ISSN 2042-2695

CENTRE for ECONOMIC PERFORMANCE

CEP Discussion Paper No 1192

February 2013

CEO Incentive Contracts in China: Why Does City Location Matter?

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E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

Abstract
CEO incentive contracts are commonplace in China but their incidence varies significantly across Chinese cities. We show that city and provincial policy experiments help explain this variance. We examine the role of two policy experiments: the use of Special Economic Zones (SEZs) to attract foreign direct investment (FDI), and the rate at which state owned enterprises (SOEs) were privatised. CEO incentive contracts are negatively correlated with foreign ownership and with the introduction of FDI via SEZs. However, the SEZ effect disappears having accounted for the city-level composition of firms and executives. Rapid SOE privatisation is associated with higher city and firm-level adoption of CEO incentive contracts, irrespective of the firm's own current ownership status. The positive effect of privatisation is robust to various estimation techniques and model specifications.

JEL Classifications: G34; J31; J33; M12; M52; O16; P31
Keywords: Executive compensation; CEO's; privatisation; FDI; China; cities

This paper was produced as part of the Centre's Labour Markets Programme. The Centre for Economic Performance is financed by the Economic and Social Research Council.

Acknowledgements
We thank the Economic and Social Research Council (grant RES-538-25-0029) and the NSFC (grant 71161130175) for funding. We thank NIESR seminar participants, Henry Overman and Max Nathan for comments on an earlier version of the paper.

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Published by
Centre for Economic Performance
London School of Economics and Political Science
Houghton Street
London WC2A 2AE

1. Introduction

A well-functioning market for corporate executives first emerged in China in the 1980s, prompted by state experimentation with an array of managerial incentives to accompany the gradual withdrawal of the state from its ownership of corporate enterprises (Xu, 2011). According to Groves et al. (1995: 874) the state introduced reforms "directed at improving the efficiency of enterprises by replacing direct control from above with managerial incentives". This entailed the gradual commercialisation of state owned enterprises (SOE's) and their part privatisation, with key innovations including multi-year managerial contracts and experimentation with the auctioning of managerial contracts. By the late 1980s, this market for corporate executives seemed quite well-established but early evidence was confined to executives in the SOE's sector. More recent studies are dominated by analyses of the relatively new and rapidly growing public listed sector, much of which remains in state ownership. Although important economically (Bryson et al., 2012a), the public listed sector accounts for a relatively small proportion of all firms and all CEO's, so the picture it paints of executive compensation is necessarily partial. Furthermore, both literatures on SOE's and public listed firms have largely ignored one crucial feature of China's efforts to foster a market-oriented economy, namely the fact that most initiatives were undertaken at local level, often by city authorities in a series of local experiments. Central government endorsement of such activities often came after-the-fact or not at all (Xu, 2011: 1124-1125).

We fill this gap in the existing literature by exploring the importance of city-level influences on firms' use of incentive contracts for CEO's in the early part of the 21st Century. We focus on two sorts of "marketisation" programme: privatisation of SOE's; and efforts to attract foreign direct investment (FDI) via Special Economic Zones (SEZ's). If SOE privatisation was a major force behind the introduction of incentive contracts, as the earlier literature indicates, and if this managerial practice was viewed favourably by enterprises outside the state sector, we would expect firms' adoption of incentive contracts in the present day to be greater in cities that promoted SOE privatisation early on. We know that SEZ's were very successful in attracting FDI (Wang, 2013), such that by 2005 China was the third largest recipient of FDI funds in the world.[1] However, there is very little evidence on the use of executive incentive contracts among foreign firms entering China, so it is uncertain what impact this may have had on the promotion of CEO incentive contracts in those areas with early adoption of SEZ's.

Our empirical analysis uses the World Bank's Enterprise Survey 2005 which sampled 12,400 enterprises in 120 Chinese cities two decades after the initial market-inspired reforms. We find incentive contracts are commonplace but that their incidence varies significantly across Chinese cities. We find the use of CEO incentive contracts in 2005 is positively correlated with the speed with which cities privatised their SOEs, irrespective of the degree of current state ownership in the firm, confirming the conjecture that cities which experimented early on with privatisation created an environment in which local firms were encouraged to adopt this new form of managerial practice. The finding is robust to controlling for a wide range of CEO and firm characteristics at both individual firm and city level, and to the use of a two-step estimation procedure in which we regress city coefficients from a first stage incentive contracts regression on city-level regressors.

[1] International Statistical Yearbook 2006.

Foreign-owned firms often innovate as they seek a comparative advantage over local producers to help recoup some of the costs associated with transferring operations abroad. Incentive contracts for CEO's may have been one such innovation. However, we find the probability that a firm adopts an incentive contract for its CEO is negatively associated with the early introduction of FDI via SEZ's and with the proportion of foreign-owned firms in the city, regardless of the firm's own ownership status. These findings suggest that the network of firms through which CEO incentive contracts diffused consisted largely of domestic firms and that high concentrations of foreign ownership militated against the use of CEO incentive contracts. We will provide evidence to suggest that this is because foreign-owned firms preferred to use efficiency wages to incentivise workers, paying them above the market-rate, rather than via incentive contracts. However, the negative association between early SEZ introduction and CEO incentive contracts in 2005 is not robust to the inclusion of city-level controls for firm and CEO composition. The implication is that speed with which SEZ's were adopted was driven, in part, by city characteristics and that it was these, rather than SEZ's per se, which influenced firms' propensity to adopt incentive contracts for their CEO's.

The remainder of the paper is organized as follows. In Section Two we provide some background on the nature of the corporate sector in China and the role of incentive contracts. In Section Three we discuss China's efforts to create a market-oriented economy and the role of cities in the diffusion of incentive contracts for executives. In Section Four we present our data and estimation approach. In Section Five we present our results and Section Six concludes.

2. Principals, Agents and CEO Incentives in China

The standard principal-agent problem described in the CEO compensation literature assumes CEO's are recruited to maximise shareholder value by raising the profitability of the firm but that, in the absence of perfect monitoring, CEO's may invest time in improving their own future career prospects, perhaps to the detriment of the firm (Holmström and Milgrom, 1991). Shareholders therefore use cash and equity-based incentive mechanisms, and the threat of dismissal, to hold CEO's accountable.

The existing empirical evidence on the use of incentive mechanisms is heavily based on studies for the United States and other Western economies. The Chinese setting is different in two fundamental ways. First, ownership is more concentrated than in the West: two-thirds (68%) of firms in the World Bank 2005 survey had a single owner. This increases both the incentive and, arguably, the ability of the owner to monitor top executives' behaviour and performance relative to the scenario in which the CEO is accountable to multiple owners. Second, the state and economic activity are inextricably linked in China. The state owns a substantial part of the corporate sector in China. Despite divesting itself of many previously state owned enterprises and reducing its stake in publicly listed firms, the state continued to have a majority stake in over two-fifths (45%) of publicly listed firms in 2010, and these accounted for three-quarters (73%) of the employment in the sector and four-fifths (82%) of its output (Bryson et al., 2012a).

State ownership is much less common in the economy as a whole. As Table 1 shows, in 2005 the state only had an ownership stake in one-fifth of firms and majority ownership in 13% of firms. Half (51%) of all firms had some private domestic ownership and over one-third (36%) of firms were majority privately owned. One-fifth of firms have some foreign ownership

stake and 14 percent are majority foreign owned.[2] The picture that emerges is a far more mixed economy than the one portrayed in the literatures which focus on SOE's and the public listed sector in China.

