

Political economy of trade protection: China in the 1990s

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Abstract

More than three decades have passed since Deng Xiaoping opened China to the outside world with a series of sweeping economic reforms. Yet, before China entered the World Trade Organization (WTO) in 2001, even at the height of free trade in the 1990s while lowering trade barriers overall, the Chinese government continued to protect some industries. This article explores the cross-industrial variation in trade protectionism in the 1990s, when the Chinese government was negotiating for accession to the WTO. It demonstrates that the major incentive of the Chinese government for trade protectionism was political, involving such factors as the state sector's inefficiency, the ease with which workers could organize to rebel, and bureaucratic organizations' pressure on the government on behalf of certain industries. The Chinese government chose to protect certain industries to prevent free trade from exacerbating social instability in the 1990s.

More than three decades have passed since Deng Xiaoping opened China to the outside world with a series of sweeping economic reforms. A core feature of the reform drive was that it exposed the Chinese economy to the global market to stimulate economic development. China's leaders repeatedly acknowledged that the existence of artificial (political) trade barriers, soft budget constraints, and huge government subsidies to inefficient enterprises under the prevailing socialist-planned economy severely inhibited economic growth and impeded the rationalization of production and trade. The elimination of trade barriers was thus advocated as one among many essential measures necessary to improve economic performance. In short, free trade was a major policy goal of economic development and modernization. Yet, even at the height of trade liberalization, while lowering trade barriers overall, the Chinese government continued to protect some industries.

This article attempts to explain why the Chinese government protected certain industries and liberalized others in the first two decades of the post-Mao reform. For example, why did the government move steadily to eliminate trade barriers for the leather industry and the apparel industry while it kept the textile industry more protected? Why were the coal mining industry and the crude oil and natural gas industry highly protected while other mining industries were liberalized much faster?

This article seeks to explore what factors explain the pattern of China's trade protectionism in the 1990s before China entered the World Trade Organization (WTO). The Chinese government aimed for entry into the General Agreement on Tariffs and Trade (GATT) until 1994 and the WTO starting in 1995. On 15 November 1999, China and the United States reached a landmark agreement that led to China's accession to the WTO. The agreement turned the issue of China's accession from 'whether' to 'when'. The 'when' became 'now' with China's entry into the WTO on 10 December 2001.

Political economists analyzing international trade have suggested a variety of explanations for trade protectionism (e.g. *Alt et al.*, 1996; *Milner*, 1999). Most of these explanations focus on Western democratic countries. These analyses suggest two competing hypotheses – one 'economic' and the other 'political' – to account for the pattern of trade

protectionism.¹ The economic hypothesis, based on endogenous protection theory, argues that the variation in factor endowments should explain the different levels of trade protectionism across industries (e.g. Rogowski, 1989; Hiscox, 2002). This hypothesis posits that the owners of (or the industries that use) scarcely endowed productive factors should prefer protectionism, whereas the owners of (or the industries that use) abundantly endowed productive factors should prefer free trade.² The contrary interests should create political coalitions.

The political hypothesis, based on the ‘water-cooler’ theory, concerns the relationship between trade barriers and geographic location of industry (e.g. Schonhardt-Bailey, 1991; Busch and Reinhardt, 1999). This hypothesis anticipates a positive relationship between trade barriers and an industry’s geographic concentration, because physical proximity among members of a group should make collective action more likely and thus geographically concentrated industries could more easily deliver their demands to the government (Olson, 1965). In China, an authoritarian country, one would not have to consider this possible negative effect of geographic concentration of an industry on pressuring the government, but would need only to consider the positive effect of geographic concentration.³

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- 1 Another way to categorize the reasons for trade protection is specifying the demand side (economic interests) and the supply side (domestic political institutions) of protection. This article starts by exploring the influence of economic interests on trade policy and discusses how domestic institutions affect how economic interests may lead to protectionist policy. Moreover, from the demand side, industries with a higher level of import penetration are more likely to seek trade protection, while those more dependent on exports should be more likely to be in favor of free trade. Whether the industry is import-competing or export-oriented is also a result of trade policy. In other words, it is endogenous to trade protection policy. Thus, this article focuses on the hypotheses that could be more exogenous to explain the pattern of China’s trade policy.
 - 2 This hypothesis is based on the Stolper–Samuelson theorem, which states that protection should benefit the scarce factor of production. Meanwhile, the Ricardo–Viner model emphasizes that the industrial sector in which scarce factors of production are employed should demand and obtain protection. In the empirical test, this article combines these two approaches by grouping industries into capital-intensive, unskilled labor-intensive, and skilled labor-intensive industries.
 - 3 Busch and Reinhardt (1999) find that even in the United States, geographically concentrated industries are more likely to enjoy trade protection after controlling for political dispersion of industries. They distinguish political concentration (dispersion) from geographic concentration (dispersion). In a democratic political environment, geographic concentration is connected to lobbying power through an electoral system. Geographic concentration is transformed into political concentration through electoral districts.

Another factor related to the political hypothesis in the Chinese context is state-owned enterprise (SOE) reform. In the 1990s, the Chinese government acknowledged that they should accelerate SOE reform by promoting privatization of the SOEs, recognizing that the SOEs were the major obstacle to economic reforms and trade liberalization (Naughton, 2007, chap. 4). Thus, inefficient SOEs would have to face foreign competition and pressure as part and parcel of trade-liberalizing reforms. At the same time, the Chinese government feared that free trade would increase unemployment, especially exacerbating the lay-off problem of SOE workers as SOEs were privatized. Therefore, throughout the 1990s, the government balanced the SOE problem with trade policy. For example, on 17 November 1999, just two days after China and the United States sealed a deal on China's accession to the WTO, the Chinese government made SOE reform its top economic priority for the following year (*Strait Times*, 18 November 1999). Moreover, when trade liberalization stagnated, those who opposed economic liberalization itself often argued against trade liberalization by referring to the fear of unemployment and social unrest. For example, when the negotiations between China and the United States concerning China's accession to the WTO were at a stalemate – after the United States had turned down China's offer to open its markets in April 1999 – conservative Chinese leaders advocated giving priority to potential SOE unemployment over the potential efficiency gained by SOE reform and trade liberalization (*Strait Times*, 3 November 1999).

Moreover, in the context of SOE reform and geographic concentration, the water-cooler theory works particularly well, because workers are often connected with each other through social networks within a factory. An SOE factory is not just a unit of production but also a unit of social welfare and workers' daily lives (Walder, 1986). Once dissatisfied, workers are able not only to organize easily within a factory but also to spread their network into the next factory if an industry is concentrated in a certain region. For example, in 2002, protesting SOE workers in Liaoyang, Liaoning Province, an aging industrial city in the Northeast, successfully organized a major cross-factory demonstration involving tens of thousands of workers (*New York Times*, 19 March 2002).

This article explores factors – and the strength of those factors – in accounting for China's trade barriers in the 1990s, using data from 1995. It proceeds as follows from this introductory section. The next section

provides a brief overview of China's trade in the 1990s. The second section discusses the economic hypothesis and the political hypothesis in the context of China's political economy during the 1990s. The third section discusses the statistical model used to analyze this article's data. The fourth section presents the results of the statistical test. The fifth section concludes.

