

YALE
INTERNATIONAL
CENTER
FOR FINANCE

Yale ICF Working Paper No. 00-62

October 16, 2001

**CHINA AND THE WORLD FINANCIAL MARKETS 1870-1930:
MODERN LESSONS FROM HISTORICAL GLOBALIZATION**

William N. Goetzmann

Andrey Ukhov

Ning Zhu

Yale School of Management

This paper can be downloaded without charge from the
Social Science Research Network Electronic Paper Collection:

<http://papers.ssrn.com/abstract=289139>

**China and the World Financial Markets 1870-1930:
Modern Lessons From Historical Globalization**

William N. Goetzmann
Andrey Ukhov
Ning Zhu

Yale School of Management

October 16, 2001

In this paper we review evidence about the development of the Chinese capital markets over a crucial period in world market history, and place that development in the context of world financial markets at the time. Despite fundamental differences between China today and China 100 years ago, it is still important to consider the dangers of an imbalance between domestic and international investor markets, and the mismatch between domestic and foreign expectations about investor protection. The lessons of the last century suggest that China today should consider opening Chinese investor access to foreign capital markets in order to equilibrate the level of diversification between foreign and domestic investors. In addition, protection of domestic corporate investor rights is at least as important as protecting foreign investor rights.

Acknowledgements: We thank Zhiwu Chen, Otto Lam, Sir Anthony Neoh, Hidetoshi Mine, Sayuri Shirai and Geert Rouwenhorst for helpful comments. We thank the Tokyo participants in the ADBI/Wharton Seminar on Regulatory Difference-Banking Sector Regulation and Securities Market Regulation. For information please contact: William N. Goetzmann, International Center for Finance, Yale School of Management, 135 Prospect Street, New Haven, CT, USA 06520. E-mail: william.goetzmann@yale.edu

I. Introduction

In the first half of the 20th Century, China was one of the hottest emerging markets for global investment. One estimate of total foreign capital invested in China in 1938 put it at \$2.5 billion, third behind India and Argentina as a target of developing market investment, and not dramatically less than the \$7 billion of foreign investment in the United States at the time. Active foreign investment in China, of course, has a much longer history. It began in the mid-Qing era, with direct investment by Britain and other European countries, and developed by the late-Qing into a quasi-colonial relationship with effective foreign control of China's largest commercial port cities.

The history of foreign investment in China is a huge topic, however this paper focuses more narrowly on the process of securitization of the assets of Chinese firms and government debt that began to occur in the late 19th Century, both inside and outside of China. Over the period 1870 to 1930, the Chinese financial system underwent extraordinary change. Chinese enterprise in major port cities developed from family-based, private equity ventures and quasi-public firms, to publicly-held corporations which could tap both domestic and foreign savings through both international and domestic stock and bond markets. Chinese government borrowing began in the late 19th century as an informal process of financial demands levied upon wealthy citizen in times of need. By 1930, despite having defaulted on and restructured significant parts of her debt, China was able to issue bonds for major infrastructure projects on the leading exchanges of the world. In addition, an active domestic bond market provided funding for the nearly ceaseless internal and external military struggles that lasted from the fall of the Qing in 1912 to the revolution that created the current government in 1949.

What makes Chinese finance during this transition era particularly interesting is not the speed and progress of development so much as the problems encountered along the way. Despite the eventual success of capital markets in Shanghai and other

coastal cities by mid-century, Chinese finance lagged far behind developments in Europe and Japan during this transition period. In this paper, we argue that temporary imbalances in capital market development between China and the rest of the world before the fall of the Qing created political problems for China's leaders, and left Chinese investors at a competitive disadvantage with respect to foreign capital. While Chinese officials in the late Qing tried to remedy this imbalance through regulatory reform, these remedies in most cases, were largely ineffectual. Despite experimentation in the late 19th and early 20th centuries with domestic joint-stock companies, China relied primarily on foreign investment through the end of the Qing dynasty. The legacy of this reliance is still visible today.

Foreign investment over the period 1870 to 1930 financed remarkable growth in the Chinese economy, however it came at a price - the most visible of being preferential government concessions to foreign investors, and partial foreign control over government finances. From the foreign perspective, these concessions were simply investor protections. From the Chinese perspective, however, these terms were viewed as an affront to Chinese sovereignty and an impediment to the development of a domestic corporate sector. As a consequence, the terms of Chinese external investments contributed to a backlash against foreign ownership of Chinese capital and foreign encroachment on Chinese sovereignty. Although a vigorous capitalist system grew in cities like Shanghai in the late 1920's and 1930's, the seeds of resentment towards foreign capital became a popular catalyst for the Leninist revolution in 1949, an event that shifted China away from widespread economic and financial relationships with large sectors of the developed world. Only in the last two decades has China returned to the global financial community and in the last decade China has begun to rebuild her own domestic capital market.

In this paper, we argue that China today confronts some of the same problems she confronted a century ago with respect to the tension between domestic and foreign capital markets. Chinese investors today have access to a large domestic market, but

they are still largely constrained from foreign investment. We show that this constraint can have a significant impact on the cost of capital for development, and on the risks confronted by savers. Despite great progress recently in modernization of Chinese capital markets, Chinese investors today do not yet enjoy the same kinds of investor protections as investors in other countries. One lesson from Chinese financial history is that a lack of investor protection impeded progress towards a strong domestic capital market, and superior protections negotiated for foreign investors created even more severe political problems for the government.

The paper is structured as follows. In the next section, we place the development of China's equity markets in the context of the global financial system of the day. In section three we do the same for China's government bond market. Section four focuses specifically on the case of Chinese railroad finance. Section five develops a model of segmented foreign investment. Section six concludes.

Equity Market Development

Rudolph Taüber's 1911 survey of the world's stock markets provides a useful overview of the world of international investing before the First World War. He describes bourses in more than thirty countries around the world available to the German investor.¹ Henry Lowenfeld, an English author, in his 1909 book *Investment an Exact Science* lists forty countries with stock markets open to British investors.² In fact, for British investors of this era, many of these markets were available by trading on the London Stock Exchange itself – either by purchasing stocks and shares in

¹ These include Germany, Austria, Switzerland, the Netherlands, Norway, Sweden, Denmark, Russia, Serbia, Greece, Rumania, Turkey, Italy, Spain, Portugal, Belgium, France, Great Britain, Ireland, New York, Haiti, Dominican Republic, Ecuador, Brasil, Peru, Argentina, Uruguay, Chile, Columbia, Venezuela, Japan, South Africa, Natal, Egypt and Australia.

² Great Britain, India, Canada, Australia, Tasmania, New Zealand, Straits Settlements (Singapore), Belgium, Denmark, Germany, Holland, Norway, Russia, Sweden, Switzerland, Austria, Bulgaria, France, Greece, Italy, Hungary, Portugal, Roumania, Spain, Serbia, Turkey, Japan (Tokio and Yokohama), China (Shanghai and Hong Kong), Cape Colony, Natal, Transvaal, Egypt, New York, Mexico, Argentine, Brazil, Chile, Peru and Uruguay.

foreign firms listed in London, or by purchasing the securities of British firms with concessions to operate overseas. Lowenfeld's analysis is particularly interesting, because it proposes an international diversification strategy based on "The Geographical Distribution of Capital." With numerous graphs showing the uncorrelated movement of securities from various countries, he argues that superior investment performance is obtained by spreading capital in equal proportion across a number of geographical sectors and carefully re-balancing back to these proportions on a regular basis.

It is significant to see how entirely all the rest of the Geographically Distributed stocks differ in their price movements from the British stock. It is this individuality of movement on the part of each security, included in a well-distributed Investment List, which ensures the first great essential of successful investment, namely, Capital Stability.³

This geographical diversification strategy was apparently a popular one with British and other European investors around the turn of the century. Europe was the world's major exporter of capital to the world until the end of the World War I, when the lending role of the United States and Japan grew in prominence. Michael Edelstein ranked Great Britain, France and Germany as the leading creditor nations in terms of capital outflows for most five year periods from 1881 to 1913 with Russia, Norway Australia, South Africa and the United States also occasionally being net capital exporters in this period.⁴ Cleora Lewis' comprehensive study of international capital flows suggests that by 1938, the U.S., U.K., Holland, Belgium, Sweden, Italy and Japan were the only capital exporting countries.⁵ Of course, this does not mean that investors in all non-exporting nations were necessarily undiversified. In the context of

³ Lowenfeld, Henry, 1909, *Investment an Exact Science*, The Financial Review of Reviews, London. p. 49.

⁴ Edelstein, Michael, 1982, *Overseas Investment in the Age of High Imperialism*, Methuen and Co. New York, p. 271.

⁵ Lewis, Op. Cit.

an equilibrium model like the CAPM, in which all investors hold the same portfolio of risky assets, investors from small countries will hold mostly foreign assets, and by the same token, the enterprises of small countries will have mostly foreign investors.

In contrast to Europe, the United States and Japan, China's capital market development in the late 19th century was modest. The domestic investor opportunity set was relatively small, geographically limited, and suffered from early turbulence that might have dissuaded more widespread investment. Never-the-less, the path of the development of the equity and debt markets in China suggests some reasons for the discrepancy, and also makes clear that proposals and potential for development existed relatively early.

The original impetus for tapping Chinese investor capital for development came in part from a Chinese scholar who studied overseas. Yung Wing(容闳), famous reformer and a graduate of Yale College in 1854, proposed the joint-stock financing of a Chinese steamship transportation company to the governor of Kiansu province in 1867. His plan was approved, but it was not until 1872 that Shanghai entrepreneur Sheng Hsun-Huai (盛宣怀) founded the China Merchant's Steamship Navigation Company as a joint-stock company to compete with foreign operated maritime transportation lines.⁶ The company was essentially quasi-private. Local merchants were induced by the provincial government to own shares and to manage the firm, and the government provided a loan that was eventually forgiven. The company was operated with the joint goal of generating profits for shareholders and providing a domestic rival to foreign-owned shipping firms.

Other Chinese joint-stock companies were formed 1870's by Sheng and other entrepreneurs in the 1870's and 80's under the auspices of the *Kuan-tu Shang-pan* (官督商办) system – "Official Supervision and Merchant Management." The shares of these ventures, including the Imperial Telegraph Administration, the Hua-sheng Textile Mill in Shanghai and the Imperial Bank of China, were sold primarily to wealthy merchants and were subject to virtually no official securities laws. Shares in

⁶ Feuerwerker, Albert, 1958, *China's Early Industrialization*, Harvard University Press. P. 97.

Kuan-tu Shang-pan ventures were occasionally traded, and prices for most of the 1880's were printed in Chinese language newspapers in Shanghai, however there was not official exchange for Chinese securities during this stage.

China's first domestic stock price boom dates to the 1880's when the list of publicly traded firms nearly tripled from 10 to 29, and stock prices nearly doubled by 1882, feeding investor speculative demand.⁷ Unfortunately, the Shanghai market crashed in mid-1880's, reducing the traded list to 12 and dropping share prices to roughly half book value. This early bubble may have had a long term influence on investor appetite for shares. Meanwhile, Figure 1 shows that the stock prices of foreign invested companies stayed largely stable, indicating that domestic and foreign equity markets are quite separated at that time in China. Following the crash, prices were no longer recorded in local newspapers -- the crash of the 1880's seems to have dampened investor enthusiasm for shares for nearly two decades.