The state plays a direct role in the appointment and dismissal of CEO's in firms that are government-owned, and may indirectly influence corporate decision-making because of the role that political advancement plays in the CEO labour market (Bryson et al., 2012b; Cao et al., 2012). If China's CEO's were simply bureaucrats, paid to perform tasks required by the state, one might expect their behaviours to be governed by procedures laid down by the state, in which case they would have little of the operational autonomy which one normally associates with the position of CEO, and there would be little reason to offer them incentive contracts. In fact, Bryson et al. (2012b) find CEO's have substantial autonomy over decisions relating to production, investment and employment, which means that firms' owners will be concerned to align CEO's interests with those of the firm. We find that two-thirds (67%) of firms did so by linking their CEO's annual income directly to the company's performance (Table 2). What is more, in one-quarter (23%) of firms these were "high powered" incentives in the sense that more than 10% of the CEO's annual income depended on whether or not the company's performance hit the agreed target. These contracts were common across all ownership types, though they were less common in foreign-owned firms than elsewhere. The median elasticity of pay with respect to company performance was 1.[3]

3. The Adoption of CEO Incentive Contracts and the Role of City Experimentation

In the recent theoretical literature incentive contracts have been treated as a form of technology deployed by firms to improve their good management (Bloom and Van Reenen, 2011). As such, their adoption is governed by cost and benefit considerations similar to those involved in other new technologies (Ichniowski and Shaw, 1995). Their diffusion – as with other technologies relating to employment practices which have an experiential component – is often dependent upon local networks of firms that share their experiences regarding the costs and benefits of innovations (Bryson et al., 2007). Where there are performance benefits of the new technology there are first mover advantages to early adopters and isomorphic pressures to adopt for followers, such as those described by DiMaggio and Powell (1983). If one conceives of CEO incentive contracts in this fashion, one might anticipate that the probability of a firm adopting incentive contracts for CEO's will partly depend upon the take-up of incentive contracts among other firms in the locale. We hypothesise that city location will explain some of the variance in CEO incentives in China, independent of the characteristics of firms, the product market in which they are operating, their governance structures and the characteristics of their executives.

[2] In addition to the ownership stakes presented in Table 1 the 2005 survey contains the registration status of the company. Only 9 percent of the surveyed firms were registered as SOE's. Half (50%) were registered as limited liability shareholding firms, 14% were registered as privately domestically owned, and one-fifth (19%) were registered as foreign-owned.

[3] Respondents were asked how much the CEO's income would increase if the performance measure increased by 1%. They were asked this for the first and second most important measures of performance used to make the decision. They were also asked the same question in relation to decreases in performance. Thus there are four questions asked. In each case the median elasticity of pay to performance was 1.0.

However, there is an additional reason to suppose that there will be a strong geographical component to the variance in incentive contract adoption by firms in China. This is the local nature of experiments with market mechanisms in China. The transition to a market economy in China is unique among Communist and post-Communist regimes. It is characterised by what Xu (2011: 1078) describes as "regionally decentralized authoritarianism", a regime under which the central state government provides the political impetus for change, retains central control of personnel decisions and thus the careers of all officials, but cedes responsibility for initiatives and experimentation to sub-national governments. As Xu (2011: 1079) notes: "One of the most important initiatives taken by many sub-national governments was the development of non-state firms, including FDI and indigenous firms". The emergence of these two types of non-state firms - foreign-owned and indigenous firms - were promoted by two, quite separate processes and initiatives, both of which may be linked to the diffusion of CEO incentive contracts.

The first of these initiatives was the reform of SOE's and their part privatisation. Whereas in most transition economies SOE's were owned by central government, in China many were owned by sub-national governments. The importance of SOE's to regional economies meant that local officials' career advancement during the reform period depended heavily on improving the productivity and financial performance of SOE's. The first wave of SOE reforms in the 1980s involved the introduction of management selection by competitive auction, and the introduction of incentive contracts for CEO's (Groves et al., 1994, 1995). According to Xu (2011: 1120): "In response to regional competition, also under the encouragement of the central government's reform guidelines, sub-national governments experimented with various 'managerial responsibility systems' in which managers were delegated power to make many decisions, and employees were given financial incentives tied to enterprise performance". The reforms achieved their goals in improving factor allocation and raising productivity (Jefferson et al., 2006). However, burgeoning debt in the SOE sector led to a second wave of SOE reforms in the 1990s which entailed hardening budget constraints through bankruptcy reforms, reducing labour costs through layoffs, and selling loss-making enterprises to private owners (Xu, 2011: 1121-1126).

As Xu (2011: 1124-1125) notes, privatisation was not encouraged by central government until the late 1990s so that "de facto privatisation was tried quietly without official permission from central government...Even in the late 1990s, it was still a city government's decision whether or not to privatise and how to privatise within their jurisdictions". Thus the rate of privatisation was driven largely by municipal governments' preferences. We are able to track the rate of privatisation in Chinese provinces by measuring the change in the share of employment accounted for by SOE's. Over the period 1978 to 2005 the share of urban employment accounted for by SOE's fell from a median of 77 percent to 27 percent (Appendix Table A2). The initial SOE employment shares varied somewhat by province, but the coefficient of variation grew over time due to differential rates at which provinces chose to privatise SOEs.[4]

The privatisation process thus became a mechanism by which CEO incentive contracts were introduced to the private sector. There were two potential routes. First, around half of privatised firms were sold to managers through management buy-outs (Gan et al., 2010), so

[4] Based on the figures in Appendix Table A2 the coefficient of variation across provinces in the employment share accounted for by SOE's was 0.10 but this had grown to 0.39 in 2005. The inter-quartile range rose from 0.11 to 0.21. The provinces experiencing the most far-reaching privatisation processes were Jiangsu followed by Zhejiang and Shandong. Those experiencing the least amount of privatisation were Shanxi and Nei Mongol.

that managers previously working under incentive contracts in the state sector were now doing so in the private sector. Second, if privatised firms were the first movers in adopting incentive contracts, their growth and the seeming importance of these new managerial practices to their success may have exerted increasing pressure on existing private firms to follow, as predicted under technological diffusion models.

The second reform initiative is the Special Economic Zones (SEZs), sometimes known as development zones, introduced to attract FDI and develop export-oriented industries. The number of SEZ's increased from 4 in 1980 to 342 in 2005.[5] Their share of total Chinese FDI rose from 35 percent to 94 percent and their share of total Chinese exports rose from less than 2 percent to 93 percent (Xu, 2011: 1114). Thus, rather than altering the orientation of existing indigenous firms towards production and management practices, SEZ's were concerned to attract newcomers from abroad, and start-ups with substantial foreign backing. Our data in Appendix Table A2 indicate that by 2010 118 of our 120 cities had an SEZ. Of these, 65 attained SEZ status in 1992 or 1993. Early SEZ experiments were often trials supported by central government, although sometimes after considerable delay (as indicated by the fact that the date for city SEZ adoption is often much earlier than the date for national-level acknowledgement).

Although, as Xu (2011: 1114) points out, "a major part of the experiment involved trying new sets of institutions, legislation, and rules for the purpose of attracting FDI", a priori, it is uncertain as to whether SEZ's might attract firms with high or low propensities to offer their executives incentive contracts. The industrial organisation literature suggests foreign-based firms are often first-movers in the adoption of new technologies as they seek a comparative advantage over local producers that will help recoup some of the costs associated with transferring production abroad (Te Velde, 2003). As noted above, incentive contracts for executives might be seen as one such technology, that is, an innovation in personnel management resulting in performance gains to the firm that may have been absent without the deployment of incentive contracts. A second reason for anticipating a positive association between incentive contracts and the advent of SEZ's is that foreign-owned firms are likely to deploy incentive contracts in their firms elsewhere in the world (Caves, 1996). If they simply transfer those practices to their operations in China, this could result in an influx of firms using incentive contracts for CEO's. On the other hand, there can be advantages to firms in adapting their policies to the standard or dominant modus operandi when they make foreign investments.[6] This may occur if firms face disproportionate costs in introducing the practices they use elsewhere, or if the host country permits less costly practices than those the firm is required to adopt elsewhere. It is also possible that foreign-owned firms will eschew incentives contracts if they are able to out-bid domestic rivals for the best executive talent by paying above market rates. There is evidence that foreign owned firms were paying higher wages to workers than their domestic counterparts in the early 2000s (Zhou et al., 2010).