1 China's international trade in the 1990s

The political economy of China's trade protectionism in the 1990s, compared with that just two decades earlier, is an interesting turnaround. Naughton (2007, p. 377) says: 'China began trade liberalization with one of the most closed economies in the world.' When Deng Xiaoping's opened-up policy started in the late 1970s, China's trade volume was very small. In 1978, its exports totaled approximately 10 billion US dollars and imports were 11 billion dollars.⁴ The trade volume quickly increased in the 1980s, and in 1989 China exported 53 billion dollars and imported 59 billion dollars. Figure 1 shows the volume of exports and imports in the 1990s. Overall, both exports and imports increased, but exports increased much faster than imports. China exported 195 billion dollars and imported 166 billion dollars in 1999. China's imports stagnated especially between 1995 and 1998. Exports and imports have both increased rapidly since 2000, as exports increased to 762 billion dollars in 2005 and 1,202 billion dollars in 2009, while imports increased to 660 billion dollars in 2005 and 1,006 billion dollars in 2009. What might explain the stagnation in imports in the late 1990s? This article explores that question by examining the cross-industrial variation in trade protectionism in 1995. It argues that the Chinese government selectively protected specific industries and that the major incentive of the Chinese government for trade protectionism was political, involving factors such as the reform of SOEs, the potential for workers' protests, and bureaucratic organizations' pressure on the government on behalf of certain industries.

4 The trade data shown in this paragraph all come from Naughton's (2007, chap. 16) web page: <http://irps.ucsd.edu/faculty/faculty-publications/chinese-economy/chapter-by-chapter-data-supplementary-materials/chapter-16.htm> (4 April 2011).

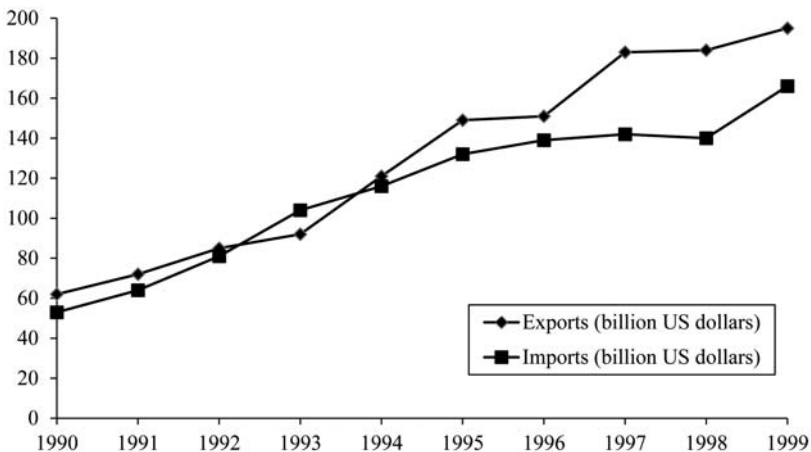


Figure 1 China's exports and imports during the 1990s. *Source:* <http://irps.ucsd.edu/faculty/faculty-publications/chinese-economy/chapter-by-chapter-data--supplementary-materials/chapter-16.htm> (4 April 2011).

2 The hypotheses

The economic hypothesis posits that factor endowments should explain the pattern of trade protection. The Stolper–Samuelson theorem in international trade theory predicts that free trade should benefit the owner of abundantly endowed productive factors and harm the owner of scarcely endowed productive factors. Political economists have thus expected that the owners of scarcely endowed productive factors should form a coalition for trade protectionism and the government should protect the industries that use scarcely endowed productive factors (Rogowski, 1989; Hiscox, 2002).⁵ Meanwhile, the political hypothesis posits that concern for social instability should be the major incentive for trade protectionism. It thus anticipates that the government should protect the industries whose workers are geographically concentrated. This section explores how these two hypotheses fit China's political economy during the 1990s.

Before the post-Mao reform started in the 1980s, protectionism characterized trade policies in Maoist China. The Chinese government focused on equality and 'self sufficiency' (*zili gengsheng*); trade

5 One can argue that this is a simplified statement of reality, as this statement does not take into consideration a number of issues such as the mobility of factors and the structure of political institutions (see, e.g., Bailey *et al.*, 1997; Kono, 2006; Gawande *et al.*, 2009; Mansfield and Mutz, 2009).

protectionism was very much a part of these core convictions (Naughton, 1988; Yang, 1990). For similar reasons, the Chinese government ignored a local region's factor endowments when determining industrial location. Most heavy industries were located inland. As a result, China's industrial structure did not reflect economic rationality and factor endowments did not relate to the pattern of trade protectionism during the Maoist period.

In contrast, free trade characterized overall trade policies in post-Mao China. The Chinese government focused on economic efficiency and lowered trade barriers to rationalize its economic structure (Fan, 1997). The idea of 'comparative advantage' (*bijiao liyi*) and the importance of factor endowment-based industrial location were discussed among both politicians and academics in China (Fan, 1997, pp. 623–625). It is thus reasonable to test the hypothesis that *the variation in factor endowments should explain the pattern of trade barriers in the 1990s*.

Yet the commitment to free trade and to other economic reforms gave rise to a serious dilemma in the 1990s. Industrial reforms during the 1990s turned inefficient state sectors into a major source of unemployment. In 1996, state sector losses were 61.6 billion yuan (approximately 6 billion US dollars), and 43.7% of all state firms' operations were not profitable (*South China Morning Post*, 4 March 1997). Having realized this dilemma, Li Peng, the then premier and one of the major conservative leaders, argued in 1995 that SOE reform should be the focus of a series of economic reforms (*Strait Times*, 8 March 1995).⁶ Moreover, in 1998, President Jiang Zemin said that the SOE was 'not only a major economic issue, but also a political one' (*South China Morning Post*, 15 May 1998). Reinforcing Jiang's remarks, Premier Zhu Rongji said that SOEs 'must do a good job in looking after laid-off workers to avoid social unrest' (*South China Morning Post*, 18 May 1998). In short, Chinese leaders feared that SOE reform would lead to massive unemployment, the loss of a social safety net, and ultimately social instability.

6 The discussion about the state sector's inefficiency had already arisen by the early 1990s. For example, in 1992, Laura Tyson, then senior economist of the World Bank, claimed: 'One-third of the state-owned enterprises are loss-making, and those losses accounted for two-thirds of China's deficit last year [1991] ... The problem of the state-owned enterprise system was very difficult to solve: not only was it a major fiscal problem, but also a major social one' (*South China Morning Post*, 15 October 1992).