China's first stock exchange, the Shanghai Share Broker's Association, was founded in 1891 in Shanghai by foreign businessmen. Foreigners founded another stock exchange, the Shanghai Stock Exchange, in 1904, which later merged into Shanghai Share Broker Association. These exchanges initially only traded shares of foreign companies and foreign investment projects. While they facilitated international portfolio diversification, it is not clear the extent to which these foreigner-founded exchanges served the needs and interests of Chinese investors. Only members could trade in the Shanghai Share Broker Association (SSBA) and out of the 100 members of SSBA, about 10 members were Chinese. Do these proportions reflect anything about the client-base of the brokers? We do not know. Like other well-known restrictions by the foreign merchants on Chinese access to institutions, until 1935, Chinese were constrained from trading through SSBA.⁸ Trading in domestic shares thus took place apart from the leading exchanges and in all likelihood remained relatively small around the turn of the century. The number of domestic listings reaching a maximum of 37 in the late Qing era, and investors were

⁷ Zhu, 1998

⁸ Shanghai Archive 1992 P399

geographically limited to the vicinity of Shanghai and transactions were infrequent.

By 1935, the Shanghai China Merchants Stock Exchange had grown to become one of the biggest exchanges in the Far East with a list of 190 companies and an annual trading volume from 2 to 5 trillion Yuan. Interestingly, the Shanghai China Merchants Stock Exchange itself was a public company listed on the Exchange. Shanghai was then one of the most important capital markets in Asia, with a strong domestic and international banking sector and a vigorous market for domestic and foreign stocks and bonds. This had not been the case three decades earlier, when thoughtful attempts to develop home-grown Chinese capitalism experienced sporadic successes and failures that limited the ability of domestic investors to hold diversified portfolios. The early lack of functional capital markets likewise limited the ability of Chinese commercial enterprises to access significant capital. While foreigner-controlled exchanges functioned relatively earlier than Chinese-controlled exchanges, even they could not be compared to the scale and scope of European markets, or to contemporaneous capital markets in Japan. Beyond capital constraints on enterprise, the lagging development affected domestic Chinese investors by leaving them relatively undiversified when compared to foreign investors who accessed more fully-developed markets.

Development and Reform

It has been pointed out that embryonic capitalism existed in China from the Late Ming onwards, particularly in the mining and manufacturing industries, however, there is little question that the encounter with the West, particularly in the major trading ports was a major stimulus to domestic enterprise.⁹ For all of its negative effects on China, British gunboat diplomacy in the 19th Century generated considerable opportunity for domestic manufacturing development. The success of European business practices

⁹ See, for example, Xu, Dixin 许涤新 and Wu Chengming 吴承明, 2000, *Chinese Capitalism, 1522-1840*, St. Martins Press, New York.,

and financial institutions in trading ports like Shanghai and Hong Kong elicited a movement in China to develop her own financial system based upon securitization of financial claims.

In 1904, the Chinese Ministry of Commerce promulgated a number of reforms of the commercial code to facilitate the development of domestic corporations and to limit the ability of foreign shareholders and bondholders to gain control. It further established a bankruptcy code in 1905. According to one estimate, these efforts attracted 130 million taels (or roughly \$100 million U.S. dollars) in Chinese capital to 265 new domestic corporations between 1903 and 1908.¹⁰ Ten of these new firms were railway companies representing about half of the capitalization of all Chinese corporations registered under the company act of 1904. Besides companies organized under the official code, there were a number of other businesses devised to finance railroad development and to compete directly with foreign concessionaires. Figure 1 in the paper, taken from Lee (1977) lists 19 rail companies formed from 1903 to 1909, many of which received official provincial subsidies in the form of revenues from surtaxes on rice, opium, opium pipes, tea salt, lottery tickets, lumber, stamps, rent, official's salaries, and land. As the chart suggests, the promised rates of return on these investments was not high – ranging from 4% to 7% – although it is not clear whether this included the potential for capital gains, since the type of security – equity or debt – is not identified. What is clear is that the targets for capital were not met. Even with official subsidies for many of the firms, the actual amount raised rarely reached half of the goal. Was this due to lack of personal capital? Unlikely. Macroeconomic estimates of domestic wealth from China in the 1930's, as well as accounts of major personal fortunes of her citizens, both suggest that China had considerable capacity to finance defense and infrastructure domestically. One problem was surely the lack of experience with the process of share issuance and

¹⁰Lee, En-Han 李恩涵, 1977, *China's Quest for Railway Autonomy: 1904-1911*, Singapore University Press, Singapore, 1977. P. 268. These figures differ slightly from those in Feuerwerker (1958) Table 1, presumably due to the addition of railway companies studied more completely by Lee.

bond underwriting that European markets had already mastered.¹¹

Another problem was corporate governance. Despite legal reforms and active efforts to charter domestic enterprises, evidence suggests that most of the new businesses after the 1904 reforms did not have the governance structures and managerial expertise and independence from governmental control to allow them to compete effectively against foreign concerns. Lee's study of the Chinese chartered railroad companies in this era attributes their failure to (1) undercapitalization due to higher alternative uses of capital, (2) lack of engineering and technical skill, (3) lack of managerial expertise, (4) corruption and embezzlement.¹² Of course, the first problem of undercapitalization is a symptom and not a cause. Chinese reluctance to invest may have been due to competition with internationally diversified investors or to rational investor expectations about governance problems or both. In connection with this hypothesis, we will detail a particularly important company in our later discussion about railway finance.

Government Bonds

China's provinces, with the blessings of the Imperial Government, first borrowed from foreign merchants during the Taiping rebellion in 1861, and then again in 1862 to control bandits in Fukien and Taiwan. Reliance upon foreign merchants continued in 1867 and 1868 with loans to finance the war against Islamic rebels in Western China. Each of these provincial loans was secured on provincial shares of Maritime Customs. The Maritime Customs duties, one of the largest sources of government revenue, were collected directly by foreign government officials at Chinese ports.¹³ In Table I we enumerate the Chinese external loans listed

¹¹ For macroeconomic estimates of savings capacity, see Riskin, Carl (1975). For a discussion of personal fortunes see Huenemann (1982) p. 126.

¹² Lee, *Ibid.* p. 132-141.

¹³ C.f. Stanley, page 82. The foreign oversight of Chinese maritime customs revenues began as a method for the British and French to collect their war indemnity of 8 million silver taels from

in Kuhlmann (1983), and Stanley (1970) and code each according to the security pledged for the loan.¹⁴ The external loans over the late 19th and early 20th centuries essentially securitized an amazing array of specific government revenues, including China's maritime customs, salt taxes, internal provincial transfer taxes [likin], mining taxes, alcohol and tobacco taxes, opium revenues, property transfer taxes and revenues for railways. Of course, verification and collection of these revenues was an important feature of the loan contract.

The next government loan recorded was floated to defend against the Japanese designs on Taiwan in 1874, was likewise secured on the Maritime Customs. Maritime Customs again backed the 7% 1.5 million sterling bonds sold in London to finance China's defense against France in the 1880's. All of the debt incurred in the 1894-5 war with Japan and the resulting indemnity was secured by Customs revenues, as were the Boxer Indemnities – the debt settled on China by the consortium of powers after the Boxer Rebellion. The Boxer Indemnity of £67.5 million was divided among 14 powers with roughly 75% going to Russia, Germany, France and Great Britain. It effectively absorbed the previously remaining unpledged portion of China's customs revenues and placed her import taxes entirely under foreign control.

With her customs revenues largely pledged after 1900, China had to promise alternative sources of revenue as collateral on major loans. Some of the last obligations of the Chinese Imperial Government such as the 1910 Kiagnan loan issued in France and Belgium were secured by salt taxes. The Qing dynasty fell in 1911 and recognition of the Chinese Republic by the great powers was conditional upon honoring the debts of the previous government. Thus, the first major loan of the new Republic in 1912 (the 5% Crisp Gold Loan), floated in London, negotiated and

China. 40% of custom revenues were paid directly to Britain and France in equal share from collections in all open ports, until the completion of the obligation in 1866. From that point on, the 40% share was paid directly to the Imperial Government in Peking, who found it convenient to maintain the same structure and oversight of the customs duties.

¹⁴Stanley, John C. *Late Ch'ing Finance: Hu Kuang-Yung as an Innovator*, Cambridge, Massachusetts, 1970.

approved by the new political leaders Sun Yat-sen 孙逸仙 and Yuan Shi-kai 袁世凯, was backed explicitly by salt revenues. Loans secured by salt taxes followed in 1911, 1917, 1918, 1922 and 1937 under a variety of Chinese governments. Internal transit taxes, called likin(厘金), existed after the Tai-Ping Rebellion. These were pledged as security on Chinese external loans in 1898, 1909, 1911 and in 1912. Why are all of these revenues and taxes important? Because they represented security to foreign investors. China faced constant external and internal military challenges through the period of our study and by the end of the 19th Century, the weakness of the Imperial Government was well known. Thus, without such backing, Imperial promises to repay were not worth much, even if repayment were deemed to be “expedient.”

Perhaps the most remarkable feature of Chinese bonds over the period is the stability of their yields until 1918. Figure 2 shows the time-series of yields on Chinese, Indian, Japanese and Russian bonds over the period. This was a time of political tumult for China; a period that included two external wars, the Boxer Rebellion, indemnity payments, a revolution that toppled the Qing Dynasty and participation in a World War. Despite these events, the yields on Chinese bonds never move outside of a narrow trading band between 5 ½ and 6% from 1899 to 1913, and from 6% to 7% from 1913 to 1918. The time-series data this chart is from Global Financial Database. It uses a series of yields on Chinese Government bonds quoted on the London market and documented in the Investors Monthly Manual published monthly by The Economist. The bonds used are the 8% Taiwan War Loan of 1874, The 6% Sterling Loan issued in London by Baring Brothers in 1885, and the 5% Reorganization Loan of 1912/13 issued in London, Paris, Frankfurt and St. Petersburg. The first two bonds were backed by Maritime Customs Receipts. The third bond was a direct obligation of the Chinese Government and backed by a Salt tax and surplus Maritime Customs.

This stability of the yields is particularly striking in light of evidence that European and American securities reacted strongly to wartime events. European bond markets reflected the wartime fortunes of combatants during WWI, and European

equity markets reflected the relative advantages of combatants during WWII¹⁵. Studies of the United States during its Civil War indicate that the financial markets reacted to, and in some cases anticipated outcomes of major battles.¹⁶ The rationale for market reactions to news from major political events is based on the presumption that the likelihood of payment on the security fluctuates with the political and military events affecting the issuing authority. Conversely if the foreign shareholder protection was ironclad, we would expect to see no price reaction to political events.

In China, the first political event we examine for a bond price reaction is the 1894-95 war with Japan and treaty negotiations on indemnity payments. Speculation about the treaty and proposed indemnity payments might have been seen in prices in early 1895, and the terms of the treaty, with its 200,000,000 Tael indemnity would have become public after April 17, 1895.¹⁷ Surprisingly, if anything, the 8% treasury bond prices decreased during the war years, despite the fact that the loans to defuse the indemnity, issued in 1895 at 6%, were also largely secured on the Maritime Customs Revenues.

The second date we look for yields to reflect an increasing risk of Chinese default is the funding of the Boxer Indemnities in 1901, which was not issued as bonds, but which captured most if not all of the remaining Customs Revenues until the end of the first World War, at which time some of the indemnity was postponed or cancelled by various nations. The Boxer Indemnities had a junior claim on the

¹⁵ For yield fluctuations in Europe during World Wars, see Fergusen, Niall, 2000, *The Cash Nexus*, Basic Books, New York. For equity fluctuations during World War II see Jorion and Goetzmann, 1999, "Global Stock Markets of the 20th Century," *Journal of Finance* 54(3) 953-980.

