reference to Seydisehir. Nor has the Soviet Union sought control of factors internal to the plant; modification restrictions, production limitations, and so forth. According to Erdem Solen, Director of Investments and Production Control at Seydisehir, there is a sole restriction on the technology. It cannot be sold to a third country. It may be replicated in Turkey, it may be expanded, it may be modified, it may be shut-down. These are factors for Turkey to determine, they are not under any controls imposed by the Soviet Union.

The lack of controls on the technology is so extensive that I found the subject difficult to discuss with the plant's engineers. Because Soviet technology is so free of controls it was hard to explain to technical staff that controls exist in many factories and that the subject is worthy of study. The chief engineer of the alumina plant was particularly vociferous: 'We buy the technology. No one has the right to tell us what to do with it. It is ours.' To his way of thinking, tinkering is the business of engineers and it would be unimaginable to be restricted by the technology supplier.

To the personnel interviewed, the idea of controls imposed by the technology supplier was ludicrous. They simply had not experienced any. The exception was laboratory personnel who worked with a Swiss made spectrometer, a machine used in the analysis of chemical properties. It is an interesting example because it is a case, albeit a very small one, in which Soviet and Western practice could be contrasted more precisely as spectrometers have been supplied by both.

According to laboratory technicians, the Soviet-made spectrometer is more accurate in analyzing aluminium with small amounts of other metals. The Swiss-made machine out-performs the Soviet machine on aluminium alloyed with large amounts of other metals. The Soviet machine is older and requires more labour time. Graphing the elements must be done by hand and each graph takes around two minutes. The Swiss machine uses a computer graph system which requires a few seconds.

The problem occurs in relation to maintenance and repairs. The Soviet machine is simple and easy to maintain and repair. In over 20 years of use, lab technicians have been able to keep it maintained without any problems. The Soviet Union provided enough spare parts so that only very recently have Turkish personnel had to produce their own. This has been easily accomplished because of the high quality of manuals and drawings sent by the Soviet Union. The Turkish side is not allowed to perform

maintenance or to repair the Swiss spectrometer. This is because of contractual stipulations to protect know-how. Each time maintenance or repair is necessary, a technician from Switzerland must fly out to Turkey, and the Turkish plant must pay each time. It is not unusual for the machine to be out of use for a couple of weeks while waiting for repairs. According to the lab technicians, the conditions attached to the purchase of the Swiss made machine are unsatisfactory. They prefer the Soviet arrangement which does not involve protection of know-how.

Although this example is drawn from a relatively insignificant portion of the factory, it is, nonetheless, informative with regard to the importance of being able to go inside the 'black box'. That is, being able to tinker with an object and learn how it works. By tinkering with the Soviet spectrometer, the staff was able to maintain and repair it without depending on outsiders and using more foreign exchange. They were also able to increase their technological skills by the act of undertaking these tasks. The lab technicians were strong in voicing this opinion.

The matter of controls may become a more prominent issue at Seydisehir as new equipment is purchased to replace the old or as plant capacity is expanded. For instance, the bid received for plate heat exchangers from France included the stipulation that know-how would be protected. The French offer is for the sale of equipment only. They refuse to transfer know-how.

Equipment Quality and Plant Design

In this section and in the following sections, I draw largely from conversations with consultants from Bechtel Engineers-Kaiser Aluminium who were undertaking a study of Seydisehir during the time of my factory visit in April, 1987. Consultancy studies undertaken at the time of start-up, observations within the factory, and technical literature on aluminium are also drawn from.

A proxy for the quality of aluminium equipment is the amount of electricity used in smelting. The state-of-the-art is 13,500 kwh/ton aluminium achieved at the Becancour smelter in Quebec.[9] Production commenced in 1986. By comparison, Seydisehir is a high electricity consumer. It uses 16,500 kwh/ton. However, it should be noted that this is the 1986 average for the aluminium industry in the US. It should also be noted that it was respectable at the time Seydisehir was built, in the late 1960s. At the time, average consumption was approximately 17,000 kwh/ton.[10] Far from being

9 *Engineering and Mining Journal*, Nov., 1986, p.9, McGraw Hill.

exceptional, the 16,500 kwh/ton is the same that was estimated for the proposed Reynolds Aluminium plant mentioned in Chapter 5. According to the Bechtel-Kaiser team, the Soviet consumption levels were appropriate at the time the plant was built, an era of relatively low energy prices.

With increases in energy prices since the 1970s, steps have been undertaken at Seydisehir to improve energy efficiency, now the major determinant of internationally competitive production. However, far reaching changes in energy consumption have been slow to occur. According to one of the Bechtel-Kaiser experts, the plant can easily be modified and should be able to reach significantly lower levels of energy use than at present. The major problem cited was management conservatism rather than the original Soviet equipment and design. Engineering staff was frustrated that it was because of recommendations made by outside Western consultants that systematic efforts would be undertaken to improve energy consumption levels. These improvements had previously been proposed by plant personnel. Management, however, maintained the attitude that well enough should be left alone. According to the consultants and to the plant's chief engineers, there has been constant tension between the engineers desire to push operations beyond design parameters and management's desire to 'play it safe'.[11]

With further reference to the 'appropriateness' of plant equipment, Jim Ford from Bectel-Kaiser argues that the degree of sophistication of the equipment was appropriate at the time the plant was built. If the technology was more complicated, Turkish personnel would not have been able to master it. After all, Seydisehir was Turkey's first aluminium enterprise. The country did not have previous experience. According to Ford, 'the plant was the best possible at the time since Turkey had cheap electricity and needed simple technology so they could operate it when turned over. If the Soviet Union transferred a more complicated plant, it would have been inappropriate.'

William Ross, also of Bectel-Kaiser, explained that plant expansion can be undertaken with relative ease. In his assessment of the plant's overall design, Ross, who like the other consultants has surveyed many of the world's aluminium plants, was 'dazzled' by Seydisehir. 'They built a cadillac. Any world aluminium expert would be in awe. It is beautifully designed for expansion. The plant can continue to operate at the same time. Everything is laid out perfectly. I have never seen such good

10 See Brubaker [1967].

11 Management conservatism is not an uncommon phenomenon within Turkish state enterprises. See, for example, World Bank Consultancy Service Project [1985].

design work.'

The plant's engineers commented that the design facilitates maintenance, repairs, and modifications as well as expansion. According to one of the plant's chief engineers, Etem Gencher, the plant is 'over-built'. That is, there is back-up equipment. If one piece of machinery is being maintained, the other will go into operation. Thus, production does not have to cease. Owing to the plant's spacious lay-out, there is also plenty of room to undertake repairs.

Ross and Gencher both pointed out Soviet equipment's high durability. It is heavy and built to last long. According to Ross, it lasts longer, on average, than equipment used by the six major Western producers. According to engineers working in the spare parts division, the equipment has out lived the life expectancy stated by the Soviet suppliers. In some cases spare parts are no longer available from the Soviet Union because it is well beyond the guarantee period for the equipment lifetime and spare parts supplies. Because the majority of spares have always been produced in the plant's workshops or by Turkish businesses outside of Seydisehir, this does not always cause a problem. However, with parts that are uneconomical to produce within Turkey, it is a problem. These parts, if no longer produced in the Soviet Union, must either be obtained from other countries or management must consider replacing the entire piece of equipment. They would, instead, prefer that spare parts remained available from the Soviet Union for a longer time period.

In interviews with engineers from the plant's units: alumina, smelting, semi-fabrication, and fabrication, and from the auxiliary areas: laboratories, spare parts, steam centre, and so forth, there were no major complaints regarding the quality of Soviet equipment. It was regarded as solid and dependable. There was general concern about increasing energy efficiency. The other concern was about increasing the quality of finished goods, particularly better standardization of aluminium foil thickness. The plant engineers felt that more modern equipment would be necessary for the latter.

Although overall design and equipment were highly rated, a major flaw in the alumina processing unit was found by the Behtel-Kaiser engineers. It appears from the original blueprints that the automation system used for setting-up temperature and process control for the Bayer process was poorly designed and never properly worked. The control system was torn out by the plant engineers during early operations. The chief alumina engineer did not point this out. When later questioned, he said that he

preferred to operate these controls manually so it was not a problem for him. The consulting team, nevertheless, recommends that a new automation system should be installed to avoid potential human error. This is opposed by the chief engineer on the basis that the alumina unit has achieved operating parameters higher than those guaranteed and that personnel are accustomed to manual control. Regardless, the problem appears to stem from an original design fault.[12]

Thus, with the exception of a control flaw in the alumina unit, the equipment transferred by the Soviet Union is of a high standard. Perhaps the most important assessment of the equipment is its 'appropriateness' to conditions within Turkey. Its energy consumption levels were acceptable at the time, the technology was simple enough for Turkish personnel to master, and its design took the potential for expansion into account. Furthermore, the equipment is highly durable and easy to maintain and repair.

Documentation

In assessing documents sent by the Soviet Union, it is once again useful to draw on the comparative judgement of the Bechtel-Kaiser engineers as well as on the judgement of plant personnel who have worked with these documents. The Bechtel-Kaiser consultants have had extensive access to blueprints and equipment and process manuals from the world's leading aluminium producers. Among the Seydisehir engineering staff, several had trained abroad or were otherwise familiar with the available literature and could also make some comparative judgements.

Operation, maintenance, and repair manuals were sent with each piece of machinery sent by the Soviet Union. Extremely detailed shop floor drawings of the equipment were also included. The Bechtel-Kaiser team commented that they had never seen such detailed drawings transferred by a technology supplier. Drawings contained all the dimensions necessary to reproduce equipment. In fact, that is exactly what has been done in many cases. Because of the thoroughness of drawings, a wide variety of spare parts have been produced within Turkey. In some cases machines have also been reproduced and sold to other businesses within the country. According to the Seydisehir engineers, given the information provided by the Soviet Union, the entire factory could be reproduced. They hasten to add that it would be uneconomical to do so as a one-off endeavor.

12 I was unable to ascertain if Soviet supervisors who were present in the start-up phase were aware of this problem and if they took part in over-riding the automatic controls.

Operating guides and repair and maintenance manuals include equally extensive details. Staff has relied on these since the plant's start-up. The Bechtel-Kaiser team found them and the Soviet blueprints extremely useful as the basis for their proposed plant modifications. The only shortfall found by both staff engineers and the consultants is that operating guides do not always show how calculations are derived. For instance, input mix equations will be presented but there will be little explanation about why it is the correct equation. The Bechtel-Kaiser engineers explained that this type of information probably would not be available from other aluminium producers or engineering contractors. Nevertheless, it would be useful if this information were included in technology transfer.

Another comment received on documentation was that the Soviet Union remains the most accessible source of information. Subsequent to fulfilling the agreement, information has been provided free of charge. With respect to obtaining information from other companies, cost is often the prohibitive factor.

Aside from the failure to give more exact information on deriving calculations, Soviet documentation was judged to be excellent. It appears to be much better than documentation provided by other aluminium concerns.

Personnel Training

Before start-up, about 120 Turkish engineers, technicians, and other skilled workers were sent to the Zaporozech aluminium plant in the Soviet Union for training. They stayed from four to six months, depending on their specialization. Training was provided at all levels. The groups were separated and taught according to their starting level. Thus, basic knowledge was the starting point for some groups, whereas others began with highly advanced physics and chemistry. All aspects of operations were covered in the training, including maintenance and spare parts production. According to Erdem Solen, Director of Investments and Production Control, the Soviet instructors did not keep anything secret. 'What knowledge they had, they gave to us.'

Equally beneficial to Turkish personnel was on-site training. Turkish and Soviet personnel worked side by side during construction, erection, and start-up. Together, the plant was taken into operation. Furthermore, whenever the Turkish side demanded additional training on specific subjects, such as how to use x-ray equipment or rolling

shop equipment, this was provided.

The quality of training is even more impressive when one considers that the aluminium industry was brand new to Turkey. Before Seydisehir, Turkey had no experience with production of this type. There was no reason for the processes to be taught to engineers at Turkish universities. Chief engineer Gencher stressed the point that the knowledge local personnel had about aluminium came from Soviet training. He also stressed that now that they have knowledge and production experience, they are no longer dependent on the Soviet Union for knowledge. They are better able to 'search' for information from a variety of sources.

From the point of view of those who have received training either on-site or in the Soviet Union, training was excellent. This is also one of the findings made by UNIDO consultant, Francis Biro, in a study undertaken in 1974, shortly after start-up.[13] Although production was interrupted by a nation-wide electricity crisis and by shortages of caustic, a major input, Biro found that the staff was well enough trained to take over the tasks previously performed by Soviet experts. 'The local staff can and could meet the requirements of the whole production and that of the emergency state.'

Local personnel have, indeed, been able to run the plant without continued reliance on Soviet experts, or any other outside experts. All but a few members of the Soviet staff, which numbered 187 at its peak, left the plant within six months of the start-up date of each of the major units. The last Soviet experts left in 1973. They had worked alongside Turkish personnel in erection, construction and taking the plant into operation. According to chief engineer, Etem Gencher, the Soviet experts undertook those tasks which the Turkish personnel were not previously experienced. The division of labour was very good and Soviet personnel taught their skills to their Turkish counterparts. Thus, once start-up had succeeded, Turkish personnel were capable enough to run the plant almost entirely on their own. After start-up, foreign experts were called in mainly for new units.

When asked what would be done differently with personnel training if a new plant were to be built today, Erdem Solen responded that the staff would not be sent to the Soviet Union for training. He explained that they would not need to go because they are already so well trained that they could operate an additional plant without further preparation.

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13 Biro, F., 1974, Evaluations and Progress on Alumina: Project Findings and Recommendations, UNIDO/UNDP, DP/TW.R/72/006/11-01/02.

The problem arises that if staff is so well trained then why are outside experts, namely the Bechtel-Kaiser team, presently being used? This is a major case of outside assistance. There is some question among the Turkish engineering staff and the Bechtel-Kaiser personnel about how much of this outside expertise is actually needed. According to some of the consultants, they are, to a notable extent, 'rubber stamping' recommendations already made by the local staff. Management at Etibank, the plant's controlling state agency, and, as previously mentioned, within the plant have been reticent about letting the engineering personnel carry out major changes which, according to Bechtel-Kaiser experts, they are highly capable of undertaking. One of the Bechtel-Kaiser consultants asserted that 'the problem is over cautious management philosophy. The engineers are very well trained. They have the ability to learn and change things quickly but management figures why change things when the plant has always operated. There has never been a day it has had to be shut-down since it was started-up.'

A further bias against local personnel is the tendency on management's part to listen to outsiders rather than to Turkish personnel. There is a notable case in which a proposal submitted by one of the plant's chief engineers was turned down by management. When the exact same proposal was submitted by one of the outside 'experts', it was accepted. Frustration was voiced by internal staff and by the outside consultants that management conservatism had on many occasions prevented improvements from being made.

As discussed in the next section, the plant has, nevertheless, undergone a constant stream of incremental improvements and in the case of a new aluminium sulphate unit, at least one major change.

Modifications

The ability to adapt, modify, and create technology is often used to define the build-up of indigenous technological capabilities. It is the skill embodied in personnel that results in these changes. Thus, in interviews with plant personnel and with outside consultants, it was important to discern to what extent modifications, adaptations and the creation of new technology has taken place. Because the operating environment of a plant is not neutral this indicator is imperfect. It is, nevertheless, useful to try to separate influences operating from within the plant from those imposed from the outside.

Even with management's conservative bias, engineers have been able to improve the plant's operation. They have reduced inputs, they have changed inputs to react to shortages and price changes, they have changed the product mix and they have created entirely new units. For example, in 1979, plant personnel with the assistance of Turkish equipment manufactures, established a 45,000 ton/year capacity aluminium sulphate unit. At the plant, engineers pushing for higher efficiency levels can be readily observed. Experiments to lower input usage and to change input mixes are constantly being undertaken. As in the case of the Aliaga refinery, there is the philosophy that tinkering and improving efficiency is the business of a good engineer. In contrast to Aliaga, however, the major limiting factor on undertaking modifications at Seydisehir is management philosophy. At Aliaga, the major hindrance is business practice restrictions imposed externally by the refinery's major Western suppliers.

Conclusion

In the two factory case studies discussed in this part, many similarities exist. Business practice restrictions on Soviet equipment are minimal. The technology cannot be sold to third countries. It may be modified, repaired, maintained, and expanded; parts may be reproduced; and entire units may be reproduced. There are no royalties, although this is not surprising since the technology in question is standardized and, thus, not under proprietary control of the Soviet Union.

Soviet documentation at both facilities was detailed and voluminous. At Seydisehir, this was not considered a drawback. According to some members of Aliaga's engineering staff, this was a problem. Soviet presentation made it difficult to find specific information at a glance. There were also complaints about Soviet standards. It was difficult for some of the engineers to work in both Western and Soviet standards. Opinion at Aliaga was mixed. Some engineers preferred working with Soviet documentation. Many staff members preferred the thoroughness of Soviet information. The major complaint against Western documentation was that, although it was well presented, important details were omitted, thus causing continuous reliance on Western suppliers. At Seydisehir, Soviet drawings were considered superior to those found at other factories in which the Bechtel-Kaiser consultants had worked. Plant staff also thought that their quality was excellent.

In terms of the quality of equipment, design, and processes, Soviet equipment at both factories was noted for its durability and reliability. Lay-out was considered to be

excellent, especially since it facilitated maintenance, repairs, and expansion. Soviet instrumentation at both factories was considered to be below Western standards. At Aliaga, many of the Soviet computers have been replaced with Western models. At Seydisehir, more electronic controls will be introduced. Western chemical processes were also considered superior to Soviet processes at Aliaga. Western design was criticized for being very cramped. Thus, the strength of the Soviet Union is equipment durability and overall lay-out. Its major weakness when compared to the West is that it is less advanced in terms of operating efficiency.

Personnel training undertaken by the Soviet Union at both factories was looked upon favourably. Training took place at similar factories in the Soviet Union and on-site. Western training at Aliaga was considered to be poor. It lacked the extensiveness of Soviet training and Western firms appeared to hold back necessary information.

In conclusion, with the exception of differing opinions on the quality of Soviet documentation, the Soviet transfer was similarly perceived in the Aliaga refinery and the Seydisehir aluminium plant. Strong points for the Soviet Union were personnel training, lay-out and durability, and the lack of business practice restrictions. The major weak point was computer controls. At both factories, documentation was considered to be thorough, although with some faults in the quality of presentation mentioned at Aliaga. At Seydisehir, it was considered to be of high calibre.

Part II

Comparisons: Soviet and Western

In Part I, the Aliaga and Seydisehir facilities were discussed with reference mainly to business practice restrictions, equipment quality, documentation, and personnel training. Comparative costs were briefly mentioned. In this part, the six additional Soviet assisted plants visited as part of this study are discussed. Similarities and differences among these plants and between them and Aliaga and Seydisehir are highlighted. Comparisons are also made with the Western assisted plants included in this research.

It should once again be remembered that the Western plants were chosen on the basis of being in the same industrial branch as Soviet facilities, e.g. iron and steel, refineries, chemicals, and glass. They are not necessarily meant to be a representative sample of all Western industrial sector activity. They are, instead, included in this

study as a reference point to compare Soviet practices in specific industries.

Business Practice Restrictions

Seydisehir and Aliaga are subject to only modest restrictions. Equipment design cannot be sold outside of Turkey. Western units at Aliaga, in sharp contrast to Soviet units, are subject to severe restrictions. However, can an apt comparison really be made considering that the Soviet units utilize standardized technology whereas the Western units utilize technology that is newer and that is under the protection of patents? Is the difference between Soviet and Western restrictive practices related to the fact that patents are held by the latter whereas the former does not have proprietary rights to protect? The Bandirma hydrogen peroxide factory and the Mersin sodium bichromate plant offer insights into Soviet practice in cases in which the Soviet Union holds proprietary rights.

In the case of hydrogen peroxide, the Soviet Union transferred seven patents. For sodium bichromate, 13 patents were transferred. The contracts are almost identical with regard to technological restrictions.[14] Both include a seven year secrecy period which can be extended for another seven years if mutually agreed upon before the expiry date. The Bandirma and Mersin facilities are given exclusive rights within Turkey to the patents for the seven year period. Thus, the Soviet Union cannot sell the technology to another Turkish producer within this time period. The Turkish side, for its part, cannot build a second facility during the seven years. It can, however, expand capacity without restriction and without paying additional fees to the Soviet Union. After seven years, additional plants can be built and the technology can be sold by either the Soviet Union or by the Turkish license holder. In the case of the latter, the Soviet Union has a right to remuneration with the amount to be negotiated at that time.

Additional equipment and inputs can be bought from any source. That is, Turkey is under no obligation to buy these from the Soviet Union. The Turkish side can use third party personnel, Soviet personnel, or their own to make improvements. If within the seven year period, improvements are made within Turkey, the Soviet Union must be informed and offered the technical details. This is reciprocal. If improvements are made within the Soviet Union, Turkey must be informed and offered the new technology. The other country has a right to the improvement free of charge if it is

[14] Hydrogen peroxide, contract no. 71-030/6110, March 1977, Neftekhimpromexport and Cukurova Holding Company. Sodium bichromate, contract no. 71-030/80900, Neftechimpromexport and Etibank.

non-patentable. If the improvement is patentable, it is the property of the country which made the improvement. The other country has a right to it but must compensate the country which undertook the improvement.

There are no royalties paid in either the case of hydrogen peroxide or sodium bichromate, or any other Soviet assisted technology for that matter. There is in each cooperation agreement a cost component for 'know-how'. This is standard Soviet practice and does not differ for patented or unpatented technology. Know-how costs, thus, cannot be considered as lump sum payment of a royalty. As in the case of Western agreements, know-how costs and royalty costs are two separate items.