[5] They were originally the brainchild of Xi Zhongxun, governor of Guangdong province, in 1979. Following their success Xi became Vice Chairman of the National People's Congress, clearly illustrating the link between pioneering local reforms and career success.

[6] This appears to be the policy of Walmart with respect to trade unions. They vehemently oppose union organisation at home in the United States, but are prepared to countenance unionisation in counties where it is common in the retail sector. See http://www.washingtonpost.com/business/economy/wal-mart-works-with-unions-abroad-but-not-at-home/2011/06/07/AG0nOPLH_story.html

4. Data and Estimation

We investigate the hypotheses outlined above using data from the 2005 World Bank Investment Climate Survey undertaken by the National Bureau of Statistics in China (www.enterprisesurveys.org). It covers 12,400 firms located in 120 cities throughout China. One hundred firms were surveyed in each city except in the four largest cities (Shanghai, Tianjin, Beijing and Chongqing) where 200 were surveyed. All provincial capitals were sampled together with cities selected based on the economic size of the province. Firms were randomly selected within the ten largest industries in each province (by value added). Consequently, the survey covers all major cities and is broadly representative of industrial economic activity in China as a whole. Appendix Table A1 provides descriptive information on the data used in the analysis.

We link information on privatisation and the introduction of Special Economic Zones (SEZs) to the World Bank data by matching information from external sources to the city and province identifiers in the World Bank data. These data are described in the Data Appendix and presented in Appendix Table A2.

We use multivariate models to account for the variation in the use of incentive contracts for CEO's across firms.[7] We focus on the role played by a firm's location and, in particular, its city and provincial location. If a firm's likelihood of using incentive contracts to reward CEO's is influenced by the behaviour of other firms in the vicinity we would expect to observe an association between location and incentive contracts. We also anticipate that the use of incentive contracts to reward CEO's will vary with firm characteristics (size, industry etc.), the firm's corporate governance arrangements, other policies used by the firm such as the threat of dismissal, and the characteristics of the CEO. These control variables are described in Appendix Table A1.

Our chief interest is the role played by two local level policy experiments in influencing firm use of CEO incentive contracts. The first is privatisation, which we capture with the change in the percentage of all employment in a province accounted for by SOE employment between 1978 and 2005. In 1978 three-quarters (76%) of all provincial employment was accounted for by SOE's, a figure which had fallen by two-thirds to 29% in 2005. The second is the start up year for SEZ's which leads to an influx of FDI to the city. We observe the dates at which city-level SEZ's are officially sanctioned at city, province and national level (see the Data Appendix for further details). We identify early SEZ start ups as those receiving government endorsement between 1980 and 1991: these accounted for 23% of SEZ's obtaining city endorsement, 22% of those obtaining provincial endorsement and 18% of those obtaining national government endorsement. [8]

There are perhaps two major problems in identifying any causal relationship between local level policy experimentation and firm use of CEO incentive contracts. The first is that the policy experiments are not randomly assigned to cities: rather, whether and when a city adopts a policy of privatisation and/or SEZ adoption may depend, in part, on local conditions

[7] In the survey the term "General Manager" is used to identify the CEO, but throughout the paper we refer to this executive as the CEO.

[8] As a sensitivity check we rerun all our analyses using Wang's (2013) data on start dates for SEZ's. We take the start date of the Enterprise Development Zone (EDZ) or Industrial Development Zone (IDZ), whichever is earliest, to denote the SEZ start date. The results we present in the next section are not sensitive to the use of Wang's data. We report these alternative results when they are noteworthy.

in a city and perceptions as to whether the city would benefit from such an intervention. This is certainly the case with respect to early SEZ adoption since central government officials encouraging experimentation were cognizant of the need to identify locations which gave local experiments the best chance of success. The second problem is that firms' location decisions may be dependent, in part, on their expectations governing local environments, including whether they are subject to policy experiments such as SEZ's and privatisation. Thus firms may select into or out of cities partly in response to changing local policy environments, whereupon local variation in patterns of CEO incentive contracts may simply reflect those location decisions, rather than being driven by the sorts of technological diffusion mechanisms described earlier. Mindful of these difficulties we adopt three broad modelling strategies. Throughout we present linear estimates with standard errors clustered to account for city-level sampling.

The first strategy is to run firm-level regressions that take the following form:

$$1) \qquad INCEN_{if} = \beta SEZ_c + \beta PRIV_p + \beta CG_f + \beta CEO_i + \beta X_f + \varepsilon_{if}$$

where $INCEN_{if}$ is a dummy identifying contracts linking pay to performance for CEO *i* in firm *f*; SEZ_c is the year the city's SEZ was introduced (or in most of our specifications a dummy identifying early SEZ introduction); $PRIV_p$ is the change in the SOE employment share at provincial level between 1978 and 2005; CG_f is a vector of corporate governance variables in firm *f*; CEO_i are individual CEO demographic and job attributes; X_f are structural firm attributes; epsilon is the error term and the betas are coefficients to be estimated.[9] In practice, the absence of panel data means that we observe only one CEO per firm and so the *i* and *f* are non-separable.

If the SEZ introduction and privatisation effects operate via encouragement of CEO incentive contracts at city-level, we would anticipate that mean take-up of CEO incentive contracts by firms other than the respondent in the city would be positively and significantly correlated with individual firm use of CEO incentive contracts and that the introduction of mean city-level CEO incentive contracts as a control would lead to a reduction in the size of the SEZ and privatisation coefficients. We add mean city-level CEO incentive contracts to the right-hand side of equation 1 to test for this.

The second modelling strategy is to condition on city-level means of all right-hand side variables in addition to the controls in equation 1. In constructing the city mean variables we exclude the firm observation in question from the computation of the mean. The equation takes the following form:

$$2) \quad INCEN_{if} = \beta SEZ_c + \beta PRIV_p + \beta CG_f + \beta CEO_i + \beta X_f + \beta CG_c + \beta CEO_c + \beta X_c + \varepsilon_{fi}$$

In this model each firm-level covariate has a city-level analogue, as denoted by the subscript $_c$.The value in conditioning on these city-level observable features of firms and their CEO's is that any association between our dependent variable - firm use of CEO incentive contracts - and the two policy variables (SEZ introduction and the rate of privatisation) is not confounded by other observable city features. Of course, because these city-level characteristics are measured at the end of the period (2005) they may partial out some of the

[9] See Appendix Table A1 for a full description of the variables appearing in each vector of controls.

effects of the policy interventions that are due to CEO or firm selection. In addition the vector X_c includes city means for foreign ownership and state ownership of firms in 2005, both of which will be a function, at least in part, of the two policy interventions we are interested in.

Even with this plethora of city-level controls we can not discount the possibility that any remaining association between our policy variables and a firm's use of CEO incentive contracts is being driven by unobserved features of the city. Our third modelling strategy therefore entails a two stage approach which seeks to tackle the omitted variables bias associated with the fixed unobservable characteristics of the cities in our sample. In the first stage we run a model similar to that presented in equation 2 with the firm-level CEO incentive dummy variable on the left-hand side and firm-level regressors on the right-hand side. But we replace the city-level covariates appearing in equation 2 with city dummy variables as denoted by $CITY_c$ in equation 3.1:

3.1) $$INCEN_{if} = \beta CITY_c + \beta CG_f + \beta CEO_i + \beta X_f + \varepsilon_{fi}$$

The city fixed effects coefficients (the β for each city) in equation 3.1 capture the fixed unobservable features of cities which affect the propensity of firms to adopt CEO incentive contracts, having accounted for the composition of firms and CEO's in the city.[10] In the second stage we run a city-level regression in which the city fixed effect coefficients from equation 3.1 are regressed on the two policy variables and the city-level means for firm and CEO composition. The equation takes the following form:

3.2) $$CITY_c = \beta SEZ_c + \beta PRIV_p + \beta CG_c + \beta CEO_c + \beta X_c + \varepsilon_c$$

We present results without and with bootstrapped standard errors to take account of the fact that the dependent variable is an estimated coefficient. Ideally we would want to account for the non-random timing of our policy interventions and firm sorting by location but data limitations mean we cannot account for firm-level unobservables nor time-varying factors at firm or city level which may bias our estimates.