¹⁶ See Roll, Richard, 1972. "Interest Rates and Price Expectations during the Civil War," *Journal of Economic History* :476-498 and Kristen L. Willard, Timothy W. Guinnane, Harvey S. Rosen, "Turning Points in the Civil War: Views from the Greenback Market," NBER Working Paper No. W5381, October 1996

¹⁷ For details of the treaty negotiations see Beasley, W.G., *Japanese Imperialism 1894-1945*, Clarendon Press, 1987, p. 64.

Maritime Revenues, with priority following previous charges.¹⁸ However, despite their lower priority, they must have represented a severe economic stress to the government, and they were owed directly to nation-states with armies as opposed to bond-holders who would have to seek legal protection in the event of default. Thus, the issue of strict claims priority in the event of financial distress must be questioned. Despite their importance, there were no price reactions in the London market.

The third and perhaps most important event with the potential to affect the probability of default on Chinese sovereign debt was the Chinese Revolution of October, 1911. It is only reasonable to assume that an investor holding a promise by the Chinese Imperial Government would be concerned by the news that the government had been violently overthrown and replaced with a military strongman with an unclear popular mandate to rule. Again, no movement in the bond prices in London hint at elevated uncertainty about whether the new government would honor its external obligations – despite an obvious, immediate need to consolidate internal popular support.

Recognition of the new government by world powers was conditional upon honoring international debts, and the first step towards this was the 1913 Reorganization Loan, a £ 25 million loan negated by China's new ruler Yuan Shi-kai 袁世凯 with Great Britain, Germany, France, Russia, Belgium and Japan. The U.S. did not participate, on the objection that the loan interfered in Chinese sovereignty. The terms effectively prevented China from using the loan proceeds to defend herself against Russian and Japanese designs on Manchuria.¹⁹ Indeed, political power was directly tied to financial power in the Reorganization Loan negotiations and American influence in the course of the complex negotiations over the Reorganization Loan was hampered by the lack of a liquid market in the U.S. for foreign government securities. Not until the end of WWI did the U.S. assume prominence as a world capital market,

¹⁸Kulhmann, p.34.

¹⁹Scholes, Walter V. and Marie V. Scholes, the Foreign Policies of the Taft Administration, Missouri Press, 1970, p. 237 and ff.

in effect, stepping into the vacuum created by financial wartime crises in Great Britain.²⁰ By the time the Reorganization Loan was finally negotiated and proceeds issued in 1913, the Chinese government was in dire financial straits and needed the cash to meet imperial and provincial loans coming due, back pay for the army and administrative expenses of the new government. Certainly some of the loan proceeds went to pay the Army in Beijing loyal to Yuan Shih-kai 袁世凯, but contemporary observers suspected much of it ended up in the pockets of high officials.²¹

The Reorganization Loan marks the beginning of the finances of the new Republic, and a period of higher rates and higher volatility for Chinese bonds. Loan rates averaged over 6% in the period up to 1919, which by historical accounts marks the beginning of “High Warlordism” by which time the Republic had fractured into a number of battling regional powers with shifting alliances and uncertain finances. It is really the first evidence in the time-series of yields on Chinese bonds suggesting that political events in China had any bearing at all on the likelihood of bondholder repayment. Until that time, apparently the bondholders in London and elsewhere in Europe felt confidence that regardless of China’s internal turmoil, the mechanisms were in place to insure against governmental expropriation.

On October 19, 1921, the Chinese government declared bankruptcy, and with few exceptions, China began to default on her foreign loans in the 1920's. Only bonds backed directly by the Maritime Customs Revenues, including the 1898 Anglo-German Loan and the 1913 Reorganization loan continued to pay. It is interesting to note that Table I indicates clear trends in the sourcing of Chinese debt. After World War I, Japan became a more important lender to China, apparently taking up the slack in the ability of European and Russian capital markets.

²⁰Atkin, John Michael, *British Overseas Investment*, Arno Press, 1977, p.23 and ff.

²¹ Kulhmann, p. 87.

By 1939, virtually all Chinese external loans had defaulted.²² The erosion of China's ability to pay her debts is generally attributed to the breakdown of the mechanism for directing revenues to claimants – provincial seizure of revenues during her civil war were apparently common as regional warlords needed to finance military operations. Finally, the world-wide depression, the devaluation of silver and natural disasters finished off China's ability to borrow externally.

Although the Imperial government relied almost exclusively on foreign debt, the Republic government started to issue domestic debt immediately after the revolution. We report the domestic public debt issuance in Table 2. In 1914, the Republic government established a new agency, Internal Debts Bureau, to overlook the issuance of domestic public debts. Most of the high ranking officers of this bureau were foreigners, who designed the scheme for domestic issues for the Chinese government. The biggest problem with Chinese domestic bonds during that time is that they were seldom sufficiently secured – foreign bondholders held debt senior to domestic bondholders. Many domestic debts were secured with the remainder of customs revenues, which were controlled by foreigners and largely pledged to previous foreign debts. Lack of revenue brought the government to the verge of bankruptcy. In the 1920s, the Republic government defaulted on domestic as well as foreign loans and had to reorganize its debts.

After the Nanjing Government took control of most of the country in the 1920's, it further increased the size of domestic public debt issuance, resulting in another default in 1929. The paper annual yield of most previous public debts was reduced from 7-8 percent down to 6 percent and the re-organization plan also extended the maturity of the debts to twice as long as originally designed. Shortly after the reorganization, the government picked up the speed of public debt issuance again. The ever-increasing size of public debts put the government into default again in 1935. The government issued 2,082,000,000 Yuan worth of public debts in 1936 to reorganize its debts, which is the largest issuance in a single year till then.

²² Kuhlmann, p. 5.

After the Sino-Japanese war broke out in 1937, the government issued various domestic bonds during the eight years of the war. The government no longer targeted individual investors in its debt issuance during that period. Instead, it turned towards banks. Paradoxically, with the weakening of the central government, The banks in Shanghai – China’s money center – became relatively strong. While the government defaulted frequently, Chinese banks in this era had a sterling reputation.²³ To attract investment from Chinese living overseas, some debts was issued in foreign currencies outside China. In addition to regular debts, the government also issued debt denominated in commodities such as wheat and rice. Because the regular taxes and custom revenues decreased dramatically during the Sino-Japanese War, the public debts issued during that period were at even greater risk of default. Eventually, inflation solved the government’s problems at the expense of domestic bondholders. The inflation of the 1940’s decreased the real value of investments by 90%. Finally, the ‘Currency Reform’ of 1948 issued a new currency at a rate of 3,000,000 to 1 to original currencies, wiping out most existing domestic debt.

In sum, Chinese government obligations over roughly sixty years around the turn of the 19th Century can be divided into a period of financial stability followed by a period of volatility. Paradoxically the period of stability in her loan payments was also a volatile period politically. China met obligations despite the sizable Japanese Indemnities and Boxer Indemnities for more than a decade. This was not entirely due to choice – the stability in Chinese bond prices in the first decade of the 20th century is almost certainly attributable to the foreign control of Chinese government revenues. It may be argued that the foreign control of revenues was good for foreign bondholders – at least in the short term – but perhaps bad for the new Chinese Republic, which suffered from a lack of military funding, despite the first Reorganization loan. It is particularly interesting that the very transparency and accountability of the Maritime Customs Revenues that guaranteed bondholder security also restricted the ability of

²³ See, for example, *Fortune Magazine*’s June 1932 feature, “Celestial Modernism in the Banks of China”.

the central state to access cash when needed. Her cost of capital was low, but it may not have been such a bargain.

The comparison to the loan fluctuations in other Asian countries is instructive. Figure 2 and 3 indicates that China was unusual in the period before 1912 in the *stability* of her bond yields. For example, Russian debt yields fluctuated dramatically, with lows in 1890's and highs following their defeat in the Russo-Japanese War. Japanese debt yields began higher than China's but dropped dramatically after her settlement with China in the 1890's. They rose again before the Russo-Japanese War and then dropped with its successful conclusion. Even India – a full-fledged colony of Britain – had more volatile bond yields than China in this period. The conclusion we draw from these comparative dynamics is that the distinctive characteristics of the Chinese loans – in particular their enhanced security features – may have played a role in insulating investors from risk. In the next section, we focus on one of the most important types of Chinese loans during the period – railway loans -- and examine their role in Chinese political change.

Railway Loans

Like his contemporary Yung Wing, Ma Jianzhong was another Chinese scholar responsible for proposing the use of the securities markets to finance railway development in China. Like Wing, his proposals were eventually adopted by the Chinese government. Ma obtained a *baccalaurat* in 1879 from Ecole Libre des Sciences Politiques in Paris. In that year, after a careful study of European economies, he wrote a compelling analysis of China's need to use bonds to finance railway development in the same manner as European nations. Noting that, despite their relative small geographical size,

It seems that these countries can draw on a source as vast and copious as a wellspring or river. By what means do they bring about such a situation? They ensure firstly that they gain the people's trust, secondly that they have a clear method of borrowing, and thirdly that they repay the loans within a fixed

time period.²⁴

Much has been written about global railway finance around the turn of the century. By most accounts the competition among the great powers to secure railway concessions during this period through a combination of political diplomacy and the financial might of their capital markets is, in some ways, the high point of the age of Imperialism. At least it was characterized as such by contemporary commentators such as Lenin, who used the division of China into spheres of influence by foreign capitalists as the example of Capitalist Imperialism *par excellence*.²⁵

Although being under the nominal control of the Chinese Railway Commission, virtually all of China's railways constructed after 1895 were financed by foreign debt issues underwritten by European-led investment banking syndicates which obtained right of way, property concessions and promises of repayment from the Chinese Imperial government. Under the control of the bankers who financed the loans, Chinese railways were constructed, owned and operated by managers designated by the financial consortium. Certainly the most contentious feature of these loans was their provision for extra-territorial rights, which is essence "means the substitution of the court procedure of a creditor country for the business practices of the debtor country."²⁶

The Chinese Eastern Railway was a prime example of extra-territoriality. The Russo-Chinese bank issued a 5 million tael loan in Russia in 1896 to finance the construction of a railway across Manchuria linking the Trans-Siberian Railway to Vladivostok. The railway and its right of way were entirely administered and policed by Russian officials, who controlled the receipts and disbursements. The line was, in

²⁴ Ma, Jianzhong, 1879, "On the Use of Loans to Build Railroads," in Paul Bailey, ed. *Strengthen the Country and Enrich the People: the Reform Writings of Ma Jiazhong*, Curzon Press, Surry, 1998.

²⁵ Lenin, Vladimir Illyich, 1916, *Imperialism, The Highest Stage of Capitalism*.

²⁶ Adams, Henry C. 1920, "International Supervision Over Foreign Investments," *The American Economic Review*, 10(1) 58-67.

effect, a little bit of Russian territory within China's borders, and issued its own currency.²⁷ Japan followed the same model with the loan for the 1917 South Manchurian Railway, which was secured upon the railway's properties. The railway became Japan's first territorial stake in China. A Belgian loan issue of 1897 financed the construction of the Lung-Tsing-U-Hai Railway and was secured by the railway itself and the property and rights of way owned by the company.

Foreign financed, owned, operated and policed railways represented an obvious threat to Chinese sovereignty, an issue widely debated by contemporary observers. For example, economist A.P. Winston, writing in the *Quarterly Journal of Economics* in 1916, is sharply critical of the foreign companies "monopolizing" the financing, construction and control of Chinese railways.²⁸ In contrast to Britain, France, Russia, Belgium and Japan, the United States – for the most part -- pursued an "Open-Door" policy with respect to China, based on the principle of equal access by all nations to Chinese markets and resources, and the preservation of Chinese national sovereignty as opposed to its fragmentation and colonization by world powers.²⁹ As a consequence, America generally opposed contracts that suggested preferential access to rail concessions. One exception to this policy, and perhaps the most important and spectacular example of Chinese railways concessions, is the Hukuang Loan.