The other Soviet assisted factories which were visited for this study - Iskenderun iron and steel, Orhaneli thermal power, Bandirma sulphuric acid, and Cayirova glass - were similar to the Aliaga refinery and Seydisehir aluminium plant in terms of restrictions. Turkey has full control over the technology with the exception of selling to third parties. In some cases if it does so, the Soviet Union must receive some remuneration. Other than this exception, Turkey may use the technology as she sees fit. This includes duplicating parts, allowing third parties to undertake modifications, expanding capacity, and so forth.

The Western assisted factories each had greater limitations than the Soviet assisted factories. Izmit refinery is similar to the Western units at Aliaga refinery. According to the Ministry of Industry, royalty periods extend for 20 years for the UOP fluidized catalytic cracking unit at Izmit.[15] This technology also commands service agreements and strict limitations on maintenance, repairs and modifications undertaken by local personnel. As with Aliaga refinery, improvements undertaken by local staff become the property of UOP. According to Izmit's Planning Manager, Orhan Genis, largely because of restrictions and service agreements, modifications have mainly taken place outside of Turkey.

Restrictions on exports are absent from all of the Soviet assisted projects and on the Western assisted units at Aliaga as well as at Izmit refinery. This is not the case, however, with the Trakya glass factory discussed in Chapter 5. The Pilkington Brothers float glass process was transferred to Turkey under the condition that exports would be geographically and quantitatively limited. The process also carries a 3 per cent royalty for 10 years and a £300,000. lump sum payment which was made to the British company in 1977.[16] If Pilkington Brothers introduces improvements to the

15 Ministry of Industry, *Halen Yururlukte Bulunan Lisans Anlasmalari - Mart, 1982*, Ankara, Turkey.

plant, the royalty period becomes extended by another five years. The agreement also stipulates that improvements made by Turkish personnel become the property of Pilkington Brothers.

As can be seen, Soviet economic and technical cooperation is extended with only minimal restrictions. Even in the case of patented technology, there are no royalties and the secrecy period is limited to seven years. In cases in which information was made available regarding Western restrictive practices, a different picture emerges: secrecy periods are long, royalties are paid, packaging of future inputs and services may be included, and export restrictions may be imposed.

Documentation

Documentation at the Seydisehir aluminium plant was considered to be excellent in all respects with the exception of providing detailed information on how calculations are derived. Both plant personnel and outside consultants gave Soviet documentation very high ratings. In the case of the Aliaga facility, Soviet documentation met with mixed reviews. Some engineers argued that it was easy to work with, while others complained that presentation was too detailed, making it hard to find specific information.

In both cases, documentation included extremely thorough shop floor drawings, blue prints, operating manuals, maintenance guides, and repair guides. This is true of all the Soviet assisted factories visited. In the case of the Cayirova plant which, similar to Aliaga, contains Western and Soviet units, the plant manager stressed that Soviet documentation is far superior to documentation accompanying Western units. In his opinion, Turkish personnel could very easily build a second plant using the Soviet drawings. For over 25 years, they have been able to keep much of the original Soviet equipment maintained and repaired with the aid of Soviet manuals. By way of contrast, the Western companies did not provide repair manuals, nor did they provide detailed drawings. Thus, local engineers have had to frequently consult the Western suppliers.

Salih Gozen, one of the chief engineers at the Iskenderun iron and steel plant, also remarked on the thoroughness of Soviet documentation. With documentation transferred by the Soviet Union, it would be possible for Turkish personnel to build a steel plant. Gozen also commented that some of the operations manuals are so thorough that he has recommended that they be used as training manuals in Turkish

16 Ibid.

universities. According to the archives librarian at Iskenderun, there are over 300,000 pages of drawings, and operations; repair; and maintenance manuals. While complaints were voiced at Aliaga and Seydisehir that the Soviet Union did not always provide enough information about calculations, according to Gozen, this has not been a problem at Iskenderun.

At the Orhaneli power plant construction site, the Turkish construction team's project manager compared Soviet blueprints with those of Italian, West German, British, and US firms he has worked with. The Soviet blueprints, in his opinion, are superior. 'All the others are preliminary. You must add at the site. With these you don't need anything. The drawings are complete.' The thoroughness of operations, maintenance and repair manuals were also commented on at Orhaneli. These were included, along with erection instructions, with each piece of equipment sent by the Soviet Union. The only negative comment was that sometimes the English version (all Soviet materials are written in Russian and English) has words that are hard to understand. Personnel also found this to be the case with English language documents sent by the West Germans with regard to the boiler they are supplying.

In general, documentation at Western assisted plants received harsh criticism. At the Izmit refinery, the chief engineers who were interviewed said that they would be at a loss if they tried to duplicate, maintain or repair some of the licensed units. Full information is not transferred. The foreign technology suppliers are relied upon for the majority of improvements and for maintenance and spare parts. This was also the case for the Western units at the Aliaga refinery. It should be noted, however, that the thoroughness of documentation varies among the Western technology suppliers. There have been instances at both Izmit and Aliaga refineries in which units have been duplicated with the use of documentation and 'reverse engineering'. As mentioned previously, small changes are made to circumvent licensing rights.

In the case of chemical plants, once again Western documentation practice, in general, falls behind that of the Soviet Union. At the Etibank Bandirma complex, which is composed of five chemical plants, documentation provided for the two Soviet assisted plants was viewed to be superior to the documentation for the three Western supplied plants. According to Sabri Karahan, Head of Operations at Etibank, this has always been the case in Etibank's experience.

From the case studies of Soviet factories and the information available from

Western factories, it can be seen that Soviet documentation is considered to be superior to Western documentation in most respects. Particularly, it is more thorough. The major shortcoming that was cited, the failure to explain how calculations are derived, is also a shortcoming of Western documentation. The Soviet Union is more willing than most Western companies to transfer information required to maintain and repair equipment as well as how to build facilities and operate them.

The greatest shortcoming of Western documentation is the failure to provide sufficient information. It is often based on the secrecy surrounding the protection of technology and in service contracts. Because of this secrecy and because it is written into agreements that future streams of services will be purchased from the technology supplier, local personnel are not given the information necessary to maintain and repair equipment and, in some cases, to efficiently operate it. Business practice restrictions and documentation are intimately linked. In cases of the greatest restrictions, the least amount of information is transferred. Turkish enterprises are expected to remain dependent on Western suppliers for many operating details, for maintenance, for repairs, and for the introduction of major modifications.

Equipment Quality and Plant Design

The two studies discussed in Part I are similar in terms of equipment quality and plant design. In both cases, Soviet factories are judged to be well designed and the equipment is judged to be durable and reliable. In terms of computer controls it is judged to fall behind the standards of Western equipment. This assessment holds true for almost all of the factories visited. In terms of chemical processes, Western processes at Aliaga were considered to be superior. This case holds for some, but not all, of the factories visited.

In each of the Soviet factories visited except for one, design was highly praised. The spacious nature of Soviet lay-out was regarded by plant engineers to facilitate maintenance, repairs, modifications, and expansion. While engineers at each of the Soviet assisted factories found that spacious design facilitates their work, at the level of the State Planning Office (which is in part responsible for technology assessment) the most pervasive criticism concerning Soviet assisted plants is that they are large and take up a great deal of space. This was almost always posed as proof of the inferiority of Soviet technology. At the plants themselves spaciousness was considered a strong point. This was particularly evident at Aliaga refinery, a facility in which plant engineers could compare Soviet and Western lay-out.

It was evident at the Western assisted factories visited that the lack of space posed a problem. At Izmir refinery, for example, expansion was severely hindered. Top management and engineering staff stated they would have preferred Soviet style lay-out rather than the material saving and land saving Western style. Maintenance and repairs have been difficult and the plant has had to periodically shut-down so that these operations could be undertaken. At the Eregli iron and steel mill's compact site along the Black Sea, the sea has had to be filled in with land in order to make room for plant expansions.

The exception taken to the quality of Soviet lay-out was made by the Turkish construction and erection contracting firms working at the Orhaneli thermal power plant site.[17] They must work under the supervision of Soviet experts and implement Soviet designs. They would prefer to rely on their own design experience.[18] According to Fehmi Cakmak, project manager of Sezai Turkes Feyzi Akkaya Construction Company. (STFA), Soviet construction and civil engineering methods are out of date.[19] In his opinion, the Soviet supervisors are easy to work with. They are willing to make changes as long as materials are available. Changes are harder to undertake if new materials are needed. According to the Turkish project managers, these decisions must be made in the Soviet Union and it may take two months before receiving a reply. This is a great source of frustration for the Turkish side.

The major differences between Soviet construction practices and those of others cited by the STFA project manager is that the Soviet Union uses more materials than do Western firms and more than he thinks are necessary. For instance, Soviet foundations are almost twice as deep, use twice as much concrete, and require more time to construct. The Soviet Union does not economize on either materials or manpower. This has its advantages and disadvantages. According to the construction team project manager, 'the plant is like an ancient animal: big and useless. But one advantage is that it is so big and simple that it won't breakdown.' He hopes that the Soviet Union will gain from its collaboration with STFA and alter its construction methods in the future.

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17 Construction at Orhaneli began in 1981. But, owing to delays with the West German assisted boiler, construction has been delayed at various times. At the time of my plant visit in May 1987, construction and erection teams were still at work.

18 A condition of the Soviet performance guarantee requires that local construction and erection personnel follow Soviet designs. If agreed upon jointly by the Turkish and Soviet sides, designs can be altered.

19 The construction team at Orhaneli, STFA, has, in fact, been awarded a contract to work in the Soviet Union. This is part of the 1987 agreement to pay-off natural gas purchases from the Soviet Union with Turkish goods and services (see Chapter 4).

The construction experience in Soviet assisted factories that were built prior to Orhaneli is less critical on the point of having to follow Soviet construction methods. Most of the plants were constructed before Turkish firms were as experienced as they are now. According to the management of these plants, it was advantageous to follow Soviet supervision and for the Soviet Union to have full responsibility for organizing construction and erection. However, if they were now to build additional plants, most of the management and engineering personnel interviewed said they would only contract out those parts of operations which local personnel could not perform. Construction and erection, including supervision, would be largely in the hands of Turkish firms, while equipment supply would be the Soviet Union's main responsibility. Only in the case of Orhaneli, did Turkish management say that they would have preferred this responsibility at the outset. Others were generally adamant that the division of labour was appropriate at the time.

The experience of long equipment life at Aliaga and Seydisehir were not isolated cases. At each factory the durability and reliability of Soviet equipment was praised. For instance, the chief engineer of the Bandirma chemicals complex pointed out that the sulphuric acid factory has been in operation for 15 years; five years longer than the expected life time for factories producing this highly corrosive chemical.

As to overall equipment quality, it is difficult to compare Soviet and Western equipment outright. The General Manager of Cayirova glass factory pointed out that he could not make sound comparisons of the Soviet and Western equipment at Cayirova because they were supplied in different years. 'Of course, equipment bought in 1970 will perform better than equipment bought in 1960. We replaced some Soviet equipment with Western equipment but then we also later replaced Western equipment with newer and better Western equipment.' Thus, there is a problem of comparing vintages. Many technologies change and improve over time. Nevertheless, in some instances the evidence does point to a Soviet lag behind the West at a given point in time. This was the case with instrumentation.[20] Its assessment was unanimous in Turkey: it falls behind the West. In many of the Soviet assisted plants, it has been replaced with instrumentation from Western suppliers.

Turkish engineers also pointed out that ease of maintenance and operation are important factors in assessing equipment quality. It is not possible to say that modern is always better. In some cases older equipment may be more appropriate, especially if

20 Comparative studies on Soviet and Western technology generally cite the relative inferiority of Soviet instrumentation. See, for instance, Amman, et al.[1977]

Turkish engineers can acquire the skills necessary to keep the equipment running and, even, to modify it.

With respect to chemical processes, the Aliaga case illuminates the superiority of Western processes in the field of catalysts which are very important in modern refineries. At the Bandirma hydrogen peroxide plant, it is also believed that Western chemical processes are superior to Soviet ones. The chemical concentration levels available from the Soviet Union are lower than the levels achieved by Western countries. Once production begins and the product is evaluated, management may try to increase concentration levels. Because the Soviet Union does not have proven technology for the higher concentration, management will attempt to buy the technology from the West. According to the head of Etibank's Project Implementation Department, some European firms which had originally refused to sell to Turkey may be willing to supply technology now that Turkey has the basic equipment. In his opinion, now that production capacity is in place, Turkey's bargaining power to obtain additional technology is enhanced.

The Bandirma sulphuric acid plant built with Soviet assistance was considered by Etibank, the state enterprise responsible for sulphuric acid production, as the most efficient sulphuric acid plant in Turkey in terms of operating costs and product quality. However, the contract for a new plant to be built at the Bandirma cite will go to a West German firm. According to the Bandirma complex's General Manager, this is because a new raw material will be used and it requires a different kind of technology. The West German technology is considered superior to Soviet technology for the new raw material mix. The Soviet technology is also considered to have changed little since it was originally transferred to Turkey in the early 1970s, whereas, in the West improvements have been made.

The other plant in this study which is highly dependent on the quality of chemical processes is the Mersin sodium bichromate plant. In this case, the Soviet process is considered by the Mersin factory's chief chemical engineer, Dr. Cemil Oguz, to be equal or superior to Western processes. The 98.8 per cent concentration of sodium bichromate attained with Soviet processes is higher than the 88 per cent concentration level achieved using Western processes. According to Dr. Oguz, Western companies such as Allied Chemical-US, are trying to achieve the higher concentration levels found in Soviet processes.

Personnel Training

In the case of the Aliaga refinery and the Seydisehir aluminium plant, personnel were sent to similar facilities in the Soviet Union and they were trained on-site in Turkey. In both cases, training extended to construction, erection, operation, maintenance and repair. When compared with Western training received at Aliaga, the Soviet training was considered by plant personnel and management to be more thorough.

In the other factories visited, personnel training was one of the strongest points, if not the strongest, of Soviet economic and technical cooperation. In each factory, it followed a similar pattern. Training was provided in factories in the Soviet Union and included theoretical fields and practical work experience alongside Soviet workers. Turkey could send as many workers as desired and, generally, for periods of three to six months. Training on-site in Turkey was also very important. Turkish and Soviet workers worked alongside one another in the construction, erection and start-up phases. If experts were later brought in for modifications or repairs that could not be undertaken by local personnel, they would, again, work alongside Turkish personnel. This is in sharp contrast to Western assisted factories. In general, engineers commented that if Western experts were called in for maintenance, repairs, and modifications, they worked alone and did not share their knowledge with Turkish personnel.

In many of the cases that a comparison could be made with the West, Soviet training was preferred. In cases such as Western training in glass technology by Pilkington Brothers-UK and in refining technology by Universal Oil Products-US, secrecy was a large factor in personnel's dissatisfaction with training. They perceived that they were given only partial information and that many questions were left unanswered. In no instance, was this brought out as a problem of Soviet training. Instead, there was the perception that Soviet experts shared everything they knew, both on-site and in the Soviet Union.

The only drawback to Soviet training that was mentioned was that design is not included in on-site training. Detailed Project Drawings (the plant design) are implemented on-site but made up in drawing rooms in the Soviet Union. No opportunity is made for Turkish personnel to work alongside Soviet designers. This is also the case with Western facilities. Nevertheless, it is an important component for the build-up of indigenous capabilities and it would be to Turkey's advantage if design

training could be included.

Soviet experts not only train local personnel but they also supervise construction and erection so as to ensure that the plant will operate according to guaranteed parameters. In contracts for the plants studied, erection; construction; and start-up are the responsibility of the Soviet Union. If these tasks are undertaken by Turkish personnel, they are, nevertheless, ultimately responsible to Soviet experts. With the exception of experts needed during these operations, the number of Soviet experts and their length of stay are up to the discretion of the Turkish side.

In the case of Western suppliers, long-term reliance on foreign experts is sometimes an obligation. Service contracts have already been mentioned. These were in evidence at each of the Western factories studied. The other major example of the presence of Western experts was in the case of the Izmit refinery's joint venture period. For 13 years, operations were under the control of foreign personnel. Turkish counterparts were, nevertheless, well trained during this period, according to Orhan Genis, the refinery's planning manager. This is in contrast to the view at the Eregli iron and steel mill. During the period that US steel companies were most actively involved there was very little transfer of skills to Turkish personnel. According to Lami Yagcilarlioglu, manager of training, 'US personnel did not work with the Turkish personnel. They discussed matters amongst themselves and made decisions without consulting anyone else. We learned nothing.' The experience at Eregli has varied according to Yagcilarlioglu and to members of the engineering staff. In the case of some contracts, such as one with Japanese experts working on a blast furnace, training was considered to be very good.

The variation between Western experts was evident throughout the study. Some performed training functions satisfactorily, whereas others did not. There was not the consistency found in Soviet undertakings. In general, there was also an absence of the kind of thoroughness found in Soviet training, particularly with reference to maintenance and repairs. Although some Western training was considered very helpful, on balance, it fell behind the standards of Soviet training.

Conclusion

In Part I, the Aliaga refinery and the Seydisehir aluminium factory were discussed in detail with reference mainly to business practice restrictions, documentation, equipment quality and plant design, and personnel training. In Part II, the additional

Soviet and Western factories studied were compared. The findings of Parts I and II are summarized in Table 6.1.

Table 6.1: Quality of Soviet and Western Transfer

Factory	Restrictions	Documentation	Equipment	Plant Design	Training
Soviet Assisted					
Aliaga Refinery	Very Good	Very Good/Fair	Good	Very Good	Very Good
Band. Hydro. Peroxide	Very Good	Cannot Judge	Fair	Good	Very Good
Band. Sulphuric Acid	Very Good	Very Good	Very Good	Very Good	Very Good
Cayirova Glass	Very Good	Very Good	Good	Very Good	Very Good
Isken. Iron and Steel	Very Good	Very Good	Good	Very Good	Very Good
Mers. Sodium Bichrom.	Very Good	Very Good	Very Good	Good	Very Good
Orhaneli Power	Very Good	Very Good	Good	Fair	Good
Seydis Aluminium	Very Good	Very Good	Good	Very Good	Very Good
Western Involvement					
Aliaga Refinery	Poor	Good/Fair	Very Good	Fair	Poor
Eregli Iron and Steel	-	Good/Fair	Good	Fair	Fair
Izmit Refinery	Poor	Good	Very Good	Fair	Good
Orhaneli Boiler	-	-	Very Good	-	
Trakya Glass	Poor	Fair	Very Good	-	Fair

Findings are summarized according to interview respondents' perceptions and, in the case of business practice restrictions, standards set by the Turkish government and the South's position within the UNCTAD negotiations for a Code of Conduct (see Appendices 2 and 3). Results are roughly scaled to show an average of the responses received at each facility. (For Western assisted factories such as Izmit refinery and Eregli iron and steel, judgements had to be made in cases in which there is more than one supplier. This poses difficulties in a summary assessment.) In some cases a judgement could not be reached, most often because the factory is still in the construction phase. Furthermore, in some cases information was not available and thus, again, a judgement could not be made.

Soviet economic and technical cooperation in Turkey is highly consistent. The findings in the Aliaga and Seydisehir case studies are similar to those in the other Soviet factories visited. The exceptions are in relation mainly to business practice restrictions in cases in which the Soviet Union holds patents. There are greater restrictions on these technologies than on technologies that are older and more standardized. But even in the two cases, Bandirma hydrogen peroxide and Mersin sodium bichromate, the Soviet pattern of few restrictions relative to Western companies still holds. Technologies transferred by the Soviet Union are subject to restrictions that last a maximum of seven years (unless otherwise mutually agreed), royalties are not paid, and local personnel have broad access to process and equipment specifications

modifications and expansions are allowed, and there is no technological packaging of future streams of goods and services. Experts and knowledge from third party countries can be introduced. Furthermore, if patentable improvements are made by Turkish personnel, they are the property of the Turkish enterprise, not the foreign supplier as in the case of some Western agreements.

Soviet business practice restrictions, even in cases in which patents are held, are not an impediment to the build up of indigenous technological capabilities. The seven year secrecy restricts building a second plant. It does not restrict other activities in which local skills are enhanced. Plant personnel can tamper with the technology without limitation. They can modify, repair, maintain, and expand the facility. They can experiment. They can improve the technology. They can also make mistakes. In each of these endeavors, it is expected that some degree of learning can take place. Policies internal to the facility, and not those imposed by the supplier, will be the main determinant of technological learning and the consequent build-up of capabilities.

Similarities are found in the level of Soviet equipment quality and plant design. In all cases with the exception of Orhaneli thermal power plant, design is considered to be very good. In all cases, Soviet equipment is considered to be reliable. In all cases, instrumentation is considered to be the weak point and below Western standards. With regard to chemical processes, there appears to be variation. Sodium bichromate processes are considered to be the world standard, whereas hydrogen peroxide processes and refinery catalysts are considered to be below the world standard set by Western companies. Sulphuric acid, once at the world standard is now below it.

Soviet documentation is of a similar standard in all of the plants visited. It is voluminous and full of detail. Drawings are so thorough that they make it possible to duplicate equipment. Maintenance and repair manuals are always included with equipment and are of high quality. In general, documentation was highly praised for its usefulness and thoroughness. The main shortfall mentioned concerning documentation was that insufficient information was given on how calculations were derived. This was mentioned at three of the eight Soviet assisted factories. Two other complaints were received at Aliaga refinery, that documentation was too spread out and that notations differ from those used in the West.

Personnel training also followed similar patterns at each of the Soviet assisted factories, with training offered in factories in the Soviet Union and on-site in Turkey.

It was regarded very highly at each factory. In general, there was the perception that Soviet experts were willing to share all of their knowledge with Turkish personnel. Personnel were trained at all stages with the exception of plant design. Construction, erection, operations, maintenance and repair were included in training for each of the plants built with Soviet economic and technical cooperation.