Evidence in a growing body of literature illustrates that one of the major consequences of economic reforms is the rise of SOE workers' protests (e.g. Cai, 2006; Lee, 2007; Hurst, 2009; Frazier, 2010). According to a report by a Hong Kong periodical, China had 1,520 demonstrations with over 1.8 million participants between January and September 1996 (*Cheng Ming*, no. 230, December 1996, pp. 11–13). According to another report, between October and November 2000 alone, there were 8,150 demonstrations and 530 strikes (*Cheng Ming*, no. 178, December 2000, pp. 19–21). Lee (2007, p. 5) reports: 'Nationwide, the Ministry of Public Security recorded 8,700 such incidents in 1993, rising to 11,000, 15,000, and 32,000 in 1995, 1997, and 1999, respectively.' Unemployment and social unrest were behind these protests and demonstrations. *Xinhua*, the Chinese official media, reported in 1996 that 5.5 million people were unemployed in urban areas, though another estimate – purportedly drawn from a secret report within the Chinese Communist Party – showed the number of unemployed workers had reached 27 million (*Cheng Ming*, no. 230, December 1996, p. 11). Moreover, a Hong Kong newspaper reported that the unemployment rate was 6.5% in 1996 (*South China Morning Post*, 9 March 1997).⁷ Furthermore, Bottelier (2000, p. 71) argues that the situation was likely to be worse in big cities in the Northeast, where the industrial structure relies on SOEs, estimating the urban unemployment rate in the three provinces of the Northeast (that is, Heilongjiang, Jilin, and Liaoning) to be close to 20%.

In the 1990s, the Chinese leadership recognized that growing unemployment in urban areas could be a potential source of social instability. For example, in 1999, Premier Zhu Rongji acknowledged the social unrest that flared up as urban unemployment grew, when reporting on his first year as premier at the annual session of the National People's Congress (*New York Times*, 6 March 1999). Moreover, having observed the surge of social unrest in the 1990s, the State Council – the Chinese cabinet – held an urgent telephone meeting on 15 November 2000, and Zhu emphasized the importance of maintaining stability, saying: 'social stability and political stability should be given the highest priority among our tasks' (*Cheng Ming*, no. 278, December 2000, p. 19).

7 According to a report from a Japanese newspaper, the Chinese official unemployment rate in urban areas was 3.6% (highest ever) in 2001 (*Nihon Keizai Shimbun*, 11 February 2002).

In addition to the disruptive and violent nature of the workers' protests, an issue that drew even more concern from the Chinese government was that in some regions, unemployed workers illegally established organizations for their protest movements (Weston, 2002). The organizations were set up in at least 10 provinces under various names related to anti-unemployment efforts or protecting workers' rights (Cheng Ming, no. 230, December 1996, pp. 11–12). Such signs of organized protest indirectly challenge the government's legitimacy and remind the Chinese leadership of the student demonstrations in Tiananmen in 1989 or other organized anti-government movements that spelled the downfall of dynasties (Wright, 2001; Perry, 2002). Because many of China's former regimes (including imperial dynasties) had collapsed due to mass uprisings, the Chinese government considers social protests to be major threats to its political legitimacy, perhaps taking them more seriously than other governments might.

In brief, trade policy, the SOE reform, and social protests were intertwined in the 1990s. It is thus reasonable to set the following hypothesis: *in deciding which industries should remain protected in the 1990s, the government was concerned with the SOE problem and workers' protests.* The water-cooler theory suggests that physical proximity among members of a group should make collective action more likely. This article thus takes geographic concentration of an industry as a proxy to measure the ease with which workers could be organized. The following section discusses the statistical model in detail.

3 The statistical model

This section sets out the statistical model that I use to explain the pattern of trade barriers in China during 1995. This article categorizes 35 industries, covering all the manufacturing industries whose products are traded with foreign countries.⁸ Unlike studies that examine the full range of tradable commodities, this analysis considers only trade in

8 Forty industries are listed as manufacturing industries in China's input-output table of 1997 (Zhongguo Touru Chanchubiao, 1999), which corresponds with two-digit categories in the Standard Industrial Classification list. This article excludes the manufacturing industries whose products are not traded with foreign countries, such as the electricity industry and the steam and hot water production industry. China does not widely trade electricity with foreign countries.

manufactured products. Industries other than manufacturing industries – such as agriculture and fisheries – are not included in this analysis because one cannot compare the roles of their state sectors with those of other industries, which means that it is almost impossible to measure the ratio of agriculture or fishery products from the state sector. The service industries are not included because it is not easy to compare their trade data with those of other industries.

3.1 *Dependent variable*

The dependent variable in this article is a measure of trade barriers that reports the intensity of protectionism. Tariff is a typical means of trade protectionism. In China, it is important to distinguish the *nominal* tariff rate and the *actual* (collected) tariff rate. There was a big difference between the nominal tariff rate and the actual tariff rate in the 1990s. The average nominal tariff rate was 20.2%, while the average actual tariff rate was 6.5% in 1995 (Li *et al.*, 1999). China's tariff collection is significantly below the nominal tariff level. This difference was due to the large share of processed trade⁹ and extensive import duty exemptions (Li *et al.*, 1999, p. 194). This article's measure of tariff thus focuses on the actual tariff rate, instead of the nominal tariff rate.

This article also includes non-tariff barriers (NTBs) for the measure of the intensity of trade protectionism. It uses the tariff-equivalent rate of NTBs that Li *et al.* (1999) compute.¹⁰ Taking NTBs into consideration is particularly important for measuring trade barriers in a post-communist economy (Rodriguez and Rodrik, 1999). In a post-communist economy, the government often controls sales channels; thus it is one issue whether the tariff blocks foreign products from import and it is another issue whether the product is sold through domestic sales channels. For example, China prohibited foreign companies from distributing imported products in the 1990s before accession to the WTO; however, in the agreement for accession, it agreed to permit foreign enterprises to engage in distribution services (White House Office of Public Liaison,

9 Processed trade refers to trade in which raw materials, parts, or components are imported and finished (processed) products are subsequently re-exported.

10 Li *et al.* (1999) do not show how they computed their tariff-equivalent NTBs. However, this article uses their data because this is the only available industry-level data on NTBs in China.

1999). Therefore, even though data reliability is a problem when measuring NTBs, this paper includes them in the measure of trade barriers.

To measure the intensity of protection, this paper considers two dependent variables: *TARIFF* and *NTB*. *TARIFF* is a measure of the actual, collected tariff rate – tariff revenues divided by imports. *NTB* is a measure of the tariff equivalent rate of NTBs. The descriptive statistics for these two dependent variables are provided in Table 1. *TARIFF* and *NTB* are not necessarily correlated with each other.¹¹ Table 2 shows the five largest recipients and the five smallest recipients of trade protection for tariffs and NTBs. One can see that the industries that receive a high tariff rate do not necessarily enjoy a high NTB. For example, the transportation equipment industry, which includes the automobile industry, is protected from competition with foreign producers by a tariff, while the coal mining industry and the crude oil and natural gas industry receive protection by NTBs. The processed food industry receives a high tariff rate, but its NTB protection is low.

3.2 Independent variables

Discussions in political economy and Chinese politics have suggested several factors that might influence the pattern of trade barriers. Some of them are derived from the economic hypothesis and others are derived from the political hypothesis. This section identifies independent variables to capture those effects. It outlines the independent variables and the hypotheses on which they are based. It also suggests the interactive effects of the independent variables on the dependent variables.