The Hukuang loan is important in Chinese history for many reasons. The story of the loan illustrates the struggle between provincial and national powers in the late Qing period. It also illustrates how Chinese capitalists sought to fund development internally. Finally, it reveals the political consequences of foreign concessions – the Hukuang loan has been interpreted by some historians as the spark that led to the 1911 revolution and the end of 3,000 years of dynastic rule.

²⁷Dreyer, Edward L., 1995, *China at War 1901-1949*, Addison,Wesley, Longman,Essex p. 29.

²⁸ Winston, A.P., 1916, "Chinese Finance Under the Republic," *Quarterly Journal of Economics* 30(4) August, p. 738-779.

²⁹ Scholes, alter V. and Marie V. Scholes, 1970, The Foreign Policies of the Taft Administration contains a detailed description of the U.S. China policy.

Hukuang is a region in south-central China which includes the provinces of Hunan, Hubei, and part of Szechuan. In 1905, a consortium of Hukuang gentry, officials and businessmen, with the blessing and participation of the provincial governor Chang Chih-Tung, obtained a concession to develop a domestically financed rail line through Hukuang. It came after the successful provincial lobbying for compensated cancellation of the development rights of J.P. Morgan's American China Development Company which actually fronted for a Belgian rail development firm seeking to construct a line from Canton to Hankow. The line was a key route through Hukuang linking a commercial port to the cross-roads of Chinese rail lines in the interior, and the cancellation of the foreign concession opened the door for domestic development.

After the cancellation of the American concession, the Hukuang gentry took an active role in gaining concessions. For example, the Canton-Hankow line was divided between two domestic concessionaires, one in Kwangtung (Guangdong) and the other in Hunan. The experience of the Kwangtung company illustrates some of the problems of corporate governance experienced in the emerging Chinese legal framework. The firm was among the most successful of Chinese companies at capital subscription. All 44 million Taels was raised, much of it from wealthy overseas Chinese investors. Overseas Chinese participation in the venture is particularly interesting given the issues of diversification discussed earlier. An initial price of one Tael per share attracted widespread popular domestic interest. An account in the *North China Herald* is particularly graphic in its description of investor enthusiasm for buying railway shares.

Not only are the monied classes rushing to buy shares, but the poorest of the poor and even those who are supposed of no cash to spare and hardly enough to keep body and soul together are buying up one or more shares.³⁰

³⁰ Quoted in Lee, En-han 李恩涵, 1977, "China's Quest for Railway Autonomy: 1904- 1911: A study of the Chinese Railway Rights Recovery Movement," Singapore University Press. P. 104.

Many of the shares were sold to the public through provincial charitable institutions, which failed to register them in the name of the subscribers and instead retained the voting rights for themselves. With the help of these same organizations, and over the violent protests of shareholders, the president of the Canton Chamber of Commerce took control of the company and precipitated further proxy contests and ultimate intervention by provincial authorities. An audit of the company books in 1909 revealed massive embezzlement. The management had falsified the books by inflating expenses, and had been purchasing equipment at high prices through suspicious transactions.³¹

The movement after the turn of the century towards domestic financing is often interpreted as a grassroots nationalistic response to the threat of external financing and control of Chinese infrastructure by foreign concerns, however this characterization may be too simplistic. The gentry in China at this time was a class of educated social elite who served a political role as local intermediaries between the imperial government and the populace, and who exerted considerable local control and influence over commercial affairs. Early in the history of Chinese railway development, Er-Tu Zen Sun observes:

Chinese railways often suffered from forces in the environment that tended to obstruct their normal operations. These obstructions came from different quarters. It was sometimes the local gentry in the early years of railway history: over 3,000 taels were paid in 1906 to a number of local influential personages along the route of the P'ing hsiang-Hsiangt'an line, for example, as salary for "protecting the road," in permission to lay the track through their districts.³²

³¹ Account taken from Lee, 1977, p. 140.

³² Sun, E-Tu Zen, 1955, "The Pattern of Railway Development in China," *The Far Eastern Quarterly* 14(2) February, 179-199.

In his study of the Changsha Rice Riot of 1910, Rosenbaum finds that the gentry played a key role in using xenophobic sentiment about foreign railroad development to turn the populace against the Manchu government. Indeed, Chang Chih-t'ung 张之洞 had turned down a proposal by a local merchant guild to fund a proposed rail line in Hunan in favor of a gentry-dominated, quasi-governmental firm. According to Rosenbaum it suffered a similar fate to the Kwangdong company.

The operations in 1907-1908 were an unmitigated disaster. Virtually no power was assigned to shareholders, a number of whom apparently were merchants. In late 1907 large numbers of private shares were withdrawn. Those excluded from a voice in management continued to protest, although it is not clear whether their main target was the incompetent gentry management or the government's refusal to reorganize the company into a purely private venture.³³

In sum, the experience of the domestic rail companies that obtained the concessions in place of the American China Development Company was unfortunate. The formation of domestic companies for rail development had the potential as a catalyst for personal investing in domestic ventures. The active participation of overseas Chinese in these ventures suggests that the domestic firms might even have had the potential for attracting international capital of a sort. All the more unfortunate that, despite the laudable goals of self-financed railway development, and the willingness of Chinese great and small to invest their savings in such ventures, the fundamental structure of corporate governance was not yet in place in China. Sadly, it appears that combination of poor corporate governance, and an entrenched gentry that operated under a system of prestige and influence made it difficult to compete with foreign companies incorporated abroad under governance systems well understood by well-diversified investors.

Ultimately, despite nationalistic sentiments and powerful local interest groups, Chang brokered sole British financing for the railway – a move that threatened to tip

³³ Rosenbaum, Arthur L., 1975, "Gentry Power and the Changsha Rice Riot of 1910," *Journal of Asian Studies* 34(3) May, p. 689-715.

the delicate balance of foreign influence in the Yangtze region.³⁴ To combat British advantage, Germany, France and finally the U.S. demanded participation in the loan, the construction, and the control. The final result was a £6,000,000 sterling loan shared by the four powers, with the rights to develop separate sections of track carefully negotiated among the participants. In a move that doubtless infuriated the gentry, Chang then closed the deal by persuading the Qing government to nationalize all domestic railway development on the grounds that delays caused by the undercapitalization of domestic developers were impeding progress. The expropriation of domestic shareholder rights was thus complete.

The 5%, 50 year Hukuang Railways Sinking Fund Gold Loan was signed in 1911 with the Imperial chop of the Minister of Posts and Communications. The bond also bears the details of the security for the loan. Besides the net revenues of the railroad, the loan pledged as security (1) the Hubei general likin of \$2 million Taels/year, (2) the Hubei additional salt tax for river defense of 400,000 Taels/year, (3) a new, additional salt tax established in 1908 (during the period of loan negotiation) of 300 Taels/ year, (4) the Hubei collection of Hukuang inter-provincial taxes on imported rice of 250 Taels/year, (5) Hunan general likin revenues of 2 million Taels/year and (6) the Hunan salt commissioner's treasury allotment of regular salt likin of 250,000 Taels/ year. Presumably, this collateral was vital to pay bondholders during the railroad construction period. While the people of Hukuang were getting a modern railroad, they were paying for it with salt taxes, new salt taxes, rice taxes and taxes on inter-provincial transfers which presumably would increase with the extension of the rail system. In addition, the development rights were effectively expropriated from local business interests and handed to foreigners by the provincial governor acting in concert with the Imperial government.

Kuhlmann found a particularly interesting account of the consequences of the Hukuang loan. Quoting Chang Kia Ngau, *China's Struggle for Railroad Development*:

³⁴Scholes and Scholes p. 127.

When the new policy of nationalization was made known the people raised a storm of opposition. Popular indignation was once more aroused to an extraordinary extent. It was especially intense in Szechuan, where strikes took place in the markets and schools. The provincial legislature was thrown into turmoil by the arrest of its speaker and deputy speaker. The people of the provincial capital Chengdu marched en masse to the official residence of the viceroy, and sentries fired into the crowd, killing scores of people. This enraged the people still more, and they refused to pay any more taxes and levies. By the middle of July many thousands of persons surrounded and attacked the city of Chengdu, being supported by the neighboring townships and villages. The coincidence of the outbreak of the revolution in Wuchang, opposite Hankow on the Yangtse River [In Hubei Province] – greatly heartened the people of Szechuan. To suppress the movement, the Imperial Government sent its well-equipped soldiers under the command of General Tun-Fang (端方) to Szechuan, but the general was assassinated on his way, and the Viceroy of Szechuan met with the same fate. On September 10, 1911, the people of Szechuan declared themselves independent of the old regime and in sympathy with the revolutionary cause. On October 16, Prince Regent Chun proclaimed on behalf of the boy emperor his abdication from the throne.³⁵

While this account conflates a number of riots and unrest in the period just before the revolution, a careful study of one of the most important riots over Chinese railroad rights during this period – the Changsha rice riots of 1910 – clearly implicates the local gentry as fomenters of resistance against the Qing government.³⁶ With the Qing government siding with foreign investors in financing Chinese development, The rights recovery movement turned against the Manchu rulers as well as foreign commercial interests.

The Hukuang Railway loan was the last external debt of the Chinese Imperial Government, and it defaulted in the 1920's. China as a nation continued to borrow for

³⁵ Quoted in Kuhlmann, Wilhelm, *China's Foreign Debt*, self-published, 1983, p.73.

³⁶ Rosembaum, Arthur, 1975, "Gentry Power and the Changsha Rice Riot of 1910," *Journal of Asian Studies*, 34(3) May, 689-715.

railway development until late into the 1930's – rail loans appear in 1934, 1935, 1936 and 1937. The only significant gaps in railroad bond issuance in the database are 1926 and 1927 (coinciding with Chiang Kai-shek (蒋介石)'s northern military campaign to unify China), and the first four years of the Great Depression of the 1930's. With these exceptions, Chinese railway financing and development by foreign investors continued in the face of civil war and eventually foreign occupation.

Summing Up

The development of Chinese capital markets from the period 1870 to 1930 had advances and set-backs. Given the early vision by Chinese intellectuals regarding the potential to develop an internal equity market and to exploit foreign bond markets for economic development it is somewhat surprising that China experienced such difficulties on both of these fronts. While history tends to focus on the success stories in development, Chinese financial history suggests that the difference between success and failure sometimes lies in a few, salient events – the equity market crash of the 1880's, failure of the early domestic rail companies, the misjudgment by the Imperial government about domestic sentiment about foreign concessions. Ultimately, the reasons for the uneven development of Chinese market may have had to do as much with historical events as with environmental, legal or cultural factors. After all, China and Japan started out borrowing on the world's bond markets at about the same time and at about the same rate, with the same restrictive covenants. Japan won a series of wars with her Asian neighbors and China lost a series of wars. Whether Japan's well-developed capital markets were a cause or effect of these outcomes is a matter of debate.

In our analysis below, we explore two themes that we believe had an important impact on Chinese capital market development – and potentially on history. Among various factors, we find diversification and corporate governance and investor protects two distinct features that distinguished Chinese capital markets from those in the West. We will emphasize on examining these two features in this section and propose corresponding policy recommendation in the next section

Diversification

One particularly crucial feature of Europe's capital markets – in contrast to markets that were limited to domestic securities, was the capacity for even small investors to hold diversified portfolios. In terms of financial theory, this imbalance in diversification meant that foreigners may have effectively been the marginal investors in Chinese enterprise and public debt. That is, in head-to-head competition between foreign and Chinese capitalists for commercial projects – simply by virtue of a cost of capital driven by relative diversification – the foreigners could pay more.