The Western factories discussed in this study were perceived to be weakest in terms of business practice restrictions. In many cases, restrictions were severe. They included service contracts limiting the work that local personnel could undertake; packaging, thus, necessitating future reliance on the supplier; and royalties extending for long periods. In part due to these restrictions, documentation and personnel training were not as thorough as in the case of Soviet assisted plants. There were many complaints regarding Western secrecy - information was withheld in training sessions and too little information was provided in documents.

Although learning did take place at Western assisted facilities, it was hindered to some extent by conditions imposed by suppliers. Impediments to learning arose mainly from prohibitions on maintenance, repair, and modifications, as well as from disincentives arising from clauses stipulating that improvements would be owned by the technology supplier.

The area in which Western companies did, on balance, rate above the Soviet Union was equipment quality, particularly instrumentation. There was a general belief among plant engineers that Western instrumentation and most, but not all, chemical processes are more up-to-date and perform more efficiently than Soviet instrumentation and chemical processes. There was less unanimity in terms of plant design. Cramped lay-out was a general complaint about Western design.

Thus, from the case studies in this research, there are strengths and weaknesses of Soviet and Western technology transfer in terms of business practice restrictions, documentation, equipment quality and design, and personnel training. The major strength of Western companies is found in the quality of instrumentation and processes, in particular they are more up-to-date. The Soviet transfer, on balance, is perceived to be stronger in the other categories. It is these categories, business practice restrictions; documentation; and personnel training, upon which the build up of indigenous capabilities depends most. In the case of the Soviet transfer, personnel are better trained; documentation provides more thorough information; and business practice restrictions contain less limitations on the knowledge and activities of local personnel.

Thus, in terms of the build-up of independent technological capability, the Soviet transfer out-performs that of the Western firms included in this study.[21]

[21] In cases in which Soviet equipment and processes are inferior to Western equipment and processes, this judgement must be looked upon with caution. As the Turkish economy becomes more liberalized, industries that are not internationally competitive may no longer be protected. Thus, they may not operate at all. If this is the case then, obviously, no indigenous capability will be built up. However, it is also possible that a slightly inferior technology under the control of a skilled workforce can become internationally competitive. For varying points of view on how international trade regimes affect indigenous technological capability, see Fransman and King [1984].

Chapter Seven

Lessons from the Case Study

In this chapter, field investigation undertaken in Turkey is matched against the 'facts' as they are presented in the Soviet literature. The main question asked is how well does the Soviet Union live up to its claims for development cooperation. This is discussed in Part I of this chapter. In Part II, actual practice is measured against other yardsticks: 1.) the demands of the South as expressed in the UN Conference on a Code of Conduct on the Transfer of Technology, 2.) the development objectives of the case study country, and 3.) received wisdom of the Western technology and development literature. In trying to assess how well economic and technical cooperation meets the development needs of the South it is important to have these additional criteria, as it cannot be assumed from Soviet claims alone that the way in which the Soviet Union transfers its technology is optimal.

In Part I, Soviet claims are summarized and matched against the results of field research within Soviet and Western assisted factories in Turkey and against the results of interviews with private and public sector Turkish officials. Most of the fieldwork results were presented in detail in Chapters 5 and 6. Not all of the Soviet claims discussed earlier, in Chapter 3, have been subjected to empirical testing. Those that are investigated in greatest detail are the Soviet Union's 'positive' claims (e.g. the Soviet Union trains local personnel at Soviet factories and on site). 'Negative' claims (e.g. Western companies are opposed to personnel training and rely more heavily on foreign experts) are given less attention because the main focus of this study is Soviet cooperation.

Part I

Soviet Claims and Actual Practice

In this part, Soviet claims are compared to actual practice in Turkey. The claims are broken down into several groupings which fit broadly into two categories. The first deals with those issues that concern the general environment in which assistance is offered: strings attached, financial terms, sectoral orientation, etc. The second category deals mainly with the terms of cooperation that influence how technology is

used at the factory level: personnel training, documentation, business practice restrictions, and so forth. In each section the claims are be summarized and then, using the Turkish case material, they are matched against actual practice.

Non-Interference, Good Neighborly Relations, and Mutual Advantage

In its economic and technical cooperation, the Soviet Union claims that developing countries can draw on assistance regardless of their economic and social systems. The Soviet Union acts on the basis of mutual advantage, good neighborliness, and non-interference in the internal affairs of developing countries. Additionally, Soviet experts claim that no economic, military, or political concessions or privileges are demanded in exchange for assistance.

The evidence from Turkey has a great deal of bearing on these assertions. As a member of NATO, a country that is pro-Western in its outlook, a country that is fiercely anti-communist, and a country that has increasingly adopted free market policies, it is beyond doubt that Turkey differs from the Soviet Union in political and economic orientation. The fact that the Soviet Union provides economic and technical assistance supports the proposition that the Soviet Union is willing to cooperate with countries that are following different objectives.

In interviews conducted with Turkish officials who negotiated agreements with the Soviet Union, no one could recount Soviet demands for economic, military or political concessions as a quid pro quo for assistance. For example, while the Soviet leadership expressed an interest in a non-aggression pact with Turkey in 1965, this was never a condition for assistance. Indeed, it was not until 1978 that Turkey responded and only then by signing a document reaffirming friendly relations. The Soviet Union has courted Turkey with aid and with diplomatic support (the Soviet position in the 1974 Cyprus dispute, for instance). However, assistance has continued without political dividends being paid in return. Offers of economic and technical cooperation neither gained the Soviet Union specific policy objectives, such as a non-aggression treaty, nor has cooperation been contingent upon these policy objectives. In other words, it appears that assistance has not been tied to political gains.

Turkish leaders who were interviewed made it clear that had the Soviet Union tried to interfere in any way then Turkey would not have agreed to cooperation. As former Prime Minister Suleyman Demirel stated with reference to cooperation agreements, the Soviet Union never attempted to interfere in domestic matters: 'I would have stopped

cooperation if they had.' While this counterfactual cannot be examined, it can be stated that Soviet interference did not in fact occur.

Cooperation was used as a tool by the USSR for improving relations with Turkey. It has utilized this tactic while at the same time expecting mutually advantageous economic relations. In return for assistance the Soviet Union receives goods that are needed for its economy. These goods are decided upon jointly by Turkey and the Soviet Union.

An Alternative to Western Control: Public Sector Support and Support to Industries

The Soviet Union claims that it supports basic industries and public sector projects as requested by developing countries. While the bulk of Soviet assistance has gone to the public sector, the Soviet Union also, it is claimed, cooperates with the private sector in developing countries. Soviet support in both the public and private sectors provides an alternative to dependence on Western governments and TNCs that, according to Soviet experts, seek to control developing countries

In Turkey, the public sector has played a primary role in the country's economic development. Because of the large scale investments required to fulfil Turkish industrialisation goals, domestic private capital was considered insufficient by the country's leaders and they have to varying degrees followed a policy of statism. The Western countries, the US in particular, would have preferred less emphasis on the state sector and this has often been reflected in refusals to fund state sector industrial projects. According to Turkish officials, the refusal in the 1960s to provide credits for state sector industries led Turkey to negotiate the 1967 agreement with the Soviet Union for six public sector projects. These projects, according to Demirel, had been beyond the financial capability of local private capital.

While the Soviet Union has strongly supported the state sector in Turkey, two major cooperation agreements have been signed with private sector firms. One of Turkey's most successful private companies, the Bottle and Glass Corporation, owes a great deal of its success to Soviet cooperation. The Soviet Union provided technology that the West refused to sell. In 1957, an agreement was signed to build Turkey's first flat-plate glass factory. The Turkish sodium bichromate industry also got off the ground owing to Soviet cooperation with the private sector. The 1978 agreement between the Soviet Union and the Cukurova Holding Company was signed after every

Western producer refused to sell technology to Turkey.

There is a perception among Turkish politicians and factory managers that in its efforts to industrialise, Turkey's goals have often frustrated by the policies of Western governments and Western corporations. Western government assistance, particularly in the 1950s and 1960s, was limited mainly to agriculture and roads and to enterprises in the private sector. Credits for many of the industries Turkey wanted to build, particularly large-scale public sector projects, were not forthcoming. Or, they were only forthcoming if Turkey would give-in to conditions specified by Western donors. For example, when the US Agency for International Development (AID) did agree to fund a Turkish iron and steel mill it made the provision of credit conditional upon the plant being in the private sector rather than the public sector as the Turkish government had envisaged. This was also the case with oil exploration. The US insisted that it be a private sector endeavor. Similar conditions have also been placed on Turkey by international financial institutions. World Bank funded power generating projects, for instance, have had to be in the private sector. Additionally, some Western credits, mainly from the United States, have also been conditional upon political concessions. For example, according to a former Minister of Industry, there were cases of aid being directly tied to Turkey's voting position within the United Nations.

In addition to the lack of credit - and strings attached to credit - Turkey has also been faced with problems of finding willing technology suppliers. In some industries Western corporations would not sell technology or would do so only under conditions unacceptable to Turkish development goals. For example, in the 1950s Turkey was refused glass technology out-right. The same applied to sodium bichromate in the 1970s. In the case of hydrogen peroxide technology, most Western license holders refused to sell the technology to Turkey and those that did agree would do so only under the condition that there would be no exports. In the case of aluminium technology, Turkish officials believed that Western corporations, such as Reynolds International Inc., only wanted to sell the technology if Turkey would agree to foreign ownership and control, and if Turkey would agree to subsidize electricity, the main input.

The Soviet Union has offered Turkey an alternative. As discussed in Chapter 5, with Soviet credits and technology, Turkey has been able to build-up those industries which the West refused to make available. Moreover, the industries could be completely under national ownership and control if so desired. In the case of many of

the projects undertaken with Soviet assistance, this was a primary development objective. It was also a practical necessity, given that private sector resources were limited.

Advantageous Financial Terms

Credit from the Soviet Union, it is claimed, is generally paid back in either traditional exports or the output of facilities built with Soviet assistance. Foreign exchange is generally not required. Thus, according to Soviet claims, the USSR does not aggravate developing countries' debt problems. Nor does the Soviet Union infringe upon or demand control over the national economy or the enterprises built with credit under the pretext of supervising credits, practices that, according to Soviet analysts, are not uncommon to Western countries and financial institutions.

Interviews with government officials and factory managers revealed that although it was not the main reason for accepting Soviet cooperation (Western technology and credit refusals were the main reasons), the repayment terms for Soviet credits were judged to be very favourable. The terms for the bulk of Soviet credits have been as follows: 2.5 per cent interest repayable over 12-15 years with one year grace following the delivery of equipment. Interest rates, on the whole, have been the lowest offered to Turkey. Until 1983, Turkey repaid with goods decided upon by both sides. According to Turkish officials, repayment was usually in the form of surplus goods sold to the Soviet Union at world prices. Because they were surplus and sometimes hard to sell on the world market because of poor quality, Soviet cooperation cost little, if anything, in the way of foreign exchange earning opportunities foregone. In spite of protests from various Ministries, in 1983 the Ozal government switched to repayment in foreign exchange. This was part of Turkey's liberalisation programme.

Soviet credits have not been a lever to the right to infringe upon the way in which the national economy is run. Soviet credits do not appear to be used as a 'carrot and stick' for certain economic policies or for agreement on political issues. For instance, while the Soviet Union expressed its desire to renew the 1925 Friendship and Non-Aggression Treaty, the reticence on the part of the Turkish government did not affect Soviet cooperation. Nor have Soviet credits varied according to political orientation of leaders. Agreements have been signed with Prime Ministers representing both the Turkish left and the Turkish right.

Each of the Soviet assisted factories in Turkey is fully owned and controlled by

either the Turkish government, or by the private corporation that sought Soviet assistance. The Soviet Union is not a share holder of any of the factories, nor does it receive any profits from production. The Soviet Union, furthermore, has no say in how the factories are run.

Of the Western assisted plants visited in this study, only the Izmit Refinery required joint ownership and full control by its foreign supplier. While this condition was accepted by Turkey because the benefits were seen to outweigh the costs and because at the time there was no alternative supplier available, when it did get the chance, in 1967, Turkey set-up a nationally owned and controlled refinery. The technology supplier for each of the other Western assisted plants examined in this study did maintain some form of control after the plant was in operation. These controls were usually in the form of business practice restrictions which are discussed later in this chapter.

With reference to Soviet claims regarding demands made by Western countries and Western financial institutions to control the economy on the pretext of supervising credits, Turkish investment policy, monetary policy and the trade regime offer ample justification for this claim. For instance, in 1958, in order to continue receiving Western credits, Turkey had to agree to a dramatic devaluation, to freeze bank credits, to increase prices of state produced goods and to reduce imports. In 1980, another major stabilization package was a condition for Western credits. The major example of conditions being attached to Western credit was Marshall aid which resulted in the revision, if not the abandonment, of Turkey's étatist principles. It also resulted in an abandonment, at least temporarily, of Turkish industrialisation goals.

Stronger Bargaining Position

The Soviet Union asserts that because it offers developing countries an alternative source of financial assistance and technology it has strengthened the position of developing countries vis-à-vis the West.

Turkey's bargaining position has been significantly improved by the possibility of cooperation with the Soviet Union. Government officials perceive that due to Soviet cooperation, the West has been more willing to fund state sector projects. Turkey's increased bargaining position is also noticeable at the level of individual industries. What is most striking is that once owing to Soviet cooperation Turkey enters an industry in which Western cartels have tried to block entry, Western firms are then willing to supply additional technology. The glass industry is an example of this, as is

hydrogen peroxide. Officials surmised that once cartels figure that Turkey would secure the technology from the Soviet Union anyway, they decide that they might as well sell it and earn money through equipment sales and royalties. In the glass industry, in particular, the Soviet Union was directly used to attain the latest technology from Western suppliers. As discussed in Chapter 5, Pilkington-UK was told that if it did not supply Turkey with float glass technology, the Soviet Union would be approached. After a ten year struggle to acquire float glass technology, it was this 'threat' which yielded results.

To sum up, in comparing Soviet claims with Soviet behaviour in Turkey regarding the overall environment in which cooperation is undertaken, the Soviet Union has lived up to its claims. Moreover, the Soviet assessment of Western behaviour is, in general, well on the mark. The Soviet Union, it would appear, has not interfered in domestic affairs, has provided assistance to the private sector as well as the public sector, has not aggravated foreign debt problems, has improved Turkey's bargaining position and, above all, has provided technologies that the West would not make available. Western countries have sought concessions and control at the national level and within firms. In many cases corporations refused to supply specific technologies to suppress competition and maintain markets. Governments have refused to provide credits or have attached strings to credits so as to influence policy making.

Technology Transfer within Factories

In the following sections, Soviet claims are held up to the results of factory investigations. The claims broadly concern the build up of local technological capabilities, a major goal of Soviet cooperation. The Soviet Union asserts that while supplying developing countries with economic and technical assistance, it takes into consideration the need to create conditions for mastering technology. In creating these conditions, the Soviet Union, it is claimed, supplies thorough documentation; allows widespread rights to technology; and trains local personnel. These features of cooperation are discussed below and comparisons are made with Western transfers.

Documentation

The Soviet Union asserts that as part of cooperation it delivers organisation plans, blueprints, operation and repair guides, and maintenance manuals as well as other documentation necessary for an enterprise to be locally run.

The factory case studies found documentation to be a strong point of Soviet cooperation. Documentation was extensive, much more so than what was provided by Western firms. And, often in addition to documents needed to run and maintain facilities, there were also shop floor drawings that were so detailed that Turkish engineers could replicate the facility piece by piece. In general, where comparisons could be made, Soviet documentation far exceeded Western documentation in quantity. At Aliaga oil refinery there were some complaints that Soviet documentation did not use the same measures as Western documents and that they were too detailed to be used effectively. This does not, however, take away from Soviet claims with regard to thoroughness.

There were also complaints about what was left out of Western documentation at Aliaga and Izmit refineries and at other Western assisted facilities. Frequently, engineers had to approach foreign suppliers for additional information because of major gaps in operating manuals. Often, they had to bring in foreign experts. Engineers said that documentation was inadequate not only for duplicating, but also for operating, maintaining and repairing equipment.

Restrictive Practices

Soviet experts are highly critical of restrictive business practices used by Western TNCs. They claim that developing countries are not subject to restrictions such as limitations on production and export of goods made with technology transferred from the Soviet Union. Developing countries, it is claimed, have almost unrestricted control over the products and processes transferred under license.

Perhaps the clearest indication that business practice restrictions were non-existent or practically non-existent at Soviet assisted factories was the frustration and even anger aroused when interviewing engineers and plant management about restrictions. To many, the questions asked were stupid and a waste of time. The idea that they could not do what they wanted with the technology they had bought or with the products made from the technology was incomprehensible. They simply had not come across this concept. In contrast to this, one could have days of discourse on the subject with engineers at Western assisted plants.

It was found that there are practically no restrictions on Soviet technology transferred to Turkey. The exceptions are: 1.) licensed processes can not be sold to

third countries, and 2.) in the case of hydrogen peroxide and sodium bichromate, for a seven year period neither the Soviet Union nor Turkey can build a second plant in Turkey using the Soviet technology. After this period the technology can be replicated without remuneration or negotiation.

In all the Soviet assisted plants, engineers have complete freedom to adapt, modify, maintain and repair the technology. All changes made belong to Turkey and not to the technology supplier. All products made with Soviet assisted technology can be exported. There are no price or quantity limits set on the output of Soviet assisted enterprises. And, with the exception of patented hydrogen peroxide and sodium bichromate processes, Soviet technology can be replicated and distributed throughout Turkey. In no case beyond the original purchase of technology do inputs or services have to be bought from the Soviet Union. And, there are no royalties or other payments that continue beyond the original purchase.

In the Western assisted factories investigated, it was found that Western firms often restrict engineers' access to technology and they sometimes restrict the output of transferred technology. With reference to the latter point, Etibank, for example, could not obtain Western hydrogen peroxide technology unless it agreed not to export. Export restrictions were also a condition placed on float glass technology from Pilkington-UK. It is the former point, restrictions on engineers, however, that has the greatest bearing on mastering technology. While there was not one example of engineers at Soviet assisted plants being restricted from adapting, maintaining, modifying or repairing technology; there were frequent examples of this at Western facilities or with Western equipment used at Soviet assisted facilities.

Service contracts were also attached to many of the Western agreements. Rather than making repairs themselves or making improvements, Turkish personnel were forced to rely on foreign experts. This practice not only caused a continuous loss of foreign exchange (as this service had to be paid for) and loss of time (it was not uncommon to have to wait a couple of weeks for the arrival of foreign experts), it also meant that a certain amount of learning was foregone. Local personnel simply were not allowed to 'tamper' with the technology. And, in some cases where they were allowed to modify, these modifications, if patentable, would then become the property of the technology supplier and not of the local firm.

These 'grant back' provisions often result in a reduction of innovative activity by the technology purchaser not only because the innovation does not belong to the local

firm but also because innovations may lead to an extension of the supplier's original patent monopoly beyond its original expiration date. At the Izmit oil refinery, for instance, major modifications by either the supplier or by local engineers can result in extensions of royalty periods by 15 years. Royalties can also be increased if output is increased.

Other disincentives to local innovation are restrictions on maintenance, repairs and modifications made by local personnel. At Izmit refinery, this was stated to be the major reason why modifications have mainly taken place outside of Turkey. Several Western firms also imposed 'packaging' so that Turkish enterprises would have to purchase future supplies of inputs. They could neither make these inputs themselves nor purchase them from local firms.

While many of these restrictive practices did inhibit local effort, it did not stop it altogether. At the Western units of the Aliaga refinery, for instance, engineers had found ways to circumvent some of the restrictions on modifications. At another plant, changes were made without informing the licensor.

The difference between the restrictive practices imposed by Western firms and those imposed by the Soviet Union reflect to some degree the level of technology that is transferred. Many restrictive practices do not apply to standardized technology that is easily obtained from a wide array of suppliers. Restrictions most generally apply to technology that is relatively new and that is held by a limited number of firms. Thus, they are in the position to take advantage of their monopoly by imposing conditions such as packaging, service contracts, and royalties; some of which are designed to protect the supplier's secrets and some of which serve mainly to increase the supplier's revenue.

It would be improper to compare restrictions on standardized technology with that of technology that is new. For the purposes of this study, it is important then to ascertain what restrictions the Soviet Union places on technology which is not standardized. The Mersin sodium bichromate facility and the Bandirma hydrogen peroxide plants are prime examples. In these cases, restrictive practices were found but these imposed fewer constraints than those found in agreements with Western firms. In comparing patented processes, the Western firms were found to impose royalties of long durations, lump-sum payments, service contracts, grant back provisions so that all patentable improvements belong to the supplier, packaging of future inputs, and provisions for secrecy and royalty arrangements to be extended when modifications are

made. In several cases, additional technology could not be purchased from other sources. In at least one instance, export prohibitions were imposed. In the case of patented Soviet technology, the only restriction was that secrecy be maintained for a seven year period. This could be extended for an additional seven years if mutually agreed. Within that time frame the Soviet Union could not sell the technology to another Turkish producer. The Turkish side, for its part, could not build a second plant for the agreed time period. It could, nevertheless, expand capacity without restriction and without remunerating the Soviet Union. It was also stipulated that innovations made by the Soviet Union or by the Turkish technology recipient should be shared. If the improvement is patentable, it remains the property of the firm that makes the innovation and while the other country has a right to it, compensation must be made to the country that undertook the improvement. Inputs and additional equipment can be bought from any source. They are not packaged. Servicing can be carried out by anyone the recipient chooses. Additional technology can also be bought from third countries. There are no royalties or lump-sum payments on the technology. And, plant personnel are completely free of restrictions.