First, economic theory predicts that *the government should protect the industries that use scarcely endowed productive factors*. China is a labor-abundant, capital-scarce country. For example, according to a Chinese newspaper's report, in 1999 China's capital–labor ratio (1000 dollars/

Table 1 Descriptive statistics of the dependent variable

	Mean	Standard deviation	Min.	Max.
<i>TARIFF</i> (%)	2.6	2.1	0.0	12.4
<i>NTB</i> (%)	12.5	14.0	0.0	45.7

11 The correlation coefficient between *TARIFF* and *NTB* is -0.055 .

Table 2 'Winners and losers' from trade protectionism in 1995

Five biggest recipients of tariff protection	Five biggest recipients of NTB protection
Transportation equipment	Crude oil and natural gas
Metal products	Coal mining
Processed food	Coking coal
Tobacco	Logging
Non-metal mineral products	Sawmills
Five smallest recipients of tariff protection	Five smallest recipients of NTB protection
Non-ferrous metal mining	Social articles
Ferrous metal mining	Printing
Crude oil and natural gas	Paper
Non-metal mining	Non-ferrous metal mining
Apparel	Ferrous metal mining

labor force) was 2.2, while the United States' was 115.6, Europe's (European Union members in 1998) was 144.2, and Japan's was 281.9 (*Beijing Qingnianbao*, 16 November 1999). It is hence expected that *the Chinese government should protect capital-intensive industries in the 1990s*.

Many studies on international trade have distinguished skilled labor from unskilled labor (Deardorff, 1984). It is not easy to determine whether China was a skilled labor-intensive country or a skilled labor-scarce country in 1995. The conventional wisdom is that China's labor force was low cost. For example, a Japanese newspaper reports that a production worker's wage in Shenzhen, China, was 1/37th of that in Yokohama, Japan, in 2001 (*Nihon Keizai Shimbun*, 16 August 2001). However, low-cost labor does not necessarily mean low-quality labor. For example, in 1997, China's literacy rate was 72%, higher than most of the developing countries whose per capita income levels were at approximately the same level as China's (World Bank, 1998).¹²

Moreover, there are quite a few journalists' reports indicating that the quality and technology of Chinese manufacturing industries have improved so rapidly that the image of cheapness and low quality of Chinese products has changed (e.g. *Nihon Keizai Shimbun*, 17–18

12 The UNESCO's data (based on the data from the Ministry of Education of China) show that China's literacy rate was 81% in 1995, even higher than the World Bank's data. See http://www.accu.or.jp/litdbase/stats/chn/chn_past.htm (28 July 2012).

January 2001, 8 February 2001; *Wall Street Journal*, 17 December 2003). These reports argue that China's strength in global economic competition in the late 1990s was due not only to its low-cost labor force but also due to its high quality of human capital – especially in the field of science and technology and among those who had studied abroad. In sum, they suggest that China had a rich accumulation of human capital; that enterprises were able to employ this human capital at a lower cost than other countries; and therefore that China had an advantage in skilled labor. Of course, this still remained a matter of conjecture; however, the evidence at least suggested that one should not easily assume that China's skilled labor was scarce. Thus one can specify either an affirmative or negative hypothesis for the question of *whether the Chinese government should protect skilled labor-intensive industries*.

This article quantifies the factor endowment variables as follows. *CAPLAB* is a capital–labor ratio for each industry in 1994. Capital is measured as an industry's fixed assets in 100 million yuan and labor is measured as an industry's national employment in tens of thousands. The data are taken from China's economic and industrial statistical yearbook of 1995 (*Zhongguo Gongye Tongji Nianjian*, 1995). The capital–labor ratio thus measures per worker capital of each industry in 10,000 yuan. *SKILL* is an industry's ratio in 1995 of production workers who have completed at least a high school education. The data are taken from the national survey for the industrial census of 1995 (*Quanguo Gongye Pucha Ziliao Waibian*, 1997).

Second, one might conjecture that *the government should protect inefficient industries*. The Chinese SOEs were inefficient and uncompetitive in the world market in the 1990s (Lardy, 1998; Steinfeld, 1998; Lin, 2001). They ran deficits in the 1990s, so the government did not have an incentive to defend SOEs to protect its revenue. However, the SOEs provided public welfare services to its workers and the Chinese government feared closing unproductive SOE factories even if they were economically inefficient. This problem was serious, considering China had not established a solid public welfare provision system (Frazier, 2010). One may thus expect that *the Chinese government should protect the industries that had a large state sector share in the 1990s*. The variable, *SOE*, measures each industry's SOE share of employment in 1997. The data are taken from China's economic and industrial statistical yearbook of 1998 (*Zhongguo Gongye Tongji Nianjian*, 1998). *SOE* expresses the ratio of workers

employed by the SOEs to total workers employed in an industry. In short, the SOE share is a proxy for the extent to which an industry contains surplus workers in inefficient enterprises.¹³

Third, one might conjecture that *the government should protect the industries whose workers might easily rebel*. The water-cooler theory suggests that having workers in geographically concentrated industries should make collective action easier. The study of the relationship between trade barriers and the geographic concentration of an industry has shown mixed results, because the effects of geographic concentration (that is, the water-cooler theory) and political dispersion through an electoral system are interwoven with each other to affect trade barriers (Schonhardt-Bailey, 1991; McGillvray, 1997; Busch and Reinhardt, 1999). However, because the Chinese political system is not a democracy, the concentration should not influence trade barriers negatively but positively. This article thus expects that *geographically concentrated industries should have received higher levels of trade protection in the 1990s*.¹⁴ Moreover, incorporating the government's concern with the inefficiency of SOEs, one might hypothesize that *an industry with a large state sector should be protected if and only if it is geographically concentrated*.

This article quantifies geographic concentration, *GEOCON*, using the Herfindahl–Hirschman index. The index was originally developed to analyze where and how an enterprise locates factories (Scherer, 1980, pp. 56–74; Pearce, 1992, p. 184). It is commonly used to measure the extent of market concentration in an industry or the share of total output produced in an industry captured by a given number of firms in the industry. However, the index is also useful to quantify the extent of geographic concentration of an industry. In this article, it is simply a sum of the squared provincial share of the total employees in each industry in 1994. The data are taken from China's economic and industrial statistical

13 To measure an industry's economic conditions, variables such as percent change in industry revenue, asset, or employment may theoretically provide a better proxy for an industry's level of efficiency than the share of SOEs in a sector, as there remains variation in efficiency both within the state sector and the non-state sector(s). However, one can more easily access the data of the ratio of workers employed by the SOEs to total workers employed in an industry.

14 If the data of the level of unemployment in each industrial sector exists, then it will be a better measure to test the hypothesis regarding the government's sensitivity to unemployment as a potential explanation for trade protection, though such data do not exist in China.

yearbook of 1995 (Zhongguo Gongye Tongji Nianjian, 1995). The index indicates the probability that two employees, chosen randomly from an industry, are from the same province. The variable of geographic concentration could thus be expressed as follows: $GEOCON_i = \sum_{j=1}^{30} (L_{ij}/L_i)^2$ (L = employee; i = industry; j = province)¹⁵.