When one set of investors is able to diversify their portfolios through international investments and another set is constrained to hold assets in only one country, the cost of capital is potentially affected. Consider the following stylized example. There are two separate capital markets, market 1 and market 2 in which investors holding shares in market 1 cannot hold shares in market 2 and vice versa. Take market 1 to be China and market 2 to be the European capital markets of the turn of the century. Now consider a new project, n , which pays a random cash flow and needs financing. The project owner must decide which market will give the best terms. In effect he will choose the market with the lowest cost of capital for the project which is the expected rate of return $E[R_{n1}]$ or $E[R_{n2}]$. Let us assume that the standard equilibrium asset pricing model CAPM holds in each separate market, that the coefficient of risk aversion for the representative investor in each market is equal, that each project is atomistic in its respective market, and that the riskless rate of return, R_f is the same in each market. Using standard notation for betas, correlations, variances and covariances, and letting θ be the coefficient of risk aversion, the conditions determining the relative costs of capital in each market are then straightforward

$$\begin{aligned}
E[R_{n1} - R_f] &= E[R_{n2} - R_f] \\
\beta_{n1}[R_{m1} - R_f] &= \beta_{n2}[R_{m2} - R_f] \\
\frac{\sigma_{n1}}{\sigma_1^2}[R_{m1} - R_f] &= \frac{\sigma_{n2}}{\sigma_2^2}[R_{m2} - R_f] \quad \text{Equation (1)} \\
\frac{\sigma_{n1}}{\sigma_1^2} \theta \sigma_1^2 &= \frac{\sigma_{n2}}{\sigma_2^2} \theta \sigma_2^2 \\
\sigma_{n1} &= \sigma_{n2}
\end{aligned}$$

For the owner to be indifferent between sources of financing, the covariances of the cash flows of project n with respect to the segmented market portfolios must be equal. However, suppose there is an inequality? Equation 1 suggests that the required rate of return on the project in market 1 will be larger than in market 2 when the covariance of the project with respect to the market index 1 is greater. For China, it is natural to assume that domestic development projects had a higher covariance with the domestic, market-weighted portfolio of Chinese companies than with the market-weighted portfolio of the rest of the world's companies, excluding China. This suggests that the cost of capital in the domestic market – if fully segmented – will be higher.

This interpretation should be tempered, however, with the understanding that the requirements for a pricing model like the CAPM to hold – particularly liquidity requirements – are probably unrealistic for China in the last century. In addition, it is not clear whether a railway project in China would have a higher covariance with other economic activity in China, or with a world index which is heavily weighted to railway companies. This is an empirical matter for further research. Finally, Shanghai at the turn of the century had banks and equity markets. Did these allow Chinese investors to diversify their portfolios internationally – effectively making our assumption of segmentation incorrect? Again, this is a matter for further research.

Equation 1 characterizes conditions in terms of covariances, but this effect can be decomposed into correlations and standard deviations, which allows us to consider the relative importance of diversification. Under what conditions will we find the cost of capital be smaller for market 2 than for market 1? Assuming correlations to be positive:

$$\begin{aligned} \sigma_{n1} &= \sigma_{n2} \\ \rho_{n1}\sigma_n\sigma_1 &> \rho_{n2}\sigma_n\sigma_2 && \text{Equation (2)} \\ \frac{\rho_{n1}}{\rho_{n2}} &> \frac{\sigma_2}{\sigma_1} \end{aligned}$$

Equation 2 suggests that even in the case where the $\sigma_{n1} = \sigma_{n2}$, if the standard deviation of the world wealth portfolio (excluding China) were lower than the standard deviation of the Chinese market index, then the owner would find external financing more attractive. As Stulz (1999) points out, and as contemporary commentators on international investing noted, the risk of a global investor's portfolio was reduced through geographical diversification. In a world where one group of investors is diversified and another group is not, the diversified investors are simply willing to pay more for the same asset. This obtains when the added asset is more highly correlated to the domestic investor's portfolio, and also when the volatility of the domestic portfolio is higher. If this were true in China 100 years ago, we would expect to find reluctance by Chinese investors to invest capital in domestic projects on the same terms provided to foreign investors. Of course, this analysis may simply pre-suppose too much about the relative development of Chinese capital markets.

As the early historical analysis suggests, the western encounter with China during the 19th century was as much a clash of financial systems as it was a clash of technology and culture. There was no Chinese parallel to the rapid European development of government and corporate bond and share markets over the 19th Century. This stands in marked contrast to Japanese efforts in the late 19th century to develop internal capital markets. Like China, Japan first floated foreign bonds in the 1870's. However unlike China, virtually all Japanese financing until the mid-1890's made active use of an internal government debt market, and much economic development was financed by a business environment consciously adopted during the Meiji period from successful European models.³⁷ In contrast, the Chinese financial system in the mid to late 19th century was dominated by pawnshops and money shops

³⁷Suzuki, Toshi, 1994, Japanese Government Loan Issues on the London Capital Market 1870-1913, Athlone Press, London.

for small-scale lending, exchange banks for distant transfer of funds, and, after 1860, customs banks in major ports to receive and disburse customs payments for foreign trade.³⁸ The lack of a capital market meant that most lending and equity investment was private. The government did not borrow by issuing public debt, and by some accounts, regarded the payment of interest for borrowing anathema. Despite exhortations by reform-minded intellectuals such as Ma Jianzhong, interest-free lending to the government was seen as a obligation. In his history of Late Qing finance, Stanley quotes a telling statement from a government official in the 1870's regarding the domestic issue of bonds: "As the loan is one from people to officials, it is inexpedient that it should bear interest."³⁹ Such governmental resistance to compensation for the time-value of money cuts two ways. The government deposited tax revenues with exchange banks and demanded no interest – presumably the yield on these deposits, if realized, were regarded as the benefits of patronage. Understandably, the official attitude towards government loans made it hard to borrow from her own citizens. Thus, the effects of diversification may have been secondary to the simple lack of a liquid capital market.

There is some historical evidence that the required rates of return on foreign-financed capital projects during this era were less than the rates of return to externally financed infrastructure projects. Pommeranz cites evidence that the "prime rate" charged to the government and leading merchants by Tianjin banks and pawnshops in the late 18th century was 10% to 12%. Broader surveys of Chinese interest rates in the early 20th century document annualized median interest rates on agricultural loans 30%, and for business ventures, required loan rates of 7% to 8% plus a share in equity profits.⁴⁰ Lee notes that capital opportunities outside of the traditional investment in real estate and pawn shops also yielded higher returns – Chinese capitalists were

³⁸ See Stanley, John C. Late Ch'ing Finance: Hu Kuang-Yung as an Innovator, Cambridge, Massachusetts, 1970. Pages 19-29.

³⁹ Ibid. p. 65.

⁴⁰ Huenemann, p. 128-129.

actively investing in export-oriented industries such as textile and food processing. Lending to the government and buying railroad bonds and shares were comparatively unattractive places for capital.⁴¹ Unfortunately, there is no systematic survey of rates of return on investments in China at this time, because there was no large-scale public capital market. What is clear is that it was hard to attract domestic investment. The Chinese were not major investors in government loans or domestic development projects in the late 19th and early 20th Centuries – a simple economic explanation for this is that there were superior risk-adjusted alternative uses of capital.

The dramatic export of capital from Europe, and the active practice of international portfolio diversification must surely have had a significant effect on the markets into which Europe's capital flowed. Stulz (1999) argues that the modern trend towards globalization has reduced the global cost of capital through the diversification effect. Motivated by similar interests, Bakaert and Harvey (1995) and Beckaert and Lundblad (2000) carefully examine the shifts in cost of capital and market risks in emerging markets as they integrate into the world capital market. The general conclusions reached by these and other researchers studying world capital market liberalizations is that the cost of capital drops as outside investors are given access to local investment projects. There are obviously positive features of this drop in terms of cost of capital – capital projects previously unattractive due to low rates of return are can now be financed. Lower interest rates can be an extraordinary boom to the economy. Hou (1965) and Huenemann (1984) both document the dramatic expansion of the Chinese economy resulting from foreign investment n the late 19th century. However, the other side of the coin is that, in the competition for control of domestic assets, the undiversified local investor is at a relative disadvantage.

This competition between domestic and international investors is the theme of Rajan and Zingales (2001). They point out that, despite the obvious efficiencies of international financing, domestic investors may strongly resist competition. The motive for such resistance is, presumably, the additional benefits of influence attached

⁴¹ Lee, op.cit. P. 133.

to rights of control enjoyed by local management. When these rights are challenged without compensation, and the powers of local interests are not governed by strict rule of law, the consequences are potentially explosive.

Corporate Governance and Investor Protection

The second factor in the trajectory of Chinese financial history is the relative ineffectiveness of legal protection and governance structures for enterprise in China, compared to the extraordinary protections negotiated by foreign investors. By the late 19th Century, many European nations had developed laws and norms for the definition and governance of business enterprise, as well as legal protection of the rights of security holders – both holders of corporate obligations and holders of sovereign debt. In Asia, Japan moved quickly to adopt financial markets and structures patterned after European models, but major steps in this direction were not taken in China until the early 20th Century. Even then, stake-holders of various kinds – from local gentry to provincial government officials wielded considerable power and influence over commercial enterprise. Virtually all the major rail and mining firms operation in China before the 20th Century were incorporated in Europe, not China. As noted above, these foreign concessionaires extracted guarantees from the Chinese Imperial Government such as direct control over collection of revenues, the right of property seizure in case of default, the right to source their own materials, and exclusivity against domestic or foreign competition. In some cases, concessions included near-complete autonomy from Chinese law and taxation, and freedom from local competition – even the right in some cases to issue a separate currency. While such deals may have lowered the risk to foreign investors, their effect was to elevate the protection enjoyed by foreign firms above Chinese firms.

The protections for foreign investors in Chinese government bonds were even more extraordinary. Beginning in the mid-19th Century the Chinese Maritime Customs revenues were collected and controlled by the British. Payments on foreign debt could thus be taken directly from customs revenues before going to the treasury – effectively giving foreign bond holders senior claim to China's primary source of

revenue. While this undoubtedly lowered the Chinese Government's cost of capital by reducing the probability of default, it also limited the fiscal options of the Chinese state, and put her purse-strings in the hands of a foreign power.

Foreign control of Chinese Maritime Customs, and the commercial concessions extended to foreigners may have served at first to control foreign investor risks, but they had obvious political repercussions. Indeed, they were regarded then, as now, as dangerous, intermediate steps towards the foreign colonialization of China.⁴² Foreign control of China's transportation system and trade revenues put the Imperial government at the mercy of political attempts to press territorial advantage. The great powers: Britain, France, Germany, Russia and Japan all had imperialistic designs on Chinese territory. While investor benefits may have been the original motivation for commercial and governmental concessions, following the Sino-Japanese War in 1895, the great powers vied with each other to finance Chinese rail development – regardless of whether there was demand by investors for the loans. China was chronically in debt in the early 20th Century as a result of indemnities settled on her by these same powers – a condition that gave foreign nations more leverage in negotiations to expand their spheres of territorial influence. The pressure of foreign powers on the Chinese government together with the institutional imbalances between Chinese financial markets and those of the developed world was an explosive combination. They finally led to the foreign ownership of productive capital, to foreign capitalists playing in China by their own rules, and to the pretext for weakening of the state control over her own territory. In an influential series of cross-sectional studies of the world's capital markets, LaPorta et al. (1997,1999,2000) show that protection of investor rights is just as important as getting access to their capital – in fact without the rights, capital is remarkably scarce. They demonstrate that the legal environment is one of the most important determinants of the success of corporate capitalism in a country. Empirical evidence by these authors and others who

⁴² See, for example, Winston, A. P., 1916, "Chinese Finance Under the Republic," *Quarterly Journal of Economics*, 30(4) August, 738-779.

have built upon their work shows that legal origin determines the protection of shareholder rights which in turn helps determine the size and functioning of the capital market which in turn determines the efficiency of the allocation of capital to enterprise.⁴³ What determines the origin of the country's legal system? Colonialism is a major cause. Colonialism, for all of its known faults, can be thought of an export mechanism for the legal framework from one country to the other. LaPorta et al. show that even when the government itself is no longer a colonial one, the legal framework may continue to provide differential benefits to private enterprise within the country. Pushing this evidence a bit further, one can interpret a colonial world as one form of political-economic equilibrium in which investor-friendly legal systems across the world allow for increased efficiency in capital allocation and the emergence of private enterprise. Of course, there is another side to this coin when the issue of national sovereignty supercedes economic motives.

