

Business Environment after SOE Reforms: How Unemployment Discourages Foreign Investments

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Abstract

State-owned enterprise (SOE) reforms have resulted in mass layoffs in many post-communist regimes. Combining city-level unemployment data obtained from government archives in the 1990s with firm-level financial data, this paper investigates the lasting impact of reform-induced unemployment on China's businesses environment for foreign investors. We find that cities with higher unemployment rates arising from SOE reforms have fewer foreign businesses after China's WTO entry, as measured by the total number of firms as well as the amount of capital investments, around the end of the reforms. We further show that there are two mechanisms at play. First, high unemployment rates reduce municipal fiscal expenditures on educational, medical, governance, and other social services. The worsened infrastructural and institutional quality discouraged foreign investors. Second, citizens attribute their unemployment status and economic grievances to foreign competition, which increases public hostility towards Western countries. Importantly, additional analyses suggest that non-Western countries, such as Russia, are not affected. Also, SOEs gain greater market shares at the expenses of foreign and private firms due to rising unemployment. Overall, the findings show that unemployment problems caused by SOE reforms constitute a negative pull on a country's path towards establishing an open and competitive market economy.

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1 Introduction

Market liberalization reforms are often accompanied by mass layoffs. Restructuring and privatization of state-owned enterprise (SOE), in particular, involves streamlining SOEs' workforce and reducing corporate redundancy. Conventional research has examined the significant socioeconomic consequences of mass layoffs, especially in transitioning economies that lack effective policy tools to accommodate and resettle the excessive labor force (Celli, Cerqua and Pellegrini, 2023; Liu and Zhao, 2014). Researchers have provided ample evidence on the importance of compensating for and accommodating the "losers" in market competition in the globalized economy (Goldberg and Pavcnik, 2003; Jurajda and Terrell, 2008). For developing economies that are unable to provide such institutional cushions for the unemployed workers, drastic economic liberalization and modernization programs such as the "shock theory" approach adopted in some post-communist regimes are often associated with painful experiences of economic turmoil and social unrest (Popov, 2007; Appel and Orenstein, 2018).

The positive views on SOE reforms contend that such economic liberalization policies contribute to establishing more competitive and efficient domestic economies, mainly through creating friendly business environments and a level playing field for private investors. Greater market efficiency and competitiveness, modernized corporate governance, and stronger entrepreneurial incentives should also make domestic business environments more appealing to foreign investors in the long run (Lin, Cai and Li, 1998; Shirley, 1999; Garnaut, Song and Yao, 2006). Yet, unemployment shocks have almost become an inevitable component of such reforms in the short term. Structural reforms aimed at enhancing the quality of the business environment do not always make the local market more attractive to investors (Murillo, 2000). Instead, the undesirable consequences may actually detail the reform progress. Even if some successful market transitions have generated sustainable economic growth in the long run, the painful transitions in the beginning may actually frustrate and impede further market liberalizations (Ocampo, 2004; Panizza and Yañez, 2005; Remmer, 1998).

Moreover, a shared goal of SOE reforms across many transitioning economies is to attract for-

foreign direct investments. Drawing from the experiences of post-communist regimes that underwent fairly aggressive reforms, scholars have underscored the necessity of compensating for workers who feel “lose out” amidst rising global competition for capital, talent, and labor (Ye, 2009; Gallagher, 2002). If citizens lack adequate policy support to cushion the economic transition costs, we may see public backlash against globalization and even rising populist and xenophobic sentiments. Privatisation and restructuring of SOEs, a key component of public sector reforms across the world, are expected to move the country towards freer trade and investment regimes. Business-friendly policies encourage more foreign capital flows into state-dominated sectors, which should further invigorate, legitimize, and empower the reform process. Even though such reforms may lead to mass layoffs and public grievances, they still contribute to reducing the economic redundancy and fiscal pressures of the state and encouraging market competition and domestic firms’ catching up with foreign competitors (Brown, Earle and Gehlbach, 2009; Berkowitz, Ma and Nishioka, 2017). Therefore, conventional wisdom generally posits that the reforms will fast-track economic development and eventually increase economic prosperity, notwithstanding their potential drawbacks (Zhang, Zhang and Zhao, 2001; Chen, Firth and Rui, 2006). The short-term shocks to public employment are justified by reforms’ benefits to creating a more attractive market environment in the long run.

Meanwhile, however, developing and transitioning economies often lack adequate social safety nets and other compensatory mechanisms to accommodate the displaced labor. Mass layoffs may result in acute social and economic problems for the country in the short term that preclude potential benefits of SOE reforms. In some cases, the unemployment shocks accompanying SOE restructuring entail such high human and social costs that worsen, rather than improve, the existing business environment, and inhibit the establishment of a more competitive and open economy (Bai, Lu and Tao, 2006; Klein, 2007). While conventional research has explored how FDI inflows lead to unemployment, we lack understandings of the causal link in the other direction: how do mass layoffs discourage foreign investments by decreasing the quality of business environments? Some countries that have managed the reforms relatively smoothly, such as Poland, the Czech

Republic, and the Baltic nations, were able to navigate the transition to market economies with few major setbacks (Kolodko, 2000; Appel and Orenstein, 2018). Others faced more protracted crises jeopardizing the local business environment, and further reforms were eventually derailed, including Russia, Romania, and several Latin American countries (Desai, 2005; Goldman, 2003; Popov, 2007). For foreign firms, the deterioration of investment environment is not only about austerity measures and budgetary shortfalls that limit the provisions of basic public goods. Moreover, the lack of effective resettlement of the affected citizens may create a hostile domestic public opinion environment against foreign businesses, notably the rise of anti-globalist sentiments and push-backs against economic liberalization reforms.

In this paper, we examine how rising unemployment during China's major wave of SOE reforms, implemented from 1993-1999, affects the business environment for foreign investors in China after the country's accession to the WTO. We use archival data of city-level unemployment rates from 1989-2000 to measure the extent of unemployment shocks induced by SOE reforms. For the outcome variables, we use firm-level economic census data to construct various indicators of corporate activities that capture the extent of foreign business presence in China, in relation to firms of other ownership types. Overall, we find that cities with more intense unemployment shocks during SOE reforms will have less prevalent foreign business presence relative to domestic enterprises, as measured by the number of firms, the amount of invested capital, number of employees, and total output. We also show that there are two mechanisms underlying the relationship. First, public unemployment reduces public services provision and worsens the local institutional quality. Second, citizens blame foreign competition for their economic hardships, which increases anti-Western attitudes. We find evidence that the effects are especially profound among the cohorts of citizens who were most affected by the SOE reforms. Therefore, the findings suggest that reducing the prominence of state actors in the economy does not necessarily open up more opportunities for foreign enterprises. The obstacles may actually frustrate further reforms. The results also explain the state's more gradual and moderated approach towards economic liberalization and opening up after learning the lessons, which precluded prolonged crises as experienced by other

countries ([Liu, Sun and Woo, 2006](#)).

Our study contributes to the large body of research on the undesirable consequences of economic liberalization reforms as well as the governance challenges governments face in response to global economic integration and competition ([King, 2002](#)). Restructuring the state-owned economy and reducing state dominance across sectors has been a common policy prescription that governments adopt to attract foreign investments. However, our study uncovers how mass unemployment, as a byproduct of SOE reforms, may jeopardize the establishment of a friendly business environment. For transitioning economies that lack the fiscal capacity to provide institutional support for the displaced labor and to cushion the economic costs of mass layoffs, SOE reforms may turn the public against foreign competition, market liberalization, and economic globalization in general. Therefore, this paper enriches our understandings of the potential unintended impact of public sector reforms, and why some rapid economic liberalization measures result in economic retrogression and immediate political backlash in the short term.

2 SOE Reform, Unemployment, and Economic Integration

Market liberalization reforms have been conducted in response to the demands of globalization processes characterized by cross-border competitions as well as transnational flows of capital and labor ([Appel and Orenstein, 2016](#); [Aslund, 2013](#)). Reforms of state-owned enterprises are often centered around increasing the efficiency and competitiveness of these entities, with privatization being a key feature of the restructuring process ([Jefferson and Su, 2006](#); [Bai, Lu and Tao, 2009](#)).

A common justification for privatization programs is that SOEs employ excessive labor that does not generate sufficient output to justify the costs ([Hu, Oppen and Sonia, 2006](#); [Dong and Putterman, 2003](#)). Therefore, with downsizing and layoffs, privatization processes will result in firms' more efficient use of labor and other resources for production, which increases economic efficiency. The excessive workforce released into the private labor market would seek more entrepreneurial and innovative occupations, instead of engaging in mostly unproductive and rent-seeking activities

as in SOEs (Nolan and Xiaoqiang, 1999; Zhang, Yu and Chen, 2020; Jefferson and Su, 2006), and the boost in talent supply would improve the quality of local factor endowments (Gallagher, 2004; Kong, 2006). The restructured enterprises are also expected to be more competitive and market-oriented, operating at a level playing field with firms of other ownership types. In particular, foreign firms should welcome more free market competitions and a business environment with fewer government directives, protectionist rules, and privileged rent-seeking status of SOEs (Megginson and Netter, 2001). Hence, SOE reforms are expected to facilitate a country's path towards greater global economic integration and modernization (Aslund, 2013). The diminished dominance of state sectors and government mandates in the economy would make the host marketplace more hospitable, fair, and attractive to foreign firms (Berend, 2009; King, 2002; Gallagher, 2011).

Meanwhile, the socioeconomic costs associated with SOE privatization and mass layoffs can be quite significant (Chiu and Hung, 2004; Gerber and Hout, 1998). Rising unemployment may exacerbate income inequality and economic hardships for the vulnerable population, which in turn depresses public consumption and generates societal divides (Bai, Lu and Tao, 2006). Mismanaged unemployment crises have been shown to severely constrain the government's budgetary capacity, reduce fiscal expenditures on essential public services and infrastructure, discourage public and private investments in human capital and technological upgrading, and lead to a host of other undesirable long-term consequences (Lin and Li, 2008; Liu, Sun and Woo, 2006). The quality of governance deteriorates as the fiscally-strained government becomes more likely to engage in corrupt rent-seeking activities (Shleifer, 1997). In summary, poorly-controlled unemployment shocks due to SOE reforms may cause more economic dislocation and setbacks than overall improvements in economic efficiency and social welfare.

As SOE reforms produce both winners and losers, it is important to understand the conditions under which unemployment shocks may turn public opinions against such reforms (Chen, 2017). Scholars have argued that dislocated citizens may become sources of social unrest and instability, which further jeopardizes local economic development (Huang et al., 2021; Kolodko,

2000). Conventional research has extensively examined how foreign-originated investment and trade shocks may negatively affect employment, labor welfare, and subsequent public attitudes. Notably, increased unemployment due to the “China shock” has lead many host governments to adopt structural reforms to mitigate the negative impact (Autor, Dorn and Hanson, 2016; Colantone and Stanig, 2018). However, much less work has explored the other direction of the causal chain — how rising unemployment associated with poorly-managed SOE privatization reforms may affect FDI inflows and foreign businesses in the country undergoing such reforms. Studies of developed countries have shown that aggrieved citizens may respond to market liberalization reforms by demanding electoral and public policy changes. The negative behavioral responses, even if misguided, are usually driven by individuals’ attribution of their economic loss to the influence of foreign firms, which can deteriorate further into xenophobic sentiments (Milner, 2021; Mansfield, Milner and Rudra, 2021). Even among industrialized democracies, there is widespread evidence of backlash against free market competition and economic integration brought by globalization (Walter, 2021; Margalit, 2012).

The political tensions may be particularly high in later-comer, developing countries that are only starting to catch up in global integration and competition (Kong, 2006). In such countries that lack institutional mechanisms to mitigate citizens’ adjustment and transition costs, such as labor unions, social safety nets, or other assistance programs, citizens suffering from the layoffs will be more inclined to blame individual hardships on foreign competition (Desai and Rudra, 2019; Popov, 2007). Large-scale layoffs also place additional strains on already-insufficient public service provisions. Yet, we still lack understandings of the experiences of such developing countries that have undergone unemployment shocks and little foreign direct investments (FDI) to begin with. In particular, for communist and post-communist regimes that try to transition from a state-dominated economy to one open to the global economy, the laid-off citizens may be more inclined to reject FDI as they bear even higher social costs than their counterparts in developed economies (Hurst, 2009; Cai, 2002). For post-communist regimes still in their initial stage of transition, the citizens have not yet fully realized or internalized the benefits of inward FDI and global economic

integration ([Zheng and Chen, 2009](#)). Therefore, the painful transitions to a liberal and open economy through SOE restructuring and mass layoffs may be jeopardized by the high adjustment costs. It also implies that the post-reform market environment is not necessarily more welcoming towards multinational corporations (MNCs) as the role of SOEs declines. Instead, the affected citizens may actually become more likely to embrace the traditional roles and values of SOEs, which paves the way for a reversion back to the old model of a state-dominated economy.