Fourth, one might conjecture that *the political influence of an industry should increase with its size*, because greater employment should mean a larger impact, thereby improving the odds that the government would hear an industry's demands for protection (Milner, 1988, pp. 259–260; Hansen, 1990; Lee and Swagel, 1997, pp. 378–379; but Trefler, 1993). Alternatively, *an industry's size might be negatively related to protection*, because it should be more difficult for workers to be mobilized collectively in a large industry (Caves, 1976; Salmon and Siegfried, 1977). Moreover, taking into consideration the hypothesis regarding geographic concentration, one might conjecture that *a large-sized industry should be protected if and only if the industry is geographically concentrated*. The variable, *SIZE*, is an industry's national employment in tens of thousands in 1994. The data are taken from China's economic and industrial statistical yearbook of 1995 (Zhongguo Gongye Tongji Nianjian, 1995).

Fifth, one might conjecture that *the Chinese government should protect the industries that have strong lobbying power through bureaucratic channels*. Due to the legacy of an intensive growth strategy during the Maoist period, heavy industrial ministries had political strength in the 1980s (Shirk, 1985). Although it is difficult to find examples of how an industry lobbies for trade protection in China before the 1990s, there are a few examples that suggest that heavy industries were politically powerful at that time. For example, the Ministry of Machine Building influenced the State Planning Commission's decision-making concerning entrance into the consumer goods market of washing machines and refrigerators in the early 1980s (Shirk, 1985, p. 209). Moreover, the delegates from the provinces in which heavy industries were concentrated were the major advocates against reforms in the National People's Congress in 1981 when Deng Xiaoping started the post-Mao reform (Solinger, 1982). This article thus expects that *heavy industries should have enjoyed more*

15 Provinces include all the Chinese provinces except for Tibet. This article does not include Tibet due to data unavailability.

extensive protection in the 1990s. It assigns a dummy variable, *HEAVY*, scored 1 for heavy industries and 0 for others.¹⁶

Descriptive statistics of the independent variables are listed in Table 3, and correlation coefficients between them are shown in Table 4. First, each dependent variable is regressed upon the independent variables introduced above. The interaction term between *SOE* and *GEOCON* is then added to the independent variables, examining the hypothesis that the Chinese government should protect geographically concentrated industries with a large state sector in the 1990s.¹⁷ Third, the interaction term between *GEOCON* and *SIZE* is examined, evaluating whether the government's sensitivity to geographic concentration would vary with the number of workers that an industry employs.¹⁸ Fourth, whether and how the explanatory factors of trade protection vary between heavy industries and non-heavy industries are examined.

The expected effect of *CAPLAB*, *SOE*, *GEOCON*, and *HEAVY* on each dependent variable should be positive; and the expected effect of *SKILL* and *SIZE* might be either positive or negative. The expected effect of the interaction term between *SOE* and *GEOCON* should be positive because, as the political hypothesis suggests, the government should be concerned with giving trade protection to the industries with a large inefficient state sector whose workers could organize easily.

4 Results for the statistical model

4.1 The basic model

Table 5 reports the determinants of tariffs, while Table 6 reports the determinants of NTBs. In each table, column (1) shows regression coefficients for the individual effects of the independent variables on the

16 Heavy industries include: crude oil and natural gas, petroleum refineries, chemicals, medical and pharmaceutical products, chemical fibers, rubber, plastics, non-metal mineral products, ferrous metals, non-ferrous metals, metal products, machinery, special purpose equipment, transportation equipment, electrical machinery, electronics, and instruments. This article includes medical and pharmaceutical products in heavy industries because they are included in chemical industries.

17 Interaction terms might be correlated with other independent variables. To limit collinearity without affecting the estimates for the other variables, this article thus 'centers' *SOE* and *GEOCON* by subtracting their mean values (i.e. 48.1 for *SOE* and 7.7 for *GEOCON*).

18 To limit collinearity, *GEOCON* and *SIZE* are 'centered' by subtracting their mean values (that is, 7.7 for *GEOCON* and 227 for *SIZE*).

Table 3 Descriptive statistics of the independent variables

Variables	Mean	Standard deviation	Min.	Max.
<i>CAPLAB</i> (10,000 yuan per capita)	2.78	2.40	0.99	11.12
<i>SKILL</i> (%)	40.9	9.0	26.2	59.1
<i>SOE</i> (%)	48.1	23.5	8.6	99.2
<i>GEOCON</i> (%)	7.7	4.4	4.9	28.7
<i>SIZE</i> (10,000 workers)	227	211	30	894

Table 4 Correlation coefficients for the independent variables

	<i>CAPLAB</i>	<i>SKILL</i>	<i>SOE</i>	<i>GEOCON</i>	<i>SIZE</i>
<i>CAPLAB</i>	1.00	0.710	0.684	-0.031	-0.264
<i>SKILL</i>		1.00	0.713	-0.036	-0.242
<i>SOE</i>			1.00	-0.060	-0.013
<i>GEOCON</i>				1.00	-0.168
<i>SIZE</i>					1.00

dependent variable, column (2) represents the form of the interaction term between *SOE* and *GEOCON*, and column (3) represents the form of the interaction term between *GEOCON* and *SIZE*. The following analysis is based on column (1) in Table 5 and column (3) in Table 6. It disregards columns (2) and (3) in Table 5, because an *F*-test at the 0.10 level indicates that the variables added do not significantly improve the fit of the regression.

This article's primary objective is to examine what may explain the pattern of trade protection during 1995. The results suggest that the two variables for factor endowments, *CAPLAB* and *SKILL*, explain the pattern of tariffs, while other political variables explain the pattern of NTBs. This may be because of the same logic Kono (2006) develops in his cross-national comparisons including both democracy and autocracy. In his study, NTBs tend to be used as a means of protecting industry, as the government is exposed to more accountability for the policy (i.e. democracy). Although China is an autocratic nation, one may conjecture that the Chinese government had an incentive to protect politically sensitive industries in less transparent ways, while China tried to go back to

Table 5 Estimates of regressions of tariffs

	(1)	(2)	(3)
Constant	-2.26 (2.18)	-2.29 (2.22)	-0.84 (2.60)
<i>CAPLAB</i>	-0.39* (0.23)	-0.39* (0.23)	-0.41* (0.23)
<i>SKILL</i>	0.15** (0.06)	0.15** (0.06)	0.14** (0.06)
<i>SOE</i>	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)
<i>GEOCON</i>	-0.02 (0.08)	-0.01 (0.02)	-0.16 (0.15)
<i>SIZE</i>	0.002 (0.002)	0.002 (0.002)	0.001 (0.002)
<i>SOE</i> × <i>GEOCON</i>		-0.001 (0.005)	0.0004 (0.0050)
<i>GEOCON</i> × <i>SIZE</i>			-0.001 (0.001)
R^2	0.223	0.224	0.255
Adjusted R^2	0.089	0.058	0.062
<i>F</i>	1.67	1.35	1.32
<i>N</i>	35	35	35

Note: Standard errors in parentheses. Regressor is actual tariff rates in 1995 (*TARIFF*).

* $P < 0.10$.