Conclusion

Sometimes, finance plays a central role in the political development of nation-states, both as an agent for the state's formation and as an agent for the state's destruction. The story of China's first major encounter with the world's financial markets is inseparable from global politics. The world's financial markets of a century ago were anything but *laissez-faire* – at least as far as China was concerned. Loan negotiations which began as investor protections ultimately became the means for colonial designs on China. Railways played a key role in the extension of foreign control and even foreign legal environments into China.

None of this could have occurred, however, without the fundamental drivers of finance. In this paper, we identify two key financial motivations which in some sense are stateless. First, we argue that the high level of development, and the demand for international diversification by sophisticated investors in the global money centers

⁴³ Jeffrey Wurgler, 2000, "Financial Markets and the Allocation of Capital," *Journal of Financial Economics*, 58(1) 187-214, October.

of Britain and Continental Europe gave a relative advantage to foreigners. Chinese sovereign debt found a ready market in London, and experienced relative stability in yields due to investor protections negotiated with the Chinese government. Investors also financed potentially highly profitable infrastructure projects in China – particularly railroads. We argue that the existence of a liquid capital market, and the power of international diversification, put foreign investors in a relatively better position to bid for Chinese projects. The active markets in Europe and Japan were able to mobilize the capital of small investors. Modern portfolio theory suggests that the diversification enjoyed by these investors through the global markets allowed them to accept lower rates of return than China's domestic investors.

The second major factor is investor protection. While the extraterritorial terms provided to foreign investors were anathema to the Chinese people, the historical evidence suggests that they may have been a necessary condition to allow development and operation without the interference of local interest groups. The gentry-led movement to regain railway development rights from foreigners in the early 1900's has been viewed as a nationalistic movement to regain Chinese rights. The experience of the shareholders in these companies suggests that the potential for a genuine capital market in China was hobbled by the inability to protect the minority rights of domestic investors.

The role of finance in Chinese politics of a century ago is of more than historical interest. With the re-emergence of global investing in emerging markets, China is poised to attract considerable financial capital. China is in a much stronger position today politically and militarily and thus the issues of extra-territoriality and sovereignty are less threatening than 100 years ago. It is worth noting, however, that in part due to financial history, China is understandably still sensitive to violations of her territorial sovereignty.

The key factors of diversification and governance remain relevant. As commercial opportunities arise in China today, will her own investors be able to compete against foreign investors to finance projects? One way to insure this possibility is to offer domestic investors the possibility of investing outside of China,

either directly, by liberalizing currency exchange, or internally by listing international shares on Chinese exchanges and by launching international mutual funds that are accessible to Chinese savers. Although this means that some Chinese capital will be exported, it also means that the domestic investor opportunity set will be equal to that of foreign savers, and as a consequence, Chinese investors will demand the same rates of return as foreigners, and the marginal investors in Chinese ventures will not necessarily be foreign.

The second factor is China's experience with corporate governance. The enthusiasm for investing immediately following the promulgation of corporate laws in 1904 was tempered by the failures of corporate governance. These failures were nothing special to China. Governance is a particularly challenging problem for many countries in the world right now. One interpretation of the unequal rights and concessions associated with foreign finance is that they were a means to control the risks associated with emerging market investing. But the experience of China 100 years ago suggests that investors needed protection against expropriation just as much as foreigners needed it. Chinese capital markets today are developing rapidly as Chinese financial regulators are modernizing the legal framework for investment. One approach that might prevent the unequal treatment of foreign and domestic interests is to concentrate efforts to protect minority shareholder rights for domestic shares, and to test the institutional structures for such things as contests for corporate control, public accounting and disclosure and insider trading laws in the context of the domestic share market. Once securities regulators have experimented with these issues, it might then be the time to eliminate the difference between domestic and international shares.

There are also important lessons for the international investment community interested in supporting China's capital market development. Although much of the early political abuses of the international financial system have been corrected with the development of international lending institutions like the World Bank, there is still the potential, in these dynamic times, for asymmetric competition between domestic and international financing. While it may be tempting to suggest that the most

efficient, low cost means of financing Chinese economic development is through foreign rather than domestic markets, the international community should realize the serious problems that arise from domestic stakeholders who are excluded from participation in the profits of such financing. Currently, the dual-listing structure of the Chinese equity market is an effective means to mobilize and in some sense to nurture domestic commitment to Chinese capital markets. The international community should do what it can to support future efforts to protect this re-emergence of Chinese investing. This may mean accepting a gradual process of experimentation with market regulation and share dissemination, as well as a gradual reduction in the differences between foreign and domestic shares.

It has become fashionable for both the left and the right to criticize the current global financial system – either because it distorts risk-taking incentives by governments expecting a bail-out, or because it finances projects that environmental and political groups find objectionable. These critics should consider the alternative. One hundred years ago, China's first encounter with globalization created political conditions that led ultimately to a rejection of the international financial system. As the world now approaches the degree of global market integration it enjoyed at the end of the last century, the disparity in international capital market development creates potential problems similar to those faced in the past. International financial architects should be wary of suggestions that a new equilibrium can be quickly and easily achieved without consideration of the human and political consequences.

Besides the immediate, practical implications of our interpretations of Chinese financial history, we draw one additional lesson from our current study. Chinese capital markets ultimately disappeared because of internal rather than external forces. A simplistic view of this is that, in China, the Leninist interpretation of capitalistic imperialism eventually won out. Although current empirical research shows that legal protection of external shareholder rights – particularly in the face of strong stakeholder influences – may ultimately be best for economic development, there are large gaps in the empirical record. China and Russia both withdrew from the world capital markets as a result of Leninist revolutions. Thus, a longer historical view

reveals these gaps to be endogenous. The repudiation and elimination of both internal and external financial claims may have been due at least as much to the success of legal imperialism as to its failure. That is, the expansion and articulation of property rights of external owners that is so important to the success of corporate enterprise also sometimes alienates local stakeholders from the productive sector.

References

- Adams, Henry C., 1920, "International Supervision Over Foreign Investments," *American Economic Review*, 10(1) March, 58-67.
- Asiaticus, 1937, "The New Era in Chinese Railway Construction," *Pacific Affairs*, 10(3) September, 276-288.
- Atkin, John Michael, 1977, *British Overseas Investment: 1918-1931*, Arno Press, New York.
- Bakaert, Geert and Campbell Harvey 1995 "Time-Varying World Market Integration," *Journal of Finance*, 403-444.
- Bakaert, Geert and Lundblad, 2000, Chris "Does Financial Liberalization Spur Growth," NBER working paper
- Beasley, W.G. 1987, *Japanese Imperialism 1894-1945*, Clarendon Press
- Dreyer, Edward L. 1995, *China at War 1901-1949*. Addison, Wesley Longman, Essex.
- Edelstein, Michael, 1982, *Overseas Investment in the Age of High Imperialism*, Methuen and Co. New York.
- Feis, Herbert, 1930, *Europe, The World's Banker: 1870-1914*, Yale Press, New Haven.
- Ferguson, Niall, 2001, *The Cash Nexus: Money and Power in the Modern World, 1700- 2000*, Basic Books, New York.
- Feuerwerker, Albert, 1958, *China's Early Industrialization*, Harvard University Press.
- Hou, Chi-ming, 候志明 1965, *Foreign Investment and Economic development in China 1840-1937*, Harvard Press, Cambridge.
- Huenemann, Ralph William, 1984, *The Dragon and the Iron Horse: the Economics of Railroads in China 1867-1937*, The Council on East Asian Studies, Harvard University, Cambridge.
- Jorion, Philippe and William Goetzmann, 1999, "Global Stock Markets of the Twentieth Century " *Journal of Finance*, 953-80

- Kirby, William C., 1995, "China Unincorporated: Company Law and Business Enterprise in Twentieth Century China," *Journal of Asian Studies* 54(1) February, 43-63.
- Kuhlmann, Willhelm, *China's Foreign Debt*, self-published, 1983, p. 73.
- LaPorta, Rafael, Florencio López-de-Silanes, Andrei Shleifer and Robert Vishny, 1997, "Legal Determinants of External Finance," *Journal of Finance*, 52(3), 1131-1150.
- LaPorta, Rafael, Florencio López-de-Silanes, Andrei Shleifer and Robert Vishny, 1999, "Corporate Ownership Around the World," *Journal of Finance*, 54(2), 471-517.
- LaPorta, Rafael, Florencio López-de-Silanes, Andrei Shleifer and Robert Vishny, 2000, "Investor Protection and Corporate Governance," *Journal of Financial Economics*, 58(1), p. 1-25.
- Lee, En-Han, 李恩涵 1968, "China's Response to Foreign Investment in her Mining Industry (1902-1911)," *Journal of Asian Studies*, 28(1) November, 55-76.
- Lee, En-Han, 李恩涵 1977, *China's Quest for Railway Autonomy: 1904-1911*, Singapore University Press.
- Lenin, Vladimir Illyich, 1916, *Imperialism, The Highest Stage of Capitalism*.
- Lewis, Cleona, 1948, *The United States and Foreign Investment Problems*, The Brookings Institution, Washington D.C.
- Lowenfeld, Henry, 1909, *Investment an Exact Science*, The Financial Review of Reviews, London.
- Ma, Jianzhong, 1879, "On the Use of Loans to Build Railroads," in Paul Bailey, ed. *Strengthen the Country and Enrich the People: the Reform Writings of Ma Jiazhong*, Curzon Press, Surry, 1998.
- Mauro, Paolo, Nathan Sussman and Yishay Yafeh, 2000, "Emerging Market spreads: Then Vs. Now," Working Paper International Monetary Fund and Hebrew University.

Mosley, Layna, 2000, "History Repeating Itself? Sovereign Borrowing Before the First World War," Working Paper, Department of Government, University of Notre Dame.

Obstfeld, Maurice and Alan M. Taylor, 2001, "Globalization and Capital Markets" *NBER Working Paper*.

Pan, Junxiang 潘君祥 and Ma, Chuande 马传德, 1998, *Currencies in Old Shanghai*, Shanghai People's Fine Arts Publishing House, Shanghai

Qian, Jiaju, 千家驹 1955 Archives on Chinese Public Debts, Finance and Economics Publishing House, Beijing

Rajan, Raghu and Luigi Zingales, 2001, "The Great Reversals: the Politics of Financial Development in the 20th Century," NBER Working Paper 8178.

Riskin, Carl, 1975, "Surplus and Stagnation in Modern China," in *China's Modern Economy in Historical Perspective* ed. Dwight H. Perkins, Stanford University Press, Stanford.