3 Market Liberalization and Unemployment in China

China's unemployment rates experienced a gradual decline from the late 1970s to 1980s, largely attributed to the reform and opening up policy and steady economic growth ([Cai and Wang, 2010](#)). The Third Plenary Session of the Fourteenth Central Committee of the Communist Party of China (CCP) held in 1993 reaffirmed China's commitment to a socialist market economy. Since the mid 1990s, large-scale SOE reforms picked up speed, and mass layoffs became substantial problems for the government ([Gu, 1999](#)). The SOE reform measures included privatization, decentralization, and mergers between under-performing SOEs ([Garnaut, Song and Yao, 2006](#)). Meanwhile, the private sector was still too underdeveloped to provide sufficient job opportunities to absorb the redundant labor released from SOE restructuring programs. Under the government's pressure to enhance efficiency and competitiveness, the SOE reform led to a surge in mass layoffs ([Lee, 2000](#); [Hu, Oppen and Sonia, 2006](#)).

Deng Xiaoping's pivotal Southern Tour in 1992 heralded the downsizing of SOEs' roles, particularly by exposing them to more market competition. This process was accelerated at the 15th Party Congress in 1997 that asked small and medium-sized SOEs to close, privatize, or merge with other firms, resulting in a significant reduction in SOE employment. A series of legislation were also implemented to facilitate the market transition, including the Bankruptcy Law passed in 1986, Law on Industrial Enterprises Owned by the Whole People in 1988, Company Law in 1993, Labor Law in 1994, and other regulations on the management of state-owned assets after 1988. The laws

laid the groundwork for SOEs to go through corporate restructuring and to lay off workers relatively easily within a short period of time, yet without offering a reliable social safety net or other unemployment assistance programs. Although China's approach was more gradual than the "shock therapy" approach adopted by other post-communist regimes, it still caused significant economic disruptions and hardships, especially in places heavily reliant on SOEs (Solinger, 2002). Citizens also gradually realized the costs of transitioning to the new mode of free market competition and being integrated with the global economy (Wang, 2003; Lardy, 2004).

According to official statistics, the first wave of SOE privatization coincided with intense unemployment shocks. As the number share of SOEs among all industrial enterprises declined from 25.3% in 1992 to 8.5% in 2004, urban unemployment rates increased from 2.3% in 1992 to an unprecedented level of 4.3% in 2004, with a correlation coefficient of -0.791 ($p\text{-value} = 0.000$).¹ Significant social problems emerged as a result of the state's initial mismanagement of mass layoffs (Oi, 2005; Liu, Sun and Woo, 2006). Various forms of social unrest ensued, including protests, labor strikes, demonstrations, and public participation in outlawed religious practices (Hurst, 2004; Cai, 2006). SOEs had been major contributors of tax revenues and transferred significant amounts of dividends and profits to local governments. Therefore, in regions hardest-hit by the reform such as the northeastern provinces that traditionally relied on SOEs' contributions to government revenues, the closures and layoffs of SOEs meant rapidly deteriorating fiscal conditions (Lin, Cai and Li, 1998; Dong and Putterman, 2003). By the mid-1990s, the government already felt severe fiscal and financial challenges. The state sector had become a net loss-maker, which eroded the budgetary capacity of governments to provide other social services. The proportion of government revenues to GDP declined significantly, from 36% in 1978 to 11% in 1996. At the same time, the government still had to invest in and subsidize the SOE restructuring and reform process itself, which included financial support for mergers, acquisitions, and the transformation of SOEs into shareholding companies (Weber, 2021). The government also had to take on some pension and healthcare liabilities of the SOEs (Shao and Xu, 2001). Such liabilities previously managed by

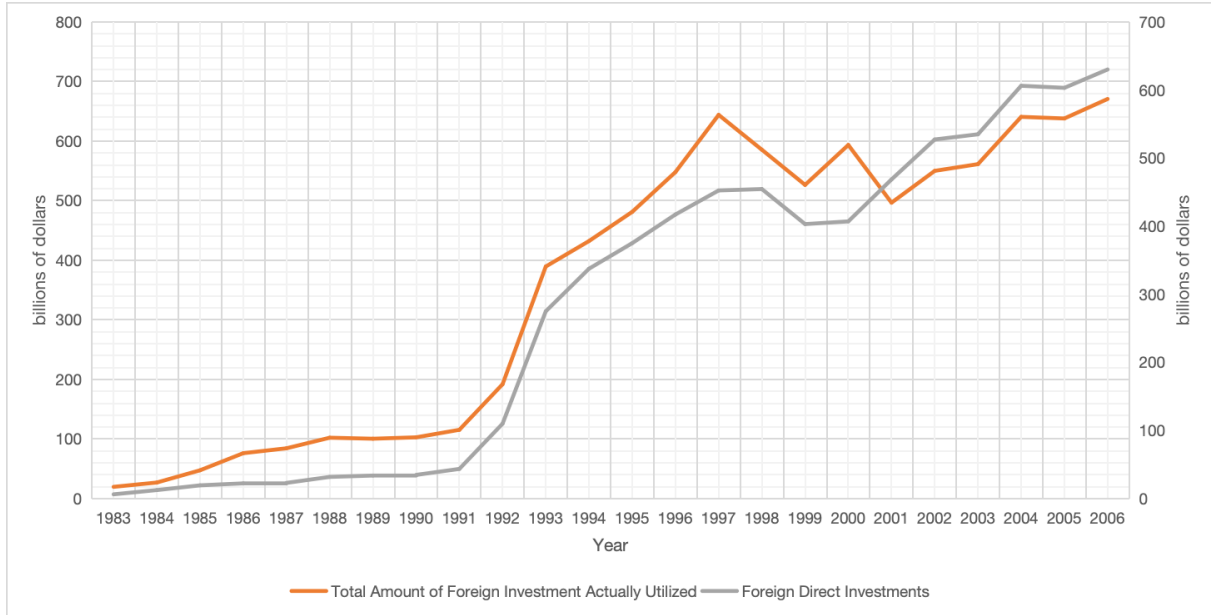
¹The data is obtained from the National Bureau of Statistics of China at <https://data.stats.gov.cn/english/easyquery.htm?cn=C01>.

the SOEs for their employees shifted to the governments, adding to their financial burden. As the governments faced declining revenues from SOEs combined with increased fiscal obligations to address social challenges, budgetary deficits emerged. As a response to social instability concerns and pressing economic challenges due to the unemployment shocks, China passed the Social Security Law in 1999 to provide some measure of insurance and protection for the affected citizens.

The near collapse of local economy and breakdown of social order were felt quite significantly in many parts of the country. Yet, scholars have not fully explored the impact's implications for the establishment of an attractive business environment for foreign firms and investors. Governments' budgetary constraints led to declining public investments in human capital, science and technological research, and industrial upgrading. Worsened fiscal capability decreased the quality of governance and physical infrastructures and increased corruption incentives for officials who need to resort to informal channels to extract revenues. Public opinions started to turn against liberalization reforms, and growing grievances were manifested in declining trust in central and local governments. Therefore, it is possible that the SOE privatization and market liberalization reforms did not generate as much economic growth or investment opportunities for foreign businesses as expected. Instead, the social and economic costs may have outweighed the benefits from creating more efficient and competitive enterprises with more private ownership, at least in the short term before the government started to effectively manage the negative consequences.

Figure 1 shows the trend of foreign investments in China after economic liberalization reforms started in the 1980s. The orange line indicates the total value of foreign investments utilized each year, which includes total FDI inflows (the grey line) and other accounts of net capital flows (e.g. portfolio investments and foreign loans). The figure shows that total foreign investments saw an initial increase after 1992, the year of Deng Xiaoping's Southern Tour. Yet, utilized foreign capital started to stagnate in late 1990s and it was only until 2006, 5 years after China joined the WTO, that its value returned to the level of 1997. There was growing interest in China's market, as indicated by direct investment inflows, but foreign investors became more cautious and hesitant towards Chinese economy and net capital outflows occurred in other accounts.

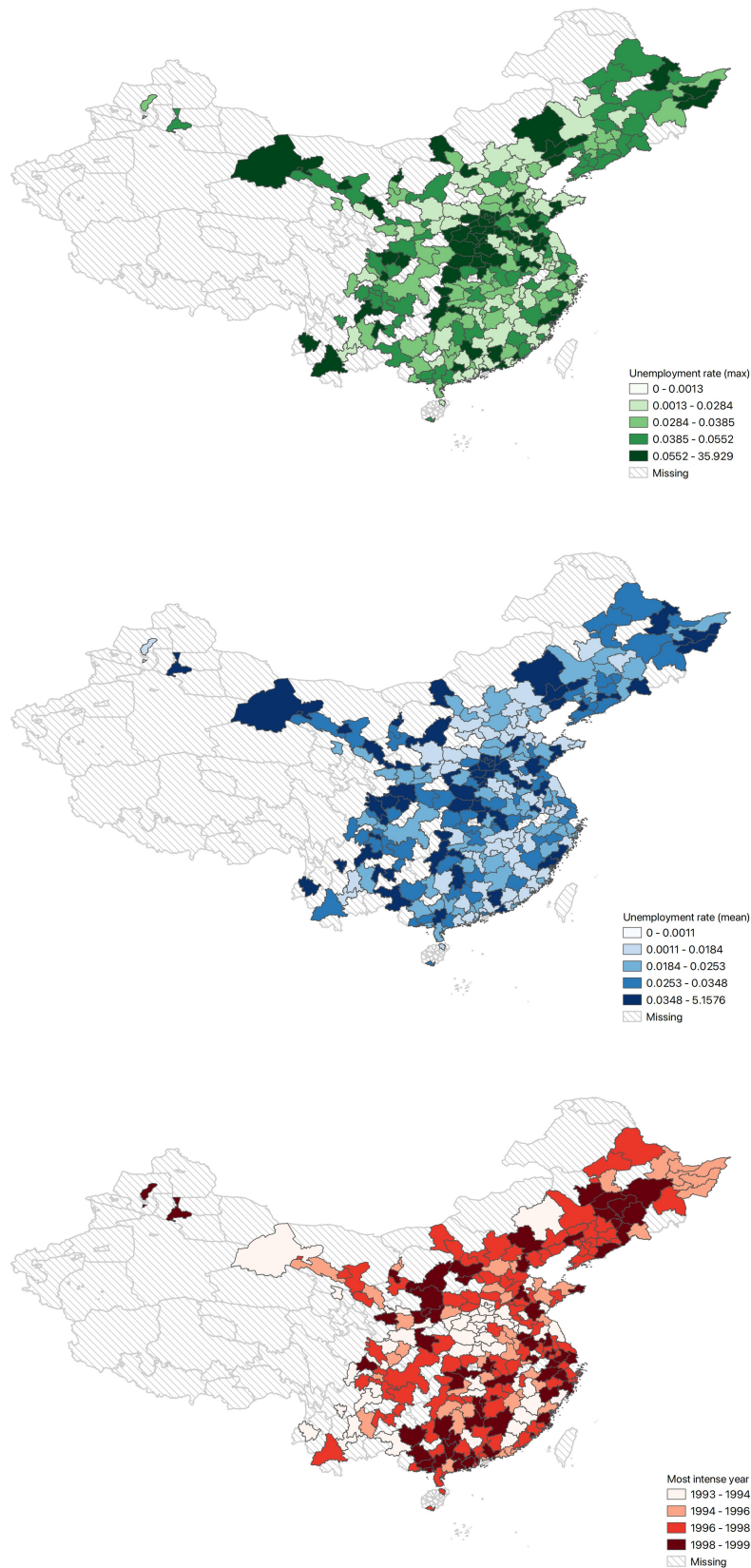
Figure 1: Foreign Investments in China



Note: This figure shows the total value of utilized foreign capital and total foreign direct investments each year from 1983 to 2006. The data is obtained from the China Statistical Yearbook.