** $P < 0.05$.

*** $P < 0.01$.

Table 6 Estimates of regressions of NTBs

	(1)	(2)	(3)
Constant	0.64 (14.11)	3.36 (12.73)	-17.21 (13.53)
<i>CAPLAB</i>	2.21 (1.46)	2.01 (1.31)	2.27* (1.16)
<i>SKILL</i>	-0.26 (0.40)	-0.30 (0.36)	-0.13 (0.32)
<i>SOE</i>	0.09 (1.15)	0.07 (0.14)	-0.02 (0.12)
<i>GEOCON</i>	1.15** (0.51)	1.44*** (0.47)	3.39*** (0.78)
<i>SIZE</i>	0.013 (0.012)	0.009 (0.011)	0.029** (0.011)
<i>SOE</i> × <i>GEOCON</i>		0.077*** (0.028)	0.059** (0.0025)
<i>GEOCON</i> × <i>SIZE</i>			0.018*** (0.006)
R^2	0.263	0.424	0.567
Adjusted R^2	0.136	0.301	0.455
<i>F</i>	2.07	3.44	5.05
<i>N</i>	35	35	35

Note: Standard errors in parentheses. Regressor is tariff-equivalent NTBs in 1995 (*NTB*).

* $P < 0.10$.

** $P < 0.05$.

*** $P < 0.01$.

the global economy after the economic sanctions due to the Tiananmen Incident in 1989 and while it was negotiating for WTO membership. In other words, the Chinese government was held accountable by international society for its trade policy.

Table 5 (column (1)) shows that *CAPLAB* and *SKILL* are both statistically significant. A 10,000-yuan increase in per worker capital would lead to a 0.39 percentage-point decrease in actual tariffs. And a 10 percentage-point increase in the ratio of workers that have completed at least a high school education would lead to a 1.5 percentage-point increase in tariffs. In short, capital-intensive industries received a low tariff protection, and skilled labor-intensive industries received a high tariff protection in the 1990s.

It is interesting that the coefficient of *CAPLAB* has a *negative* sign, contrary to expectations. China is a capital-scarce country and it was expected that capital-intensive industries would receive a higher protection with tariffs. Empirically, however, capital-intensive industries were protected not with tariffs but with NTBs in the 1990s. Table 6 (column (3)) shows that a 10,000-yuan increase in per worker capital would lead to a 2.3 percentage-point *increase* in NTBs. For example, the most capital-intensive industry, oil and natural gas (whose per worker capital is 111,000 yuan), received the highest NTB protection (45.7%) while only receiving a minor tariff protection (3.0%) in 1995.

Comparing tariffs and NTBs, the Chinese government provided overall a higher level of trade protection with NTBs than with tariffs – that is, the average tariff rate was 2.6%, while the average tariff-equivalent NTB was 12.5% – in the 1990s (Table 1). It is thus more important to explore the determinants of NTBs than tariffs. The results shown in Table 6 suggest that other political variables might explain the pattern of NTBs.

First, an industry's geographic concentration was indeed positively correlated with its NTB in the 1990s. Every coefficient of the variables including geographic concentration (that is, *GEOCON*, *SOE* × *GEOCON*, and *GEOCON* × *SIZE*) has a positive sign and is statistically significant. Specifically, holding the other variables at their means, a 1 percentage-point increase in geographic concentration would lead to a 10.8 percentage-point increase in the tariff-equivalent rate of NTBs.

This finding also suggests that the effect of geographic concentration on NTBs would be amplified along with an increase in the SOE share

and an increase in the size of an industry. Figure 2 depicts how the increase in the SOE share (*SOE*) influences the impact of geographic concentration of industry (*GEOCON*) on NTBs, depending on the size of industry employment (*SIZE*), based on the result shown in column (3) of Table 6. Holding *SIZE* at its mean, a 1 percentage-point increase in geographic concentration would lead to an 8.4 percentage-point increase in NTBs if the share of SOE workers were minimum (that is, 8.6% for apparel), while it would lead to a 13.9 percentage-point increase in NTBs if the share of SOE workers were maximum (99.2% for crude oil and natural gas). Holding *SOE* at its means, a 1 percentage-point increase in geographic concentration would lead to a 6.9 percentage-point increase in NTBs for the smallest sized industry (that is, 0.3 million workers for tobacco), while it would lead to a 24.2 percentage-point increase for the largest sized industry (89.4 million workers for textiles).

Second, the results show that the Chinese government did not necessarily protect the industries with large state sectors in the 1990s. As the coefficient of *SOE* is not statistically significant, there is no statistical evidence that the SOE share among workers in the industry itself would directly affect the level of NTBs. However, the results show that the

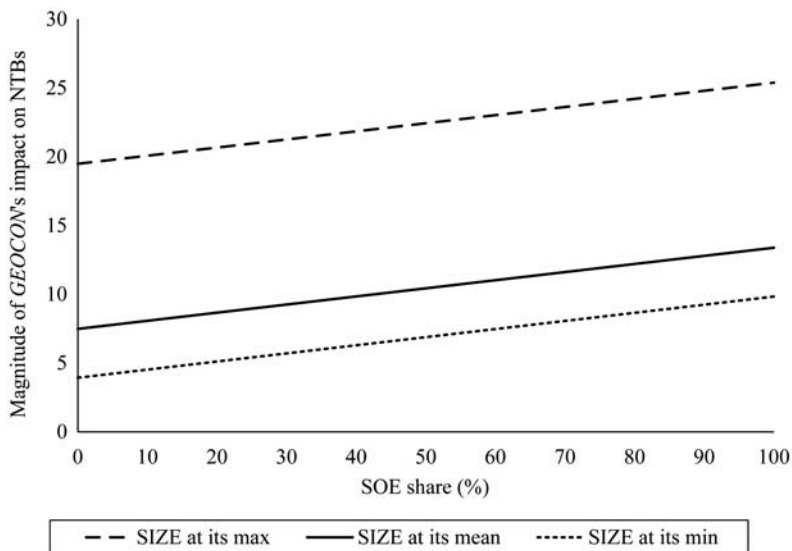


Figure 2 Simulation of SOE share's effect on the magnitude of *GEOCON*'s impact on NTBs.

government protected the industries with a large state sector if and only if those industries were geographically concentrated – as the coefficient of the interaction term between *SOE* and *CONCENTRATION* has a positive sign and is statistically significant. In the least concentrated industry (food), a 10 percentage-point increase in the SOE share would lead merely to a 2.9 percentage-point increase in NTBs, while in the most concentrated industry (logging) it would lead to a 17.2 percentage-point increase.

Third, large industries were more likely to receive protection with NTBs in the 1990s. Moreover, the positive effect of an industry's size on NTBs would be amplified along with the increase in geographic concentration – as the coefficients of both *SIZE* and *GEOCON* × *SIZE* have a positive sign and are statistically significant. In the least concentrated industry, if the size of an industry increased by 1 million workers, then the industry would receive a 13 percentage-point higher NTB. In the most concentrated industry, if the size increased by 1 million workers, then it would receive a 60 percentage-point higher NTB.

The finding is consistent with the following political hypothesis: the Chinese government was not necessarily concerned with the state sector's inefficiency itself when making a decision of which industries' NTBs should be eliminated in the 1990s; however, it was concerned with the ease with which workers were able to organize. They were particularly interested in protecting the geographically concentrated industries with a large state sector. They feared the scenario that workers might be organized to rebel when inefficient SOE factories would be closed due to the elimination of NTBs.