5. Results

To illustrate the city clustering of CEO incentive contracts in China Figure 1 presents the city coefficients from a city fixed effects model estimating the likelihood that a firm uses an incentive contract to reward its CEO in 2005 relative to the reference city of Anqing in Anhui province. Darker shading represents larger positive coefficients. The city with firms least likely to deploy incentive contracts is Dongguan in Guangdong province, followed by two cities in Hebei province (Zhangjiakou and Qinhuangdao). The city with firms most likely to use incentive contracts is Hangzhou in Zhejiang province. Together the city dummies account for around 5 percent of the variance in firms' propensity to use incentive contracts.

Figure 2 presents city coefficients again, but this time from a model as per equation 3.1 which controls for firm and CEO characteristics as presented in Appendix Table A1. This model

[10] Throughout we assume that the city (or province in the case of privatisation) is the level of spatial aggregation which is appropriate in capturing the effects of SEZ's and local decisions regarding SOE privatisation. In Gibbons and Overman's (2012) terminology firms within cities are allocated the same neighbourhood weight.

explains twice the variance in incentive contracts (10 percent as opposed to 5 percent for the raw city dummies model). However, the ranking of cities' coefficients is similar - the correlation coefficient is 0.92 - suggesting that the city-level effects are not driven by the composition of the firms or executives in the city.[11]

Models (1) and (2) in Table 3 present the raw correlations between firm use of CEO incentive contracts and the two local policy experiments, namely the early introduction of a city SEZ and the rate of privatisation in the province to which the city belongs. Models (3) and (4) run the same analysis but incorporate firm-level controls, as presented in equation 1. Setting up an SEZ prior to 1992 is negatively associated with firm use of CEO incentive contracts in 2005, but the effect is only on the margins of statistical significance without firm-level controls and becomes statistically non-significant once controls are introduced.[12]

If we use the date at which the city SEZ obtained endorsement from the provincial government to construct the "early SEZ" dummy variable the coefficients are similar in size to those in Table 3 (-0.01) but are on the margins of statistical significance even when we introduce the firm-level controls. If we use the date at which the city SEZ obtained endorsement from the national government to construct the "early SEZ" dummy the coefficients and t-statistics are similar to those in Models (3) and (4).[13] There is therefore only weak evidence of a link between early exposure to FDI via SEZ adoption and the subsequent use of CEO incentive contracts by firms in the vicinity.

In contrast, early privatisation, as indicated by the rate of decline in the proportion of provincial employment accounted for by SOE's, is strongly positively associated with firm use of CEO incentive contracts in all four models. The effect is large. The coefficient is 0.52 without controls and 0.53 with controls, and is very precisely estimated. This means that a 10 per cent increase (fall) in the share of employment in the non-state sector over the period translates into a 5 per cent increase (fall) in the probability that a firm in that city will use incentive contracts for its CEO.

Models (2) and (4) incorporate the percentage of other firms in the city using CEO incentive contracts in 2005. This is strongly positively associated with individual firms' use of CEO incentive contracts. The effect is large. Model (4) indicates that a 10 per cent increase in the percentage of firms using incentive contracts in a city increases the probability that a firm will use a CEO incentive contract by about 6 per cent. This finding is consistent with the technology transfer hypothesis discussed earlier, but could also be due to co-location by firms according to whether or not they use CEO incentive contracts. However, both the SEZ and privatisation coefficients drop markedly with the introduction of the mean use of incentive contracts in the city (compare Models (1) and (2) and Models (3) and (4)). This lends credence to the suggestion that the mechanism linking these policy experiments to the use of CEO incentive contracts by individual firms in 2005 is the promotion of CEO incentive contracts among other firms in the city.

[11] Full versions of all the models discussed are available from the authors on request.

[12] If we replace the SEZ start date dummy with a continuous variable based on Wang's data identifying the date of SEZ start up the coefficient is positive and statistically significant in Models (1), (2) and (3), confirming that early SEZ set-up is positively correlated with the use of CEO incentive contracts. The coefficient in Model (3) is more precisely estimated than the coefficient reported in the table (0.005, t=2.77). However, the coefficient becomes statistically non-significant (0.001, t-stat=1.40) in Model (4) when the percentage of other firms in the city using CEO incentive contracts is introduced.

[13] The coefficients and t-statistics for the national endorsement of a city SEZ prior to 1992 are -0.035 (t-stat=2.22) in Model (3) and -0.010 (t-stat=1.40).

Table 4 shows the association between individual firm use of CEO incentive contracts in 2005 and the two policy variables having conditioned on both firm-level and city-level controls as described in equation 2. Early SEZ start-up in the city has no statistically significant effect on the use of CEO incentive contracts, suggesting early exposure to FDI did not influence firms' decisions regarding the use of CEO incentives.[14] This does not mean foreign ownership played no role in firms' decisions as to whether to adopt CEO incentive contracts. On the contrary, foreign ownership is a significant factor in determining whether a firm uses CEO incentive contracts. There is a statistically significant negative association between foreign ownership of a firm and its use of CEO incentive contracts.[15] The likelihood that a firm uses CEO incentive contracts is lower among firms located in cities with a higher proportion of foreign firms in 2005, independently of the firm's own foreign ownership status. Furthermore, the association is wholly accounted for by city-level usage of CEO incentive contracts by firms other than the respondent.[16] But these effects appear to be independent of the early introduction of a city SEZ. Setting up an SEZ prior to 1992 is positively associated with a higher percentage of foreign-owned firms in a city in 2005.[17] If early SEZ adoption is causally linked to higher foreign ownership in 2005 our inclusion of 2005 ownership status at city-level may partially account for any SEZ effect. This proves not to be the case since the SEZ early adoption dummy variable remains statistically non-significant in Model (4) if one excludes city-level and firm-level ownership status in 2005.

Large-scale privatisation in the province to which the city belongs is positively associated with the use of CEO incentive contracts. The coefficient of 0.46 in Model (1) is almost as large as the coefficient of 0.53 in Model (3) in Table 3 and, as in Table 3, the coefficient drops to around 0.2 once we condition on the proportion of other firms in the city using CEO incentive contracts. This is consistent with the proposition that privatisation resulted in the diffusion of CEO contracts within cities and that, once one accounts for this dispersion, much of the privatisation effect is removed.[18]

Why should it be that firms located in cities with a higher concentration of foreign owned firms are less likely to use incentive contracts to reward their CEO's than observationally equivalent firms in cities with a lower penetration of foreign-ownership? One possibility is that foreign-owned firms prefer to use efficiency wages to incentivise their CEO's, effectively out-bidding domestic rivals for the best executive talent by paying above market rates. Our data do not contain information on levels of compensation for CEO's so we are unable to test this proposition directly. However, we do have information on average wages of permanent workers in firms and the proportion of their pay that is fixed, and the proportion that consists of bonuses. How firms compensate their permanent staff may give us some insights into their approach to executive compensation. We therefore ran models using the standard controls but