Personnel Training

The Soviet Union places great emphasis on training local personnel and claims that personnel training takes place on-site with local personnel and Soviet experts working side by side. Other forms of training include working at industrial establishments in the USSR, attending courses in the USSR, and attending courses at training centres built with Soviet assistance in the home country. The Soviet Union also claims that local personnel are trained at all stages of construction and operation of projects, thus enabling establishments to be run entirely by local specialists and enabling developing countries to acquire know-how. This is to allow the countries concerned to undertake full-scale construction and operation of projects in the future relying on their own skills. It is also argued by Soviet analysts that on cooperation projects, foreign personnel perform only that part of the work that cannot be carried out by local personnel. And, finally, the Soviet Union claims that as a precaution against 'brain drain', all developing country personnel trained in the USSR must return to their home countries.

According to Turkish engineers and factory managers, personnel training at Turkish factories and at factories within the Soviet Union was a very strong point of Soviet cooperation. Turkish and Soviet engineers worked 'side by side' during construction

and start-up. At many of the factories there was one-to-one training. The extent to which Soviet technicians shared their knowledge was remarked upon positively at each factory visited. Classes were also held on-site. In addition to these forms of training, Turkish engineers received theoretical and practical training at factories in the USSR which used technology similar to that which would be used in Turkey.

Within a short period of time after start-up all Soviet personnel were replaced by Turkish counterparts. At Seydisehir aluminium works, for example, all Soviet personnel were replaced within six months after the start-up of each of the plant's major units. Training was comprehensive enough at each of the Soviet assisted factories for Turkish engineers to carry out operations without outside assistance.

Other than on-site training and training at complexes in the USSR, the Soviet Union has not been involved in bilateral education programmes either in Turkey or with respect to Turkish citizens studying at universities in the Soviet Union. This has been due to Turkish laws which prevent students from attending educational establishments in socialist countries. The Soviet Union also has not been allowed to set up schools in Turkey.

Engineers interviewed in this study mainly received their training at Turkish universities. A small proportion received degrees from West German, British, US and other Western universities. The fact that they were able to operate, maintain, repair and adapt Soviet technology is, arguably, in part due to being well trained to begin with either through adequate education and/or work experience at other plants. While this should not be underestimated, nor should the achievements of Soviet training. This was particularly clear in industries that were entirely new to the economy. In the aluminium industry, for instance, there was no previous aluminium specific work experience to draw on, nor were theoretical and practical courses relating to aluminium production taught at Turkish universities. The engineers at this plant attributed their level of skills to Soviet training and to scanning international journals (including those from the USSR). With regard to the latter, they felt this was necessary to keep up with improvements in aluminium technology. A chief engineer complained that while Soviet training was excellent, the Soviets had done little over the years since turning the plant over to Turkey in the way of keeping local engineers up-to-date. Although Soviet technical guides were available free of charge, they were not automatically sent and had to be requested.

With regard to Soviet claims that local personnel are so well trained that they can in

the future construct and operate projects relying on local skills, this is borne out by field investigations. Engineers expressed the conviction that they could operate plants fully themselves and were, in fact, doing so. They were also maintaining and repairing facilities on their own. Soviet training and the experience gained from working in factories (particularly because restrictions on technology are minimal and non-existent) has, in general, obviated the need for continued reliance on foreign experts. At several of the plants, management and engineering staff commented that because personnel are so well trained, if a new plant was built today staff could teach new personnel how to operate it. Owing in part to the thoroughness of Soviet documents, engineers also felt that they could construct facilities on their own.

There is one area in which Turkish personnel at most of the factories felt that Soviet training could be improved. There should be more opportunity to study plant design and to work alongside Soviet designers. Because design is undertaken outside of the recipient country, special consideration needs to be made for building-up this part of technological capability.

There have been no cases in which Turkish personnel have remained in the Soviet Union. 'Brain drain' is not a problem between Turkey and the Soviet Union.

There were complaints about personnel training at facilities built with Western assistance. At Aliaga refinery, where Western units and Soviet units exist side by side, the comparison between Soviet and Western training was a study in contrasts. Western training was severely criticized. The overall view expressed by Turkish engineers was that Western experts went to Aliaga to sell products rather than to teach Turkish personnel how to solve problems for themselves. At the Eregli iron and steel mill, training was also unsatisfactory. However, according to plant management, there was variation among the different suppliers, with some undertaking to train local personnel whereas others refused to share their expertise.

Turnkey Facilities

The Soviet Union argues that at the request of developing countries, projects are built on a 'turnkey' basis. At early stages of industrialisation, supplying developing countries with complete plants is most efficient, claim Soviet analysts, because it enables them to master technologies in the shortest period of time and because projects are guaranteed to be completed on schedule and in accordance with full design standards.

In Turkey, turnkey facilities were requested for all the Soviet assisted projects except for the Bandirma hydrogen peroxide plant and the planned Iskenderun expansion. Officials believed that turnkey contracts would be most efficient in terms of cost, time, and local resource use. Many of the industries that have been built with Soviet assistance were completely new to the economy and, thereby, Turkish expertise was practically nonexistent. Also, at the time of many of the agreements, Turkish skills to coordinate all the separate tasks necessary for putting together large-scale and complex enterprises were in short supply. Moreover, because turnkey projects were guaranteed by the supplier to meet specified operation parameters, they were considered to be advantageous in terms of reducing risks. For the later agreements, Turkey has, in general, not wanted turnkey contracts. In iron and steel, for example, officials from the Iron and Steel Corporation feel that they now have the skills to select technology from various suppliers. They want to purchase from the Soviet Union only that technology which they believe is the best.

It is also important to note that because Soviet technology supply was relatively inexpensive, turnkey operations were not objected to on the grounds of costs. Some Turkish officials have objected to turnkey projects from Western suppliers because they are very expensive and, often, there is little personnel training included.

With regard to Soviet assisted facilities, operational parameters and on-time deliveries and start-up have, in general, been met and were not considered a problem. What was, however, considered a problem at some of the plants investigated was that the Soviet Union was too inflexible in changing agreed upon specifications. If Turkish staff wanted to make changes after agreements were signed they had to wait for permission from the relevant Soviet contracting agency in Moscow. Because this authority did not rest with Soviet personnel on-site, delays were often caused while waiting for a reply from Moscow.

The ability to negotiate on-the-spot was favourably commented upon by Turkish personnel at Western assisted plants. And, in general, Western suppliers also delivered on time and up to guaranteed standards. There is, however, a major exception. Owing to complications discussed in Chapter 6, delivery of the West German designed boiler for the Orhaneli power plant has been delayed for years. At the Bandirma hydrogen peroxide plant, there have also been delays. These have been caused by a local firm.

Conclusion

The assistance offered by the Soviet Union came close to - if not actually met - the standards it sets for itself. The Turkish case material suggests that assistance lives up to the claims set-out in the Soviet technology and development literature. Strings were not attached to cooperation that would have allowed Soviet interference in domestic affairs. Moreover, the Soviet Union did not restrict its assistance because Turkey did not follow Soviet-style development. Cooperation was not limited to industries that could be viewed as paving the way for Soviet-style institutions. The first agreement in the modern phase of Soviet-Turkish cooperation was with a private enterprise. The choice of seeking funding for public sector enterprises has been Turkey's. It has not been a stipulation of the Soviet Union. The Soviet Union has also left the choice of industries up to Turkey to decide and there have been no cases of the USSR refusing Turkish requests for specific industrial technologies. The Soviet Union has also helped make technology accessible by providing credit and repayment terms that do not exacerbate foreign exchange difficulties.

The Soviet Union has also fulfilled its claims with regard to creating the conditions for mastering technology. The transfer of thorough documentation, excellent personnel training and restraint in the use of restrictive practices have played a large part in building up Turkish technological capabilities. Within Soviet-assisted plants, there are the capabilities to assimilate, adapt, modify and create technology. Even in the cases of transferred technology that is under patent protection, the restrictions imposed are not an impediment to mastering technology. They apply to building a second plant. They do not restrict other activities in which local skills are enhanced. Personnel can tamper with the technology without limitation. They can modify, repair, maintain and expand the facility. There are, however, restrictions on the diffusion of licensed units. With sodium bichromate and hydrogen peroxide, the plants can not be duplicated at another site for seven years.

While the Soviet Union has lived up to its own claims regarding the way in which it transfers technology, it can not be assumed from this that its technology transfer is 'optimal' from the viewpoint of developing countries. In the following part, Soviet technology transfer is measured against three additional yardsticks: 1.) the South's demands, 2.) the recipient country's objectives, and 3.) good practice as discussed in the Western technology and development literature. This should provide a more complete picture of the strengths and weaknesses of Soviet technology transfer.

Part II

Southern Demands, Recipient's Objectives, and Western Best Practice

Southern Demands

In this section, Southern demands as expressed in the negotiations on a International Code of Conduct on the Transfer of Technology (TOT) are discussed in relation to the factory case studies undertaken in Turkey. The Soviet Union asserts that it supports the South in the TOT negotiations. Does it, however, in practice meet the demands of the South for fairer access to the world's technological resources? These demands are summarized in Appendix 2. Those which have been tested empirically in factory investigations in Turkey are discussed in this section. They mainly concern business practice restrictions, the portion of the Code of Conduct which has been subject to the most debate. Soviet and Western behaviour are set against Southern demands.

From the very beginning of negotiations, a centrepiece for the proposed International Code of Conduct has been a list of restrictive licensing practices to be avoided. The purpose of this, according to the Southern position is to balance bargaining strength, to encourage national development, and to further export goals [UNCTAD: 1988-a, p.4]. The practices that the South wants condemned are those which it believes would directly or indirectly have adverse effects on the national economy of the recipient country and/or impose restrictions on the development of technological capabilities of the recipient.

Restrictive practices cited by the Group of 77 in early drafts[1] of the Code of Conduct include the following: requiring the technology purchaser to grant back unilaterally to the supplying party improvements in the transferred technology, limits on the diffusion of imported technology, restrictions upon the recipient from adapting imported technology to local conditions, restrictions on innovations, obligations on the recipient to introduce unnecessary design changes imposed by the supplier, conditions that require further acquisition of technology by the recipient, conditions that restrict the recipient from acquiring competing or complimentary technology from other suppliers,

[1] Earlier drafts of the Code [for example UNCTAD TD/AC.1/9, 1977] are being used for the purposes of this research so as to present the view of the South before compromises were reached with other groups. Thus, it represents the 'wish list' prior to bargaining. For different drafts, see, for example, UNCTAD TD/CODE TOT/33, 1981, and UNCTAD TD/CODE TOT/47, 1985.

restrictions on the volume and range of production, restrictions on exports, restrictions regarding the sources of supply of inputs; spare parts; and other products and on sources of managerial and technical personnel. conditions that obligate the recipient to purchase additional goods and services not needed or wanted, requirements to convert technology payments into capital stock, restrictions or obligations of any type on the exploitation of technology after the normal expiration date of the industrial property rights involved, requirements upon the recipient to purchase future inventions from the supplier, requirements to use personnel designated by the technology supplier beyond the period sufficient for training local personnel, requirements limiting the use of local personnel, reservation of the right by the supplier to fix the prices of the products manufactured, the use of trade marks to unduly restrict the recipient's activities, requiring excessive and double payments such as lump sum fees regardless of production performance or payments that progressively increase with increased output, conditions that impose unlimited or unduly long duration of arrangements, and practices by cartels which involve restrictions on prices; quantities; export territories and so forth.

With regard to the restrictive practices listed above, Soviet economic and technical cooperation with Turkey has on the whole met the requirements of the countries of the South. As discussed in Chapter 6, no cases were found of obligations to purchase future goods or services from the Soviet Union either with regard to improvements or with regard to inputs and spare parts. There were no cases of limitations on the output of facilities. There were no restrictions on adaptations, modifications, or innovations that could be made. There were no cases of the Soviet Union unilaterally acquiring improvements. There were no restrictions on the sources of inputs or technical expertise. The Soviet Union could not unilaterally increase agreement periods. In no case has the Soviet Union maintained foreign personnel beyond the period needed to train local personnel. There have been no restrictions on competing or complementary technology. There have been no restrictions based on trade marks. No excessive or double payments have been imposed (in fact, royalties have not been imposed at all). The Soviet Union has not used cartels to restrict imports, to set prices or to demand other concessions.

In general, once a technology was transferred to Turkey and once the Soviet Union lived up to start-up guarantees, Turkish personnel could do with the technology as they wished. Even in the cases of the most innovative Soviet technology, hydrogen peroxide and sodium bichromate, none of the above listed restrictions were applied. The few restrictions that are contained in the contracts do not go against the demands of

the South. Agreements concerning patent rights are of seven years duration, not unduly long. Any continuation of the agreement requires both parties' consent. Improvements are to be mutually exchanged, and not unilaterally granted from the developing country to the supplier. There are no restrictions on competing or complimentary technology, and so forth.

With regard to diffusion of technology, Soviet practice falls short of Southern demands. With some licensed units, free diffusion is not allowed and the Soviet Union may have to be remunerated if these are sold to third countries. In the case of most of the transferred technology, however, diffusion within Turkey is unrestricted. In the case of the sodium bichromate and hydrogen peroxide plants, diffusion is restricted in that there are absolute limits for seven years. It is noteworthy that in these two cases the view of management of the facilities was that the restrictions afforded some protection against domestic competition and were to the benefit of their firms.[2]

With these exceptions, the Soviet Union performed up to the standards of the South with regard to diffusion. Most technology could be copied and, indeed, in addition to shop floor drawings that would facilitate this, in some enterprises workshops were set-up with the capacity of reproducing plants. At Iskenderun Iron and Steel Works, for instance, as part of cooperation, the Soviet Union had supplied 55 vertical and horizontal lathes and 250 benches. The machine-making capacity of this workshop is the most advanced in Turkey.

For comparative purposes, it is interesting to mention which of the restrictive practices the South opposed were found in the Western factories which were investigated.[3] Many of these restrictions appeared in transfers financed by Western aid. They were not restricted to fully commercial projects. In an examination of factories with Western involvement, the following restrictive practices were found in one or more factories: obligations imposed after the normal expiration date of the property rights involved, restrictions on competing and complementary technology,

2 From the point of view of society as a whole it could be questioned if it is actually beneficial to restrict domestic competition. For a discussion of private versus public calculations of benefits from various forms of technology transfer, see UNCTAD [1978].

3 Because restrictive practices imposed by Western corporations were not the main area of investigation of this study, they were not thoroughly examined. For more data on these and for additional sources, see Appendix 4. From the studies cited, it is evident that the above list of Western restrictions can be enlarged. For example, according to Erdilek [1982], the major reason for equity participation in Turkey has been because foreign suppliers have made technology acquisition conditional upon joint ownership. It is also evident that restrictive practices are common in Western technology transfer and span well beyond the industries investigated in this study.

double payments (lump sum and royalties), requirements to unilaterally grant back improvements to the technology supplier, restrictions against the recipient undertaking adaptations; modifications and innovations, restrictions on volume and range of production, restrictions on exports, the purchase of additional technology and goods and services were imposed as a condition for obtaining the technology required, providing equity was a condition for obtaining credit and technology, restrictions on the recipient's rights to decide how long the foreign supplier's personnel were needed, restrictions on the use of local personnel, unduly long duration of arrangements, restrictions owing to cartels.

As discussed in Chapter 6, the restrictions found in Western assisted factories have had adverse effects on technological mastery within firms. In Soviet assisted factories, owing to the lack of restrictions, a similar problem was not found. In general, the Soviet Union's cooperation is in keeping with the Southern demand that: 'Transfer of technology transactions shall not include practices or arrangements which impose restrictions that directly or indirectly have or may have adverse effects on the national economy of the receiving country and/or impose restrictions on the development of technological capabilities of the receiving country' [UNCTAD 1977, p.7].

Recipients' Technology Transfer Objectives

In assessing the success or failure of technology transfer it is important to recognize that each importing country has its own development objectives. The value of the transfer, therefore, should be seen in terms of the recipient country's own goals. Turkey's development goals have been discussed in earlier chapters. Additional technology policies are summarized in Appendix 3. In this section, Turkish objectives are matched against Soviet and Western practice.

With but a few lapses, speeding up industrialisation has been the objective of Turkish development since the founding of the Republic. Because of the lack of internal accumulation and private investors willing to risk large sums for large-scale basic industries, the government had to look outside the country for finance. In the 1950s, 1960s, and 1970s, funding and technology for many of the industries that the Turkish government wanted to develop were not forthcoming from the West. As a last resort Turkey turned to the Soviet Union. The USSR was willing to build the factories and infrastructure projects which the Turkish government requested.

Soviet technology transfer had a major role in fulfilling the Turkish objectives of

import substitution industrialisation in the 1960s and the 1970s. Although the number of factories in which the Soviet Union was involved in financing and equipping was small in comparison to the overall number built during this time, the Soviet Union filled gaps that were considered to be crucially important. In a number of industrial branches, glass, for example, transfer of technology by the Soviet Union also laid the groundwork for later involvement between Turkey and Western suppliers.

With respect to the way in which technology is transferred, there have been several sets of guidelines[4] put out by Turkish agencies (see Appendix 3). They largely concern restrictive practices. The positions held on these practices are similar to those of the Group of 77. In some respects Turkish guidelines have been more precise, for example, in specifying the length of agreement periods; five, seven, and ten years depending on what form of investment is involved. However, the precision has often been to little effect because guidelines have not been enforced. For example, TNCs have been able to impose agreement periods of over 20 years without too much fuss from the government. Sometimes the guidelines run counter to other objectives. This has been the case with respect to guidelines that assert a preference for the use of local resources whenever possible. This has often been off-set by the desire for rapid industrialisation which has at times resulted in a preference for turnkey facilities with, generally, a high foreign content.[5] Owing to a possibly detrimental impact on the build up of local technological capabilities, there were, however, misgivings expressed within the Ministry of Industry and Technology about turnkey agreements.[6] Most strongly criticized were those agreements that did not include adequate personnel training and which did include elements of 'project packaging' such as equity requirements, restrictions on exports and quantities produced, and limits on sources of supply of future inputs.

With regard to the way in which Turkey wanted technology transferred, Soviet assistance rarely contravened the recipient's stipulations. Restrictions were minimal and in general kept to within the guidelines prepared by various ministries. With reference to agreement durations, when Soviet agreements have a duration for

4 As discussed in Appendix 3, there actually have not been specific guidelines for foreign assistance projects. The general guidelines used by various ministries in the 1970s are being used as a proxy.

5 Particularly in the 1960s, when Turkish administrative resources were in scarce supply and when Turkey did not have the capability to produce a wide array of components, it wanted complex facilities built on a turnkey basis.

6 The gist of the problem is that there are often short-run costs in using local technological skills which have to be set against the long-run benefits. And, while the cost may be greater for the firm undertaking its own contracting, there are gains to society owing to the build-up of these skills. See, for instance, UNCTAD [1978].

restrictions of one kind or another, these are seven years thus meeting the seven and ten year specification but failing to meet the five year period. The Soviet Union also failed to meet the stipulation concerning payment of the suppliers technicians working in Turkey. The Turkish side must pay salaries and not just living and travel expenses as stipulated in the Ministry of Finance's guidelines.

The rest of the Soviet record seems to be in line with Turkish demands. The Soviet Union does not impose itself as the sole supplier of inputs, it does not impose export restrictions, it does not confiscate improvements made by the recipient, it does not restrict the types and quantities of goods produced, it does guarantee product quality; production capacity; consumption values; etc., it does transfer sufficient know-how so that the recipient's product quality is equal to that of the supplier, and so forth.

With regard to using as much local resources as possible, the position of factory managers was that there was a good division of labour between Soviet supply of goods and services and those supplied by the Turkish side. The criticisms of turnkey facilities concerning transfers that package future inputs and that limit local personnel and management were not directed towards the Soviet version of modified turnkey transfers.[7] In general, the Soviet Union supplied structures (for example, refractory bricks and high quality steel piping not produced in Turkey) and equipment that were not locally available and utilized local skills and materials for what could be locally supplied. Moreover, this division of labour was subject to negotiation between the Turkish and Soviet sides. With hydrogen peroxide, for example, this resulted in Turkey designing and supplying a major portion of the plant. A complaint about the Soviet-Turkish division of labour was, however, voiced by the Turkish construction and erection teams working at the Orhaneli power station. They believed that they were better able to design and construct major portions of the plant than were the Soviets and that Soviet supervision was unnecessary.

The Western transfers fare less well than Soviet transfers. Of the guidelines listed in Appendix 3, there are a large number which were clearly contravened. Of those which were investigated in this study, one or more Western facilities imposed agreement durations of greater than ten years, used lump-sum payments in addition to annual royalties, placed limits on transferred know-how, restricted exports, used prices

7 The Soviet assisted facilities can be considered to be modified 'process packaging', or, modified turnkey agreements. The Soviet Union is the main contractor and is responsible for bringing the facility up to specified operation parameters within a specified period of time. There is, however, a division of labour. Construction and erection, for example, are undertaken by local firms, albeit with Soviet supervision. Moreover, local materials are supposed to be used whenever they are available.

well above world prices for specified raw materials and intermediate inputs, charged salaries for foreign technicians, stipulated that the recipient's own research and development becomes the property of the licensor, imposed royalties exceeding three per cent, and imposed the technology supplier as the sole supplier of inputs and new equipment.

Best Practice: the Western Literature

The Western literature on technology and development shares many of the concerns over restrictive practices that have been discussed in the preceding sections. In this literature, alarm was sounded in the late 1960s and the early 1970s over the high cost of technology transfer in terms of both monetary outlays and the impact on local capabilities. Developing countries were advised to strengthen their regulation of transferred technology, particularly against the detrimental effects of restrictive practices. If developing countries were to gain by technology transfer they would have to intervene more actively in technology transfer agreements [Vaitsos: 1970, Singer: 1970, Cooper and Sercovitch: 1971].

The underlying premise of the technology and development literature is that technology transfer should help strengthen the technological capacity of developing countries; it should complement the build-up of local skills. A major judge of technology transfer is if it helps indigenous capabilities to assimilate, adapt, modify and create technology. While the force of this position is with the strengthening of developing countries, this literature also recognizes that the needs of suppliers - most often from developed countries - must be taken into account. Suppliers must be able to appropriate some of the gains from their monopoly or near monopoly position so as to make technology transfer worth their while [Lall: 1984, Cooper and Hoffman: 1978, UNCTAD: 1978].