Moreover, the Chinese government was particularly interested in protecting geographically concentrated, large-sized industries. The finding is consistent with the Olsonian argument that larger groups should have greater difficulty acting collectively. In a large-sized industry, geographic concentration might solve the collective action problem and hence have a bigger impact on protection. In a small-sized industry, workers should be able to organize relatively easily and geographic concentration should hence matter less to obtain protectionist relief.

In sum, these results suggest that by retaining NTBs, the Chinese government protected geographically concentrated industries with a large state sector in the 1990s. Moreover, it had a particular preference in protecting large-sized, geographically concentrated industries. This finding

suggests that the government was concerned with workers' protest potential when it decided which industries should remain protected with NTBs.

Overall, the pattern of China's tariffs followed the pattern of factor endowments, while the pattern of its NTBs followed the potential of social protests in the 1990s. Capital-intensive industries received a lower tariff than labor-intensive industries, and skilled labor-intensive industries received a higher tariff than unskilled labor-intensive industries. Although the finding that capital-intensive industries received higher levels of tariff protection than labor-intensive industries is the exact opposition of what the factor endowment model would predict, capital-intensive industries received protectionist relief with NTBs. Large-sized, geographically concentrated industries whose workers were mostly employed by SOEs were most highly protected with NTBs. The following section considers how this overall pattern of NTBs varied between heavy industries and non-heavy industries.

4.2 *The different pattern in heavy industries*

Table 7 shows the determinants of NTBs distinguishing heavy industries from non-heavy industries. It suggests that there is a difference in the factors that explain the pattern of NTBs in heavy industries. On average, the NTBs of heavy industries (9.8%) were 5.4 percentage points *lower* than those of non-heavy industries (15.2%) in 1995. The coefficient of *HEAVY* has a negative sign and is statistically significant (column (3)). This finding is contrary to the expectation that heavy industries should receive higher protectionist relief because they had strong bureaucratic organization and hence had an advantage to pressure the government in the 1990s.

The reason heavy industries received a lower trade protection in the 1990s was that there were many heavy industries that were competitive and export-oriented. Because they were competitive, they did not need protectionist relief and thus were not protected. Overall, heavy industries increased their exports by an average of 23% per year between 1989 and 1997, while non-heavy industries increased their exports by an average of 17% per year (Zhongguo Haiguan Tongji Zhaiyao, 1991; Zhongguo Touru Chanchubiao, 1999). For example, the electronics industry annually increased its exports by an average of 49% between 1989 and

Table 7 Estimates of regressions of NTBs among heavy industries

	(1)	(2)	(3)
Constant	-17.21 (13.19)	-20.29 (13.48)	-34.33** (14.03)
<i>CAPLAB</i>	2.27* (1.16)	2.39** (1.16)	4.40*** (1.36)
<i>SKILL</i>	-0.13 (0.32)	-0.13 (0.39)	-0.32 (0.34)
<i>SOE</i>	-0.02 (0.12)	-0.08 (0.14)	-0.38** (0.15)
<i>GEOCON</i>	3.39*** (0.78)	3.08*** (0.82)	5.08*** (1.12)
<i>SIZE</i>	0.029** (0.011)	0.032** (0.012)	0.034*** (0.011)
<i>SOE</i> × <i>GEOCON</i>	0.059** (0.0025)	0.061** (0.025)	0.068*** (0.0023)
<i>GEOCON</i> × <i>SIZE</i>	0.018*** (0.006)	0.016** (0.006)	0.031*** (0.009)
<i>HEAVY</i>		-5.60 (4.88)	-13.69** (5.50)
<i>HEAVY</i> × <i>SOE</i>			0.36** (0.14)
<i>HEAVY</i> × <i>GEOCON</i>			-6.96** (2.85)
<i>HEAVY</i> × <i>SIZE</i>			0.034 (0.023)
R^2	0.263	0.424	0.567
Adjusted R^2	0.136	0.301	0.455
F	2.07	3.44	5.05
N	35	35	35

Note: Standard errors in parentheses. Regressor is tariff-equivalent NTBs in 1995 (*NTB*).

* $P < 0.10$.

** $P < 0.05$.

*** $P < 0.01$.

1997, and the plastics industry increased its exports by 41%. These export-oriented heavy industries also received a low NTB – 5.6% for the electronics industry and 3.3% for the plastics industry during 1995.

Though heavy industries were less protected by NTBs than non-heavy industries as a whole, there was variation in trade protection within heavy industries in the 1990s. Some industries, such as the petroleum-related businesses, were highly protected, while others, like the chemical fibers industry, received low NTBs. What explains this variation? This section attempts to answer this question by using the same independent variables that the previous section used.

First, Table 7 (column (3)) suggests that among heavy industries, geographically concentrated industries were more likely to be protected with NTBs but to a lesser extent than non-heavy industries in the 1990s – as

the coefficient of the interaction term between *HEAVY* and *GEOCON* has a negative sign and is statistically significant. For heavy industries, holding the other variables at their means, a 1 percentage-point increase in geographic concentration leads to a 9.6 percentage-point increase in the tariff-equivalent rate of NTBs. This number can be compared with a 13.9 percentage-point increase among non-heavy industries.

Second, an industry's state sector size positively influenced protectionist relief with NTBs among heavy industries, while it did not among non-heavy industries in the 1990s. Holding *GEOCON* at its mean, a 10 percentage-point increase in the SOE share would lead to a 4.4 percentage-point increase among heavy industries, compared with a 2.3 percentage-point increase among non-heavy industries. Third, there is no statistical evidence that *SIZE*'s effect on NTBs would have a different pattern depending on whether an industry was heavy or not – as the coefficient of the interaction term between *HEAVY* and *SIZE* is not statistically significant.

This finding suggests that bureaucratic organizations helped heavy industries pressure the central government in the 1990s. Geographic concentration mattered less to obtain protectionist relief among heavy industries than non-heavy industries, because heavy industries could pressure the government through their strong bureaucratic organizations, while non-heavy industries could not. In other words, geographic concentration mattered more for non-heavy industries because it helped workers solve the collective action problem. Moreover, a larger SOE share was likely to lead to a higher NTB among heavy industries, while it had only a minor influence among non-heavy industries. Among heavy industries, if an industry needed protectionist relief from external competition because of its large share in an inefficient state sector, it could pressure the government through its bureaucratic channel. Among non-heavy industries, in contrast, there was not a strong bureaucratic organization to pressure the government even if it had a large inefficient state sector.

4.3 Summary of the statistical findings

In sum, the following findings can be drawn from this statistical analysis about the pattern of China's trade protectionism in the 1990s: (i) skilled labor-intensive industries were protected with tariffs; (ii) capital-intensive industries were not protected with tariffs but protected with NTBs; (iii) a

geographically concentrated industry received a higher NTB and this tendency would be amplified if an industry was large-sized or had a large state sector; (iv) an industry with a large state sector was protected with NTBs if and only if it was geographically concentrated; (v) a large-sized industry was protected with NTBs and this tendency would be amplified if an industry was geographically concentrated; and (vi) being a heavy industry would lead to a high NTB if and only if an industry was not geographically concentrated or had a large state sector.