In the following sections, we empirically test the under-explored factor of mass layoff shocks that constituted significant market transitions costs and decreased the attractiveness of the local investment environment. We argue that the main socioeconomic costs caused by mass layoffs for foreign businesses are twofold: (1) deteriorating public goods provision due to the government's fiscal constraints; and (2) anti-foreign attitudes towards Western companies whose prominence grew during the reform period. We also show evidence that the negative impact of mass layoffs can be attributed to the SOE reforms.

Figure 2: Unemployment Rates in China, 1989-2000



Note: This figure shows the annual change of the unemployment rate across all prefecture-level cities in China. The data are obtained from the Labour Statistical Yearbook of China.

4 Empirical Analysis

4.1 Data and Measurement

Intensity of Reform-induced Layoffs

In our analysis, the independent variable is the extent of mass layoffs as a result of SOE reforms and restructuring. Our measurement relies on the *Labor and Wage Statistical Yearbook of China* (1989 and 1990) and the *Labor Statistical Yearbook of China* from 1991 to 2000. The yearbooks provide the total number of unemployed persons as well as the total number of urban labor force at the end of the year across all prefecture-level cities. We calculate the city-level ratio of unemployed labor from these two numbers. To the best of our knowledge, these two sets of yearbooks provide the most comprehensive and detailed unemployment data at the city-level for exploring the regional variations of layoffs due to SOE reforms in the early years of China’s economic liberalization. The city-level unemployment data covers the years from 1989 to 2000. We mainly use the *highest* unemployment rate from the time period of 1989-2000 as our treatment variable. We also use the average unemployment rate in the same time period for robustness checks. The regional distributions of the two treatment variables are displayed in the first two graphs of Figure 2. Given the gradual roll-out of SOE reform and restructuring, the third graph breaks down the time frame into three periods based on when the city experienced the highest unemployment rate. Figure 2 shows significant variations in the intensity of unemployment shocks as well as in the timing of the most intense unemployment shock across cities.

Foreign Firms and Investments

The main outcome of interest is the extent of foreign businesses’ presence in China after the waves of unemployment in the 1990s. We calculate the total numbers and investment amounts of foreign enterprises in each Chinese city from 1999, when the 1990s unemployment shocks started to subside, to 2004. The dependent variables capture how the extensive and intensive margins of foreign

investments were affected by the earlier unemployment shocks. The 2004 census is the first round of entity-level economic census in China that contains retrospective information and data for firms and cities for years from 1993 to 2004. The subjects of the census are legal entities that operate in the industrial and service sectors of China, including industrial enterprises and self-employed households. The census covers the legal entities' basic information as well as data related to their employees, financial status, production and operation, industrial capacity, usages of raw materials and energy, scientific and technological activities, etc. According to the official data, there were 3.255 million legal entities operating in the secondary and tertiary industries in 2004, among which 5.5% were state-owned enterprises, 61.0% were private enterprises, and 2.4% were foreign enterprises.² Our main analyses use the firm-level census data of 2004. In the online appendix, we also use the second round of economic census data in 2008 to test the longer term impact of SOE reforms.³

The Business Environment for Foreign Countries

To examine the mechanisms underlying the observed relationship between mass layoffs and foreign investments, we examine two additional outcomes that characterize China's business environment for foreign firms. The first outcome is related to the quality of local governance and public goods provision. We use relatively objective measurements of government expenditure on scientific research and education as well as the sufficiency of basic infrastructures for educational and medical purposes. We also use more subjective measurements of public satisfaction with the government's basic social service provision.

The second set of dependent variables aim to capture citizens' attitudes regarding China's economic engagement with foreign countries. The data is obtained from the responses of the 2007 Pew Global Attitude Survey (Center, 2007). We use two questions to gauge Chinese citizens' opinions

²See the official press release on the 2004 economic census at: https://www.gov.cn/govweb/gongbao/content/2006/content_180356.htm.

³The 2004 and 2008 census are the only two rounds of entity-level economic census in our time-frame of interest that are publicized. Because of the limited temporal coverage of the dependent variable, we are not able to conduct city-year panel analysis. Results from using the 2008 census data are in the online appendix.

regarding the country's international economic ties and relations with foreign countries. The first question asks about respondents' evaluations of China's growing trade and business ties with other countries, ranging from 1 (very good) to 4 (very bad). The second question asks about respondents' perceptions of a given country, ranging from 1 (very favorable) to 4 (very unfavorable). For both questions' responses, higher numbers indicate greater anti-foreign hostilities.

4.2 Models

The regression model estimates the downstream effects of the layoff waves in the 1990s on foreign firms' subsequent presence and establishments in China. As shown in Figure 2 above, each city experienced its highest unemployment rate in different time periods. Given that the timings of unemployment shocks differ across cities, the treatment variable adopts a staggered structure. $Max\ Unemployment_{i,t}$ ($t = 1993 \dots 1999$) is the highest unemployment rate for a given city i in the year t between 1993-1999. The dependent variable, $Foreign\ investments_{i,t+n}$ ($n=1,2,3,4,5$), is measured n years after the highest unemployment shock that occurred in year t of city i . We use four different indicators to capture foreign firms' presence in China for a given city i : (1) the total number of firm units, (2) the number of employees, (3) the value of outputs, and (4) the value of firm capital.

There are five types of enterprises as officially registered with government authorities: state-owned enterprises, collective enterprises, private enterprises, foreign enterprises, and enterprises from Hong Kong, Macao and Taiwan. For each of the five types of firms, official statistics report the four indicators' quantities. We calculate two variables to measure both the extensive and intensive margins of foreign firms' presence: (1) their absolute values of each of the four quantities, and (2) their shares among all types of firms for each of the four quantities. Higher values of the two dependent variables would indicate, in absolute or relative terms, more significant presence of foreign firms in China. Our main analysis uses the 5 year lag ($t + 5$) after the occurrence of city i 's highest unemployment shock. We also show how the effects change with different time windows, i.e. the dynamic effects.⁴

⁴We obtain the data for this dependent variable from the economic census of 2004 that contains retrospectively

$$\text{Foreign investment ratio}_{i,t+n} = \alpha \text{Max Unemployment}_{i,t} + X_i \Sigma + \theta_p + \epsilon_i$$

The model includes a set of city-level control variables X_i and provincial fixed effects θ_p for the 31 provinces in the sample. We control for the total population and unemployment rates of 1989 to take into account the baseline levels of unemployment at the start of SOE reforms. We also control for a set of economic development indicators for 2003 to address potential confounders caused by temporal trends and path dependence. In the appendix, we consider the impact of the 1997 Asian financial crisis on cities that experienced unemployment shocks after 1997.⁵ It is also possible that certain unmeasured factors, such as geographical and natural restrictions, have systematically disadvantaged certain cities during processes of economic modernization and development. Our controls include the city's GDP per capita, population, the importance of its primary industry, the extent of urban constructions, and unemployment rate, all measured in 2003. The model specification tries to identify the effects of the unemployment shocks in the 1990s apart from the city's underlying trajectory of economic development. The standard errors are clustered by province.

4.3 Main Results

In this section, we show evidence that mass layoffs induced by SOE reforms discourage foreign investments in the near term. The negative downstream effects are manifested in reductions in both their numerical pervasiveness as well as investment intensity. Meanwhile, the unemployment shocks lead to an increased role and importance of SOEs, which indicates a reversal of the trend as the reform policy is adjusted.

For the dependent variables in Table 1, the numerical count of foreign business units and the total number of employees represent the extensiveness of their presence. The amount of regis-

information for the years of 1993-2003.

⁵For cities that experienced unemployment shocks prior to 1997, we do not expect the 1997 financial crisis to confound the pre-1997 treatment effect after controlling for province fixed effects. In other words, the financial crisis should have equally affected these cities' MNC outcomes, given that these cities were about equally exposed to the crisis, after considering regional characteristics such as geography and administrative status.

tered capital and the value of industrial production outputs represent the intensity of foreign firms' investment commitments. We find that *Max unemployment*, a city's peak unemployment rate experienced in a given year, negatively affects the city's foreign investment landscape five years afterwards. Therefore, intense layoff shocks in the reform period may significantly discourage and depress foreign investors' activities in the immediate post-reform era. The dampening downstream effects are manifested in all outcome measurements. In substantive terms the coefficients of Models (2), (4), (6), and (8) imply that, on average, a one percentage point increase in peak unemployment rate leads to 1 fewer foreign firm, 120 fewer employees of foreign firms, US\$ 2.5 million less industrial output of foreign firms, and US\$ 11 million fewer foreign capital investments in that city. The reductions represent 11.5%, 9.1%, 10.0%, 19.6% decreases from the mean values of the four indicators, respectively, for cities in 2004. The results remain robust after controlling for potential confounders, including time trend effects.

In Table 2, the dependent variables are foreign firms' share of the total value of each of the four quantities among all types of firms. We find results similar to those in Table 1. On average, a higher peak unemployment rate for a given city in the 1990s reduces the relative economic importance of foreign businesses in that city 5 years afterwards, across all four measurements. In substantive terms, a one percentage point increase in a city's peak unemployment rate reduces the economic share of foreign firms among firms of all ownership types in that city, in terms of the total number of firms, total number of employees, total industrial output, and total capital investments by 2.7, 21.8, 3.3, and 17.4 percentage points, respectively. The coefficients remain negative and significant after controlling for potential regional confounders and time trends.

Overall, the results point to an important policy dilemma for the government. The unemployment shocks during SOE reforms, as an undesirable consequence of a major policy initiative, negatively impact another major policy agenda, that is, to attract more foreign investments. The findings are particularly noteworthy considering that China entered the WTO in 2001, which was expected to encourage foreign businesses' engagement with and footprints in the country (Gao, Raess and Zeng, 2023). Yet, many of the negative downstream effects on foreign investments

Table 1: Unemployment shocks discourage foreign investments (5-years lag)

Foreign firms' value in $t + 5$	Count		Employee		Output		Capital	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Max unemployment in t	-3.666** (0.278)	-2.956** (0.494)	-2.769** (0.048)	-2.273** (0.451)	-3.126** (0.315)	-2.352** (0.467)	-5.144** (0.139)	-4.520** (0.605)
Population 1989		1.289 (7.692)		-3.623 (3.513)		1.226 (9.033)		0.577 (5.808)
Unemployment rate 1989		-217.840 (150.051)		-191.976 (127.943)		-275.143 (176.738)		-93.548 (78.195)
GDP per capita 2003		0.186 (0.125)		0.133 (0.126)		0.184* (0.089)		0.183 (0.187)
Unemployment rate 2003		-0.017 (0.567)		1.080 (0.706)		-0.230 (0.648)		-0.090 (0.434)
Population 2003		0.186 (0.125)		0.065 (0.087)		0.162 (0.117)		0.132 (0.139)
Primary industry share 2003		-0.562 (1.389)		0.428 (0.959)		-0.555 (1.489)		0.100 (0.719)
Urban construction land 2003		0.077 (0.048)		0.049 (0.062)		0.003 (0.078)		0.061 (0.055)
Province FE	✓	✓	✓	✓	✓	✓	✓	✓
R^2	0.19	0.23	0.47	0.49	0.06	0.09	0.20	0.23
Observations	265	242	265	242	265	242	265	242

Note:⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$. The dependent variables are normalized. Standard errors are clustered by province.

occurred even in the years after China's WTO entry.

Meanwhile, it is also documented that the government responded to the negative socioeconomic consequences by making some adjustments to slow down the reform process and to mitigate public backlash, as least to some degree (Liu, Sun and Woo, 2006; Steinfeld, 1999). The policy implication is that, given that the mass layoff crisis from SOE reforms was so severe that the investment environment became inhospitable for foreign firms, many places saw a reversal of the role of SOEs. To test such policy implications, we run the same set of regression models but with the four indicators of corporate presence for *SOEs* as the dependent variables.⁶ Table 3 shows that the effects of unemployment shocks are generally positive for SOEs. In cities with more severe episodes of lay-off shocks, SOEs seem to expand in their total number, employment, and output 5 years down the road, although not necessarily receiving more capital injection from the government. This pattern

⁶We also use the ratio indicators to capture the relative importance of SOEs. The results remain the same.