Although the needs of the technology suppliers must be taken into account, it was suggested that the more damaging of their practices should be controlled by national and/or international regulation. While the technology and development literature does not prescribe the exact balance between the interests of suppliers and recipients of technology, it does point out practices that are the most harmful to developing countries. It also stresses aspects of technology transfer that can be the most useful in building up indigenous capabilities. Some of the practices that are criticized and those which are recommended in the technology and development literature are listed below and then discussed with reference to Soviet and Western practice in the transfer of

technology to Turkey.[8]

The technology and development literature flagged many of the worse consequences arising from some forms of technology transfer: reliance on foreign personnel beyond the period necessary to train local personnel, restrictions on local adaptations and modifications, transfer pricing, export controls, and so forth. Because of the supplier's monopoly position and because of the lack of experience in developing countries to search for and evaluate technology, the latter were often in a weak position. Developing countries could either accept technology transfers under the terms offered or do without. This often resulted in the transfer of hardware (capital goods) but did little to strengthen local technological capabilities. The term 'technology transfer' even became seen as a misnomer. According to Dahlman and Westphal:

> ...the shorthand expression "technology transfer" is misleading to the extent that it suggests that technologies can in fact be transferred wholesale and in working order. Capital goods can be transferred, but capital goods alone do not constitute a technology; they represent only that part of technology that is embodied in hardware ... the remainder is comprised of disembodied technological knowledge and related social arrangements - and - although knowledge can be transferred, the ability to make effective use cannot be. This ability can only be acquired through indigenous technological effort, leading to technological mastery through human capital formation. [1982, p.106]

The way in which technology is transferred can block indigenous technological effort. Service contracts, for instance, may restrict local personnel from undertaking maintenance work or carrying out adaptations, repairs and modifications. Grant-back provisions can undermine local effort because the indigenous firm has to relinquish its innovations to the supplier. Royalty extension clauses can also be a disincentive to local effort if improvements result in extensions of royalty periods and/or amounts. Local effort will also be hindered if inadequate documentation is supplied, or if personnel training is not included in the transfer. The acquiring firm may have to constantly refer back to the supplier rather than figure out problems or even carry out day-to-day operations using local skills. A high degree of packaging can also have detrimental effects on indigenous efforts. Local capabilities suffer because rather than working with local engineers and components suppliers and rather than in-house efforts, a continued reliance on the foreign supplier is maintained.

Detrimental impacts on the build up of local skills are not the only problems

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8 For more details and a more comprehensive list see, in particular, UNCTAD [1978]. See also, Bell, et.al. [1980], Cooper and Sercovitch [1971], Cooper and Hoffman [1978], Dahlman and Westphal [1982], and Vaitsos [1974], the major sources used in this section.

associated with many technology transfer agreements. There are also questions of unduly high monetary costs. This is a problem that has often been associated with packaged agreements. The technology and development literature devotes a great deal of attention to packaging. The pros and cons of packaging and various types of packaging are discussed below and, later, with reference to the Soviet Union's economic and technical cooperation.

Direct purchases of equipment and/or know-how may be expensive and oligopolistic price-setting may occur but, unlike packaged deals, prices can be known directly and can be compared with those of alternative suppliers. Packaged technology is full of hidden costs since supplying firms are able to market 'systems' rather than individual components. Some supplying firms use a major innovation in a particular component to package a whole system. Buyers can only obtain the innovative component by buying the entire system and often the monopoly pricing applied to the innovation is extended to the standardized parts that make up the rest of the system. Because of packaging, buyers cannot take advantage of competition between suppliers so as to put together the lowest cost plant.

While packaging has been open to severe criticism and 'unpackaging' is a goal of technology policy, it is also true that developing countries have at times preferred packaged agreements and there are circumstances in which packaging may be the most effective way to transfer technology. There are different degrees of packaging and packaging is efficient for some industries but not for others. Before assessing packaged deals in relation to the Turkish case material these distinctions have to be made.

Packaging is differentiated according to type: 'process packaging' and 'project packaging'. The former generally entails a single contractor putting together the various parts of a facility. While this function can be undertaken by the technology importer, it is often handled by a specialist contracting firm which coordinates a range of activities from pre-investment studies, through to design of integrated processes, purchase of components, construction, provision of spare parts, and assistance with operation. One of the major disadvantages of process packaging is that, as discussed above, the buyer will not be able to price each part separately and compare prices to those offered by other suppliers. Another criticism of process packaging is that it is sometimes used by suppliers to sell equipment that is not wanted by the recipient. In order to acquire the technology that is desired the entire package must be bought. And,

a further disadvantage is that packaging reduces the opportunities for using local capital goods manufacturers and engineering firms. This may mean that there is a lower rate of learning-by-doing amongst local technology suppliers than is desirable from the national point of view. The advantages of process packaging arise because in complex and large scale processes, many elements need to be integrated. In some industries this is most efficiently done by a specialist firm. Large efficiency gains can result from highly specialized contracting, especially in developing countries where contractor skills may be in short supply. To sum up, in itself process packaging is not necessarily detrimental to the interests of technology importers. Where it does become a problem is if the contracting firm will only sell the needed technology with technology that otherwise could have been purchased locally or would not have been purchased at all, and if the contractor uses the monopoly on the required technology to overprice (by world market standards) the additional technology.

Far greater attention has been given by developing countries and in the technology and development literature to project packaging. It is referred to as 'project packaging' because often some degree of outside control is exercised throughout the entire life of the project. This form of packaging is most frequently employed when the technology supplier also produces the goods made with the technology and, thus, may want to control market competition from the technology recipient. This will usually involve license agreements, quite often equity participation by the supplier, and generally, some degree of continuous control over management and engineers, as well as agreements on the supply of materials, inputs, and technical assistance. Project packaging may also include control over exports, the price of goods produced, and the nature of local research and development. Explicit payments for patents and trademarks are also often included in project packaging.

Project packaging can overprice components in the same way that process packaging can but with additional avenues that result in the continuous outflow of profits from developing countries. One which has been the subject of strong condemnation in the technology and development literature has been the overpricing of inputs which the technology recipient is forced to purchase from the supplier for a specified period of time, often the economic life of the plant. When agreements tie part or all of the inputs to a single source, developing countries are deprived of the possibility of exploiting market opportunities and are faced with a price structure that is wholly determined by a single supplier. By reason of the supplier's exclusive position, higher prices can be charged than for comparable inputs obtained elsewhere. The result is monopoly control of prices, leading to what has come to be known as 'transfer

pricing' [Vaitsos: 1974].

There is no support in the technology and development literature for project packaging, particularly when transfer pricing and restrictions on local efforts are included in agreements. There is some support of process packaging, but this depending on the industry concerned and the stage of technological development of the acquiring country. Developing countries should unpackage, argue Cooper and Hoffman [1978], where local skills are already available because it will be economically worth while to supply some parts of the package locally, but not all.

Balanced against the desire to unpackage, should be the understanding that greater demands will be placed on local administrative and contracting skills. Unpackaging, according to the UNCTAD *Handbook on the Acquisition of Technology by Developing Countries,* 'requires substantial technological capacity including the availability of designers and engineers and extensive knowledge of sources of technological information, and of a domestic system able to adapt and generate technology' [1978, p.19]. There are difficulties involved in unpackaging, and hence skills which have to be learned to do it effectively. But, not to be able to move on from the stage of requiring packaging is to run the risk of remaining dependent on foreign technology and for an indefinite period not being able to adapt and generate technology [ibid., p.33]. Different types of industries will be subject to more efficient unpackaging than others. For some industries such as basic chemicals or metallurgy, the contractor function is so specialized and scale economies so great that even the largest and most experienced producers find it more efficient to rely on an outside contractor and process packaging. However, in most other industries various degrees of unpackaging are usually possible thus allowing a greater degree of local participation.

In addition to selective unpackaging, developing countries can increase technological capabilities by involving local personnel at all the successive stages of a project from conceptual planning and design to construction and start up of production operations. It is, however, recognized that the design phase as a rule takes place before a technology is transferred. Nevertheless, if the intention of technology transfer is to build up indigenous skills in such a way that after the transfer of a first plant the recipient country is nearer to being able to design and construct a second plant then, according to the UNCTAD *Handbook,*ideally, the technology agreement should include not only a substantial training element, but should also provide for the sharing of design and engineering work between the supplier of technology and the recipient.

The agreement should also include setting up a programme for research and development so that for successive stages of the project there is a greater proportion of indigenous technology. The benefits of technology transfer to society will be far greater with this kind of transfer than with a turnkey project (fully integrated process packaging) in which there is such heavy reliance on outside expertise that the acquiring country is left with a greater familiarity of a wide range of technologies but without the capability to design and construct new facilities or to evaluate and negotiate additions to the technology.

As discussed in the previous sections, Soviet economic and technical cooperation with Turkey fares very well with regard to the South's and the recipient country's demands and objectives, especially with regard to restrictive practices. Because the technology and development literature, more or less, holds the same position on restrictive practices, it can also be said that the Soviet Union's cooperation with Turkey is in keeping with this literature as regards restrictive practices. They are both opposed to grant-back clauses, limits on adaptations; repairs and modifications, transfer pricing, and so forth. Where the two may differ is with regard to process packaging.

Soviet economic and technical cooperation, almost by definition, is a package agreement, even if a modified form. The Soviet Union can be understood to fulfil the role of general contractor for each stage up until operations are turned over to the recipient country shortly after start-up. The question that must be posed is whether packaging of the kind practiced by the Soviet Union transgresses 'good practice' in the sense of hindering indigenous technological capabilities and in the sense of imposing unduly high monetary costs.

Cooperation involves a complete package of credit, equipment, know-how, training, and spare parts. What it does not involve, which makes it more acceptable, are future streams of goods and services tied to the original purchase, i.e. project packaging. There are no obligations to buy additional inputs, parts, repair skills, etc. These can, instead, be purchased locally, or from third countries. And, to a large extent, Soviet cooperation includes the resources for in-house service skills and for in-house production of goods that may be required in the future. Each cooperation agreement contains documentation, machine shops, research and development laboratories and the like, so that future reliance on outside materials and expertise is reduced.

Soviet credits were used to purchase Soviet goods and services. But, the question can still be raised whether in order to purchase the technology that was required, Turkey also had to purchase technology that was not required. In the factory studies, there were no cases in which this was perceived to be the case. Turkish firms negotiated with the Soviets for what they wanted supplied by the Soviet Union and what would be supplied locally or by firms from other countries. Whenever the Turkish side requested that certain components be supplied other than from the Soviet Union, the parts they did want were still available. For example, in the case of hydrogen peroxide technology, Turkey was able to acquire the most innovative components from the Soviet Union while finding local suppliers for standardized components.[9] In this way, Soviet cooperation does not require tied-purchases as a condition for receiving the technology that is requested.

In evaluating Soviet packaging it is also important to understand the level of technological capabilities at the time facilities were built. Because of the lack of expertise within Turkey, particularly with regard to the 1957 and 1967 agreements, it was generally requested by Turkey that plants be built on a turnkey basis, thus, leaving the major responsibility with the Soviet Union to equip facilities and to bring them up to specified operational parameters within a given period of time. Turkish decision makers believed that indigenous skills were inadequate with regard to supplying enterprises with equipment and putting them into operation. This was felt to be especially important with regard to industries that were entirely new to the economy and, thus, local experience was minimal. Now that more experience has been accumulated in Turkey, not only with regard to operating facilities, but also with respect to searching for suitable technology, the Turkish side is less apt to request highly packaged agreements. The planned Iskenderun expansion is an example of new Turkish capabilities. The Iron and Steel Corporation wants to pick and choose among suppliers from all over the world. They want to choose from the Soviet Union only those parts that are wanted. While the Soviet Union has stated its interest in undertaking the entire expansion, it will accept less.

Of major importance in the Soviet package is the stress that is placed on training and the supply of documentation. With regard to carrying out plant operations and with regard to rights to make changes, the package transferred by the Soviet Union not only does not hinder local capabilities but it enhances them. By using Turkish erection and

9 In this case the local supply of parts is so great that project management does not consider it to be a turnkey project. The local design and equipment supply has been faulty and has delayed plant start-up so there is some support of the proposition that it is less risky to have an outside contractor responsible for the project. This, however, must be balanced against long-run benefits of gains in local skills from Turkish firms undertaking these tasks.

construction teams, local skills are also enhanced. Although, as mentioned previously, it is now open to question if Soviet supervision is necessary. The inclusion of research and development laboratories in cooperation agreements also increases local skills. What the Soviet package lacks in terms of building up local capabilities is a mechanism for including local personnel at the design phase and/or greater availability of design calculations. Respondents suggested that more effort could be taken by the Soviet Union to teach design skills.

There is another aspect of packaging which is also important. With these purchases the developing country generally ends up paying higher prices than if it could search on the market for separate components. However, as shown in Chapters 5 and 6, Soviet technology tends to be considerably cheaper than similar Western technology. With economic and technical cooperation, Soviet prices, if anything, under cut world prices. Within Turkey, it was generally perceived that the Soviet Union was the cheapest source both internationally and with regard to potential local suppliers. At the Aliaga refinery, where cost comparisons had been undertaken, the original capacity was purchased at approximately half the price for comparable equipment from Western firms. For the Aliaga expansion, in comparing the prices to Western firms, it was determined that the Soviet Union charged two-thirds less.[10]

Although the Soviet Union may have been the least cost supplier, from a learning point of view, it should still be taken into account that it is detrimental whenever a supplier includes in an agreement goods and services that are locally available. From the case study evidence, this was not perceived as a problem. A division of labour did exist. Certain tasks and the supply of certain goods were Turkey's responsibility and others were the Soviet Union's responsibility. In general, the Soviet Union supplied sophisticated goods and know-how that were not locally available or which were of limited availability and being utilized elsewhere in the economy.

With regard to 'project packaging', this practice was not found in the Soviet assisted projects. Although the Soviet Union is a producer of the goods made with transferred technology, it has not sought to restrict the distribution of goods produced in Soviet assisted factories or to restrict supplies of future inputs and technical assistance. Nor has it sought equity or other forms of profit and control.

With the Western plants investigated in this study and with Western equipment at

10 These estimates were based on a comparison of separate components, not of an alternative package.

Soviet plants, there was not only process packaging, there was also a very high degree of project packaging which included: transfer pricing through tied sourcing of inputs and purchases of future equipment, export restrictions, service contracts, limits on modifications; repairs; maintenance and adaptations, equity participation, grant-back provisions, and so forth. This packaging not only imposed large monetary costs, it also impeded local control and hindered technological learning. While some degree of process packaging may have been acceptable for the industries concerned - petroleum refineries, for instance - project packaging is found to be unacceptable in the technology and development literature for the reasons mentioned earlier.

To sum up this section, with possibly the exception of the Soviet use of process packaging and the failure adequately to impart design skills, Soviet practice bears a strong similarity to the position recommended by Western experts on technology and development. There is virtually no divergence between that position and Soviet practice with regard to business practice restrictions and the importance of increasing local capabilities. With respect to packaging, the Soviet Union's version is highly modified, thus allowing a significant amount of local input and the acquiring firm is, in general, free to purchase from the Soviet Union only that technology which is desired. As Turkey's capability to search for and evaluate technology improves and as the capability to generate technology locally grows, it may be expected that process packaging will become more inappropriate.

Conclusion

In this chapter Soviet economic and technical cooperation in Turkey has been matched against Soviet claims, the South's demands within the UN Conference on an International Code of Conduct on the Transfer of Technology, Turkish development objectives and the Western technology and development literature. Case studies of Soviet assisted factories and interviews with Turkish government and corporate officials strongly support Soviet claims. Furthermore, the Soviet assessment of Western behaviour was, in general, also borne out by interviews with officials and by investigations, albeit limited, of Western assisted factories.

The Soviet Union, according to the case material, has not interfered in domestic affairs, has provided technologies that the West would not make available, has provided assistance to the private sector as well as the public sector, has not aggravated foreign debt problems and has helped Turkey's bargaining position vis-à-vis the West. In the Soviet assisted factories in Turkey a great deal of emphasis has been placed on

personnel training, the supply of documentation and the rights to technology. Taken altogether these have created many of the conditions for mastering technology. Personnel working in Soviet assisted factories have acquired the capabilities to assimilate, adapt, modify and create technology.

The Soviet Union in living up to its own claims, also lives up to most of the demands of the South for fairer and greater access to the world's technological resources, to most of the objectives of the recipient country, and to sound practice as it is put forward by the Western technology and development literature. If the collective goal set forward by these groups is to increase indigenous technological capabilities, then the Turkish experience suggests that assistance offered by the Soviet Union fulfils that goal.

Chapter 8

Summary of Findings and Future Directions

The purpose of this chapter is to summarize the research, remark upon areas in which further research would be advisable before drawing generalizations, and reflect upon changes occurring in the post-1985 period. This is done in two parts. Part I summarizes the findings and notes areas for future research. Part II addresses the Gorbachev era changes. While this period lies outside the time-frame of this study, it is possible to make some initial observations on how post-1985 policy discussions relate to the period examined in this work.

Part I

Summary of Findings

With the central belief that true independence could not be achieved while economic ties bound the developing countries to the former colonial and neocolonial powers, the Soviet Union under Khrushchev offered economic and technical cooperation to non-socialist newly emerging states. According to Soviet officials and scholars, the purpose of assistance rendered by the Soviet Union was to build-up national capabilities so that developing countries could gain full political and economic control. It was also believed that Soviet assistance would promote new alliances with the developing countries and would help weaken the West. The Soviet Union would win over the developing countries while at the same time helping them achieve the goals of their liberation struggles - the abolition of poverty, hunger, backwardness and dependence.

Through economic and technical cooperation, the Soviet Union was able to assert itself as an alternative to the West. Soviet cooperation broke the Western monopoly on aid and technical assistance. According to many leading Western and Soviet analysts, the addition of competition to the West served the developing countries directly as an added source of external resources, and it served them indirectly since it increased their bargaining position vis-à-vis the West. Western countries and Western funding institutions lowered their interest rates in response to Soviet loan terms, they increased the amount of loans available, and they became more pliable in the types of projects

they would assist.

While successful in many respects, cooperation, according to Khrushchev's domestic critics, placed too great a burden on the Soviet economy. During the Brezhnev years, the cooperation programme's political agenda subsided in importance and economic mutual advantage assumed greater importance. Assistance would have to be judged not only on the basis of its benefit to developing countries and its political return, it would also have to produce economic benefits for the Soviet economy; a point Khrushchev had not wholly ignored nor, however, wholly embraced.

It was during Khrushchev's leadership that assistance was offered to Turkey. After a period of bitter acrimony between the Soviet Union and Turkey, the offers of assistance were considered by some Turkish officials as part of a 'Soviet Peace Offensive'. The USSR offered to provide whatever technology and credit Turkey needed. Many Turkish officials were sceptical of Soviet offers. The Soviet Union's attempted exercise of authority after World War II had resulted in Turkey's application to join NATO and in the realization of the USSR's worst fears, an adversary on her border. It would appear that the Soviet Union learned a valuable lesson from Stalin's attempted encroachment. Soviet policy towards Turkey since Stalin's death has been directed at confidence building and maintaining friendly relations. This has been accomplished in large part through economic and technical cooperation, plus broad support on the Cyprus question.

Despite Turkish reticence about accepting Soviet offers, there was little choice available to Turkey if various private and public sector industrialisation objectives were to be met. Industrial technologies that were unavailable from the West could be obtained from the Soviet Union. Despite misgivings, the first Soviet-Turkish cooperation project since 1934 was signed in 1957 between the private Turkish Bottle and Glass Company and the Soviet government. This firm had, since the late 1940s, been refused production technology from Western patent holders.

Western refusals continued to play a large role in subsequent agreements. On several occasions Turkey was turned down by Western corporations for technology and by Western governments for credits for nationally owned industries. While Turkey could obtain credit for an iron and steel factory, private sector ownership rather than public sector ownership as envisaged would have to be accepted. While Turkey could obtain an aluminium factory, subsidiary status would have to be agreed to rather than national ownership. While Turkey could obtain refinery technology it would have to

agree to joint ownership and foreign management. It was only with a package of agreements negotiated with the Soviet Union in 1967, that Turkey could acquire these technologies for nationally owned industries.

Because of the lack of credit and in some cases being turned down outright for technology, Turkey continued to resort to the Soviet Union in the 1960s and 1970s. According to Turkish leaders, it was in Turkey's economic interest to accept Soviet cooperation. While there were also political forces at play (growing tensions between Turkey and the United States, for instance), fulfilling Turkish economic development objectives were of tremendous importance in continued Soviet-Turkish cooperation. Because of changing Turkish demands, in the 1980s new forms of cooperation and trade have been explored. Compensation projects have been discussed and an innovative scheme is underway in which repayment is in the form of Turkish firms undertaking building contracts in the USSR.

Interviews in factories visited for this study revealed that Soviet technology was not the first choice, nor was it even the second choice. The case material shows that the Soviet Union was most often the supplier of last resort, turned to owing to Western refusals or availability at terms which Turkey found to be wholly unacceptable. Western refusals to sell technology and the refusal of Western governments and financial institutions to fund state sector industrial projects were the major reasons for choosing cooperation for all but two (Orhaneli power station and the Aliaga refinery expansion) of the Soviet cooperation projects.

What was of little importance in the choice of foreign supplier were factors having to do with the way in which technology is transferred: the degree of personnel training, the quality of documentation and rights to technology (other than those impinging on national ownership and the right to export). Also of little importance in the choice of Soviet technology was the quality of hardware. Central decision makers considered it inferior to Western hardware. Because of this, Soviet technology would not have been chosen if there had been a viable alternative.