[14] This result is confirmed when we replace our SEZ start-up variable with Wang's.
[15] Thus in Models (1) and (2) of Table 4 majority foreign owned firms are about 20 per cent less likely to use CEO incentive contracts than their private domestically owned counterparts. The raw correlation in the absence of other controls is -0.245 (t-stat=5.37).
[16] The coefficient for the proportion of foreign-owned firms in the city (other than the respondent) is -0.265 (t-stat=3.79) in Model (3) but it becomes positive and statistically non-significant (0.016, t-stat=0.41) with the introduction of the mean city usage of CEO incentive contracts in Model (4).
[17] The raw correlation is 0.136 (t-stat=3.52).
[18] Firms that were majority state-owned in 2005 were significantly more likely to use CEO incentive contracts than other firms. The raw correlation is 0.051 (t-stat=3.12). However, the effect becomes statistically non-significant relative to privately owned domestic firms once one controls for other firm-level factors. The raw correlation between city-level state ownership and CEO incentive contract usage is not significant (0.11, t-stat=1.16).

replaced our dependent variable on the use of CEO incentive contracts with the average pay of permanent employees. We find that, conditioning on other factors, foreign firms pay significantly more than other firms. Furthermore, conditioning on foreign ownership and all other controls, the level of pay a firm sets for its permanent employees is positively and significantly associated with the mean percentage of foreign owned firms in the city. In a regression estimating average wages of permanent workers in 2004 yuan, the coefficient on mean share of foreign owned firms in the city (excluding the firm respondent) was 793.34 (t-statistic=3.49). The share of foreign owned firms in the city is also associated with a higher percentage of permanent employees' compensation being made up of fixed salary rather than bonuses and other performance-based pay. In a regression estimating the percentage of permanent worker compensation paid via a fixed salary, the coefficient on mean share of foreign owned firms in the city (excluding the firm respondent) was 10.80 (t-stat=3.27). This evidence, albeit for permanent workers rather than executives, suggests foreign owned firms exert a negative influence over firms' propensity to use incentive contracts, preferring instead to pay their workers in excess of the market wage in the locality. This makes sense if foreign firms are attracted by efficiency wages, for example, or if there are administrative or other impediments to adopting the incentive-type structures favoured by domestic firms.

Finally we turn to city-level estimates of CEO incentive contracts in the 120 cities covered by the World Bank Survey 2005. The estimates presented in Table 5 are based on the two-stage procedure outlined earlier in Equations 3.1 and 3.2. The dependent variable is the city fixed effects coefficients from a first stage estimate of firms' probability of using a CEO incentive contract having controlled for CEO and firm-level characteristics. In the absence of controls, cities adopting SEZ's early on had fewer firms using CEO incentive contracts in 2005. However, the correlation in Model (1) is only on the margins of statistical significance and becomes almost zero and non-significant once city-level controls are added in Model (2). On the other hand, cities embarking on large-scale privatisation had a significantly higher percentage of firms using CEO incentive contracts in 2005, the coefficients being of a similar magnitude to those presented in the firm-level analyses.[19] Results are similar when we bootstrap the standard errors, although the privatisation coefficient is less precisely estimated in Model (4) which conditions on city-level controls.[20]

6. Discussion and Conclusion

Although China is now the second largest economy in the world, all we know about executive compensation comes from studies of public listed companies and state-owned enterprises (SOEs). This paper is the first to examine incentive contracts for CEO's across all industrial sectors of the economy. We do so using World Bank enterprise data for 2005. We show that incentive contracts are commonplace but that their incidence varies significantly across Chinese cities. This is unsurprising given the role of sub-national governments, including cities and provinces, in experimenting with market-oriented reforms. We test two hypotheses to explain the pattern of incentives across China's cities. The first considers the rate at which SOE's were privatised. We find CEO incentive contracts are positively correlated with the speed with which cities privatised their SOEs. The literature clearly indicates that SOE's were among the first firms in China to use incentive contracts for

[19] The results are nearly identical if one runs the analyses at firm-level and introduces the city fixed effects alongside the firm-level controls and two policy variables.
[20] Again, our SEZ results are replicated when using Wang's data for SEZ start up date.

executives. They did so in the expectation that, together with other reforms, this would result in improvements in their productivity and financial performance. These expectations were well-founded. Subsequently, regional governments began to privatise the SOEs they controlled, beginning with the better performing SOE's. Many of these privatisations took the form of management buy-outs, so that some of the CEO's on incentive contracts were simply shifted to the private sector. However, it appears other domestically-owned firms followed the initiative taken by these first movers in much the same way as the technology diffusion literature might have predicted.

We also considered a second major reform undertaken at regional and city level, namely the introduction of Special Economic Zones (SEZs) which sought to attract FDI. The literature clearly indicates that they were very successful in doing so. Theoretically, their impact on firms' use of incentive contracts for CEO's is indeterminate. Our empirical analysis reveals that the early introduction of FDI and export-oriented firms via SEZ's is weakly associated with lowering firms' probabilities of using incentive contracts for CEO's. The association disappears having controlled for other firm and city-level characteristics.

Although early exposure to FDI through the introduction of SEZs does not appear to have influenced firms' choice of incentive contracts, city concentrations of foreign ownership nevertheless have a negative impact on the use of CEO incentive contracts, in spite of the fact that many foreign-based firms would have used such contracts in their operations elsewhere in the world. Using data on the compensation of permanent employees we find foreign ownership, both at firm and city level, is associated with higher levels of compensation and an increased likelihood of paying a fixed salary as opposed to incentive and bonus-based contracts. Paying above-market wages can be seen as an alternative to the use of incentive contracts to recruit, retain and motivate employees. Although we do not have the data on CEO compensation levels, it is quite possible that foreign ownership leads to higher-than-average CEO compensation levels as a substitute for the use of bonus-based payments.

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Table 1: Firm Ownership In China, 2005

Ownership status:	Any	Majority Owner
State:	19	13
Collective:	13	8
Corporation:	37	26
Private:	51	36
Foreign:	21	14
None	-	3

Note: authors' calculations from the World Bank Investment Climate Survey 2005. N=12,400. Respondents asked "What percentage of your firm is owned by...." Figures in column 1 are cell percentages; figures in columns 2 and 3 are column percentages.

Table 2: Performance Pay Among CEO's In China, 2005

Majority ownership status:	Any	Low Powered	High Powered
State	71	47	23
Collective	64	47	17
Corporation	73	47	25
Private	67	43	23
Foreign	48	31	17
No majority owner	71	44	26
All	67	44	23

Note: authors' calculations from the World Bank Investment Climate Survey 2005. Figures are cell percentages. Respondents were asked "Is the CEO's annual income directly related to the company's performance?" Unweighted N=12,242. Follow up questions ask how CEO's income increases/decreases if company performance exceeds/fails the target with 7 categorical responses recording the percentage change running from 1-5% to >61%. "Low powered" identifies incentive contracts with <11% income at stake. "High powered" identifies incentive contracts with 11% or more income at stake. Columns 2 and 3 based on unweighted N=11,938. Rounding means row percentages in columns 2 and 3 don't always equal the cell percentage in column 1.

Table 3: Association Between CEO Incentive Contracts, SEZ Introduction and Privatisation, With and Without Firm-level Controls

	(1)	(2)	(3)	(4)
SEZ set up in city before 1992:				
	-0.044 (1.95)	-0.009 (1.54)	-0.033 (1.89)	-0.011 (1.59)
Change in provincial employment in SOE's 1978-2005:				
	0.522 (4.08)**	0.108 (2.99)**	0.529 (4.56)**	0.207 (3.41)**
% other firms in city using incentive contracts:				
		0.788 (27.02)**		0.605 (13.36)**
Constant	0.429 (6.81)**	0.094 (5.36)**	0.029 (0.43)	-0.213 (4.55)**
Controls	No	No	Yes	Yes
Observations	11817	11817	11817	11817
Adj. R-squared	0.01	0.03	0.07	0.08

Note:
(1) Linear estimation of firm use of incentive contracts.
(2) t-statistics in parentheses. Standard errors clustered at city level. * Statistically significant at 95% CI; ** statistically significant at 99% CI.