Table 2: Unemployment shocks reduces foreign investments' relative importance (5-years lag)

Foreign firms' share in $t + 5$	Count		Employee		Output		Capital	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Max unemployment in t	-0.036** (0.001)	-0.027** (0.007)	-0.249** (0.017)	-0.218** (0.068)	-0.048** (0.001)	-0.033** (0.011)	-0.193** (0.003)	-0.174** (0.039)
Population 1989		-0.069 (0.117)		-0.874 (0.872)		0.006 (0.184)		0.369 (0.628)
Unemployment rate 1989		-1.301 (0.828)		-37.660 ⁺ (21.660)		-3.120 (1.963)		-7.825 (6.014)
GDP per capita 2003		0.003 (0.002)		0.017 (0.018)		0.004 (0.003)		0.009 (0.011)
Unemployment rate 2003		0.023 (0.021)		0.876* (0.362)		0.023 (0.024)		-0.041 ⁺ (0.020)
Population 2003		-0.001 (0.002)		-0.008 (0.017)		-0.004 (0.005)		-0.015 (0.017)
Primary industry share 2003		-0.007 (0.024)		0.460* (0.224)		-0.018 (0.048)		0.137 (0.186)
Urban construction land 2003		0.003* (0.001)		0.016 (0.019)		0.003 (0.002)		0.015 (0.009)
Province FE	✓	✓	✓	✓	✓	✓	✓	✓
R^2	0.22	0.27	0.09	0.20	0.13	0.18	0.11	0.16
Observations	247	242	247	242	247	242	247	242

Note:⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$. The standard errors are clustered by province.

suggests at least a temporal reversal to SOEs' traditional prominence in the Chinese economy, and is consistent with the negative outcomes on foreign businesses. The findings can also explain the different experiences of China in conducting market liberalization and privatization reforms, compared with other post-communist regimes that adopted mismanaged "shock theory" approaches without using any necessary mitigation or roll-back measures (Kolodko, 2000; Weber, 2021).

We also examine the dynamic effects of unemployment shocks over time.⁷ Our estimation model takes into account the fact that different cities in China experienced their most intense unemployment shocks in different time periods throughout the 1990s. The variations in the timings of the layoff shocks provide a staggered roll-out of our treatment across different cities. In Figure 3, the lagged dependent variables are the total numbers of foreign firms (in purple) and SOEs (in red), respectively, using lags of 1 to 5 years since the highest unemployment rate in a given city. The

⁷The full table results for Figures 3 and 4 are in the online appendix.

Table 3: A Reversal of SOEs' Importance

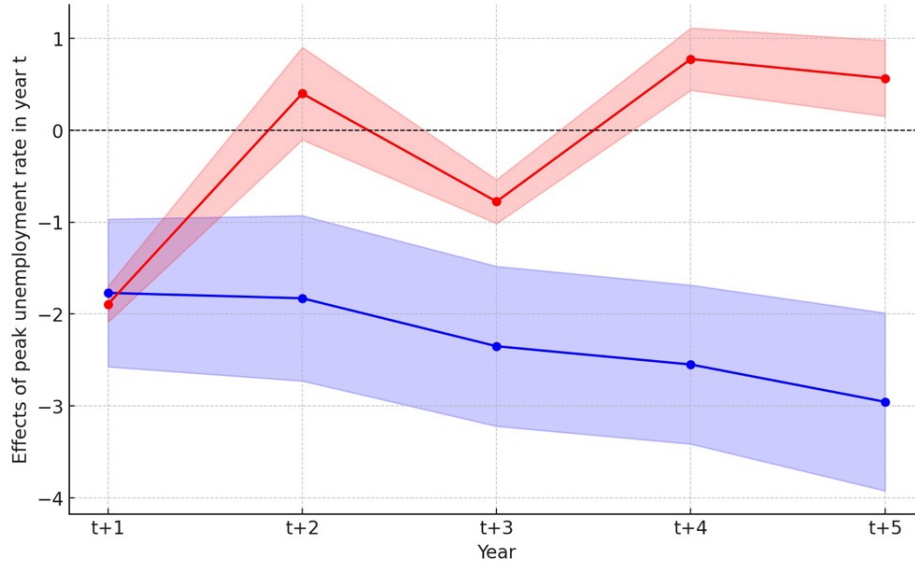
SOEs' value in $t + 5$	Count		Employee		Output		Capital	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Max unemployment in t	0.218*	0.565*	3.969**	4.105**	1.832**	1.967**	-0.103	-0.209
	(0.100)	(0.211)	(0.075)	(0.157)	(0.162)	(0.316)	(0.091)	(0.241)
Population 1989		0.604		2.461		-6.370 ⁺		4.524
		(5.138)		(4.901)		(3.731)		(7.544)
Unemployment rate 1989		-151.473		-95.633		-213.515		103.429
		(94.382)		(138.916)		(129.214)		(211.207)
GDP per Capita 2003		0.116**		0.086**		0.030		0.052 ⁺
		(0.028)		(0.029)		(0.037)		(0.027)
Unemployment rate 2003		0.155		0.821		0.647		0.733
		(0.489)		(0.929)		(1.247)		(1.090)
Population 2003		0.543**		0.395**		0.297**		0.209*
		(0.106)		(0.083)		(0.099)		(0.095)
Primary industry share 2003		0.581		2.677		-0.559		2.271
		(2.641)		(2.726)		(1.203)		(1.710)
Urban construction land 2003		0.175 ⁺		0.088		0.253*		0.156
		(0.091)		(0.130)		(0.114)		(0.151)
Province FE	✓	✓	✓	✓	✓	✓	✓	✓
R^2	0.41	0.54	0.35	0.41	0.23	0.30	0.27	0.29
Observations	263	241	263	241	263	241	263	241

Note: ⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$. The dependent variables are normalized. Standard errors are clustered by province.

results show that unemployment shocks gradually reduce the extent of FDI in the local economy in the short term. Meanwhile, SOEs experiences a revival of prevalence in 2 to 5 years down the road, after an initial decline in number as they were replaced by firms of other ownership types.

In Figure 4, the lagged dependent variables are the numbers of foreign firms (in purple) and SOEs (in red) as percentages of all types of firms, respectively. Using the ratio measurement, we similarly find that foreign firms experience an increasingly negative impact of the layoff shocks over the 5-year window. On average, a one percentage point increase in the peak unemployment rate of a city reduces the share of foreign firms by 2.7 percentage points after 5 years. The FDI-depressing factors gradually materialize and accumulate, indicating a generally deteriorating trend of investment climate for foreign firms at least in the short term. Meanwhile, the relative importance of SOEs increases significantly. The increase in SOEs' ratio is even more pronounced than the increase in their absolute numbers, suggesting that SOEs' growth likely occurred at the expense

Figure 3: Retrieval of MNCs (purple) and Revival of SOEs (red) (# of firms)



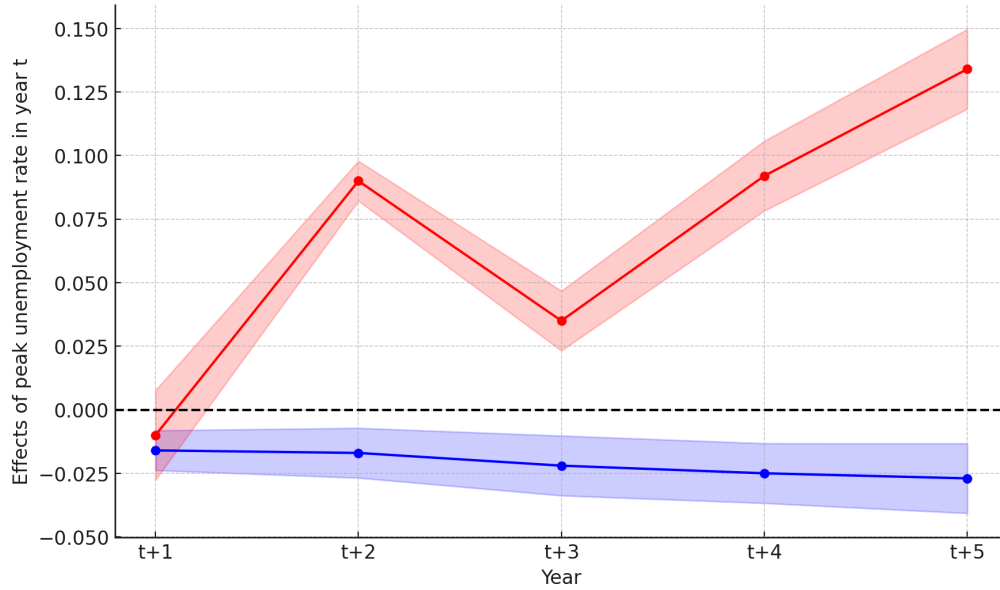
Note: The lagged dependent variables are the total numbers of foreign firms (in purple) versus SOEs (in red), respectively.

of MNCs in many cities. A one percentage point increase in a city's peak unemployment rate in the 1990s increases the share of SOEs by 13.4 percentage points after 5 years. The gradual shifts in the relative weights of SOEs versus MNCs are also consistent with the anecdotal evidence on the policy dilemma faced by reformers (Liu, Sun and Woo, 2006; Steinfeld, 1999). Overall, we find empirical support for our main argument as well as the alternative implications on how reform-induced unemployment shocks discourage foreign investments in the immediate short term. Next, we conduct additional tests to demonstrate the mechanisms behind the observed relationship.

4.4 Instrumental Variable Analysis: Grasping the Large and Letting Go of the Small

In the previous analysis, our assumption is that the severity of unemployment shocks is associated with the intensity of local SOE reforms in the 1990s. In this section, we show that higher peak unemployment rates indeed reflect larger scales of mismanaged SOE reforms that failed to accommodate and assist laid off workers. During the implementations of SOE reforms, a key strategy of

Figure 4: Retrieval of MNCs (purple) and Revival of SOEs (red) (% of firms)



Note: The lagged dependent variables are the percentages of foreign firms (in purple) versus SOEs (in red) among all types of firms, respectively.

the government is to "grasp the large and let go of the small" (抓大放小). This policy is aimed at corporate restructuring of large SOEs in order to make them even larger through consolidation, and build them into competitive conglomerates (Oi, 2005). Meanwhile, the privatization efforts were more targeted towards small and medium sized SOEs that were not efficiently run (Li, 2011). A large number of relatively small SOEs that were not deemed strategically important enough were allowed to reduce redundancies, be sold to private owners, or go bankrupt and dissolve (Chong et al., 2023). Therefore, the mass layoffs were more severe in places where many non-essential SOEs were "let go" and stripped off of state support.

In China, the original constructions of large SOEs have historical roots in wartime preparation efforts during the Cold War (Naughton, 1988; Fan and Zou, 2021). Many of these SOEs were located in places with strong industrial bases, resource endowments, and infrastructural establishments. They also tend to be located in remote areas because of their significant military values. The Nuclear Documentation Project of the National Security Archive maintained by the George Washington University provides declassified official lists of nuclear targets of the U.S. Strategic

Air Command (SAC) during the Cold War.⁸ The nuclear target lists produced in 1956 include urban-industrial areas identified for “systematic destruction.” The U.S. SAC listed over 1200 cities in the Soviet bloc, from East Germany to China. Cities with better industrial and infrastructural bases have higher numbers of Designated Ground Zeros (DGZs) as chosen by the SAC. For example, Shanghai had 82 DGZs (shown in Figure 5),⁹ Guangzhou had 50, and Shenyang had 44. Assuming that the SAC identified the nuclear target lists based on credible intelligence and reliable information about these cities’ distinguishable features, cities with higher numbers of DGZs should also host more SOEs because of their strong industrial foundations and economic potentials after 1956.

Given the differential treatment towards SOEs under the “grasp the large and let go of the small” strategy, cities of greater strategic importance should conduct their SOE reforms more carefully and their mass layoff problems should be better ameliorated or resolved. In contrast, cities with fewer such SOEs should experience more severe consequences of layoff shocks, as these SOEs were “let go” instead of being saved by the government. We test the implications of such a reform strategy for foreign investments across regions.