However, engineers and management at Soviet-assisted facilities held a different view. Soviet technology was held in high esteem by those persons working directly with it. Many of the engineers who had experience with Soviet and Western technology preferred working with Soviet technology: personnel training was better, documentation and the supply of know-how were better, and equipment was easier to maintain and repair. Also, because of the absence of restrictions on Soviet technology,

engineers were freer to assimilate, adapt, modify and create technology. At two factories, Seydisehir aluminium and Mersin sodium bichromate, there were, in fact, major instances of creating new technology. Where Soviet technology consistently fell behind Western technology was in the area of computer controls. The suggestion was made at one factory that it is better to buy Soviet technology which is durable, well designed, and cheaper and couple it with a Western computer system. In several of the Soviet assisted factories this is exactly what has been done. This was also the case with some, but not all, chemical processes.

In analysing the field results against claims made by Soviet officials and experts, it was found that the Turkish case study supports Soviet claims. In the Soviet assisted factories in Turkey a great deal of emphasis has been placed on the provision of personnel training, documentation and legal rights to technology. This has created the conditions for mastering technology. Furthermore, the Soviet Union has not interfered in domestic affairs, has not sought concessions, has provided assistance to the private sector as well as the public sector, has not aggravated foreign debt problems and has helped Turkey's bargaining position vis-à-vis the West. The dominant opinion emerging from interviews with Turkish officials was that cooperation has been conducted on a 'professional' basis, separate from and seemingly unrelated to the world of politics.

As discussed at length in Chapter 7, the Soviet Union in living up to its own claims, also lives up to most of the demands of the South for fairer and greater access to the world's technological resources, to the objectives of the recipient country, and to sound practice as it is put forward in the Western technology and development literature. It was also found that with regard to the industries investigated in this study, the Soviet Union's assessment of Western involvement was a fair appraisal. Contrary to the expectations held prior to this research, the Soviet Union neither exaggerated its own record nor did it go too far in criticizing Western involvement.

The main findings of the research have been summarized above. The remainder of this section draws together the implications of Western refusals to provide technology and credit and of the emergence of the Soviet Union as an alternative source.

Where Soviet pronouncements had seemed the most critical were with reference to the behaviour of the West, in particular Western monopoly practices and the refusal of Western governments to fund basic industries, especially those in the state sector. In

the course of the research, it was found that the case made by Soviet writers was well founded and that the Soviet Union offered an effective alternative. This has already been said above. The wider ramifications need to be brought out, particularly since the actual behaviour of Western firms contradicted the policy goals that Western governments were ostensibly trying to promote.

In the Turkish case, Soviet cooperation put within Turkey's reach a number of industries that could not be obtained from the West. Because of Western governments' reluctance to finance projects outside the private sector and because of Western cartels and other business practice restrictions, Turkey was, in a sense, forced to turn to the Soviet Union as supplier of last resort. In this respect, reconciliation between Turkey and the Soviet Union owes a great deal to Western behaviour. While Western governments, in particular the US, were acting in their ideological interest - ostensibly the promotion of private enterprise and the free market - the policy of attaching strings to assistance could only work if there was no viable alternative that could provide Turkey with the public sector projects which the country's leaders envisaged. In the same sense the interest of Western businesses - to maintain their markets and prices - could only be served if there was no alternative.

The intransigence of the US and other Western governments and financial institutions eased the way for the Soviet Union to renew ties with Turkey. Particularly in the atmosphere of the Cold War, Western policy ended up being unsound. Turkey, in the end, obtained the technology and credit requested, and the position of the Soviet Union was strengthened.

Moreover, while Western governments and financial institutions were professing to encourage a free market system, Western businesses were restricting the market. In several of the industries investigated in this study, Western firms severely restricted access to technology and divided (among themselves) the world into production and export territories. It would appear that one of their main purposes was to prevent additional producers from entering the market. It was the Soviet Union that, where Turkey was concerned, busted the cartels. By making technology available, the Soviet Union in effect made the world market more competitive. It was the Western firms which, through the use of cartels, were attempting to practice planning and price setting.

This point was not lost on Turkish officials and factory managers, some of whom held the responsible Western countries and corporations in low esteem for this reason.

Despite all of the misgivings about the quality of Soviet technology and fears that the Soviet Union might seek to interfere in domestic affairs, the fact that it provided technology and credit when the West would not has resulted in not only stronger Soviet-Turkish ties but also increased confidence.

Further Research

The main question that must by the nature of the case study approach be left unanswered is to what degree the Turkish experience can be generalized to other developing countries. Further in-depth case studies would need to be undertaken to answer this more fully. Is Soviet cooperation at the factory level similar for all recipients? Is economic and technical cooperation always rendered without strings attached? Is Soviet cooperation available for a seemingly unlimited number of projects for other countries? While the answer to these questions is not a universal 'yes',[1] it can be said that the Turkish experience with Soviet assistance does not appear to be a completely unique case which might have arisen because of its special status.

As a NATO member and as a border country, the Soviet Union has, since Stalin's death, been particularly interested in improving relations. However, while Turkey's special status has played a large role in the Soviet Union's attempts to improve relations, other non-socialist developing countries that were not in NATO and not on the Soviet border have also been courted with offers of assistance comparable to those made to Turkey. For example, Soviet overtures to Nigeria were similar in some respects to those made towards Turkey. According to Alli-Balogun [1988], in the late 1950s, the Soviet Union offered a credit of around $40 million at 2.5 per cent interest per annum. The offer was turned down by the Nigerian government because of its anti-communist outlook, with the Finance Minister stating that, 'while we accept the need to look abroad for aid, we are not prepared to take aid from just any source, come what may' [p.627]. Similar to Turkey, the Nigerian government changed its tune only when the Western countries failed to provide assistance which the Nigerians deemed necessary. In the case of Nigeria, this was for economic and technical assistance for an integrated steel complex. According to Alli-Balogun, 'the "unhelpfulness" of both the British and the Americans - at least in the eyes of the Nigerian leaders - created a vacuum that was quickly filled by the Soviets' [p.629]. From this experience, it appears that the Turkish case is not unique in terms of the Soviet Union courting unsympathetic regimes and that it is not based solely on NATO membership or

[1] See for instance Miller and Whitehead [1985] and Vacs [1985] on the limits of Soviet assistance to Latin America. See Steele [1985] for a similar appraisal with regard to Angola and Mozambique.

bordering the Soviet Union.

In Turkey, the Soviet Union supported public sector industry and basic industries while Western countries were reticent. This is also borne out by the Nigerian case study, by Desai's [1972] study of the Bokaro steel plant in India - the Soviets stepped in when the West refused - and by a study of external assistance to Sri Lanka. Randini [1975] found that external aid to Sri Lanka's public sector industrial development had been provided primarily by socialist countries, with the major contribution coming from the Soviet Union. The only Western country that would finance public sector industry was West Germany. The others flatly refused.

Favourable prices were offered to Turkey. More research needs to be undertaken on whether this is a general feature of Soviet assistance. Prices may well vary due to the bargaining position of respective parties or due to other political and economic factors. Desai suggests that India might have been able to bargain with the Soviet Union for the Bokaro steel mill had there been the possibility of an alternative source of funds. In Randini's assessment of prices for an integrated iron and steel mill in Sri Lanka, it appears that the pricing formula for heavy industry was the same as that used in Turkey, suggesting that if bargaining does occur, the original offer price is similar. The salaries for technical experts charged to Sri Lanka and India were also similar to those found in Turkey at the time. These were a fraction of the salaries demanded by Western experts.

More research from other countries would also be needed before one could generalize from the finding of this study that the Soviet Union never refused Turkish requests. If it were to apply to other countries one would also need to learn whether the reasons were the same as those found in this study. In addition to political factors which were of tremendous importance in Soviet attempts to reestablish cooperation with Turkey, the potential for strong trade relations deserves special consideration. Turkey has goods the Soviet Union can use, thus cooperation in a wide variety of industries may be seen as an entrée to further trade relations. Some Western analysts have stressed this motive for Soviet cooperation with non-socialist developing countries [McMillan: 1979], but there must be enormous variation in this group of countries.

What can be inferred from the Soviet literature is that economic and technical cooperation is similar for all non-CMEA developing countries. The hardware provided is the same (with some modification for local conditions) and cooperation includes personnel training, thorough documentation and entails few restrictions. Credit has, in

general, also been accorded on the same terms to all developing countries [Savchenko: 1977, Skachkov: 1982, Kapranov: 1985]. This is borne out in Western statistics on credit and repayment terms [Bach: 1987]. Detailed studies investigating restrictive practices, personnel training and documentation do not seem to exist. Clearly, more case studies are needed before one can generalize.

With reference to political, economic and military strings being attached as a quid pro quo for assistance, this would have to be examined on a case by case basis. It is possible that Turkey's reticence to accept Soviet assistance to begin with and the degree of support received from the West may have helped avert any strings being attached to Soviet assistance. Because it was the Soviet Union that courted Turkey, and not the other way around, Turkey's position was very strong.

In conclusion, because of the lack of detailed case studies of Soviet economic and technical cooperation (especially at the factory level), it is not yet possible to generalize from the Turkish case. Nevertheless, the detail afforded by this approach has been necessary to bring to light practices that otherwise would have remained hidden or portrayed incorrectly. Had this research not gone beyond the bounds of quantitative data or, as shown in Chapters 5 and 6, beyond the bounds of central offices in Turkey, a very different and less accurate picture of Soviet cooperation would have emerged.

Part II

Cooperation in the Gorbachev Era: An Initial Assessment

The purpose of this final part is to discuss changes in the Soviet cooperation programme since Gorbachev has come to power. Even though this most recent period lies outside the time-frame of this study, its findings can be related to the post-1985 policy discussions on cooperation with developing countries. Given the pace and uncertainty of recent changes the remarks in this section reflect only initial observations of the discussions underway in the Soviet Union.

While Soviet assistance to Turkey has made a significant contribution to Turkish development and it has fulfilled the requirements of developing countries with respect to the way in which technology has been transferred, and in some respects, outperformed the West, the Soviet record cannot be used for arguing that developing countries should massively switch from Western to Soviet assistance. There are five main reasons for this. First, some Western aid is beneficial [Cassen, et al.: 1987,

Hewitt and Kydd: 1986] and commercial transactions between the West and the South can achieve good results, particularly if the import of foreign technology is regulated [Enos: 1984]. Second, the needs of developing countries are changing. Third, Soviet assistance has some deficiencies (e.g. some technologies are not up-to-date). Fourth, the Soviet Union's internal economic crisis means that resources for developing countries cannot be counted on to increase. Fifth, the Soviet programme itself is in a state of flux and it is possible that the financial and technical terms of agreements may change. Although cooperation may be improved there is also the possibility that the very good terms offered to Turkey may no longer be available. Some of these points are reflected in recent thinking in the Soviet economic and technical cooperation literature. This is discussed in this section.

Since Gorbachev assumed the Party leadership in 1985, the Soviet literature on economic and technical cooperation has taken on a self-critical tone. Prior to the latter half of the 1980s, Soviet analysts writing on economic and technical cooperation concentrated most of their criticism on the activities of Western countries. Particularly since the beginning of 1988, Soviet writers' criticism has been reserved largely for the Soviet programme itself.

There are two main currents of criticism in the development cooperation literature. First, that the Soviet Union was slow to react to changes in world economic conditions and to changes in the level of development in the developing countries. Therefore, the Soviet Union has been pursuing policies that are inappropriate to the needs of developing countries. Second, there is a layer of criticism that has its roots in the restructuring of the Soviet domestic economy. For example, credits should be repaid sooner, projects should pay for themselves, cooperation should enhance the Soviet Union's import structure and new administrative mechanisms should be employed.

Zevin, in a 1989 article in *Social Sciences,* one of the more critical of Soviet economic relations with developing countries, notes that problems have been occurring in the Soviet Union's cooperation since the mid-1970s. However, they have not been dealt with in a productive manner. Rather than analysing changes needed in its relations with developing countries, the Soviet Union blamed most of the problems on external factors. As Zevin states:

> A stereotype has been formed in scientific literature, as well as in assessments by Soviet foreign economic organisations, which attributed reasons for these negative phenomena mainly to the deteriorating world economic situation in general and to the economic and financial situation

> in most of the developing nations. There is no doubt that these and other associated factors effect the state of this sector of international economic relations. However, it seems to me that such a unilateral approach makes it impossible to identify other causes of bottle-necks in our cooperation with the developing nations. [1989, p.177]

The bottle-necks that Zevin refers to are internal. Those which he identifies include: inadequate knowledge of local conditions, policies that no longer correspond to the development strategies of recipient countries, ineffective administrative mechanisms and poor management, and sluggishness in instituting new approaches.

These bottle-necks remain in the way of making foreign trade and economic and technical cooperation more efficient in terms of serving Soviet domestic requirements and the development requirements of the emerging countries. Many of the problems have an institutional foundation which is difficult to overcome:

> The foreign economic activity of the Soviet Union is obstructed by the persisting fragmentation of export and import operations, sometimes by inadequate linkage between foreign trade and economic and technical cooperation. This causes differences among individual agencies in approaches to assessing the efficiency of foreign economic activity. This makes it difficult to regulate individual operations and applying the criterion of national economic efficiency. In spite of recently taken decisions, one of the most serious problems remains the lack of interest of direct producers in intensifying export activities. This is due, among other things, to the command-and-administer methods of management employed for many years in our economy, to the lack of experience in dealing independently with foreign markets, to the shortage of qualified specialists capable of carrying out the new (production for people) type of activity; to the lack of information on marketing problems, and, at times, to insufficient incentives for undertaking high-risk operations in unknown markets. [p.182]

Zevin argues that because of sluggishness in responding to the needs of developing countries, the Soviet Union has lost opportunities to assist these countries and to improve mutual economic relations. Soviet analysts and the organisations responsible for implementing foreign assistance 'failed to forecast and timely and fully assess the economic changes in the developing countries' [p.179]. Soviet policy continues to fall short in some areas. In particular, he is critical of the fact that it has not fully taken into account the changes which have occurred with the shift in industrial strategies from import substitution to export orientation by the developing countries. While he praises Soviet support of import substitution industrialisation for having increased the economic potential of the developing countries, he criticizes Soviet policy for being slow to take other factors into consideration. Import replacement does not 'create any

tangible incentives for maintaining long-term stable ties, for expanding exports of developing countries, something to which they devote a great deal of attention at present, and for raising the degree of pay-back of Soviet credits' [p.180]. The Soviet Union, in his view, should have responded earlier to mutually advantageous opportunities offered by export orientation.

Zevin is also critical of the small proportion of engineering goods (licenses and specialized equipment) and consultancy services in the Soviet Union's cooperation. Partially because of the success of earlier cooperation, developing countries are now capable of independently producing a wide array of components and of building their own factories. There is no longer a need for complete plants as the Soviet Union has been accustomed to providing; rather there is a need for selected and sophisticated equipment and services.

In connection with the import of engineering goods and services, Zevin notes that the Soviet Union has been slow to adjust to the availability of high quality manufactured products which are now produced in the developing countries. He calls for a change in 'existing stereotypes' [p.178], a reference to a fairly traditional division of labour between the Soviet Union and the developing countries.

Korneyev [1988], in another critical article in the Ministry of Foreign Trade's journal, *Foreign Trade*, also faults the Soviet Union for not availing itself of the manufacturing capabilities of the developing countries. In noting that Soviet imports from developing countries are dominated by raw materials, he remarks that this is particularly odd with regard to the newly industrialising countries (NICs):

> Undoubtedly, these raw materials are necessary for the Soviet economy, but ... some of the developing countries are now in a position to offer modern science-intensive products, machines and equipment as well as quality consumer goods.
>
> Look, for instance, at the pattern of Soviet import from those "newly industrialising countries". Actually, imports entirely consist of raw materials. Even from Singapore, this workshop of science-intensive products in the developing world, we import primary products solely. [p.32]

Korneyev argues that thoroughgoing changes must take place in Soviet trade patterns and that adjustments need to be made in the economic and technical assistance programme so that it is more responsive to trade requirements. With reference to the NICs, he suggests:

> ...Of course, to import their modern industrial products which are often much cheaper while being almost as good in technical and quality parameters as similar products from Western countries, it is necessary to expand Soviet exports to these countries and to use new forms of trade.
>
> The pattern of Soviet import from the newly liberated states is not yet sufficiently influenced by its interconnection with Soviet economic and technical assistance to these states. [ibid.]

Korneyev argues that the assistance programme should more closely meet the needs of the domestic economy. Most important is:

> the role of economic and technical cooperation in setting up a system of mutually advantageous division of labour between the USSR and the developing nations. It seems that Soviet aided enterprises in those countries should supplement the economic structure of the Soviet national economy. [p.33]

While Korneyev recognizes that meeting Soviet domestic economic requirements has long been an objective of Soviet cooperation, he stresses that this has yet to be sufficiently developed. This point is repeatedly emphasised in the recent Soviet cooperation literature.

Korneyev points to the sectoral structure of Soviet cooperation as part of the reason for the inadequate import structure arising from cooperation. He recommends more cooperation with private enterprise in developing countries. At the institutional level, he argues that difficulties in establishing joint ventures with developing countries need to be worked out.

There are also calls for better cost accounting at the enterprise level owing to the USSR's domestic restructuring. For example, with reference to personnel training within the Soviet Union, Korneyev argues: 'With enterprises and organisations changing over to self-supporting activity, there is a need to revise the system of compensation for their expenses on these purposes' [ibid.]. Even though some cooperation costs will be higher for the recipients, Korneyev contends that changes arising from restructuring will benefit the developing countries. Not only would they gain by an enlarged export market for their manufactured goods and engineering services, but the overall level of mutual advantage will be raised. He asserts:

> the principle task of the entire complex of trade-and economic and scientific-and-technical ties between the USSR and the newly liberated countries is to bring them into accord with the requirements of the on-going restructuring of the Soviet economy, which will, in turn, raise the

level of their mutual advantage and supply the necessary conditions for their further consolidation and expansion. [ibid.]

While Korneyev gives primary emphasis to the needs of the Soviet domestic economy, with the developing countries benefitting from a restructured Soviet Union, Zevin emphasizes the needs of the developing countries:

> The Soviet economic policy with respect to the developing countries with different socio-economic systems ... has essentially one purpose - to help them overcome underdevelopment and create favourable external conditions for solving this highly important task. [1989, p.176]

According to Zevin, if the Soviet Union is going to help the developing countries overcome their current development problems then the structure of Soviet economic and technical cooperation must be changed so that it corresponds more closely to the economic strategies of recipients. Some of the changes have already been mentioned - greater concentration on engineering services, and greater attention to export oriented industrialisation. Another change would require accelerating investment in the agricultural sector of some countries. And, yet another change (perhaps the largest departure from the earlier cooperation programme) would require placing less emphasis on what had been the centrepiece of Soviet cooperation - assistance to large-scale industries. Zevin argues that at one time these industries served as the basis for the creation of modern industry in developing countries. But expansion of these industries given the large investments required for their construction and long pay-back periods is now more difficult. Small and medium-scale projects are at this time more suitable to the circumstances found in many developing countries:

> the existing situation in most developing countries makes it difficult to expect that it would be possible in the medium-term future to expand cooperation in ... [large-scale] industries. Centering attention on agriculture and related industries and on construction of medium- and small-size enterprises is typical of national strategies of these countries in conditions of a deteriorating demographic and food situation, mounting foreign debts and unemployment. Emphasis is placed on rapid investment return and a substantial increase in the workforce. [p.179]

Zevin advises that economic and technical cooperation should place special emphasis on 'assistance in constructing small and medium-scale engineering enterprises which are well equipped and are capable of expeditiously changing the production programme' [p.183]. This flexible production capability, he argues, is particularly advisable given the narrow markets of most developing countries. Assistance to small and medium-scale firms will require greater Soviet cooperation with national capital

because these firms, notes Zevin, are often in the private sector. This may require a more flexible cooperation programme that can disburse assistance to a wide range of projects.

Zevin also argues that while the mechanisms for cooperation formed over 30 years corresponded for a time to the needs of developing countries, new mechanisms are now necessary. In addition to more joint ventures, he argues for greater subcontracting of work, with small and medium sized producers within the Soviet Union being given legal rights to enter into international cooperation agreements. As with trade, the monopoly of the large foreign trade organisations in providing equipment and machinery for cooperation agreements must be broken.[2]

With greater specialization in a restructured Soviet economy there will also be more room for cooperation based on 'inter-industrial' exchanges between the Soviet Union and the developing countries, with each being responsible for the portions of agricultural, capital goods and consumer goods industries in which they are most efficient. Similar to Korneyev, Zevin argues that the Soviet Union has not fulfilled the potential for efficient exchange via cooperation:

> In order to make mutual relations more dynamic and stable it would be very useful to find organizational and economic forms linking relations with developing countries to the fuel and energy, food, engineering and consumer goods production programmes adopted by the Soviet Union. During elaboration of, at least, some of these programmes, the possibilities of labour division with developing countries have, obviously, not been taken fully into account in order to ensure higher effectiveness of capital investments.... [p.184]

In situations in which imports are cheaper than domestic production then the latter should cease to be expanded or it should be partially curtailed. Moreover, economic and technical cooperation could then be financed by the economic gains arising from cheaper supplies. Zevin explains:

> The profits gained could be used as the basis for expanding such cooperation. In other words, it would be considered an alternative to domestic investments made to satisfy the country's need (or its certain part) for one or another product. Comparison of options (naturally, with regard for higher economic risks involved in finding supply sources abroad) would make it possible to choose the best one. [p.184]

2 Where once the Ministry of Foreign Trade was the principal organ through which foreign trade operations were conducted, in 1986 over twenty ministries and government departments and sixty-seven enterprises were granted direct access to foreign markets (Joint Decrees 991 and 992, 19 August 1986) [Boguslavsky and Smirnov: 1989].