Table 4: Association Between CEO Incentive Contracts, SEZ Introduction and Privatisation, With and Without Controls at Firm and City Level

	(1)	(2)
SEZ set up in city before 1992:		
	-0.014 (0.78)	-0.006 (0.71)
Change in provincial employment in SOE's 1978-2005:		
	0.459 (3.31)**	0.217 (3.32)**
% other firms in city using incentive contracts:		
		0.574 (10.48)**
Constant	-0.149 (0.42)	-0.058 (0.36)
Controls:	Yes	Yes
Observations	11817	11817
Adjusted R-squared	0.08	0.09

Note:
(1) Linear estimation of firm use of incentive contracts.
(2) t-statistics in parentheses. Standard errors clustered at city level. * Statistically significant at 95% CI; ** statistically significant at 99% CI.

Table 5: Association Between CEO Incentive Contracts, SEZ Introduction and Privatisation, City-level Estimates

	(1)	(2)	(3)	(4)
SEZ set up in city before 1992:				
	-0.038 (1.94)	0.001 (0.03)	-0.038 (1.73)	0.001 (0.02)
Change in provincial employment in SOE's 1978-2005:				
	0.533 (4.42)**	0.320 (2.02)*	0.533 (5.54)**	0.320 (1.29)
Constant	-0.247 (4.28)**	0.012 (0.02)	-0.247 (5.31)	0.012 (0.02)
Controls:	No	Yes	No	Yes
Observations	120	120	120	120
Adjusted R-squared	0.14	0.35	0.14	0.35

Note:
(1) Second stage from two-stage linear estimation. First stage recovers city fixed effects from linear estimation of firm use of incentive contracts as per Equation 3.1. This table regresses the city fixed effects recovered from the first stage on city-level mean aggregates of the controls discussed in the text as per Equation 3.2. Models (3) and (4) are identical to models (1) and (2) but bootstrap standard errors using 50 replications.
(2) t-statistics in parentheses. * Statistically significant at 95% CI; ** statistically significant at 99% CI.

Data Appendix

We use data from the 2005 World Bank Investment Climate Survey undertaken by the National Bureau of Statistics in China (www.enterprisesurveys.org) which is described in Section Four. Descriptive information on these variables in presented in Appendix Table A1. We link information on privatisation and the introduction of Special Economic Zones (SEZs) to the World Bank data by matching information from external sources to the city and province identifiers in the World Bank data. These data are presented in Appendix Table A2.

Columns 3 and 4 of Table A2 contain the employment share of SOE's by province in 1978 and 2005 respectively. Using data from the Chinese Statistical Yearbook for 1978-2008 we calculate the share as the number of employed persons in the state-owned sector divided by the total number of employed persons in urban units at year-end by status of registration.

Columns 5-7 identify the year in which cities and provinces established Special Economic Zones (SEZs), also sometimes referred to as Development Zones. Column 5 identifies the year in which city level SEZ's were established; column 6 identifies the year in which provincial SEZ's were acknowledged; and the final column identifies the year that national SEZ's were acknowledged. Where the three dates are identical this indicates that the SEZ was an experiment initiated by the central state. Where the national SEZ date is later than or equal to the date for the provincial SEZ and the date for the city SEZ predates that for the provincial SEZ this indicates a local city-level experiment that subsequently gained national recognition. Where the date for a national SEZ is absent but there is evidence of a city or provincial SEZ this means the local SEZ initiative has yet to be sanctioned by the central state. Finally, there are two cities with no date for the establishment of a SEZ; this indicates there is no SEZ in that city in the period through to 2010. These dates are obtained from various web resources including the website for China Development Zones at http://www.cadz.org.cn/en/index.jsp?ItemID=1650.

An English website of the listing of the development zones can be found at http://www.cadz.org.cn/en/etdz.jsp?ItemID=558.

Appendix Table A1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Whether CEO Pay Linked to Firm Performance	11817	0.669	0.470	0	1
Corporate governance:					
Type of Board of Directors (BOD): No BOD	11817	0.279	0.449	0	1
BOD with CEO/Chair separation	11817	0.357	0.479	0	1
BOD with CEO/Chair duality	11817	0.364	0.481	0	1
Fire or demotion of CEO, last 4 years	11817	0.222	0.416	0	1
Ratio of CEO wage to middle managers' (categorical)	11817	2.166	1.240	1	5
CEO characteristics:					
CEO tenure (years)	11817	6.399	4.721	1	56
Education of CEO (categorical)	11817	5.575	0.994	1	7
CEO appointed by government	11817	0.119	0.324	0	1
Production autonomy of CEO	11817	7.410	1.490	1	8
Investment autonomy of CEO	11817	6.868	2.054	1	8
Employment autonomy of CEO (categorical)	11817	7.305	1.587	1	8
Firm characteristics:					
Majority ownership: State	11817	0.131	0.337	0	1
Collective	11817	0.082	0.275	0	1
Legal persons	11817	0.259	0.438	0	1
Private	11817	0.367	0.482	0	1
Foreign	11817	0.130	0.337	0	1
No majority ownership	11817	0.031	0.174	0	1
Size (Log of employees)	11817	5.619	1.473	1.8	13.5
Age (Log of years)	11817	2.277	0.786	1.1	4.9
Coefficient of variation in sales, last 3 years	11817	0.324	0.251	0	1.7
Number of power outages annually	11817	11.397	23.903	0	400
Average wage for permanent workers 2004-02 (yuan)	11817	1011.4	684.3	0.4	13247
Average wage for permanent workers 2004 (yuan)	11817	1097.1	768.9	0.4	13653
Average working hours per week (categorical)	11816	3.35	1.53	1	6
% permanent worker compensation in fixed salary	11573	46.97	34.97	0	100
% permanent worker compensation in bonus	11573	12.92	17.26	0	100
Industry: Petroleum	11817	0.014	0.119	0	1
AgProcess	11817	0.079	0.269	0	1
BlackMetal	11817	0.040	0.196	0	1
ChemFiber	11817	0.004	0.063	0	1
ChemMat	11817	0.116	0.321	0	1
ClothShoeHat	11817	0.017	0.127	0	1
ColorMetal	11817	0.028	0.164	0	1

Appendix Table A1 continued

Variable	Obs	Mean	Std. Dev.	Min	Max
CommunicateEquip	11817	0.046	0.210	0	1
Craft	11817	0.009	0.093	0	1
DrinkManufacture	11817	0.014	0.117	0	1
EduSportGood	11817	0.003	0.057	0	1
Electronics	11817	0.069	0.254	0	1
FoodManufacture	11817	0.020	0.140	0	1
Furniture	11817	0.004	0.067	0	1
GeneralEquip	11817	0.087	0.282	0	1
Instruments	11817	0.005	0.069	0	1
Leather	11817	0.012	0.107	0	1
Medical Equip	11817	0.034	0.182	0	1
Metal	11817	0.030	0.170	0	1
NonMetal	11817	0.105	0.306	0	1
Paper	11817	0.019	0.137	0	1
Plastic	11817	0.027	0.163	0	1
Printing	11817	0.005	0.069	0	1
Recycle	11817	0.000	0.016	0	1
Rubber	11817	0.002	0.040	0	1
SpecificEquip	11817	0.040	0.196	0	1
Textile	11817	0.077	0.267	0	1
Tobacco	11817	0.003	0.059	0	1
TransEquip	11817	0.079	0.270	0	1
WoodProcessing	11817	0.011	0.105	0	1
Main City and Provincial Characteristics:					
Means for other firms in city:					
CEO incentive contracts	11817	0.668	0.106	0.40	0.90
Foreign owned	11817	0.128	0.166	0	0.81
State-owned	11817	0.129	0.090	0	0.36
Start date for city SEZ before 1992	11817	0.225	0.419	0	1
Change in SOE share of provincial employment, 78-05	11817	0.478	0.068	0.29	0.60