Overall, the economic variables (capital–labor ratio and workers’ educational level) explain the pattern of tariffs, while the political variables (state sector’s ratio, geographic concentration, and bureaucratic organization) explain the pattern of NTBs. Because the Chinese government provided a higher level of trade protection with NTBs than with tariffs, the findings of the statistical analysis suggest that the political factors were more dominant than the economic factors in the government’s calculations regarding trade protectionism in the 1990s.

Moreover, the ‘water-cooler’ theory is evident in the determinant of which industries the Chinese government gave trade protection in the 1990s. Geographically concentrated industries received protectionist relief. The size of the industry had a positive influence on receiving protection if and only if it was geographically concentrated. Strong lobbying power through bureaucratic channels that some industries had was used if and only if an industry was not geographically concentrated and hence the government was concerned less with the possibility of protests.

5 Conclusion

Even at the height of trade liberalization during the 1990s, some industries remained highly protected, while others were steadily liberalized. The findings of this article suggest that political incentive was at the root of this variation in trade protectionism among industries. The Chinese government protected geographically concentrated, large-sized, heavy industries with a large state sector. It feared potential social instability that might be caused by unemployment from inefficient industries when they were exposed to external competition from free trade. Laid-off workers might easily organize protests if the industry was geographically concentrated. The ease of organized protests, along with the inefficiency of the state sector, was the key to receive protectionist relief from external

competition. The Chinese government thus protected geographically concentrated industries with a large SOE share. Geographical concentration particularly helped large-sized industries receive trade protection because it would solve the collective action problem. Moreover, the findings of this article do not contradict the belief that heavy industries were in an advantageous position to deliver their policy demands to the central government because of their political strength based on the legacy of bureaucratic structure from the Maoist period. Thus, there is a high probability that strong bureaucratic influence enabled heavy industries to receive trade protection if it was not geographically concentrated and hence needed to solve the collective action problem, as this is a common pattern recognized by studies of Chinese bureaucracy (e.g. Solinger, 1982; Shirk, 1985). Strong bureaucratic organization also helped heavy industries with large state sectors receive trade protection.

Having seen the argument that the fear of social protests motivated the Chinese government to protect particular industries, one might be puzzled by the fact that very few labor demonstrations in the 1990s, if any, were mounted to protest directly against free trade (Lee, 2000). However, the lack of visible social protest against trade liberalization does not necessarily imply that the government was not concerned with social instability when it decided which industries should remain protected. The findings of this article suggest that the Chinese government was responding to the *potentiality* rather than the *actuality* of labor protests, a supposition that was reasonable given China's past experience with social movements. The pattern of trade barriers positively correlated with the ease of workers to be organized for protests.

This article also raises questions that might be worthy of further research. First, one might hypothesize that trade unions (*gonghui*) would articulate workers' interests to the Chinese government, which might lead to the receipt of trade protection by an industry. The role of trade unions expanded during the first two decades of the post-Mao reform, though their influence fell far short of labor unions in other countries, especially in democratic countries (Chan, 1993). Moreover, Chinese trade unions are state-controlled. Interestingly, however, according to a journalist's report, workers were sometimes secretly attempting to organize non-state-controlled labor unions because they thought state-controlled trade unions had not worked for labor's interests (*New York Times*, 29 December 2003). To test this hypothesis in the framework of this article

requires waiting until industrial-level data on trade unions become available.¹⁹ Thus far, national-level data and provincial-level data are available; however, industrial-level data are not yet available.

Second, one might ask whether the evidence shown in this article reflects the Chinese government's *real* motivation for trade protectionism. A contrary claim might be that the government is protecting certain industries for other reasons. This article has neither *directly* tested a hypothesis nor proved an argument. To exclude other possible scenarios or reject other alternative hypotheses, one must have comprehensive data directly showing the decision-making processes within the Chinese government: unfortunately, such data are not available.²⁰ Examining the decision-making processes as they relate to China's trade policy is thus an issue that future research must contemplate when we can access more publicly documented resources of decision-making within the Chinese government.

A third possible implication concerns China's accession to the WTO. The China–US agreement that led to China's accession to the WTO covered all agricultural goods, all industrial products, and all service areas (White House Office of Public Liaison, 1999). China joined the WTO in 2001, and it will be interesting to see how this article's findings will relate to WTO-induced reforms – reforms that might add yet other variables to the tradeoff between social stability and economic modernization.

The evidence shown in this article reveals that particular industries enjoyed trade protection with NTBs even in an era of free trade in the 1990s. The comprehensiveness of the WTO accession agreement suggests that those protected industries should have lost their benefits by the accession if the agreement has been literally implemented. However, if further trade liberalization was likely to result in higher unemployment, leading to greater social instability, then why was the Chinese government so eager to join the WTO?

19 China's trade unions might be relevant to political institutions that connect workers' interests to lobbying power in *some* way, which is consistent with this article's explanation. However, *how* trade unions work as a channel to connect workers' interests to lobbying power exceeds the scope of this article. This article thus leaves the question for future research.

20 There are a few articles based on the examination of real decision-making processes of the Chinese government, but they are not based on publicly documented resources but on interviews with officials (e.g. Fewsmith, 2000; Liang, 2002).

To answer this question, one has to examine what kind of industries benefited from trade liberalization in the 1990s. Rogowski (1989) and other projects building off his study suggest that free trade should affect political cleavages favorably for the industries that use abundantly endowed productive factors (e.g. Midford, 1993; Scheve and Slaughter, 2001; Hiscox, 2002). Rogowski's model assumes that winners and losers of social classes – corresponding with productive factors of the economy – should be fused with industrial sectors in the nation. According to Rogowski's model, China should observe a class division between assertive pro-trade labor and defensive protectionist capitalists. However, in reality for the last three decades, SOE workers have been major losers of China's free trade policy (e.g. Cai, 2006; Lee, 2007; Hurst, 2009; Frazier, 2010), while capitalists of the non-state sectors have apparently been major winners of the policy (e.g. Dickson, 2003, 2008; Huang, 2008; Chen and Dickson, 2010). What may account for this emergence of winners and losers? While recent discussions of Chinese politics show how China's authoritarian regime has pursued its survival strategy by designing incentive mechanisms to co-opt key players such as entrepreneurs, local officials, and various groups of citizens (e.g. Dickson, 2003, 2008; Tsai, 2007; Landry, 2008; Chen and Dickson, 2010; Wright, 2010), does the regime's co-optation strategy matter for trade policy after the entry into the WTO? Moreover, did the prevalence of special economic zones matter for China's trade policy in the 1990s?²¹ Are the foreign firms producing in China for export winners of China's entry into the WTO? The questions of who are the winners of China's trade policy under the post-Mao reform and why are ripe for future research.

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21 Zheng (2012) argues that the institutionalization of special economic zones made local governments accountable for making credible commitments for securing foreign firms' property rights. However, the impact of special economic zones on the Chinese government's commitment to free trade has been understudied.

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