To capture the city-level heterogeneity in the prevalence of large versus small and medium sized SOEs, we use an official list of “Large Key Enterprises” (大型骨干企业) in 1990 from the Yearbook of Labor Statistics of 1991. These are large, significant enterprises that often play a pivotal role in strategic industries with substantial economic influence, with a total number of 236 in 1990. We count the number of Large Key Enterprises located in each city and create a binary indicator of whether the city has any such large enterprises. To show the implications of the differential policy treatment in SOE reforms, we split our samples into two subsamples: cities with at least one large key enterprise and cities without any large key enterprises. Given that there were still relatively few privately-owned enterprises in China in 1990, cities without pre-existing large

⁸The archives are accessible at <https://nsarchive2.gwu.edu/nukevault/ebb538-Cold-War-Nuclear-Target-List-Declassified-First-Ever/>.

⁹For details of the numbering schemes, see <https://nsarchive2.gwu.edu/nukevault/ebb538-Cold-War-Nuclear-Target-List-Declassified-First-Ever/documents/section3.pdf> and <https://nsarchive2.gwu.edu/nukevault/ebb538-Cold-War-Nuclear-Target-List-Declassified-First-Ever/documents/section1.pdf>.

Figure 5: A List of Designated Ground Zeros in Shanghai

28 7475 SHANG HAI CHINA		3115-12129	
		3114-12128E	A
		3122-12128E	H
		3114-12126E	J
		3111-12128E	K
		3120-12132E	M
		3115-12132E	N
230	0492-		
240	0492-		
242	0492-		
243	0492-		
246	0492-		
246	0492-		
246	0492-		
246	0492-		
246	0492-		
246	0492-		
248	0492-		
248	0492-		
248	0492-		
248	0492-		
248	0492-		
248	0492-		
248	0492-		
248	0492-		
248	0492-		
248	0492-		
248	0492-		
186	0492-0003		
186	0492-0004		
186	0492-0005		
180	0492-0006		
280	0492-0008		
254	0492-0009		
415	0492-0009		
420	0492-0009		
224	0492-0015		
226	0492-0015		
227	0492-0017		
227	0492-0017		
062	0492-0030		
068	0492-0030		
022	0492-0032		
186	0492-0043		

NW#: 27386 DocId: 32003765

~~TOP SECRET RESTRICTED DATA~~ ~~ATOMIC ENERGY ACT - 1954~~

DECLASSIFIED Authority AND 75573			
		TOP SECRET	B-54300
		DGZ BA	
384	0492-0089		
384	0492-0090		
227	0492-0094		
227	0492-0095		
270	0492-0096		
430	0492-0096		
270	0492-0098		
430	0492-0098		
200	0492-0099		
230	0492-0100		
405	0492-0108		
280	0492-0115		
227	0492-0118		
227	0492-0132		
415	0492-0133		
420	0492-0134		
280	0492-0135		
420	0492-0136		
415	0492-0137		
420	0492-0138		
420	0492-0139		
415	0492-0140		
420	0492-0143		
405	0492-0145		
445	0492-0149		
022	0492-0150		
445	0492-0151		
230	0492-0154		
405	0492-0155		
246	0492-0156		
248	0492-0165		
248	0492-0166		
248	0492-0167		
248	0492-0168		
246	0492-0169		
206	0492-0170		
480	0492-0170		
485	0492-0170		
415	0492-0172		
415	0492-0174		
208	0492-0177		
050	0492-0195		
266	0492-0196		
055	0492-0197		
245	0492-0198		
245	0492-0199		
275	0492-9999		

FWA(h) (3) - 42 USC 216(a) (1) (C) - FRO

Note: The left column of numbers indicate the type and nature of nuclear targets alongside their World Aeronautical Chart (WAC) numbers. The top right column of numbers indicate the geographic coordinates of the targets.

enterprises were populated by small- and medium-sized SOEs.

We also count the total number of nuclear targets, i.e. the DGZs, for each city. Cities with more DGZs and the presence of large key enterprises are expected to be under better custodianship of local and central authorities during SOE privatization reforms. Thus, unemployment problems were less likely to deteriorate the quality of local governance and the business environment, while the reforms effectively reduced the market dominance of SOEs without significant backlash. In comparison, in cities without such enterprises of strategic importance, mass layoffs are expected to result in more negative impact given their lack of national security and strategic value to the government in the reform era. Even though the establishments of many SOEs in the 1950s were top priorities for military preparation and state-building purposes, such SOEs no longer enjoy the political prerogative in the 1990s to accommodate their laid off workers.

We use the archival data on the list of nuclear targets in each Chinese city as identified by the U.S. SAC to construct an instrument for the city-level unemployment shock. The number of DGZs as chosen by the U.S. SAC in 1956 reflect the potentials of building SOEs in the pre-reform years for each city. Meanwhile, SOEs' locational choices are also affected by geographic considerations such as the convenience of transportation. Therefore, our city-level instrument is the ratio of the number of DGZs divided by the city's shortest distance to a port. Table 4 shows the results of our instrumental variable (IV) estimation.

The results from IV estimation in the subsample of cities without any large key enterprises (Models (1) and (3)) are largely consistent with the main results. We find that in such cities (*Small*), unemployment shocks, as instrumented by port distance-weighted nuclear targets, lead to fewer numbers of foreign firms five years down the road. The coefficients for the share of foreign firms are also negative, but entail greater uncertainty (p-value = 0.106). Meanwhile, in cities hosting large key enterprises (*Large*), the SOE reforms contributed to the entry of more MNCs in the local economy, as measured by both absolute counts and market shares. This provides evidence for the theoretical link between SOE reforms and layoffs. Better management of SOE reforms would offset or mitigate the negative impact of unemployment shocks, and the positive impact of SOE

Table 4: IV Estimation (distance-weighted nuclear targets in 1959)

Foreign firms' value in t+5	Total count		Share	
	Small	Large	Small	Large
	(1)	(2)	(3)	(4)
Max unemployment in t (instrumented)	-2.099*** (0.200)	1.902** (0.646)	-0.346 (0.206)	0.368*** (0.081)
Population 1989	7.007 (11.987)	2.400 (18.781)	-1.503 (3.794)	1.059 (3.768)
Unemployment rate 1989	-5.389 (297.546)	-1074.912** (383.200)	19.235 (45.659)	-236.690** (83.021)
GDP per capita 2003	-0.007 (0.102)	0.557* (0.227)	0.008 (0.019)	0.106* (0.042)
Unemployment rate 2003	-1.932* (0.905)	0.104 (0.332)	-0.721* (0.328)	0.756*** (0.128)
Population 2003	-0.073 (0.139)	0.169 (0.429)	-0.134 (0.093)	0.038 (0.089)
Primary industry share 2003	3.032 (6.012)	2.348 (6.633)	-0.150 (1.194)	0.780 (1.142)
Urban Construction land 2003	0.495 (0.583)	0.068 (0.266)	0.173* (0.077)	0.036 (0.049)
Province FE	✓	✓	✓	✓
1st stage F-stat	2.489	3.311	2.489	3.311
Observations	135	105	135	105

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; $p < 0.1$

privatization on the market environment encouraged MNC entry. In contrast, the lack of any policy cushion for laid-off workers from small and medium SOEs resulted in more severe socioeconomic crises and a very unwelcoming business environment for foreign firms down the road.¹⁰

Overall, the empirical patterns suggest that it is not simply unemployment shocks per se, but rather the layoffs related to mismanaged and under-prepared SOE reforms, that discouraged foreign investments in the near term, i.e. the “shocks without therapy.” The findings are consistent with our expectations about how particular features of the SOE reform policy may shape how cities experience the unemployment shocks.

¹⁰In the appendix, we conduct simple OLS estimation over two subsamples of cities with and without “Large Key Enterprises” separately. We similarly find that the negative impact on foreign firms mostly exists in the “small” cities.

5 The Mechanism: Business Environment

In this section, we show evidence for two mechanisms that may account for the negative relationship between unemployment and foreign investments. We focus on two dimensions of the business environment that may affect MNCs' experiences and performance in the market. First, we examine mass unemployment's impact on basic public goods provision in the affected locality. Second, we examine its impact on public opinions related to China's international economic engagement and major trade and investment partners. Overall, we find that unemployment shocks lead to deterioration of the city's socioeconomic conditions for foreign businesses in both aspects.

Public Goods Provision

We use the China statistical yearbooks to measure city-level constructions of public facilities and provisions of social services from 1999 to 2003. We include indicators related to government expenditure on technological improvements, education, entertainment, and healthcare conditions. We calculate the growth rates of each indicator at the city-level from 1999 to 2003 as the dependent variables. We also include the absolute values of each indicator in 2004 as alternative measurements. Table 5 shows the results. Unemployment shocks in the 1990s are found to significantly hamper the growth of public goods provision for a variety of purposes. They reduce the growth rates of local governments' fiscal expenditures on scientific research and education (S&E) as well basic infrastructure constructions of universities, middle and primary schools, theaters, libraries, and healthcare facilities, as measured by the number of units per ten thousand persons. The negative effects still hold if we use the absolute stocks of public goods provision in 2004 as the outcome variables, instead of the growth rates. Such basic infrastructures play important roles in a country's trajectory of economic development, market liberalization, and modernization. Thus, reduced provisions of basic public goods and services underscore the potential costs of reform-induced layoffs to the fundamentals of the local business environment.¹¹

¹¹In some cities, the growth rates are flattening to around 0 and even turning negative between 1999 to 2003.

Table 5: Worsened Public Goods Provision (city-level evidence)

<i>Growth rates (99-03)</i>	(1) Govt expenditure on S&E	Public resources: # of units per 10,000 persons						
		(2) University	(3) Middle school	(4) Primary school	(5) Theater	(6) Library	(7) Hospital	(8) Hospital beds
Max unemployment	-0.494** (0.103)	-0.417** (0.133)	-0.049* (0.020)	-0.222** (0.041)	-0.402 (0.378)	-0.043 (0.038)	-0.204+ (0.110)	-0.108** (0.031)
R^2	0.29	-0.03	0.40	0.52	-0.02	0.03	0.06	0.01
Observations	214	190	216	216	215	214	216	216

<i>Absolute values (2004)</i>	Govt expenditure on S&E	Public resources: # of units per 10,000 persons						
		University	Middle school	Primary school	Theater	Library	Hospital	Hospital beds
Max unemployment	-0.411+ (0.211)	-0.035 (0.209)	-3.134** (0.253)	-1.060** (0.180)	-5.103** (0.202)	-0.427** (0.147)	-0.143 (0.187)	-1.532** (0.241)
R^2	0.59	0.03	0.40	0.42	0.29	0.58	0.16	0.68
Observations	242	235	241	241	241	242	242	242
City Control	✓	✓	✓	✓	✓	✓	✓	✓
Province FE	✓	✓	✓	✓	✓	✓	✓	✓

Note: Standard errors are clustered by province.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

In addition to using city-level measurements of constructions of economic infrastructure, we also provide individual-level survey evidence using responses from the 2007 Pew Global Attitude Survey. Because the survey data is only available for the year of 2007, we examine the pooled treatment effect of the entire time period of 1993-1999. The treatment variable *Mean Unemployment_i* is the average unemployment rate from 1993 to 1999 for city *i*.