Appendix Table A2: City and Provincial Indexes of Marketisation

Province	City	Employment Share of SOE, 1978	Employment Share of SOE, 2005	SEZ, city	SEZ, province	SEZ, national
Anhui	Anqing	0.74	0.27	1992	1993	2010
Anhui	Chuzhou	0.74	0.27	1992	1992	2010
Anhui	Hefei	0.74	0.27	1993	1993	2000
Anhui	Wuhu	0.74	0.27	1993	1993	1993
Beijing	Beijing	0.83	0.26	1994	1994	1994
Chongqing	Chongqing	0.69	0.19	1993	1993	1993
Fujian	Fuzhou	0.72	0.26	1986	1986	1986
Fujian	Quanzhou	0.72	0.26	1996	1996	2010
Fujian	Sanming	0.72	0.26	2009	2010	
Fujian	Xiamen	0.72	0.26	1981	1981	1981
Fujian	Zhangzhou	0.72	0.26	1992	1992	2010
Gansu	Lanzhou	0.90	0.42	1993	1993	2002
Gansu	Tianshui	0.90	0.42	1994	1994	2009
Guangdong	Dongguan	0.71	0.20	2003	2006	
Guangdong	Foshan	0.71	0.20	2003	2006	
Guangdong	Guangzhou	0.71	0.20	1984	1984	1984
Guangdong	Huizhou	0.71	0.20	1993	1993	1993
Guangdong	Jiangmen	0.71	0.20	1991	1991	
Guangdong	Maoming	0.71	0.20	1992	1992	
Guangdong	Shantou	0.71	0.20	1981	1981	1981
Guangdong	Shenzhen	0.71	0.20	1980	1980	1980
Guangdong	Zhuhai	0.71	0.20	1980	1980	1980
Guangxi	Guilin	0.84	0.24	1992	1994	
Guangxi	Liuzhou	0.84	0.24	1992	1992	
Guangxi	Nanning	0.84	0.24	1992	1992	2001
Guizhou	Guiyang	0.80	0.32	1993	1993	2000
Guizhou	Zunyi	0.80	0.32	1992	1992	2010
Hainan	Haikou	0.90	0.46	1988	1988	1988
Hebei	Baoding	0.83	0.45	2000	2006	
Hebei	Cangzhou	0.83	0.45	2003	2003	2010
Hebei	Handan	0.83	0.45	1992	1992	
Hebei	Langfang	0.83	0.45	1992	1992	2009
Hebei	Qinhuangdao	0.83	0.45	1984	1984	1984
Hebei	Shijiazhuang	0.83	0.45	1992	1992	
Hebei	Tangshan	0.83	0.45	1992	1992	2010
Hebei	Zhangjiakou	0.83	0.45	1992	2006	
Heilongjiang	Daqing	0.79	0.36	2006	2006	
Heilongjiang	Harbin	0.79	0.36	1993	1993	1993
Heilongjiang	Qiqihar	0.79	0.36			
Henan	Luoyang	0.82	0.43	1992	1994	
Henan	Nanyang	0.82	0.43			
Henan	Shangqiu	0.82	0.43	1995	1995	
Henan	Xinxiang	0.82	0.43	1992	1994	
Henan	Xuchang	0.82	0.43	1994	1994	2000
Henan	Zhengzhou	0.82	0.43	1993	1993	2000

Henan	Zhoukou	0.82	0.43	1997	1997	
Hubei	Huanggang	0.81	0.24	1992	1992	2010
Hubei	Jingmen	0.81	0.24	2000	2000	
Hubei	Jingzhou	0.81	0.24	1992	1992	2011
Hubei	Wuhan	0.77	0.29	1991	1991	1993
Hubei	Xiangfan	0.81	0.24	1992	1992	1992
Hubei	Xiaogan	0.81	0.24	1997	1997	
Hubei	Yichang	0.81	0.24	1988	1992	2010
Hunan	Changde	0.77	0.29	1992	1994	
Hunan	Changsha	0.77	0.29	1992	1992	2000
Hunan	Hengyang	0.77	0.29	1992	1994	
Hunan	Yueyang	0.77	0.29	1992	1992	2000
Hunan	Zhuzhou	0.77	0.29	1992	1992	1992
Jiangsu	Changzhou	0.63	0.13	1992	1992	1992
Jiangsu	Lianyungang	0.63	0.13	1984	1984	1984
Jiangsu	Nanjing	0.63	0.13	1988	1988	1991
Jiangsu	Nantong	0.63	0.13	1984	1984	1984
Jiangsu	Suzhou	0.63	0.13	1992	1992	1992
Jiangsu	Wuxi	0.63	0.13	1992	1992	1992
Jiangsu	Xuzhou	0.63	0.13	1992	1992	
Jiangsu	Yancheng	0.63	0.13	1992	1993	2010
Jiangsu	Yangzhou	0.63	0.13	1992	1992	2009
Jiangxi	Ganzhou	0.82	0.30	2004	2004	2010
Jiangxi	Jiujiang	0.82	0.30	1992	1992	2010
Jiangxi	Nanchang	0.82	0.30	1991	1991	1991
Jiangxi	Shangrao	0.82	0.30	2001	2001	2010
Jiangxi	Yichun	0.82	0.30	2003	2006	
Jilin	Changchun	0.77	0.32	1993	1993	1993
Jilin	Jilin	0.77	0.32	1992	1992	1992
Liaoning	Anshan	0.76	0.29	1991	1991	1992
Liaoning	Benxi	0.76	0.29	1993	1993	
Liaoning	Dalian	0.76	0.29	1984	1984	1984
Liaoning	Fushun	0.76	0.29	1992	1993	
Liaoning	Jinzhou	0.76	0.29	1992	1992	2010
Liaoning	Shenyang	0.76	0.29	1993	1993	1993
Nei Mongol	Baotou	0.80	0.46	1992	1992	1992
Nei Mongol	Hohhot	0.80	0.46	1992	1995	2000
Ningxia Hui	Wuzhong	0.88	0.43	2006	2006	
Ningxia Hui	Yinchuan	0.88	0.43	1992	1992	2001
Qinghai	Xining	0.89	0.31	2000	2000	2000
Shaanxi	Baoji	0.86	0.45	1992	1992	1992
Shaanxi	Xi'an	0.86	0.45	1993	1993	2000
Shaanxi	Xianyang	0.86	0.45	1992	1992	
Shandong	Binzhou	0.75	0.18	2010	2010	
Shandong	Jinan	0.75	0.18	1988	1990	1991
Shandong	Jining	0.75	0.18	1992	1992	2010
Shandong	Linyi	0.75	0.18	2003	2003	2010
Shandong	Qingdao	0.75	0.18	1984	1984	1984