Roll, Richard, 1972. "Interest Rates and Price Expectations during the Civil War," *Journal of Economic History*. 32, 2, 476-498

Rosenblum, Arthur L., 1975, "Gentry Power and the Changsha Rice Riot of 1910," *Journal of Asian Studies*, 34(3) May, 689-715.

Scholes, Walter V. and Marie V. Scholes, 1970, *The Foreign Policies of the Taft Administration*, University of Missouri Press, Columbia.

Shanghai Archive, 上海档案馆 1992, *Shanghai's Stock Exchange Before the Liberation*, Shanghai Document Publishing House, Shanghai

Stanley, John C., 1970, *Late Ch'ing Finance: Hu Kuang-Yung as an Innovator*, East Asian Research Center, Harvard University, Cambridge.

Stulz, René, 1999, "Globalization of Equity Markets and the Cost of Capital," Working Paper, Dice Center, The Ohio State University.

Sun, E-Tu Zen, 1951, "The Shanghai-Hangchow-Ningpo Railway Loan of 1908," *The Far Eastern Quarterly* 10(2) February, 136-150.

Sun, E-Tu Zen, 1955, "The Pattern of Railway Development in China," *The Far Eastern Quarterly*, 14(2) February, 179-199.

- Sussman, Nathan and Yishay Yasef, 1999, "Institutions, Reforms, and country Risk: Lessons from Japanese Government Debt in the Meiji Period," Working Paper, Hebrew University.
- Suzuki, Toshi, 1994, *Japanese Government Loan Issues on the London Capital Market 1870-1913*, Athlone Press, London.
- Tauber, Rudolf, 1911, *Die Börsen der Welt*, Verlag für Börsen-und Finanzliterature A.-G.
- Ukhov, Andrey, 2001, "Russian Government Debt Prior to 1918," Draft, International Center for Finance, Yale School of Management.
- Wang, Jingyu 汪敬虞, 1999, *Financial Activities of Foreign Capital in Last Century*, People's Publishing House, Beijing
- Willard, Kristen L. Timothy W. Guinnane, Harvey S. Rosen, 1996, "Turning Points in the Civil War: Views from the Greenback Market," NBER Working Paper No. W5381.
- Winston, A. P., 1916, "Chinese Finance Under the Republic," *Quarterly Journal of Economics*, 30(4) August, 738-779.
- Xu, Dixin 许涤新 and Wu Chengming 吴承明, 2000, *Chinese Capitalism, 1522-1840*, St. Martins Press, New York
- Ye, Shi-chang 叶世昌 and Pan, Lian-gui 潘连贵, 2001, *Finance History of China Before the Liberation*, Fudan University Publishing House, Shanghai
- Zhu, Yingue, 朱荫贵1994, *Government Interference and Modernization of China and Japan*, Orient Publishing House, Beijing
- Zhu, Yingue, 朱荫贵1998, *Three Market Crashes and Shanghai Securities Market in Late 1800s and Early 1900s*, China Economy History Research, Issue 3, 58-70

Table 1. Chinese Foreign Debt Issuance

Table 1: List of Chinese External Debt Issues							
<p>External Debt of Chinese government as compiled from Kulmann (1977) and Stanley (1970). Each is coded by date of issue, type of debt and face value of issue, converted into U.S. Dollars at exchange rates prevailing at the time. Loan yields are as specified on the bond at issue, not market yields based upon issue price, thus they are typically a lower bound on the actual bond yield. Currency indicates the currency or form of payment promised on the loan. The purpose of loans is briefly identified, and the type of security or collateral is listed. Place of issue indicates the location the debt was issued. Multiple locations indicate multiple bond issues.</p>							
Date	Type	US dollar amount (millions) if known	Yield	Currency	Purpose	Security or collateral if known	Place of Issue
1861	loan	200,000		tael	war	Shanghai custom voucher	
1862	loan	336,587	11	tael	war		
1862	loan	169,370		tael			
1864	loan	100,000	6.5	tael	armory		
1865	loan				none	none	
1866	loan			Tael	none		
1866	loan	1,333,000		tael		Maritime-customs/provincial revenues	
1867	loan	800,000		tael	war		
1868	loan	1,413,000	7.25	tael	war		
1874	loan	3,260,000	8	sterling	war		Hong Kong
1877	bond	3,333,000	8	tael	war	maritime customs	Hong Kong London
1878	loan	2,333,300	10	tael	war		
1878	bond	1,667,000	5.5	tael	none		Berlin
1879	bond		7	tael	none		Hong Kong
1881	loan	2,667,700	8	tael	war		
1883	loan	667,700		tael	war		
1883	loan	667,700		tael	war		
1884	loan	667,000	8	tael	war		
1884	loan	667,000	8	tael	war		
1884	loan			sterling	armory		
1885	loan	2,667,700		tael	war		

1885	bond	6,543,000	7	sterling	war	maritime customs	Hong Kong London
1885	loan	6,522,000	6	sterling	rail	maritime customs	London
1885	bond	3,409,000	6	sterling	none	maritime customs	Hong Kong London
1886	loan	2,000,000		tael	war		
1886	bond	76,000	7	tael	none		Shanghai
1887	loan		5.5	DM	none	Chihli customs	Frankfort Berlin
1888	loan		7	tael	yellow river		
1893	loan			tael	none		
1894	bond	726,000	7	tael	war	maritime customs	Shanghai Hong Kong Amsterdam Hamburg
1895	bond	4,347,000	6	sterling	indemnity	maritime customs	London
1895	bond	13,043,470	6	sterling	indemnity	maritime customs	London
1895	bond	4,347,000	6	sterling	indemnity	maritime customs	Frankfort Berlin Hamburg
1895	bond	4,347,000	6	sterling	indemnity	maritime customs	London
1895	bond	68,782,000	4	gold	none	maritime customs	Paris St. Petersburg Geneva Brussels Amsterdam Frankfort
1896	bond	69,565,000	5	gold	indemnity	maritime customs	London Berlin
1896	bond	3,333,000	6	tael	rail	Chinese Eastern Railway	Shanghai London
1897	bond	19,565,217	4	sterling	rail	Lung-Tsing-U-Hai Railway and land	Brussels
1898	bond	8,000,000	5	franc	rail	Cheng-Tai Railway	Paris
1898	bond	69,565,000	4.5	gold	indemnity	maritime customs, salt Likin revenues, customs bonds	London Berlin
1899	bond	10,000,000	5	sterling	rail	Chinese Northern Railway	London
1899	bond	22,500,000	5	franc	rail	Peking-Hankow rail revenues	Paris Geneva Brussels Amsterdam
1900	bond	3,000,000	5	dollar	rail		New York
1900	bond	1,121,739	5	sterling	cable	government guarantee	London
1901	loan		5	sterling	cable		
1901	bond	300,000,000	4	sterling	indemnity	maritime custom	Shanghai
1903	bond	8,000,000	5	franc	rail	railway and direct obligation of government	Paris
1904	loan	14,772,700	5	sterling	rail	existing and future railway	London
1904	certificates	20,454,500		sterling	rail		
1904	bond			sterling	rail		
1904	bond			dollar	war		

1905	bond			yen	war		
1905	loan	4,444,000	5	sterling	indemnity	maritime customs and provincial revenues	London Berlin
1905		4,888,800		sterling	rail	Opium revenues and internal revenue bonds	London
1905	loan	8,200,000	5	franc	rail	Railway	
1905	loan		5	sterling	rail	existing railway and its revenue	London
1906	bond			dollar	war		
1906	loan		4	sterling	rail		
1907	loan	400,000		yen	rail		
1907	bond	6,521,700	5	sterling	rail	railway	London
1907		4,782,600	4.5	sterling	rail	Canton-Hankow railway and its revenues	
1908	bond	6,521,000	5	sterling	rail	Direct obligation of government, railway	
1908		1,075,000	5	yen	rail	Kirin-Changchun-railway	Tokyo
1908	bond	23,585,000	5	sterling	rail	railway	London Berlin
1909	cert.			chinese gold dollar	war		
1909	loan	22,727,270	5(4.5)	sterling	rail		
1909	loan		5(7)	sterling	repay debts	provincial likin revenues, direct obligation of government	
1909	loan	160,000	5	yen	rail	Hsin-Feng Railway	Tokyo
1910	loan		7	tael	local	guarantee of the central government	
1910	loan		7	tael	local	Kiangnan salt revenues	
1910	loan	12,766,000	5	sterling	rail	railway and provincial revenue	London Berlin
1910	loan	2,888,510	5	sterling	rail		
1911	loan	5,000,000	5	yen	none	Peking-Hankow railway revenue	
1911	loan	5,000,000	5	yen	rail	railway and revenue of Kiangsu Province	
1911	loan		7	tael	local	3rd charge on the ichang salt revenues	Shanghai London Paris Berlin New York

1911	loan		7	tael	local	1st charge on likin revenues of Kwang-Tung	
1911	loan	2,885,000	5	sterling	armory	salt taxes, direct obligation of government	
1911	loan	39,216,000	5	sterling	rail	revenue on general revenue form Hunan and Hupeh prov.	
1912	loan	1,500,000	8	yen	rail	revenues and stock of Kiangsi railway	Tokyo
1912	loan	1,000,000	8	yen			
1912	loan	10,714,000		sterling	repay debts		
1912	loan	1,607,100	6	sterling	rail		
1912	loan		7	M	local	silk likin revenues	
1912	bond		8	M	local	central government guarantee	
1912	bond		8	tael	Treasury	taxes of agricultural products and supplementary customs revenues	
1912	bond		6	tael	Treasury		Shanghai
1912	loan	35,087,700	5	sterling	repay debts	surplus of salt gabelle and other government sources	London
1912	loan		5	M	armory	government guarantee	
1913	loan	15,686,000	5	sterling	rail	Lung-Tsing-U-Hai Railway	Paris Brussels
1913	loan	1,765,000	5	sterling	none	tax on transfer of property and title deeds	Brussels
1913	loan	17,655,000	5(6)	sterling	rail		
1913	loan	19,608,000	5.5	sterling	rail		
1913	loan	3,019,600	6	sterling	rail		
1913	loan	98,039,200	5	sterling	repay debts		London Paris St. Petersburg Brussels Tokyo
1913	loan	4,706,000	6	sterling	repay debts		London
1913	loan	7,843,100	6	sterling	none		London
1914	loan	1,960,784	6	sterling	none		
1914	loan	28,864,000	5	franc	government expenses/rail way	industrial enterprises it was issued for, municipal taxes	Paris
1914	loan	41,667,000	5	sterling	rail	secured upon a second mortgage on the Chiaokia-	London

						Tayuan-fu railway	
1914	loan	1,562,000	6	sterling	repay debts	surplus profits of the Peking-Mukden railway	Shanghai London
1914	loan	19,230	5	franc	rail		
1914	bond		8	m	Treasury		
1914	bond	3,745,455	5	sterling	rail		
1915	loan	2,488,000	6	yen	none	mining concessions in Hunan and Anhwei	
1915	bond	2,488,000		yen	rail	1st charge on railway	
1915	bond			yen	war		
1915	loan		7(8,10)	franc	repay debts		
1916	bond	1,150,000	8	dollar	rail		
1916	bond	5,500,000	8	dollar	Treasury		
1916	loan		8	tael			
1916	loan	5,871,400	8	sterling	repay debts		
1916	loan	301,600		yen	local		Tokyo
1916	loan	1,010,000		yen	industry		Tokyo
1916	loan	301,600		yen	industry		Tokyo
1917	loan	505,000		yen	industry		Tokyo
1917	bond	1,010,000	6.5	yen	local		Tokyo
1917	certificates(?)	2,564,000	7.5	yen	repay debts	bank shares and treasury bonds	Tokyo
1917	loan	667,000		yen	local/industry	factory and local government guarantee	Tokyo
1917	loan	769,000		yen	local	provincial salt taxes	
1917	loan	1,179,000		yen	rail		
1917	loan		7		repay debts	Bank of China notes	Tokyo
1917	bond	2,122,640	7	franc	Treasury		
1917	bond	52,173		taels			
1917	loan	272,700	6	sterling	none	peking octroi	
1917	loan	1,090,900	6	sterling	none	peking octroi	
1917	loan		7	yen	repay debts	surplus salt revenues	
1917	loan	769,230		yen	local		
1917	loan	10,256,000	7.5	yen	none	Treasury bonds	
1917		3,333,000	6(5)	yen	rail	properties of railway and government guarantee	