We examine respondents' subjective assessments of the survey question "*how significant is the following problems in our country?*" We choose a set of question items related to the conditions of basic public goods provision: corruption, drinking water, diseases, school, drugs, and pollution. The values of the responses range from greater severity to less severity: "1: A very significant problem; 2: A moderately significant problem; 3: An insignificant problem; 4: Not a problem at all." Thus, Lower values of the responses indicate *greater severity* of a particular problem in the respondent's city. We control a set of individual traits in all models, including age, gender, education, employment status, and minority status. Table 6 shows the results. The empirical pattern is consistent with the findings of Table 5. Higher unemployment rates in the 1990s result in more severe problems, as perceived by respondents, regarding corruption, lack of clean drinking water, disease control, public schools, drugs, and environmental pollution. Deteriorated perceptions of

Table 6: Worsened Public Goods Provision (individual-level evidence)

	Problems in our country					
	(1) Corruption	(2) Drinking water	(3) Diseases	(4) School	(5) Drugs	(6) Pollution
Average unemployment	-0.096** (0.020)	-0.109** (0.024)	-0.123** (0.023)	-0.018 (0.023)	-0.075** (0.023)	-0.073** (0.020)
Population 1989	-1.122 (0.850)	2.191* (1.053)	2.991** (1.017)	0.693 (0.998)	5.262** (1.020)	1.995* (0.865)
GDP per capita 2003	-0.041 (0.029)	-0.196** (0.036)	-0.270** (0.035)	-0.093** (0.034)	-0.168** (0.035)	-0.168** (0.030)
Unemployment rate 2003	-1.547* (0.734)	-2.138* (0.905)	-3.510** (0.872)	-1.699* (0.858)	-2.595** (0.879)	-0.431 (0.746)
Population 2003	-0.044 (0.075)	-0.596** (0.093)	-0.639** (0.091)	-0.141 (0.088)	-0.629** (0.091)	-0.361** (0.076)
Primary industry share 2003	-0.782** (0.163)	-1.179** (0.201)	-1.533** (0.195)	-0.469* (0.191)	-0.780** (0.195)	-1.041** (0.165)
Urban construction land 2003	0.146** (0.045)	0.272** (0.056)	0.412** (0.055)	0.178** (0.054)	0.204** (0.055)	0.243** (0.046)
Age	-0.001 (0.001)	0.001 (0.001)	0.004** (0.001)	0.000 (0.001)	0.003* (0.001)	-0.000 (0.001)
Gender	-0.075** (0.026)	0.027 (0.033)	0.092** (0.031)	-0.022 (0.031)	0.019 (0.032)	0.009 (0.027)
Education	-0.002 (0.014)	-0.033* (0.017)	0.010 (0.016)	-0.021 (0.016)	0.031+ (0.016)	-0.050** (0.014)
Employment	0.033 (0.031)	-0.006 (0.039)	-0.097** (0.037)	0.000 (0.037)	-0.064+ (0.038)	0.015 (0.032)
Minority	0.125+ (0.065)	0.096 (0.081)	0.237** (0.077)	0.107 (0.077)	0.325** (0.078)	0.109 (0.067)
R squared	0.02	0.03	0.04	0.00	0.03	0.03
Observations	2996	3062	2950	3018	2969	3066

Note: Survey question: how significant is the following problems in our country. Answer: 1. Very significant problem, 2. Moderately significant problem, 3. Small problem, 4. Not a problem at all. Standard errors are clustered by province.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

socioeconomic conditions and insufficient provision of essential public services similarly imply a less hospitable business environment for foreign investors.

Anti-foreign Attitudes

In addition to using indicators of the physical quality of the business environment faced by foreign firms, we also resort to behavioral measurements of citizens' attitudes towards China's foreign economic engagement and foreign countries in general, based on the 2007 Pew Global Attitude Survey. In Table 7, the dependent variable is obtained from the survey question "*what do you think about the growing trade and business ties between China and other countries?*" The responses include: "1: *Very good*; 2: *Somewhat good*; 3: *Somewhat bad*; 4: *Very bad*." Therefore, higher values of the responses indicate greater hostility towards China's economic engagement with foreign countries.

The positive coefficient of *Average unemployment* in Column (1) indicates that, across the full sample, individuals from cities that have experienced more intense layoff shocks tend to hold more negative attitudes towards China's business ties with foreign countries. Then, we break down the full sample into cohorts based on the respondent's birth year, which may determine the extent of their exposure to the sufferings of the 1990s reform. We find that citizens born in the 1950s and 1960s are the main voices against international economic engagement (Columns (2) and (3)). The coefficients for these two cohorts are larger, i.e. expressing greater hostility, and more significant than other cohorts. The pattern is consistent with our theory because the 1950s and 1960s cohorts were the most affected by the waves of layoffs during the SOE reforms in the 1990s. The negative impact was much less pronounced for the younger 1970s and 1980s cohorts who were not the main targets of mass layoffs back then (Columns (4) and (5)).

In Table 8, we turn to respondents' opinions towards specific foreign countries. The survey question asks, "*please tell me if you have a very favorable, somewhat favorable, somewhat unfavorable, or very unfavorable opinion of the following countries.*" The answers include: "1: *Very favorable*; 2: *Somewhat favorable*; 3: *Somewhat unfavorable*; 4: *Very unfavorable*." Higher values of the responses therefore indicate greater unfavorable attitudes towards the given country. The results shows that respondents from cities with more intense unemployment shocks hold more unfavorable views of Western countries. The coefficients are all positive (more unfavorable) and

Table 7: Affected cohorts opposing international economic ties

	Full sample	By cohort			
	(1) All	(2) 1950s	(3) 1960s	(4) 1970s	(5) 1980s
Average unemployment	0.057** (0.017)	0.124** (0.042)	0.111** (0.033)	0.038 (0.033)	0.011 (0.040)
Population 1989	5.535** (0.691)	5.769** (1.584)	5.302** (1.385)	4.514** (1.376)	6.862** (1.781)
GDP per capita 2003	-0.019 (0.025)	0.072 (0.059)	0.033 (0.058)	-0.050 (0.048)	-0.099+ (0.058)
Unemployment rate 2003	-3.929** (0.647)	-2.386 (1.529)	-3.138* (1.240)	-4.481** (1.270)	-5.181** (1.997)
Population 2003	-0.434** (0.064)	-0.310* (0.158)	-0.364** (0.132)	-0.429** (0.115)	-0.624** (0.168)
Primary industry share 2003	-0.199 (0.136)	0.394 (0.305)	0.257 (0.274)	-0.453+ (0.271)	-0.726* (0.368)
Urban construction land 2003	-0.023 (0.038)	-0.153+ (0.090)	-0.143 (0.090)	0.046 (0.074)	0.100 (0.082)
Age	0.000 (0.001)	0.016+ (0.009)	0.018* (0.008)	-0.002 (0.008)	0.007 (0.010)
Gender	-0.010 (0.022)	-0.024 (0.046)	-0.012 (0.045)	-0.017 (0.048)	-0.005 (0.055)
Education	-0.022* (0.011)	0.042 (0.026)	-0.023 (0.025)	-0.041+ (0.024)	-0.020 (0.027)
Employment	-0.028 (0.027)	-0.096+ (0.058)	-0.037 (0.059)	-0.054 (0.064)	-0.008 (0.064)
Minority	-0.113* (0.056)	-0.117 (0.123)	-0.313* (0.121)	-0.124 (0.096)	0.045 (0.259)
R2 squared	0.03	0.03	0.04	0.03	0.02
Observations	2963	634	706	703	492

Note: The survey question is "what do you think about the growing trade and business ties between China and other countries?" Response options: 1. Very good, 2. Somewhat good, 3. Somewhat bad, 4. Very bad.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

significant, with the most negative impact on attitudes towards Japan. In contrast, unemployment shocks actually make respondents view their homeland more favorably. We argue that this is consistent with the findings on the reversal of SOEs. The most affected citizens tend to demand a greater role of the state in addressing their economic hardships.¹² Russia, generally not consid-

¹²In the appendix, we find evidence that people with lower income and socioeconomic status have stronger beliefs

ered part of the Western camp and a symbol of the Soviet era's planning economy for the older generation (Rozman, 2014), is not viewed unfavorably by citizens because of the unemployment shocks. As citizens tend to channel their economic grievances towards Western countries, they do not seem to attribute the undesirable consequences of market liberalisation and privatization to a former socialist economy. In the appendix, we also show that it is not pure nationalism that's driving the anti-Western attitudes. We find that cohorts of the 1980s and the 1970s view their own country even more favorably than the 1950s and 1960s cohorts. Yet, they are less anti-Western than the older generations. Therefore, the empirical patterns are consistent with the explanation that those citizens that suffered the most from the SOE reforms in the 1990s are the most likely to oppose China's economic engagement with the outside world.

In summary, we find significant deterioration in different dimensions of the business environment as a result of layoff shocks in the 1990s. Cities with more intense SOE privatization reforms experienced greater reductions in public goods provision and heightened hostilities against China's international economic engagement and against Western countries in general.

6 Conclusion

This paper contributes to research on the international implications of domestic structural reforms, in particular regarding economic liberalization programs. Conventional research on the experiences of post-communist regimes have highlighted how the "shock therapy" approach, where privatization programs are executed in rapid and radical fashions, may lead to economic depression and stagnation in the long run (King, 2003; Sachs, 1996). Meanwhile, research on market liberalization reforms in the developed countries has pointed out the importance of a robust welfare system and social safety networks, especially when it comes to compensating the "losers" in the processes of globalization and free market competition (Walter, 2010; Burgoon, 2001).

In comparison, China is in a somewhat middle road position between the two scenarios. The

that the government should maintain ownership of SOEs.

Table 8: Heightened hostility against Western countries

	Opinion of the countries				
	(1) U.S.	(2) E.U.	(3) Japan	(4) China	(5) Russia
Mean unemployment (std)	0.166** (0.020)	0.066** (0.023)	0.185** (0.021)	-0.117** (0.017)	-0.020 (0.021)
Population 1989	2.018* (0.833)	2.454** (0.920)	2.742** (0.907)	0.881 (0.727)	-0.564 (0.871)
GDP per capita 2003	0.050+ (0.029)	-0.047 (0.032)	-0.052+ (0.031)	-0.031 (0.025)	-0.061* (0.031)
Unemployment rate 2003	-0.767 (0.727)	-0.756 (0.823)	-2.889** (0.786)	-4.241** (0.626)	-1.534* (0.770)
Population 2003	0.078 (0.074)	-0.165* (0.083)	-0.184* (0.080)	-0.392** (0.064)	-0.119 (0.078)
Primary industry share 2003	1.037** (0.160)	0.171 (0.174)	1.225** (0.172)	-1.171** (0.139)	-0.111 (0.165)
Urban construction land 2003	-0.272** (0.045)	-0.085+ (0.050)	-0.136** (0.049)	0.217** (0.039)	0.085+ (0.048)
Age	0.006** (0.001)	0.002 (0.001)	0.003** (0.001)	-0.002+ (0.001)	0.000 (0.001)
Gender	-0.005 (0.026)	-0.040 (0.029)	0.018 (0.028)	0.005 (0.023)	-0.027 (0.027)
Education	-0.009 (0.014)	-0.044** (0.015)	0.002 (0.014)	-0.004 (0.012)	-0.023 (0.014)
Employment	-0.003 (0.031)	-0.002 (0.034)	-0.006 (0.033)	-0.010 (0.027)	-0.089** (0.032)
Minority	0.097 (0.065)	0.125+ (0.069)	-0.151* (0.069)	0.019 (0.056)	0.142* (0.067)
R squared	0.07	0.05	0.07	0.09	0.01
Observations	2863	2530	2865	3044	2686

Note: Survey question: please tell me if you have a very favorable, somewhat favorable, somewhat unfavorable, or very unfavorable opinion of the following countries. Response options: 1. Very favorable, 2. Somewhat favorable, 3. Somewhat unfavorable. 4. Very unfavorable.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

SOE reform during the 1990s was a key component of China's broader economic restructuring program. It was designed to overhaul the state-owned sector plagued by inefficiency, over-staffing, and high fiscal burdens, and pave the way for further market liberalization reforms. The central government sought to transform SOEs into more competitive corporations capable of operating in a

market-oriented environment. Privatization and downsizing were the principal strategies to achieve these goals. During the initial phase of SOE reforms, China suffered from many of the same negative consequences as in other post-communist regimes undergoing the shock therapy: rising unemployment, political unrest, reduced social spending, etc. Such problems will lead to at least a short-term deterioration of the local business environment, which depresses foreign investments, as this study shows. Therefore, the state then started to learn to better manage the SOE reforms and to mitigate the negative impact (Weber, 2021; Sachs and Woo, 2001). The government gradually developed its own social insurance system, such as the Social Security Law of 1999, to cushion the severe socioeconomic consequences of mass layoffs and fiscal strains.

Our paper also contributes to research on authoritarianism. The Chinese government has taken a somewhat gradual approach towards market liberalization and SOE reforms. Our findings on the reversal of SOEs to economic prominence after unemployment shocks provide evidence of the regime's adaptability in governance (Huang et al., 2021; Jing, 2017; Naughton, 2018). The state has tried to manage economic liberalization and globalization programs in ways that can extract the most benefits without suffering from the political and economic adjustment costs (Shambaugh, 2008; Chen, 2020). Our study shows that this is not an easy project for the regime, especially for a developing country with limited resources.

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Online Appendix

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A Different Year Lags

Tables A.1 and A.2 present the full regression results for Figure 3, and Tables A.3 and A.4 present the full regression results for Figure 4, respectively, in the main manuscript.