While the overall amount of Soviet imports may initially rise, increased specialization and exchange with the developing countries will, it is expected, in the medium to long-run also increase Soviet exports. By taking greater advantage of the international division of labour and by concentrating efforts on increasing the quality of the goods that are domestically produced, particularly sophisticated machinery and equipment, the Soviet Union will be able to gain a larger share of foreign markets for these goods. Zevin elaborates:

> The switchover of our economy to intensive development, the overhaul of the economic mechanism, and intensified participation in the international division of labour are connected with the advance of the pace-setters of scientific and technical progress, primarily engineering. Such a policy will secure a rise in machine and equipment exports, later to become the foremost export item.[p.182]

Thus, a restructured Soviet economy will be better able to adjust to the needs of developing countries and, at the same time, will increase the Soviet Union's standing as a supplier of advanced technology and of sophisticated goods and services.

The connection between domestic restructuring and meeting the needs of developing countries is also addressed in an article written by Alexi Vasilyev [1988], Deputy Director of the Institute of Africa. According to Vasilyev, because the Soviet Union has failed economically and technologically to keep pace with the advanced capitalist countries and because it has miscalculated the changing needs of the developing countries, what it has been able to offer these countries has been limited. Without restructuring, the economic and technical gap between the Soviet Union and the West will continue to widen. According to Vasilyev, this will not only result in less effective assistance, it will also produce a slackening of the demonstration effect of socialism. While he asserts that the Soviet Union and developing countries still have common goals: 'the struggle for a New International Economic Order, for equitable, mutually beneficial economic, scientific and technological relations, and opposition to the exploiter policy of the centres of capitalism' [p.210], to fulfil these goals and the aspirations of the developing countries, the Soviet Union, itself, must be stronger.

> there is another most important link in the "socialism-developing countries" system - the state of affairs in the USSR and throughout the socialist community. In this respect, the future will greatly depend on the acceleration of the socio-economic development of the USSR and other socialist countries, reducing and eliminating the gap in the economic, scientific and technical level between the socialist and developed capitalist countries, in short - on the success of the revolutionary perestroika now under way in Soviet society. [ibid.]

According to Vasilyev, Korneyev, and Zevin, the strengthening of the Soviet domestic economy is an important step in increasing Soviet support for developing countries. But, is this an entirely new departure from old thinking? In some respects, this echoes the earlier pronouncements by Brezhnev that the Soviet Union must first build up its own economy before it can be more successful in fulfilling its international tasks.[3]

In the following section it is argued that some of the change in the mechanics of the economic and technical cooperation programme since Gorbachev has come to power is a continuation of past trends. Reform was counselled for the assistance programme in the mid 1960s.

Trends - the Past Writ Forward

With even the most critical writings, those of Zevin and Korneyev for instance, a reading of the pre-1985 development cooperation literature reveals that there is little that is entirely new.[4] Zevin's positive view of small and medium-scale industry, for instance, has pre-1985 precursors. Sukhoparov argued the importance of technology transfer to 'the "decentralized" sector with its small enterprises and handicraft workshops' [1982, p.47]. And, in 1984, Olshany and Zevin argued: 'The construction of small and medium-size enterprises brings a rapid and tangible effect. They are rather easily adjustable to the economic conditions of a developing state, and they help to resolve the urgent and current tasks' [p.96-97].

Responding to developing countries' export orientation was also recommended in the 1970s and early 1980s.[5] Egorov, et al. pointed out some of the problems with

3 Discussed in Chapter 2.

4 This section pertains to the economic and technical cooperation programme and not to all of the Soviet Union's international economic relations, or, for that matter, all relations with developing countries. For a discussion of the enormous changes taking place in foreign trade, see Ivanov [1988]. For details of new legislation and administrative reorganization see, in particular, Boguslavsky and Smirnov [1989].

5 See Volkov [1972] for differences between Western encouraged and Soviet encouraged export industries. The latter, for example, would ensure that local raw materials are used whereas the West would be indifferent to linkages with the rest of the economy. Ushakova and Zevin [1978] are perhaps the clearest in articulating the differences related to technological capability: 'Unlike the Western powers, the socialist countries are helping the Third World countries to establish an industrial sector as an integral part of their emerging economy instead of as an enclave. This means that the transfer of foreign experience and scientific and technological knowledge is not restricted to the export industries but is diffused throughout the economy and into the fields of science, education, and management; this helps to raise the overall level of productive forces in the new

import substitution industrialisation: 'In many countries domestic industry has already satisfied the demand for import substitutes, and the continued restriction of industrialisation to import substitution has become an obstacle preventing comprehensive development of the productive forces' [1978: p.138]. Ushakova and Zevin pointed out the benefits to developing countries of Soviet support for export industries: 'Cooperation in the construction of enterprises working for export is now assuming much greater importance, because a rise in export earnings forms an essential condition for the further development of the developing countries' national economy' [1978: p.181]. Their analyses, however, did not go so far as the later analyses in criticizing the Soviet Union for not fully enough opening markets to developing countries' exports.

Problems with engineering services were also noted many years ago [Sukhaporov: 1982], as were problems with the quality of Soviet goods and technical standards [Skachkov: 1973]. Using cooperation to meet the needs of the Soviet economy is stressed today, but this was also true of the Brezhnev period and the two short-lived governments that followed. Skachkov in 1973, for instance, wrote that:

> economic and technical cooperation with foreign countries has an important part to play in developing our national economy. By improving our system of economic ties with other countries, we can greatly increase the effectiveness of our economic development. [p.7]

The ultimate purpose of this would be:

> to expand the import of goods required for our economy and for the satisfaction of the constantly growing needs of the Soviet people. [ibid.]

Specialization in certain forms of industrial cooperation and 'compensation' agreements had also been referred to earlier [Savin: 1977]. Ushakova and Zevin [1978] counselled that by using economic and technical cooperation to promote inter-industry trade, the Soviet Union could make 'economic ties more stable and efficient in the interests of both sides' [p.181]. They provide a number of examples:

> By exporting their machinery, the Soviet Union and other CMEA countries could meet a significant part of their own domestic demand for textile goods made from natural fibres with imports from developing countries and concentrate on expanding their output of synthetics. This type of cooperation is also feasible in the leather and footwear industries. If they receive assistance, a number of developing countries could master the production of a range of labour-intensive industrial products, machinery, and equipment within a comparatively brief period

nations' [p.181-182].

> of time not only to satisfy their own demand for such goods and export them to other Third World countries but also to meet in part the demand of socialist countries. The oil and chemical industries also present vast possibilities for cooperation. [ibid.]

Even the call for greater assistance to private enterprise cannot be considered a blasphemy to the past. The Turkish case material has shown that the Soviet Union has been generous to private enterprise whenever mutual benefit was expected. This case material also showed that the Soviet Union has been willing to cooperate with the West in developing countries. The Orhaneli power station is an example of East-West-South cooperation.

Thus, while there has been a change in the Soviet literature on economic and technical cooperation since Gorbachev assumed the Party leadership, some of the change is a matter of tone rather than content. Some of the new thinking with reference to the mechanics of the assistance programme was already underway. While the Gorbachev era has brought with it a wave of economic rationalization for the domestic economy, Brezhnev, as discussed in Chapter 2, had already in the late 1960s and the 1970s, brought in a wave of rationalization for the foreign assistance programme.[6] The changes in the assistance programme which have been recommended most recently do not represent the more radical breaks with the past that are found in other aspects of Soviet economic policy.

What is at question in the post-1985 period is not just how to fulfil the needs of the Soviet economy and, for that matter, those of developing economies, but the very conception of where the Soviet Union should be going and how to accommodate more effectively to a capitalist world economy. The framework from which cooperation has operated may be shifting.

Conclusion

The above indicates a more critical attitude within the Soviet Union towards its cooperation programme. While necessary, it should not distract attention from the main findings of this study. With reference to cooperation with Turkey, the Soviet Union has contributed to fulfilling the development objectives of the recipient country; the demands of the South for greater and fairer access to technological resources have been met, and the Soviet Union has transferred its technology in accordance with sound

6 See McMillan [1977] for evidence that during the Brezhnev period the Soviet Union was attempting to assert itself in the world economy on a basis similar to Western countries.

practice as it is discussed in both the Soviet and the Western technology and development literature. Furthermore, cooperation was not contingent upon the granting of concessions by the recipient country, nor did it entail interference in internal affairs, nor placing a burden on foreign exchange. Above all, Soviet cooperation made it possible for Turkey to acquire industrial technology that was unavailable from the West.

Appendix 1

Interview Schedules

The following schedules served as guidelines for the interviews with factory managers and engineering staff (Schedule A) and with government and corporate officials (Schedule B). Rather than being used as questionnaires, they were more like a checklist of topics, whose order and emphasis varied depending on the individual interview. Often, questions were tailored for specific interviews. Mainly in the case of government and corporate officials, the interview schedule used later in the fieldwork concentrated on questions that arose during the earlier stages.

Schedule A - Factory Managers and Engineers

1. Who initiated this project and who carried out the feasibility study?

-Turkish government
-Foreign government
-Parent firm (TNC)
-Parent firm's government
-Turkish firm
-Other

2. Was (the product) being produced in Turkey at the time?

If yes,
Where did the technology come from?

3. When did this facility start production?

4. At the start of production, whose ownership and control was this facility under? Now? Is this expected to change?

5. Who chose the machinery and equipment used at this facility?

6. Were alternative suppliers available at the time?

If yes,
What differences among them were crucial in the choice of supplier?

- Quality of equipment
- Cost
- Accompanying technical documentation
- Licensing terms
- Personnel training
- Credit terms and payback arrangements
- Political factors
- Other

7. If the choice could be made again, would you choose the same supplier? Would you choose the same terms?

8. If new machinery and equipment has been purchased from a different supplier than the original, please comment on why a new supplier and, on how the new equipment compares to the original.

9. What were the credit and repayment terms for this facility?

a. What are the advantages and disadvantages of these terms?
b. If you could choose to repay in goods or in foreign exchange, which would you prefer?

10. Does the technology supplier impose legal restrictions on the use of the transferred technology?

11. Does the supplier hold a patent, trademark, industrial design, or other legal right to the technology?

12. Please answer the following questions with regard to technologies which were purchased from abroad:

1. Are you informed by the supplier about improvements in the technology and do you have access to these improvements?

2. Are you allowed to make unrestricted improvements?
- with regard to adapting existing machinery and processes to local conditions?
- with regard to introducing new machinery or processes?

3. Are you allowed to patent improvements you make?

4. Are you allowed to export the product made using the imported technology? Are there any quantitative or geographical limits on exports?

5. Does the technology supplier allow you to determine the prices you charge for products made with the supplied technology?

6. Are you allowed to sell the technology to other establishments in Turkey?

13. Do you have to grant-back to the technology supplier improvements you make to the acquired technology?

If yes,
Is this an exclusive grant-back? Are you compensated?

14. Are you free to purchase similar or complementary technology, including information, from other sources?

15. As a condition for acquiring technology for this facility, did you have to agree to purchase future equipment, services and/or inputs from the supplier or from firms stipulated by the supplier?

If yes,
a. Is the agreement associated with quality standards for products you are manufacturing for the supplier? Is it associated with maintaining the supplier's trademark?
b. How are prices determined for these additional products?

16. Can you comment on the prices charged for the technology at this facility?

17. Can you comment on the prices charged for the documentation? Do these charges cover:

- Costs of preparing the documents?
- Costs of the technical information?
- Costs of adapting the technology to local conditions?

18. What, if any, part of this enterprise was sub-contracted to local firms?

19. Could have additional parts of this enterprise been supplied with comparable Turkish equipment or local services.

If yes,
Why were foreign sources used?

20. Have you received blueprints pertaining to the design and construction of this facility and operating manuals and other necessary documentation pertaining to equipment and processes necessary to carry out production?

21. If you chose to produce spare parts yourself, do you have the technical documentation to do so?

If yes,
a. Have personnel been specifically trained for this?

b. Have you been successful in producing spare parts?

22. Does this plant operate at, or above, design capacity?

23. If this plant operates, or has operated, below capacity, please comment on the following factors, where applicable:

- Inadequate demand (if yes, is this expected to change over time, or, why was such a large scale facility built?)
- Frequent equipment breakdown
- Shortage of inputs
- Shortage of spare parts
- Management problems
- Other factors

24. What are the main factors contributing to equipment breakdown? How frequent?

- Poor equipment quality
- Faulty handling by operators
- Maintenance problems
- Other factors

25. Are you able to make adjustments in the operation of the technology, for example, to react to changes in available inputs or to alter the product for changes in demand?

26. Have you changed productive capacity since this plant went into operation?

- By adding 'replications' of existing machinery
- By bringing in new models of machinery or new processes
- By adapting existing machinery
- By changing materials and/or components used in production

- By changing the design or specifications of existing products
- By changing the organisation of production
- Other

27. Have these adaptations and modifications succeeded in meeting intended goals? How do you measure this success or failure: increased capacity, lower unit costs, more local inputs, etc.? Have there been unintended successes?

28. With regard to changes made, what assistance did you receive from the original technology supplier and/or other parties outside the plant?

29. Are there any special features of the { supplier } technology transfer, such as the degree of personnel training or transmission of documents that help or hinder successful adaptation and modification?

30. Can you suggest ways this transfer could be improved so as to ease adaptation and modifications?

31. With regard to the spread of technology to the rest of the economy, do you know if any basic principles of the technology supplied which were previously unknown in Turkey are now being used in other facilities or in new Turkish-built equipment?

If yes,
Would you expect a similar process of learning and 'reproduction' to occur with (Western/Soviet) supplied technology?

32. How many foreign experts work at this enterprise? How many in the first year of operation? How many after three years?

33. At whose insistence has foreign personnel been reduced?

- The technology supplier
- Turkish law regulating foreign workers
- plant management

34. Were you initially required by the technology supplier to use their own personnel?

If yes,
a. Was the requirement necessary to ensure the efficient transfer of technology?
b. Did the requirement include work that could have efficiently been done by local personnel?
c. Was the foreign personnel requirement continued beyond such time that adequately trained personnel were available?

35. Have local personnel training received their technical training in programmes established by the technology supplier?

If yes, in what types:

- Similar industrial enterprises in the supplier's country or operated by the supplier
- on-site with the assistance of foreign experts
- higher education establishments in the suppliers'/donor's country
- Turkish establishments set up with outside assistance

36. Have training courses been set up on-site?

37. Have personnel been specifically trained in maintenance and repair? How much do you rely on outside assistance for maintenance and repair?

38. What do you consider the major shortcomings in { Soviet/Western } training? What would you do differently?

39. If you could choose to have your personnel trained in any one country, or assisted by the experts on any country, which would you choose?

40. Could local personnel modify the existing technology to increase efficiency and/or to solve new problems? Can you comment on instances in which this has occurred.

41. In your judgement, could a plant similar to this one be constructed and operated today using less foreign expertise than was originally necessary, or would foreign experts be needed for the same tasks?

42. Have you contracted the services of independent consulting firms to assess or improve the operation of this enterprise? (If yes, how can I obtain a copy of their findings?)

43. If you were chief advisor to the government on technology transfer, what would be your main recommendations for change?

For Turnkey Plants Only:

44. Why was this plant built on a turnkey basis?

45. What do you consider to be the main advantages and disadvantages of turnkey plants?

46. What part did Turkey play in the construction of this facility?

47. Was this facility completed according to schedule and according to quality standards guaranteed in the contract?

Schedule B - Government and Corporate Officials

1. Are Western donors willing to assist public sector projects? Has this always been the case?

If not,
When did Western policy change and what, in your opinion, were the main contributing factors?

2. Which countries economic assistance programmes have been willing to finance major industrial sector projects?

3. Have Turkey's requests for public sector assistance been refused by Western governments and firms?

If yes,
What reasons were provided?

4. Is public sector assistance by the Soviet Union in accordance with the requirements of the Turkish government or would Turkey prefer assistance directed towards private firms?

5. Have Western governments and/or firms refused to fund certain types of industries or to provide access to certain technologies?

If yes,
Can you describe instances in which this has occurred?

6. Has the Soviet Union refused to fund certain types of industries or to provide access to certain technologies?

If yes,
Can you describe instances in which this has occurred?

7. What types of industries generally have Western involvement? What types of industries generally have Soviet involvement?

8. Are there agreements between the Soviet Union and the private sector? Has the Soviet Union ever refused private sector cooperation?

9. Are economic and technical agreements with the Soviet Union tied to military and/or political agreements? Specify at length.

10. Is economic and technical assistance provided by the West tied to military and/or political agreements? Specify at length.

11. Has the Soviet Union placed pressure on Turkey, or required Turkey as a condition for receiving assistance, to adapt a Soviet-style government and/or economic system?

12. Have Western countries or Western financial institutions such as the World Bank or European Development Bank placed pressure on Turkey, or required Turkey as a condition for receiving assistance, to adapt a Western-style government and/or economic system?

13. Is there, in your opinion, a difference in control exercised or sought after by Western countries and by the Soviet Union? Please comment on economic and political interference in Turkey's internal affairs.

14. Has there been a noticeable improvement in Western assistance since Turkey renewed cooperation with the Soviet Union?

15. How long are Soviet economic and technical cooperation agreements? Are there advantages to long-term agreements? Are there disadvantages?

16. Is Soviet credit repayable in goods? Are these goods, in general, the products of Soviet assisted plants?

17. Have Soviet terms hardened or prices increased since the 1967 agreements?

18. Are there Turkish discounts on goods exchanged with the Soviet Union as repayment for cooperation?

19. Are there any Soviet assisted projects in which repayment is in foreign exchange?

If yes,
Did Turkey try to negotiate other forms of repayment?
(Why has there been a shift to repayment in foreign exchange?)

20. Are there any Western assisted projects in which repayment is in goods?

21. In general, how do Soviet credit terms compare with Western credit terms? What are the advantages and disadvantages of each?

22. Has the Soviet Union set up educational facilities in Turkey? Have Western countries?

23. Have research and development institutes been set up with Soviet assistance? With Western assistance?

24. If you could choose foreign experts to assist in Turkey's industrial enterprises, from which two countries would you choose? Why?

25. Is 'brain drain' a problem with regard to Turkish personnel working in the Soviet Union? In the West?

26. Under whose instigation are turnkey facilities generally initiated, Turkey or the the technology supplier?

27. What are the advantages and disadvantages of turnkey contracts?

28. Are turnkey facilities completed on time any more often than other facilities?

29. Are discussions being held with the Soviet Union on joint Turkish-Soviet projects to be built in third countries?

If yes,
What is each country's role?

30. Have other developing countries cooperated with the Soviet Union in supplying parts for Soviet assisted facilities?

If yes,
Who initiated the developing country's involvement? In your opinion, could the work have been undertaken as efficiently by Turkish firms? Did this cooperation also involve a Turkish role in pre-operation activities?

31. Have Western countries cooperated with the Soviet Union in building or providing equipment for facilities?

If yes,
Who initiated joint cooperation and why? Why did Turkey agree to award the contract to a combination of suppliers? Did Turkey also play an active role in the pre-operation phases?

32. If you were chief advisor to the government on technology transfer, what would your major recommendations be?

Appendix 2

The South's Position

In this appendix the South's position with regard to restrictive practices listed in the UNCTAD Conference on a Code of Conduct on the Transfer of Technology is presented. The most controversial aspect of the negotiations has been the regulation of restrictive business practices; Chapter IV of the Code of Conduct. There has been disagreement, particularly between the Group of 77 and the advanced Western countries, over what practices should be included in the Code. The following is the draft outline of Chapter IV submitted in 1977 on behalf of the experts from the Group of 77.[1]

Chapter IV

The Regulation of Practices and Arrangements Involving the Transfer of Technology

4.1. Transfer of technology transactions shall not include practices or arrangements which impose restrictions that directly or indirectly have or may have adverse effects on the national economy of the receiving country and/or impose restrictions or limitations on the development of technological capabilities of the receiving country.

4.2. Parties to transfer of technology transactions shall not make use, inter alia, of the following practices and arrangements, whether written or not:

a. Those practices and arrangements concerning the use, adaptation and assimilation of technology and development of technological capabilities of the receiving country:

(1/2) Restrictions, prohibitions or obligations of any type on the exploitation of technology after the normal expiration, invalidation or termination of the transfer of technology transaction, or after the expiration or invalidation of the industrial property rights involved.

(3) Restricting the field of use of the subject matter of the patented technology.

(4) Requiring directly or indirectly the acquiring party to transfer or grant back unilaterally to the supplying party improvements arising from the acquired technology, on an exclusive basis or without reciprocal obligations from the supplying party.

(5) Limitation upon the diffusion and/or further use of technology already imported.

(6) Obligation upon the recipient to introduce unnecessary design changes and new material specifications imposed by the technology supplier;

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[1] Reprinted from UNCTAD TD/AC.I/9 [1977, Annex II, p.7-11]. For the early positions of each of the negotiating groups (the advanced socialist countries and China, the advanced Western countries, and the Group of 77) with reference to restrictive practices and to drafting other chapters of the Code of Conduct, refer to this document. The national groups have continued meeting throughout the 1980s, with various lapses due to virtually irreconcilable differences. The main issues outstanding involve restrictive practices. See, UNCTAD [1988a].

(7) Restriction upon the recipient from adapting imported technology to local conditions and innovating on the supplied technology;

(8) Limitations on the research and development policy and activities on the recipient enterprise.

b. Those practices and arrangements concerning the further acquisition of technology by the acquiring party:

(9) Restrictions on obtaining competing or complementary technology through patents and know-how from other sources with regard to the sale or manufacture of competing products;

(10) Restrictions on obtaining competing or complementary technology from other supplier with regard to the sale or manufacture of products involving trade marks or trade names;

(11) Restrictions on the freedom of the acquiring party to enter into sales or representative agreements related to similar or competing technologies or products;

(12) Limitation upon access of the recipient to new technological developments and improvements related to the technology supplied.

c. Those practices and arrangements concerning the commercial and technological freedom of the acquiring party.