Shandong	Tai'an	0.75	0.18	2000	2000	
Shandong	Weifang	0.75	0.18	1992	1992	1992
Shandong	Weihai	0.75	0.18	1991	1991	1991
Shandong	Yantai	0.75	0.18	1984	1984	1984
Shandong	Zibo	0.75	0.18	1992	1992	1992
Shanghai	Shanghai	0.79	0.20	1986	1986	1986
Shanxi	Datong	0.85	0.56	1992	1992	2010
Shanxi	Taiyuan	0.85	0.56	1991	1991	1992
Shanxi	Yuncheng	0.85	0.56	1992	1992	
Sichuan	Chengdu	0.75	0.23	1991	1991	1991
Sichuan	Deyang	0.75	0.23	1992	1992	2010
Sichuan	Leshan	0.75	0.23	1992	2002	
Sichuan	Mianyang	0.75	0.23	1992	1992	1992
Sichuan	Yibin	0.75	0.23	1992	1992	
Tianjin	Tianjin	0.77	0.28	1984	1984	1984
Xinjiang Uygur	Wulumuqi	0.77	0.28	1994	1994	1994
Yunnan	Kunming	0.88	0.41	1992	1992	1992
Yunnan	Qujing	0.88	0.41	1992	1992	2010
Yunnan	Yuxi	0.88	0.41	1998	1998	
Zhejiang	Hangzhou	0.58	0.13	1990	1991	1991
Zhejiang	Huzhou	0.58	0.13	1992	1992	2010
Zhejiang	Jiaxing	0.58	0.13	1992	1992	2010
Zhejiang	Jinhua	0.58	0.13	1992	1993	2010
Zhejiang	Ningbo	0.58	0.13	1984	1984	1984
Zhejiang	Shaoxing	0.58	0.13	2000	2000	2010
Zhejiang	Taizhou	0.58	0.13	1997	1997	
Zhejiang	Wenzhou	0.58	0.13	1992	1992	1992

Figure 1: City Effects on CEO Incentive Contracts, No Controls

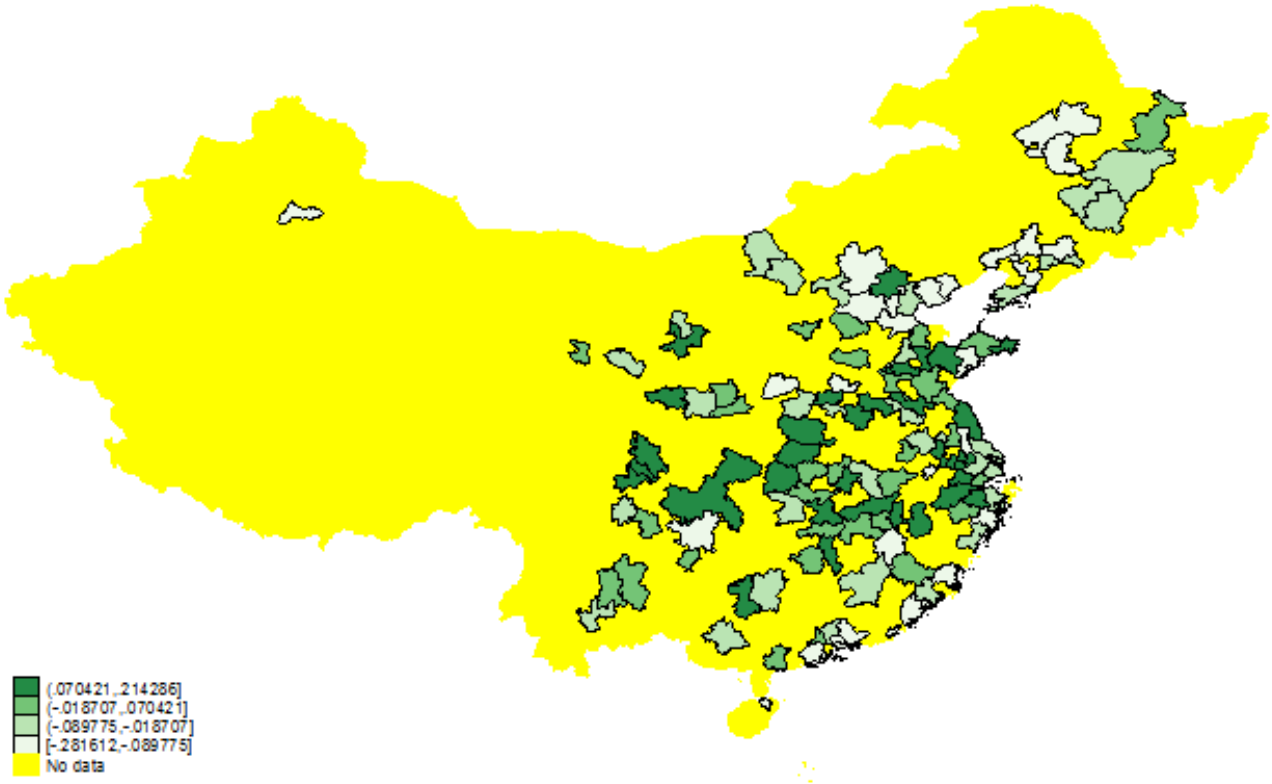
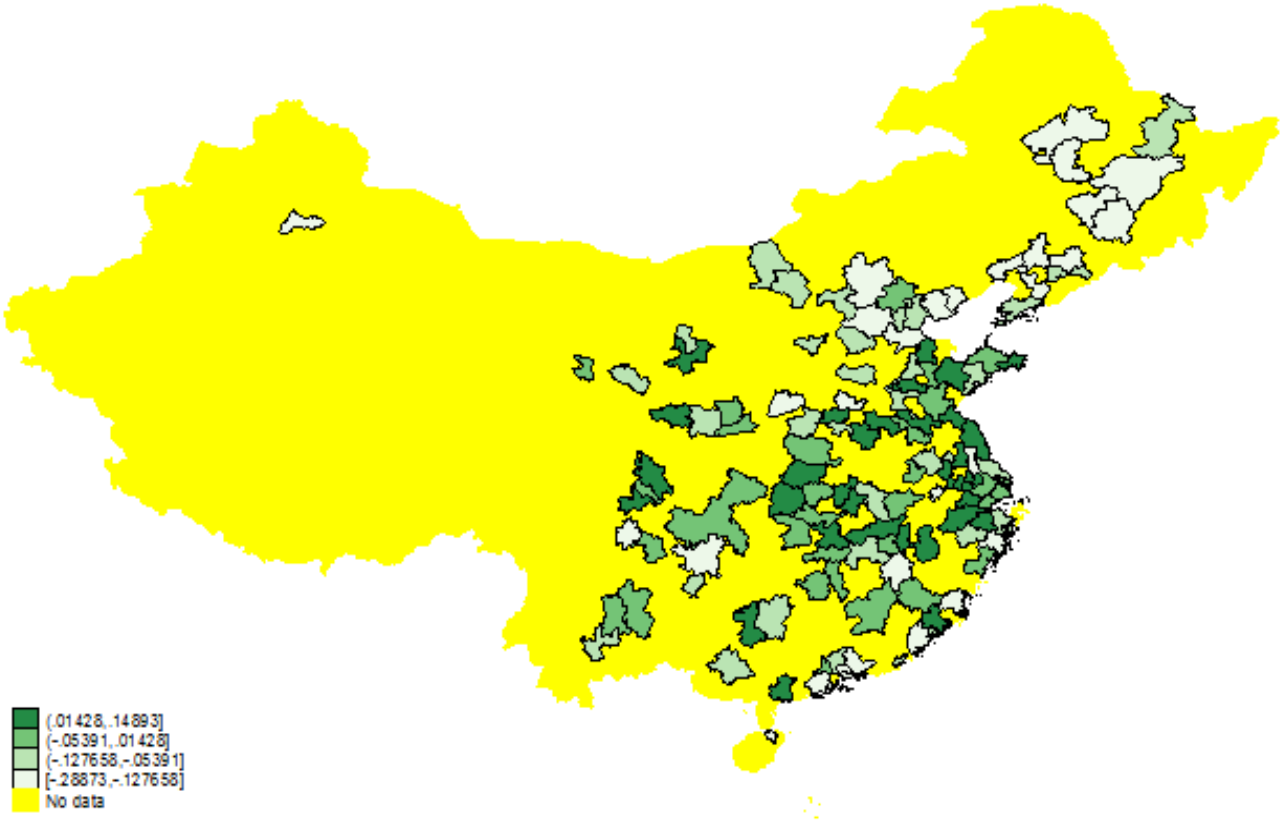


Figure 2: City Effects on CEO Incentive Contracts, With Controls



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