Table A.1: Impact of unemployment shocks on MNCs (1-5-years lag)

	Number of foreign firms				
	t+1	t+2	t+3	t+4	t+5
Max unemployment in year t	-1.771** (0.410)	-1.829** (0.459)	-2.351** (0.444)	-2.550** (0.441)	-2.956** (0.494)
Population 1989	6.940 (8.554)	4.115 (7.208)	2.425 (5.928)	2.173 (6.982)	1.289 (7.692)
Unemployment rate 1989	-187.665 (136.414)	-205.548 (142.008)	-166.415 (116.612)	-200.846 (135.373)	-217.840 (150.051)
GDP per Capita 2003	0.200+ (0.100)	0.166 (0.110)	0.166 (0.117)	0.171 (0.119)	0.186 (0.125)
Unemployment rate 2003	0.993 (0.806)	0.165 (0.536)	0.480 (0.484)	0.375 (0.568)	-0.017 (0.567)
Population 2003	0.177 (0.107)	0.149 (0.107)	0.159 (0.107)	0.174 (0.109)	0.186 (0.125)
Primary industry share 2003	-0.354 (1.333)	-0.338 (1.182)	-0.435 (1.121)	-0.505 (1.381)	-0.562 (1.389)
Urban construction land 2003	0.087* (0.037)	0.098* (0.045)	0.089+ (0.047)	0.061 (0.037)	0.077 (0.048)
Province FE	✓	✓	✓	✓	✓
R^2	0.51	0.46	0.49	0.41	0.23
Observations	242	242	242	242	242

Note: + $p < 0.1$, * $p < 0.05$, ** $p < 0.01$. The standard errors are clustered by province.

Table A.2: Impact of unemployment shocks on SOEs (1-5-years lag)

	Number of SOEs				
	t+1	t+2	t+3	t+4	t+5
Max unemployment in year t	-1.894** (0.100)	0.399 (0.257)	-0.777** (0.122)	0.774** (0.173)	0.565* (0.211)
Population 1989	16.540* (7.580)	16.420 (11.905)	17.338* (7.398)	7.781 (5.803)	0.604 (5.138)
Unemployment rate 1989	-171.683** (60.272)	-184.517+ (90.735)	-91.837 (59.785)	-169.521** (44.367)	-151.473 (94.382)
GDP per capita 2003	0.074** (0.025)	0.068 (0.058)	0.089* (0.033)	0.096** (0.035)	0.116** (0.028)
Unemployment rate 2003	-0.041 (0.316)	0.057 (0.293)	0.528 (0.697)	0.089 (0.425)	0.155 (0.489)
Population 2003	0.401** (0.107)	0.222* (0.102)	0.403** (0.100)	0.473** (0.086)	0.543** (0.106)
Primary industry share 2003	1.750 (1.437)	-0.527 (1.581)	0.395 (0.959)	0.971 (2.803)	0.581 (2.641)
Urban construction land 2003	0.168* (0.073)	0.074 (0.118)	0.032 (0.112)	-0.033 (0.099)	0.175+ (0.091)
Province FE	✓	✓	✓	✓	✓
R^2	0.71	0.60	0.67	0.65	0.53
Observations	242	242	242	242	242

Note: + $p < 0.1$, * $p < 0.05$, ** $p < 0.01$. The standard errors are clustered by province.

Table A.3: Impact of unemployment shocks on MNCs (1-5-years lag)

	% of MNCs				
	t+1	t+2	t+3	t+4	t+5
Max unemployment in year t	-0.016** (0.004)	-0.017** (0.005)	-0.022** (0.006)	-0.025** (0.006)	-0.027** (0.007)
Population 1989	0.020 (0.103)	0.081 (0.121)	0.075 (0.113)	-0.012 (0.140)	-0.069 (0.117)
Unemployment rate 1989	-2.877* (1.405)	-2.927** (0.919)	-2.560* (1.141)	-4.132* (1.848)	-1.301 (0.828)
GDP per Capita 2003	0.002* (0.001)	0.003+ (0.001)	0.003* (0.001)	0.003 (0.002)	0.003 (0.002)
Unemployment rate 2003	0.047* (0.020)	0.013 (0.027)	0.055 (0.037)	0.040 (0.032)	0.023 (0.021)
Population 2003	-0.002 (0.002)	-0.001 (0.003)	-0.001 (0.003)	0.000 (0.002)	-0.001 (0.002)
Primary industry share 2003	-0.018 (0.012)	-0.003 (0.016)	-0.030+ (0.018)	-0.048+ (0.028)	-0.007 (0.024)
Urban construction land 2003	0.003+ (0.002)	0.002 (0.001)	0.002 (0.002)	0.003+ (0.001)	0.003* (0.001)
Province FE	✓	✓	✓	✓	✓
R^2	0.37	0.23	0.30	0.27	0.27
Observations	242	242	242	242	242

Note: + $p < 0.1$, * $p < 0.05$, ** $p < 0.01$. The standard errors are clustered by province.

Table A.4: Impact of unemployment shocks on SOEs (1-5-years lag)

	% of SOEs				
	t+1	t+2	t+3	t+4	t+5
Max unemployment in year t	-0.010 (0.009)	0.090*** (0.004)	0.035*** (0.006)	0.092*** (0.007)	0.134*** (0.008)
Population 1989	0.134 (0.107)	0.157 (0.270)	-0.158 (0.269)	-0.144 (0.147)	-0.125 (0.115)
Unemployment rate 1989	-4.598 (2.547)	-3.040 (3.097)	-2.023 (3.231)	-6.508 (5.397)	1.469 (2.987)
GDP per capita 2003	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.002)	-0.002 (0.001)	-0.000 (0.001)
Unemployment rate 2003	-0.008 (0.013)	-0.004 (0.009)	0.014 (0.026)	-0.018 (0.020)	0.012 (0.022)
Population 2003	-0.003 (0.004)	-0.007 (0.004)	-0.000 (0.007)	-0.004 (0.005)	0.000 (0.003)
Primary industry share 2003	-0.076 (0.155)	-0.011 (0.083)	-0.031 (0.061)	0.021 (0.146)	-0.027 (0.065)
Urban construction land 2003	0.001 (0.003)	-0.002 (0.003)	-0.001 (0.004)	-0.004 (0.004)	-0.001 (0.003)
Province FE	✓	✓	✓	✓	✓
R^2	0.287	0.217	0.280	0.241	0.617
Num. obs.	242	242	242	242	242

Note:⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$. The standard errors are clustered by province.

B OLS results for “Grasping the Large and Letting Go of the Small”

In Table B.1, we conduct OLS estimation over two subsamples of cities with and without “Large Key Enterprises” separately. The pattern is similar to the results of the IV approach in the main text (Table 4). We find that unemployment shocks do not have any significant effects on foreign firms in cities with large SOEs that government was still supporting (*Large*). The point estimates of the coefficients are actually positive, although non-significant. In contrast, unemployment shocks significantly reduce foreign businesses’ presence in cities without any large SOEs (*Small*).

Table B.1: Comparing cities with and without “Large Key Enterprises”

	Large				Small			
	(1) Count	(2) Capital	(3) Employee	(4) Output	(5) Count	(6) Capital	(7) Employee	(8) Output
Foreign firms’ values in t+5								
Max unemployment in t	46.009 (32.877)	22.597 (15.846)	16.218 (11.896)	51.999 (37.556)	−0.094*** (0.005)	−0.154*** (0.009)	−0.090*** (0.010)	−0.061*** (0.003)
Population 1989	−0.092 (11.562)	2.296 (7.947)	−0.114 (5.479)	−4.652 (11.462)	0.541 (6.338)	1.187 (3.915)	−7.121 (6.022)	5.311 (11.635)
Unemployment rate 1989	−678.424 (485.129)	−320.575 (248.648)	−254.122 (168.525)	−789.988 (545.714)	−212.223* (93.211)	−95.426 (87.001)	−434.789** (167.280)	−267.152* (110.017)
GDP per capita 2003	0.539* (0.256)	0.476 (0.272)	0.150* (0.074)	0.509* (0.232)	0.134 (0.101)	0.137 (0.175)	0.090 (0.134)	0.145* (0.061)
Unemployment rate 2003	0.279 (0.311)	0.058 (0.281)	1.814*** (0.113)	0.252 (0.437)	−1.346 (0.809)	−0.531 (0.608)	−1.170 (0.656)	−2.146 (1.237)
Population 2003	0.300 (0.265)	0.184 (0.187)	0.093 (0.066)	0.212 (0.223)	0.001 (0.158)	0.093 (0.234)	−0.092 (0.193)	0.001 (0.169)
Primary industry share 2003	0.978 (5.880)	1.177 (3.724)	2.560 (1.895)	2.621 (6.138)	−1.479 (1.113)	−0.416 (1.151)	−1.881 (1.380)	−1.911 (1.335)
Urban construction land 2003	0.010 (0.239)	−0.094 (0.179)	0.054 (0.104)	0.032 (0.232)	0.076 (0.122)	0.190 (0.158)	0.171 (0.110)	−0.070 (0.176)
Province FE	✓	✓	✓	✓	✓	✓	✓	✓
R ²	0.668	0.781	0.936	0.602	0.321	0.237	0.255	0.263
Num. obs.	105	105	105	105	137	137	137	137

Note: The independent variable and all dependent variables are standardized. Standard errors are clustered by province.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

C The 2008 Economic Census

The main analysis relies on the 2004 economic census data. In this section, we use additional data from the 2008 national economic census to examine the longer-term impact of the 1990s layoff shocks from SOE reforms. We conduct the same set of regression analyses as in the main manuscript, using the 2008 data for the dependent variables. Table C.1 shows that the results are mixed. We find that peak layoff waves in the 1990s significantly depress foreign firms' total output and capital in a city in 2008. Meanwhile, there is no discernible negative impact on MNCs' total number count and employment. This may be explained by the policy responses of the Chinese government in the early 2000s that prevented a prolonged socioeconomic crisis.

Table C.1: Effects measured by 2008 economic census

Foreign firms' share	Count	Employee	Output	Capital
	(1)	(2)	(3)	(4)
Max unemployment rate	-0.728 (0.859)	-3.751 (4.500)	-12.515 ⁺ (6.562)	-11.145 ⁺ (6.221)
Population 1989	0.006 (0.059)	-0.123 (0.219)	-0.257 (0.391)	0.142 (0.394)
Unemployment rate 1989	1.093 (1.006)	10.009 ⁺ (5.404)	21.420* (7.976)	19.269* (7.058)
GDP per Capita 2007	0.001** (0.000)	0.005** (0.002)	0.006** (0.001)	0.001 (0.002)
Unemployment rate 2007	-0.015 (0.011)	-0.117 (0.084)	-0.145 (0.094)	-0.094 (0.065)
Population 2007	51.705 (239.583)	-647.587 (1611.772)	-1890.844 (2393.912)	-1524.923 (2215.177)
Primary industry share 2007	-0.003 (0.009)	0.015 (0.048)	0.060 (0.068)	0.064 (0.087)
Urban construction land 2007	0.001 (0.001)	0.008** (0.003)	0.012* (0.005)	0.009* (0.004)
City Control	✓	✓	✓	✓
Province FE	✓	✓	✓	✓
R^2	0.60	0.53	0.43	0.38
Observations	225	225	225	225

Note: ⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$. Standard errors are clustered by province.

D Public Opinion on State-Ownership

We test additional attitudinal and cultural factors that might influence the business environment for foreign firms' entry. We expect that people who suffered the most from the painful SOE reforms and mass laid-offs would hold more hostile attitude towards market liberalization and against the economic reforms. Given that there were few nation-wide representative survey data in the early 2000s in China, we use the first wave of the Asian Barometer Survey (ABS) conducted in 2002. A limitation of the ABS is that it does not provide geocoded data points for us to conduct cross-regional analysis for China. But the survey contains information about the quantiles of income levels as well as the social status for each respondent. Thus, we are able to examine whether and how citizens' economic conditions would influence their views of certain economic policies. The respondents are asked about their attitudes (Strongly disagree, Somewhat disagree, Somewhat agree, Strongly agree) towards the following question: "*The government should maintain ownership of major state-owned enterprises.*" The results are displayed in Table D.1. We find that respondents with *higher* income levels and social status are more likely to *disagree with* idea that the government should maintain ownership of SOEs. In other words, citizens who likely suffered more from the economic fallout of SOE reforms would hold more conservative attitudes towards market liberalization. This is also consistent with conventional wisdom on the relationship between economic well-being and ideological voting behavior.