(13) Restrictions on the recipient's volume, scope and/or range of production and/or field of activity;

(14/15) (i) Restrictions by the supplying party regarding the sources of supply of inputs, spare parts, equipment and other products including those bearing a particular trade mark or regarding the sources of technical and managerial personnel.

(ii) Requiring acceptance of additional technology, goods or services not needed or not wanted by the acquiring party or the technology receiving country as a condition for obtaining the technology required.

(16) Obligation upon the recipient to purchase future invention and improvements in the technology from the original supplier;

(17) Use of quality controls or standards by the supplier as means of imposing unwanted obligations on the technology recipients.

(18) {Replaced by 14/15 above}

(19) Requirements to use personnel designated by the technology suppliers, beyond the period sufficient for the training of the recipient's personnel, or limitations in the use of personnel of the recipient country;

(20) Reservation of the right by the supplier to fix the sale or resale price of the products manufactured;

(21) Requiring the acquiring party to give exclusive sales or representation rights to the supplying party, with due regard to sub-contracting arrangements;

(22) Restrictions on exports resulting directly or indirectly from the technology supplied, including trade mark arrangements, in the form of restrictions to certain

markets, permission to export only to certain markets, and requirements of prior approval of the supplying party for exports and prices of products;

(23) Obligations to use a particular trademark or trade name or to mention the supplier's trade name together with the technology acquired;

(24) The use of the privilege granted under the trade mark system to restrict unduly the recipient's activities;

(25) Regulations which restrict or subject to approval by the supplier, the publicity or advertisement to be carried out by the recipient;

(26) Requirements by the supplier, except in management contracts, to participate in the management of decisions of the recipient enterprise.

(27,28) {Replaced by 22 and 14/15 above}

d. Those practices and arrangements concerning payments for the transfer of technology:

(29) Obliging the recipient to convert payments into capital stock;

(30) Continuation of payments for unused or unexploited technology;

(31) Requiring excessive, or double payments by the acquiring party for technology supplied, as by additional payments for the repeated use of the same technology, or by charging fixed minimum payments irrespective of production performance, or by increasing payments progressively with increased output or sales, or by higher rates for output or sales for export vis-à-vis domestic output or sales, or by charging in a cumulative manner on the component parts in addition to the final product as a whole so that total payments are larger than if the same payment were applied on a net-value-added basis.

(32) {Replaced by 31 above}

(33) Requiring payment on the patents and other industrial property rights not registered in the recipient's country;

(34) Requiring payment by the recipient enterprise for technology imported by the enterprise under earlier arrangements or already available in the country;

(35) {Replaced by 31 above}

e. Those practices and arrangements concerning the duration of the transaction:

(36) Unlimited or unduly long duration of transfer of technology arrangements.

(37) {Replaced by 36 above}

(38) Requiring the acquiring party in any form to refrain, directly or indirectly, from challenging the validity of patents or other industrial property rights involved in the transfer of the validity of other patents or industrial property rights claimed or obtained by the supplying party.

(39) Practices and arrangements that exempt the supplier from any liability consequent upon defects in the goods produced by the recipient with the help of the technology

supplied;

(40) Any practice or arrangement not specifically set forth in (1) through (39) of this section that has an adverse effect on the recipient and that is imposed as a condition for obtaining the technology required;

4.3. Transfer of technology transactions or practices described in section 4.2 are incompatible with the principles and objectives of the Code and shall be null and void.

4.4 Notwithstanding section 4.3 of this chapter, transfer of technology transactions or practices and arrangements contained therein shall be deemed valid if, based on exceptional circumstances, it is determined by the competent national authority of the technology receiving country that it is in its public interest and that on balance the effect on its national economy will not be adverse.

4.5 Cartel and other collusive activities, whether international or national,among technology suppliers, including those between and among parent companies, their subsidiaries, and their affiliates, which involve restrictions on prices, quantities, territories, customers, as well as market allocation, that have adverse effects on the transfer of technology, shall not be utilized. These include, inter alia, the following:

(i) Import cartels;

(ii) Export cartels;

(iii) Rebate cartels and other price fixing arrangements;

(iv) International cartels which allocate markets;

(v) Private and semi-official agreements on certain standards in technology supplying countries; and

(vi) Specialization and rationalization cartels leading to a dominant market position.

Appendix Three

Turkey's Technology Transfer Policies

In Chapter 7, Soviet practice in Turkey is measured against Soviet claims, Southern demands, and Turkish objectives. In this appendix, Turkey's objectives concerning technology transfer are reviewed. The focus is on policies concerning restrictive practices imposed by foreign technology suppliers. Mainly, the period after the new 1961 Constitution is discussed because technology transferred in this period is the main focus of field investigation undertaken in this study.

Before the 1961 Constitution, technology issues were addressed in general terms as part of an import substitution industrialisation policy that stressed self reliance, bordering upon autarky. The ultimate goal of 'technology policy' was to reduce dependence on foreign technology and foreign industry by developing national technological capabilities. As early as the 1920s, three things stood out in importance. First, the acquisition of modern technology was considered to be essential for the survival of the new Republic. Second, there was a strong recognition, first addressed at the 1923 Economic Congress at Izmir, that technical training and engineering skills were needed. Finally, infant industries should be promoted and protected so as to build up national industry.

With the 1961 Constitution, two new organisations were given responsibility for advising the government specifically on technology policy. These were the State Planning Organisation (SPO), and the Scientific and Technical Research Council of Turkey (TUBITAK). In practice, this responsibility has been shared by several branches of the government. Their actions have, by and large, been uncoordinated and a coherent technology policy has not emerged.

> There is no central organisation coordinating technological activities in Turkey. Various activities, like production, adaptation, and transfer of technology are undertaken by various institutions which are independent from, or in inadequate relations with, each other.
>
> Technology production within Turkey is not even at a level that could be mentioned. There are some limited efforts, but unfortunately, not directed effectively. As a result, their effects are very limited and they cause waste of resources. Adaptation of technology has special importance for Turkey, but there is also no institution controlling this process. Also the activities related to transfer of technology are not

> under the control of a central authority. Various forms of technology transfer are carried out under the control of different organisations, and unfortunately, there is no adequate coordination among them. [TUBITAK: 1978, p.6-7]

While Turkey does not have a clear policy on technology transfer that all government agencies follow and all technology transfer agreements adhere to, various guidelines do exist. These are discussed in the Five-Year Development Plans and in various documents for direct foreign investment and for wholly Turkish-owned firms that purchase technology from abroad.

There are no separate regulations or criteria for government to government assistance projects (such as Soviet economic and technical cooperation projects). Generally, with these agreements, the technology is assessed by the specific state enterprise or agency that is responsible for operating the facility in which the technology is used. For example, the Turkish Petroleum Refineries Corporation decides if a refinery technology and its accompanying supplier regulations (royalties, secrecy clauses, and so forth) are acceptable.

According to many government officials responsible for technology transfer, although criteria do exist, large gaps in enforcement occur. If a case is presented for attaining a technology even though the supplier will not adhere to Turkish standards, the transfer is often allowed. Thus, for example, although criteria stipulate that restrictions on exports of products made with imported technology are not allowed, transfers in which these export restrictions are binding can be found.

General Guidelines

Before changes in the Constitution in 1980, technology transfer applications were reviewed by several government branches. Most applications were seen by the Ministry of Finance, the Ministry of Industry and Technology, and the SPO. In the early 1980s the review process was simplified, largely as an attempt to attract more foreign capital. The SPO Foreign Investment Directorate has been given primary responsibility for licensing, know-how, and technical assistance agreements involving imported technology. The criteria stipulated by the Directorate are very general compared with the criteria used in the 1970s. The Directorate simply states:

> In the evaluation of agreements, the following factors will be considered; absence of limitations concerning sale price and exports; calculation of payments on the basis of production and net sales price;

specification of dispute settlement procedures and the duration of five years for the term of the agreement. [Foreign Investment Directorate: 1987]

Prior to 1980, criteria were more comprehensive. Although they were not always followed, it is still useful to review the guidelines that were in place. They offer clues, if imperfect ones, to Turkish policy on technology transfer.

Criteria for Wholly Turkish-Owned Firms

The following list was devised by the Ministry of Finance (which is now the Ministry of Treasury and Foreign Trade) to assess licensing agreement applications for imported technology. This list applies to wholly Turkish-owned firms.[1]

1. The period of the agreement should be proportional with the time required for learning and applying the technology.

2. There should be no lumpsum or minimum payments in addition to royalties based on sales value or unit product.

3. License payments must be suitable for the sophistication of the technology, and in line with the payments made in Turkey and elsewhere for similar technologies. These should be as low as possible.

4. The factory net price (gross price minus unit costs of packaging, transportation, insurance, discount, production tax, price difference for sales on credit, and import duties on intermediate inputs) should be taken as the basis for royalties based on sales value.

5. Foreign exchange remittances should be based on current exchange rates, i.e., there should be no exchange rate guarantee.

6. Remittances should be made in any convertible currency, i.e., there should be no specific foreign currency guarantee.

7. The license purchaser should be able to continue production after the expiration of the licensing agreement without having to use the licensor's trade mark.

8. License payments should be annual.

9. Transferred technical know-how should not be limited, and the licensor should continue to inform the licensee of new developments during the course of the licensing agreement.

10. Exports of the product produced should not be restricted.

11. The quality of the license purchaser's product should be guaranteed to be equal to

[1] This list is available, in Turkish, from the General Directorate of Research and Development of the Ministry of Industry and Trade. According to the General Directorate's Deputy Director, this list is still referred to for recommendations the Directorate is asked to make. An English translation can be found in UNDP-Turkey [1978, p.10-11].

the quality of the licensor's product.

12. If raw materials and intermediate inputs are purchased from the licensor, it should be specified that international competition and current world prices will be the determining factors.

13. If the licensor's technicians come to Turkey, they should not receive payment other than for living and transportation expenses.

14. It should be agreed that payments to the licensor and/or the licensor's technicians will be made after all appropriate taxes are deducted according to Turkish law.

15. Turkish laws should be valid in the interpretation and application of the licensing agreement.

16. Disputes should be submitted for arbitration to the International Chamber of Commerce.

Ministry of Industry and Technology Guidelines:

Licensing agreements for technology transfer by wholly Turkish-owned firms were also assessed by the Ministry of Industry and Technology's Science and Technology Department (formed in 1972). They required information on the 1.) process and technology chosen; 2.) supply and demand conditions in Turkey for the product; 3.) expected profitability of the project and its contribution to national economic development; 4.) specifications of final products and intermediate inputs; and 5.) the licensing firm's activities. They also required detailed information on the terms of the licensing agreement. They evaluated this information on the basis of 2 sets of criteria: restrictive clauses that should not be contained, and clauses that should be contained in agreements. These are presented below.[2] Many, but not all, of the criteria overlap with those of the Ministry of Finance.

1. Restrictive clauses that should <u>not</u> be contained in licensing agreements:

- Clauses that prohibit or restrict exports.

- Conditions that intermediate or capital goods that have to be imported should be purchased from the licensor or a source of the licensor's choosing.

- Price imposition by the licensor for the products made under license or for imported intermediate inputs and capital goods.

- Condition of minimum royalty.

- Restrictions pertaining to the types and quantities of the licensee's products.

- Restrictions related to the licensor's quality control which tend to prevent efforts to increase local value-added.

2 These are listed in UNDP-Turkey [1978, p 13-15].

- Clauses stipulating that new inventions made by the licensee as a result of the licensee's own research and development will become the property of the licensor.

- Clauses preventing the use of the licensor's trademark in the licensee's exports.

- Any other clause with a negative effect on the licensee's commercial and industrial activities.

2. Clauses that should be contained in licensing agreements:

- The duration of licensing agreements should not exceed 5 years after the start of production. Extension should be based on the approval of the authorities.

- Guarantee clauses pertaining to product quality, consumption values, intermediate inputs, production capacity, and patents.

- Clauses balancing the interests between licensee and licensor, especially with respect to grant-backs and annulment of the licensing agreement.

- Royalties should not exceed 3% of the net sales price (gross sales price minus unit costs of packaging, transportation, insurance, production tax, discount, price differences for sales on credit, and imported inputs after customs duties).

- Know-how should be sufficient for the licensee's product quality to equal that of the licensor.

- Licensor should help the licensee choose local component producers and provide technical assistance to help bring their products to the necessary quality and quantity levels. The licensee should make no additional payment to the licensor for the local production of components.

- Use of local raw materials should be encouraged.

- It should be clearly stated that the licensor possesses all the know-how and patent rights necessary for the production of goods and services covered by the license, and that the licensee is protected, in this area, from third party claims.

- In case the licensing agreement expires or is annulled, the licensee should be able to use the technical know-how and experience acquired until that time, without having to make additional payments.

- License payments should be made after the transfer of know-how and/or the start of production in stages or, within the agreement period, in installments.

- Originals of the English and/or Turkish texts of the licensing agreement should be valid.

- Metric measures should be used in the licensing agreements.

Criteria for Direct Foreign Investment

For technology transfer involving direct foreign investment (DFI), the SPO has had almost complete authority since 1967. According to Erdilek [1982], in the early 1960s,

DFI firms could have licensing agreements of indefinite duration. Later, especially after the mid 1970s, the SPO required that all licensing agreements be of a specific duration, not more than 10 years. Agreements that had unlimited duration were retroactively given a 10 year effective period.

According to Erdilek, the SPO refused to approve any restrictions imposed by foreign technology suppliers on the activities of DFI firms. While, the SPO was opposed to restrictive clauses imposed by technology suppliers, they felt the strongest about those having to do with tied-inputs. This was largely due to the SPO's general concern about transfer pricing.

Another major concern of the SPO involved duration of royalty periods. A five to seven year limit was set, with extensions considered for exceptional cases. A uniform royalty rate was not implemented because, it was decided, that certain trade-offs would need to be made in assessing royalties. A 3 per cent rate was, however, regarded as a benchmark figure. The SPO also stipulated that foreign personnel should not be permanently employed and they have pressed for their eventual replacement by Turkish personnel. This, they believed, would facilitate a more effective transfer of foreign technology to Turkey.

It should be noted that the SPO is a decision making agency only and does not have the ability to enforce the regulations it sets. Nor can it monitor whether DFI firms' operations conform with agreed upon initial specifications [ibid.].

TUBITAK Recommendations

Recommendations by the Turkish Scientific and Technical Research Council apply to all forms of technology transfer. TUBITAK is highly critical of technology suppliers that impose restrictions, particularly with regard to:

1. Export of goods produced with the transferred technology.

2. The technology supplier imposing itself as the sole supplier of inputs.

3. The supplier forcing a package deal with all components of the technology, preventing the selection of an appropriate combination of components (unpackaging).

4. Grant-back provisions in which the supplier virtually confiscates any patent right

which may have been acquired due to innovations made by the technology recipient.

In TUBITAK's view, with these 'so called "restrictive business practices", technology transfer acts as though a factor blocking the industrial development rather than promoting it. Behind all these, there lie the efforts of suppliers to block the developing industries from developing a competitive power on the international market' [1978, p. 14]. The aim of suppliers imposing these restrictions are, according to TUBITAK:

- to make as much profit as possible
- to preserve their powerful competitive position over the market
[1978, p.13]

The only specific reference TUBITAK makes regarding government to government transfers relates to personnel training programmes and technical experts from the industrialised countries. TUBITAK recommends that the most useful form of cooperation is technical training of local personnel. They also argue that foreign experts are most beneficial when they help local technicians solve problems for themselves. They are highly critical of the practice of many foreign experts who work alone rather than with local personnel [TUBITAK: 1978].

The major recommendation of TUBITAK for all forms of technology transfer to Turkey is that national and international regulation should be strengthened. To this end, TUBITAK is a strong supporter of the attempts within UNCTAD to formulate a Code of Conduct on Transfer of Technology. The various Turkish positions on this Code of Conduct are discussed below.

Turkish Position on a Code of Conduct for Transfer of Technology

Lack of coordination in Turkish technology policy shows up most markedly with regard to the United Nations International Code of Conduct on Transfer of Technology (TOT) negotiations. One national policy is professed by TUBITAK, while another, contradictory one, is professed by the Ministry of Foreign Affairs in its role of Turkish representative at the TOT negotiations. In its national paper, 'A Turkish View on Science and Technology for Development,' submitted to the UN Conference on Science and Technology for Development, TUBITAK presents the Turkish position on the UN's Code of Conduct negotiations. 'Turkey hopes that the final decision will be

in the spirit and in accordance with Annex II [revised text submitted on behalf of the experts from the Group of 77]' [1978, p.26]. This is a different Turkish position than that of the Foreign Affairs Ministry.

While TUBITAK strongly supports the position of the Group of 77, Turkey is not a member of this group. In UNCTAD and, therefore, in the TOT negotiations, it is part of the Group B countries, along with all other OECD member states. This group is largely representative of technology suppliers and its interests are often in conflict with those trying to acquire technology.

TUBITAK is not the only agency within the Turkish government whose views deviate from the position held by the Group B countries within the TOT negotiations. According to Erhan Isil, a former Minister of Industry and Technology and a former representative to the United Nations, the decision to vote with the Group B countries in the Code of Conduct debate was purely political. The decision was taken despite opposition by many of those in government who were most closely involved with technology transfer. As an OECD country, Turkey has followed OECD policies, even when it has meant, according to Isil, betraying African and Asian countries and going against Turkey's own interests as a technology purchaser.[3]

3 Personal interview conducted with Isil, 2 May 1987.

Appendix Four

Turkish Agreements with Western Firms

In this appendix, additional data on Western technology agreements are presented. Because field research undertaken in this study focused mainly on Soviet cooperation, only a few projects with Western involvement could be investigated. The Western assisted factories visited make up only a tiny fraction of factories in Turkey that utilize technology from the West. The information presented in this appendix is, therefore, intended to supplement what could be gathered from field investigation.

There is little published data in Turkey on technology transfer applications and agreements. Many of the agencies involved do not even collect this data. And, with regard to data on Direct Foreign Investment firms, the government has banned their public disclosure. From what data are available, it is, however, evident that the various ministries' and organisations' guidelines (see Appendix 1) have not been rigorously followed.

Table A-4.1 Western Licensing Agreements, 1968-1979

Western Agreements	Total	Percent
Total number of agreements	290	100
Royalties 3% or less	198	68.3
Royalties greater than 3%	14	4.8
Lumpsum payment	79	27.2
Lumpsum payment and annual royalty	40	13.8
Agreements 5 yrs. or less	213	73.4
Agreements: 7 years	7	2.4
Agreements: 10 years	64	22.1
Agreements greater than 15 years	7	2.4
Exports: no restrictions	208	71.2
Exports: restricted	64	22
Exports: prohibited altogether	18	6.2

Compiled from 1968-1979 Yillari Arasinda Onaylanan Lisans Anaalasmalarinan (License Agreements Which Were Approved From 1968 to 1979), Ministry of Industry, Ankara.

The Ministry of Industry has collected data on royalties, downpayments, agreement durations, and export restrictions for 290 non-direct foreign investment agreements signed from 1968-1979. The available data, as summarized in the Table A-4.1, indicate that in terms of amount of royalty, most agreements in these years fall within the 3 per cent maximum advised by the Ministry of Industry and Technology. In terms of duration of agreements, in terms of restrictions on exports, and in terms of downpayments, performance falls short of the guidelines. 27.2 percent of the agreements require downpayments, with 13.8 per cent requiring downpayments in addition to annual royalty payments. Just over 25 per cent of agreements fail to meet the 5 year agreement duration guideline. 2.4 per cent have durations greater than 15 years. 26.2 per cent of the agreements contained export restrictions. In 6.2 per cent of these agreements, exports were prohibited outright. In the others, prohibitions were based on quantity limits and/or geographical destination of exports.

From these figures, the most unsettling transgression of guidelines involves restrictions placed on exports. These are increasingly under fire from the SPO and other agencies involved with technology acquisition. While government officials are concerned about royalties, downpayments, and agreement durations, their largest concern has become export restrictions. This has been increasingly so due to saturated domestic demand in some industries and due to the country's attempted liberalisation in the early 1970s and export orientation after 1980. In the Fifth Five Year Development Plan (1985-1989), one of the three priorities listed is export oriented industries (the others are energy and infrastructure). From data presented below it can be seen that restrictions on exports are not limited to wholly Turkish-owned firms.

Erdilek [1982], in his study of direct foreign investment in Turkish manufacturing firms, found that export restrictions and prohibitions of know-how from other sources were more frequent than other business practice restrictions. Of 38 respondents (over half of Turkey's DFI manufacturing firms), 15 and 16 firms, respectively, reported these obligations. Of 45 firms responding to questions about royalties, 16 of the firms paid royalties to foreign firms, while altogether 23 had licensing agreements with their parent firm. The seven firms not paying royalties had paid for the technology as part of their equity participation. (It is possible that the others have done the same and are 'double paying' for technology.) The average royalty payment was 2.1 per cent, the maximum amount was 5 per cent. As far as Erdilek could determine, very few of the respondents were required to buy inputs from specific sources. However, this restriction would be relevant for only a few of the DFI firms in the first place. Most of

the firms could not easily substitute for semi-finished goods or components received from their parent firms, e.g. automotive parts.

One of the most interesting observations Erdilek provides from his study is that because of major restrictive practices exercised by technology owners, Turkish firms were compelled to participate in joint ventures:

> ...the Turkish partners of several DFI firms were more or less forced, either before or after starting all-Turkish firms first, into seeking foreign partners in order to gain access to foreign technologies. For some of them, it had been impossible to acquire foreign technologies without consenting to the licensor's equity participation in their ventures. These foreign technologies were more or less monopolized by world technology cartels, which either refused outright to grant licenses or demanded unacceptably high royalties, without DFI. [1982, p.84]

From the evidence presented above, the Soviet analysis of involvement on the part of Western TNCs with regard to restrictive practices is on the mark (see chapter 3).

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