Table D.1: ABS 2011

	Government should maintain ownership of SOEs			
	(1)	(2)	(3)	(4)
Annual income quantile	-0.024** (0.007)	-0.018* (0.007)		
Social status			-0.023* (0.011)	-0.022* (0.011)
Individual Control		✓		✓
R^2	0.00	0.04	0.00	0.04
Observations	2482	2480	2420	2418

Note: $^+p < 0.1$, $^*p < 0.05$, $^{**}p < 0.01$. Individual-level controls include age, gender, educational level, and marital status. The categories of “social status” in the survey include upper class, upper-middle class, middle class, lower-middle class, and lower class.

E Nationalistic Sentiments by Age Cohort

In Table E.1, we show that the layoff waves in the 1990s actually make the cohorts of the 1980s and 1970s view China more favorably than the cohorts of the 1950s and 1960s. The negative coefficients of the former group are about twice as large in size as the latter group. Meanwhile, the cohorts of the 1980s and 1970s were personally more exposed to the benefits than the costs of the SOE reforms, compared with the cohorts of 1950s and 1960s. Therefore, the unemployment crisis in the 1990s does not make the younger cohorts as hostile against international economic engagement and Western countries as the older generations.¹³ This pattern provides supportive evidence that it is not simply citizens’ nationalistic sentiments that’s driving their anti-Western and anti-globalization attitudes.

¹³We conduct additional tests on respondents’ attitudes towards the U.S., EU, and Japan. The sizes of the coefficients are smaller (less negative attitudes) for the 1970s and 1980s than the 1950s and 1960s across all models. The results are available upon request.

Table E.1: The 70s and 80s cohorts more nationalistic than the 1950s and 1960s cohorts

	Opinion of China			
	(1) 1950s	(2) 1960s	(3) 1970s	(4) 1980s
Average unemployment	-0.062 (0.043)	-0.066 ⁺ (0.037)	-0.145** (0.033)	-0.142** (0.039)
Population 1989	-1.293 (1.697)	1.510 (1.594)	0.579 (1.479)	1.996 (1.798)
GDP per Capita 2003	0.126* (0.059)	-0.030 (0.054)	-0.044 (0.051)	-0.091 (0.061)
Unemployment rate 2003	-2.121 (1.497)	-4.738** (1.410)	-4.244** (1.238)	-4.210* (1.754)
Population 2003	-0.081 (0.157)	-0.357* (0.144)	-0.426** (0.122)	-0.515** (0.160)
Primary industry share 2003	-0.614 ⁺ (0.318)	-0.636* (0.305)	-1.268** (0.291)	-1.576** (0.345)
Urban construction land 2003	0.019 (0.092)	0.155 ⁺ (0.085)	0.262** (0.081)	0.266** (0.091)
Age	-0.002 (0.009)	-0.001 (0.008)	-0.011 (0.008)	-0.009 (0.011)
Gender	0.017 (0.048)	-0.027 (0.049)	-0.045 (0.048)	0.101 ⁺ (0.058)
Education	-0.019 (0.028)	0.030 (0.028)	0.001 (0.024)	0.012 (0.029)
Employment	0.000 (0.057)	0.001 (0.061)	0.011 (0.060)	-0.030 (0.066)
Minority	-0.052 (0.107)	0.046 (0.133)	0.058 (0.109)	-0.042 (0.216)
R^2	0.09	0.06	0.10	0.06
Observations	650	719	716	506

Note: This table presents the effects of average unemployment rates in the 1990s on citizens' attitudes towards their homeland, i.e. China. The question asks "please tell me if you have a very favorable, somewhat favorable, somewhat unfavorable or very unfavorable opinion of the following countries." The responses are coded as: 1. Very favorable, 2. Somewhat favorable, 3. Somewhat unfavorable, 4. Very unfavorable.

⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

F Impact of the 1997 Asian Financial Crisis

In Table F.1, we conduct the same regression analysis on a subsample of cities, excluding cities that experienced unemployment shocks in 1997, the year of the Asian financial crisis that may have

negatively affected China's FDI inflows. The results show a similar pattern as the main analysis: unemployment shocks depress MNCs' presence in the near term, as measured by four different indicators. In Table F.2, we show the dynamic effects using the same subsample of cities, which are similar to the dynamic effects found in the main analysis.

In Tables F.3 and F.4, we use a more conservative subsample that excludes cities that experienced unemployment shocks in 1997, 1998, or 1999 (the last year of our treatment window). It takes into account potential time lags between the 1997 financial crisis and its negative impact on a city's MNC landscape. In other words, we only consider cities that experienced unemployment shocks between 1993-1996 so that the shocks were not driven by events that happened after the 1997 financial crisis. Consistent with the dynamic effects using other samples, we find robust negative impact of unemployment shocks on foreign firms' total counts (Table F.3) as well as the share of foreign firms (Table F.4) in subsequent years.

Table F.1: Sub-sample: excluding cities that experienced unemployment shocks in 1997

Foreign firms' value in $t + 5$	Count		Employee		Output		Capital	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Max unemployment in year t	-3.669** (0.274)	-2.972** (0.488)	-2.772** (0.044)	-2.287** (0.453)	-3.130** (0.311)	-2.368** (0.451)	-5.146** (0.136)	-4.523** (0.621)
Population 1989		3.492 (11.486)		-3.709 (4.955)		4.167 (14.266)		0.984 (8.872)
Unemployment rate 1989		-242.129 (169.275)		-210.986 (142.956)		-302.175 (197.978)		-103.219 (87.168)
GDP per capita 2003		0.183 (0.129)		0.129 (0.131)		0.181+ (0.091)		0.184 (0.194)
Unemployment rate 2003		-0.122 (0.647)		1.072 (0.754)		-0.345 (0.747)		-0.146 (0.501)
Population 2003		0.185 (0.142)		0.064 (0.105)		0.157 (0.138)		0.156 (0.161)
Primary industry share 2003		-0.853 (1.708)		0.352 (1.118)		-0.807 (1.789)		0.039 (0.905)
Urban construction land 2003		0.092 (0.074)		0.069 (0.058)		0.005 (0.132)		0.074 (0.057)
City Control		✓		✓		✓		✓
Province FE	✓	✓	✓	✓	✓	✓	✓	✓
R^2	0.17	0.22	0.46	0.48	0.05	0.07	0.19	0.22
Observations	233	212	233	212	233	212	233	212

Note: + $p < 0.1$, * $p < 0.05$, ** $p < 0.01$. The dependent variables are normalized. Standard errors are clustered by province.

Table F.2: Sub-sample: excluding cities that experienced unemployment shocks in 1997

Foreign firms' count	t+1		t+2		t+3		t+4		t+5	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Max unemployment in year t	-2.437** (0.160)	-1.781** (0.405)	-2.423** (0.201)	-1.834** (0.459)	-2.938** (0.206)	-2.362** (0.443)	-3.193** (0.210)	-2.554** (0.438)	-3.669** (0.274)	-2.972** (0.488)
Population 1989		11.587 (12.495)		6.154 (10.500)		4.207 (8.560)		4.201 (10.495)		3.492 (11.486)
Unemployment rate 1989		-217.418 (158.442)		-230.807 (159.787)		-186.259 (132.110)		-222.664 (152.756)		-242.129 (169.275)
GDP per capita 2003		0.197+ (0.102)		0.164 (0.114)		0.164 (0.121)		0.170 (0.122)		0.183 (0.129)
Unemployment rate 2003		0.881 (0.859)		0.032 (0.572)		0.400 (0.524)		0.310 (0.636)		-0.122 (0.647)
Population 2003		0.159 (0.122)		0.148 (0.122)		0.158 (0.120)		0.177 (0.126)		0.185 (0.142)
Primary industry share 2003		-0.895 (1.636)		-0.795 (1.521)		-0.721 (1.398)		-0.728 (1.659)		-0.853 (1.708)
Urban construction land 2003		0.086 (0.062)		0.116* (0.053)		0.105+ (0.055)		0.063 (0.066)		0.092 (0.074)
City Control		✓		✓		✓		✓		✓
Province FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R^2	0.43	0.51	0.40	0.46	0.44	0.48	0.36	0.40	0.17	0.22
Observations	233	212	233	212	233	212	233	212	233	212

Note: + $p < 0.1$, * $p < 0.05$, ** $p < 0.01$. The dependent variables are normalized. Standard errors are clustered by province.

Table F.3: Sub-sample: excluding cities that experienced unemployment shocks in 1997, 1998, or 1999

Foreign firms' count	t+1		t+2		t+3		t+4		t+5	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Max unemployment in year t	-0.178** (0.015)	-0.304** (0.072)	-0.101** (0.010)	-0.173** (0.050)	-0.001 (0.003)	-0.030 (0.020)	-0.099** (0.004)	-0.138* (0.053)	-0.097** (0.004)	-0.150* (0.069)
Population 1989		0.702 (4.441)		-0.544 (2.536)		0.695 (1.021)		-1.699 (2.676)		-2.682 (3.724)
Unemployment rate 1989		-44.776 (34.868)		-25.117 (14.777)		-2.515 (4.801)		-37.057 (25.828)		-40.605 (29.406)
GDP per capita 2003		0.052** (0.006)		0.029** (0.004)		0.036** (0.002)		0.015** (0.003)		0.026** (0.005)
Unemployment rate 2003		0.523 (0.720)		0.106 (0.509)		0.173 (0.202)		0.313 (0.531)		0.548 (0.692)
Population 2003		0.031 (0.025)		0.034 (0.023)		0.031+ (0.016)		0.028 (0.021)		0.030 (0.036)
Primary industry share 2003		0.354 (0.454)		0.374 (0.479)		0.305* (0.134)		0.476 (0.291)		0.807+ (0.420)
Urban construction land 2003		0.094 (0.064)		0.063 (0.043)		0.027+ (0.015)		0.045 (0.047)		0.058 (0.063)
City Control		✓		✓		✓		✓		✓
Province FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R^2	-0.07	0.36	-0.04	0.37	0.01	0.65	-0.03	0.18	0.00	0.21
Observations	101	94	101	94	101	94	101	94	101	94

Note: + $p < 0.1$, * $p < 0.05$, ** $p < 0.01$. The dependent variables are normalized. Standard errors are clustered by province.

Table F.4: Sub-sample: excluding cities that experienced unemployment shocks in 1997, 1998, or 1999

Share of foreign firms' count	t+1		t+2		t+3		t+4		t+5	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Max unemployment in year t	-0.712** (0.046)	-1.348** (0.363)	-0.478** (0.028)	-0.697** (0.190)	0.000 (0.015)	-0.220+ (0.124)	-0.454** (0.017)	-0.581* (0.235)	-0.100** (0.004)	-0.189* (0.073)
Unemployment rate 1989		-210.785** (38.140)		42.576 (123.425)		85.901 (92.020)		7.419 (80.382)		60.347 (67.172)
Population 1989		-4.988 (11.293)		8.964 (10.054)		4.115 (6.392)		0.240 (10.171)		-0.267 (2.836)
GDP per capita 2003		0.067+ (0.038)		0.046* (0.021)		0.094** (0.012)		0.024 (0.014)		0.022** (0.005)
Unemployment rate 2003		6.459+ (3.162)		-2.241 (2.369)		0.476 (1.471)		-1.848 (1.331)		0.996 (0.913)
Population 2003		-0.338* (0.160)		0.102 (0.119)		0.037 (0.099)		-0.047 (0.131)		-0.024 (0.046)
Primary industry share 2003		-0.695 (2.376)		0.557 (2.428)		-1.505 (1.610)		-2.111 (1.531)		0.997 (1.051)
Urban construction land 2003		0.311 (0.215)		0.147 (0.114)		0.117 (0.097)		0.069 (0.163)		0.036 (0.048)
City Control		✓		✓		✓		✓		✓
Province FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R^2	0.08	0.27	0.06	0.12	0.25	0.44	0.19	0.15	-0.00	0.10
Observations	101	94	101	94	101	94	101	94	101	94

Note: + $p < 0.1$, * $p < 0.05$, ** $p < 0.01$. The dependent variables are normalized. Standard errors are clustered by province.