1917	loan	41,025		yen	local/industry		
1917	loan	128,200		yen	local		
1917	loan	25,600		yen	local/industry		
1917	loan	25,600		yen	industry		
1918	loan	66,200	9	sterling	education		
1918	loan		10	taels	none		
1918	loan	1,052,000	8	yen	purchase		
1918	bond	755,500	8	sterling	telecommunication	none	
1918	loan	2,667,600	8	sterling	army equipment	direct obligation of the government	London
1918	loan	444,400	8	sterling	telecommunication	government treasury	
1918	loan	526,000		yen	military	Kailan mining Adm.	Tokyo
1918	loan	5,261,000	7	yen	repay debts	surplus salt revenues	Tokyo
1918	loan	1,052,000	7	yen	local	rights to cooperate in local iron-mining	Tokyo
1918	loan	526,000		yen	government	surplus salt revenues	Tokyo
1918	loan	526,000		yen	local	sundry taxes of Fukien	Tokyo
1918	loan	526,000		yen	industry		Tokyo
1918	loan	7,368,000	7	yen	government		Tokyo
1918	loan	1,052,000	7	yen	rail	revenues of the railway	Tokyo
1918	loan	52,600		yen	rail		Tokyo
1918	loan	1,578,900		yen	telecommunication		Tokyo
1918	loan	10,521,000	7.5-9	yen	telecommunication	all telegraph properties not previous pledged	Tokyo
1918	loan	526,000		yen	local		Tokyo
1918	loan	10,521,000	5	yen	rail		Tokyo
1918	loan	1,578,900		yen	rail	collieries in Fengtien owned by prov. Gov.	
1918	loan	1,578,900		yen	industry		
1918	loan	5,261,000		yen	repay debts		
1918	loan	2,382,200	8	sterling	telecommunication	exclusive rights to communicate with systems outside china	

1918	loan	5,261,000	7.5	yen	rail		
1918	loan	15,789,000	7.5	yen	local	Kirin and Heilongkiang gold mines and government forests	
1918	loan	10,521,000	8	yen	rail	treasury bonds	
1918	loan	10,521,000	8	yen	rail		
1918	loan	5,261,000	7	yen			
1918	loan	5,261,000	7	yen			
1918	bond		8	chinese dollar	industry		
1918	loan	1,206,000	10	yen			
1918	loan	1,538,000	7	yen	rail	Peking-Suiyuan railway	
1918	loan	5,128,300	8	yen	telecommunication	present and future gov. tel. Adm. Rev.	
1919	loan	901,000	6	sterling		title deeds taxes	
1919	loan	258,500		yen	none		
1919	loan	891,900	8	sterling	none		
1919	loan	572,000	10	taels	none		
1919	loan	752,000	9	franc	none		
1919	loan	76,000	9	franc	none		
1919	loan	8,122,000	8	sterling	transportation		London
1919	bond	796,300	5	franc	Treasury		
1919	loan	448,000	10.8	taels	none		
1919	loan	27,700	9	franc	none		
1919	bond	3,703,000	7	franc	Treasury		
1919	bond	25,000,000	6	dollar	Treasury	wine and tobacco revenues	New York
1919	loan	5,727,000	7.5	sterling	rail	earnings from Taokow-Tchingwha railway	
1919	bond	5,500,000	5.5	dollar	Treasury	wine and tobacco revenues	New York Chicago
1920	loan		12	chinese dollar	repay debts		
1920	bond	2,593,000	5	franc	none		
1920	bond	1,075,500	9	franc	none		
1920	loan	36,590	9	sterling	education		
1920	loan	104,070	8	franc	local		
1920	loan	410,000	10.2	yen	none		
	loan	15,384		yen	none		

1920	loan	70,000		dollar	education		
1920	loan	60,000	6	dollar	education		
1920	loan		8	belgian franc	haikow harbor	LTUH railway line	Brussels
1920	loan	545,400	5	sterling	rail		
1920	loan	3,076,000	9	yen	telecommunication	telegraph installations, equipment, properties and revenues	Tokyo
1920	loan		8	fl	rail		Amsterdam
1920	loan	1,328,000	9	yen	none		
1921	loan		12	taels	Treasury		
1921	bond	701,000	8	yen	Treasury		
1921	loan	1,718,800		yen	none		
1921	loan		10	sterling	none		
1921	loan	45,100	10	franc	education		
1921	loan		8	belgian franc	rail		Brussels
1921	loan	25,000	14	yen	education		Tokyo
1921	loan	28,850	10	yen	education		Tokyo
1921	loan	938,983	8	dollar	none		
1921	loan	240,000		yen	rail		
1921	loan	1,442,000		yen	rail		
1922	bond	14,234,000	8	yen	repay debts	salt-surplus revenues	
1922	loan	541,000	15	yen	forestry&mining		
1922	loan	3,720,000	8	sterling	rail	projected railway from Paotow to Ningshia and from Peking to Paotow	London
1922	bond	6,831,000	6	yen	Treasury	customs and salt revenues after all prior claims	
1923	loan	7,121,000	8	belgium francs	rail	LTUH railway line	Brussels
1923	loan	6,870,000	8	fl	rail	LTUH railway line	Amsterdam
1923	bond	19,417,000	6	yen	Treasury	railway and government guarantee	
1923	loan		8	taels	rail	railway	
1925	bond	43,893,900	5	dollar	indemnity	maritime customers revenues	Shanghai London Paris New York

						and native Chinese custom revenues	
1925	loan	4,340,000	8	franc	rail	LTUH railway line	Paris New York
1925	loan	21,600	8	sterling	rail	China's shared profits in Shanghai-Nanking railway	
1925	loan	33,010,000	8	sterling	reorganize bonds	taxes on transfer of property and title deeds and Peking octroi	
1928	bond	5,000,000	6	Gold	indemnity	maritime customs revenues	Brussels
1928	bond		8	fl	rail		
1929	bond	757,300	8	sterling	Rail	rolling stock purchased	
1930	bond	20,000,000	2	dollar	repay debts		
1933	loan	17,105,386	5	dollar	purchase		
1933	bond	100,000,000	5.5	dollar	treasury		
1933	bond	4,400,000	9.6	dollar	indemnity	maritime customs	
1933	Loan	5,000,000	6	Sterling			
1934	Loan	4,000,000	6	taels	Rail		
1934	bond	7,352,000	6	sterling	Rail	secured on a portion of the original boxer indemnity	London
1934	Loan	5,333,000	5.5	taels	Rail		
1935	Loan	1,172,000	6	sterling	Bridge		
1935	bond	5,294,000		yen	Rail		Tokyo
1936	loan	750,000		sterling	industry		
1936	loan	5,500,000	6	sterling	Rail	direct obligation of the government and also secured on railway/bridge revenues	Shanghai
1936		2,000,000	6	dollar		Canton Customs	
1936		13,500,000	6	sterling		Canton local tax and railway income	
1937	loan				Rail		
1937	bond	4,900,000	4	dollar	reorganize bonds	direct charge on entire salt revenues	
1937	loan	15,000,000	5	sterling	Rail	surplus salt revenues not yet pledged	
1937	loan	18,500,000	5	sterling	Rail	rail	
1937	loan	4,000,000	6	sterling	Rail		

1937	loan		6	egu	Rail		
1937	loan	1,920,000	6	sterling	Rail		
1937	Loan	50,000,000	6	Dollar		Salt tax	
1937	Loan	50,000,000	6	sterling		Salt tax	
1938	Loan		7	Francs	Rail	Kwangtung mining taxes	
1939	Loan	40,000,000	5	sterling		National income	
1939	Loan	45,980,000	5	Dollar		National income	
1940	Loan	10,000,000	5	Dollar		Highway income	
1941	loan	99,800,000	4	Dollar			
1945	Loan	400,000,000	4	Dollar			
1946	Loan	300,000,000	20	dollar			
1982	Loan	40,816,000	8.7	yen	None		Tokyo

Table 2. Chinese Domestic Debt Issuance

Year	Amount Converted in US Dollar	Yield	Converted Yield	Securities	Currency
1894	8,476,900	8.4	6.46	Rent Tax	Taels
1898	7,692,300	6	4.62		Taels
1910	7,407,400	7.2	5.33		Yuan
1911	1,146,800	6	4.20	Department Income	Yuan
1912	4,848,600	8	5.26	National income	Yuan
1912	89,407,800	6	3.95	National Transactional tax	Yuan
1913	16,077,400	6	3.87	Railway income	Yuan
1914	15,194,100	6	3.53	Unsecured custom	Yuan
1914	1,647,000	6	3.53	Bond Fund	Yuan
1915	11,428,500	6	3.43	Tobacco Tax	Yuan
1917	43,636,300	6	5.45	Special Fund	Yuan
1918	52,941,100	7	8.24	Commodity Tax	Yuan
1919	80,000,000	6	8.00	Unsecured custom	Yuan
1919	2,880,000	7	9.33	Commodity Tax	Yuan
1920	13,064,500	6	6.45	Tobacco Tax and special fund	Yuan
1920	1,301,100	7	7.53	Tobacco Tax and special fund	Yuan
1920	58,483,800	6	6.45	Special Fund	Yuan
1920	14,623,600	7	7.53	Special Fund	Yuan
1921	40,278,500	8	5.71	Salt Tax	Yuan
1921	10,000,000	18	12.86		Yuan
1921	7,142,800	7	5.00	Stopped indemnity	Yuan
1922	3,731,300	8	5.97	Stopped indemnity	Yuan
1923	746,300	8	5.97	Stopped indemnity	Yuan
1923	3,134,300	8	5.97	Stopped indemnity	Yuan
1924	11,111,000	8	5.93	Stopped indemnity	Yuan

1924	5,882,300	8	5.88	Railway income	Yuan
1925	6,060,600	8	6.06	Special Fund	Yuan
1925	2,255,600	8	6.02	Special Fund	Yuan
1925	1,515,200	8	6.06	Stopped indemnity	Yuan
1925	1,818,200	8	6.06	Stopped indemnity	Yuan
1925	12,878,700			National Income	Yuan
1926		4	2.72	Hupei Export Tax	Yuan
1926	4,033,100	8	5.30	Hupei Export Tax	Yuan
1926	8,867,550	6	3.97	National Income	Yuan
1926	19,736,800	7	4.61	River custom	Yuan
1926	26,315,800	9.6	6.32	River custom	Yuan
1927	10,126,600	8	5.06	Tobacco Tax	Yuan
1927	6,250,000	8	5.00	Yin Hua Tax	Yuan
1927		8	5.00	Gasoline Tax	Yuan
1927	5,660,400	9.6	6.04	Tianjin Custom Tax	Yuan
1927		8	5.00	National Income and transportation income	Yuan
1927	18,750,000	8	5.00	Stopped Indemnity	Yuan
1927	28,481,000	2.5	1.58	Remaining customs	Yuan
1928	6,666,700	8	5.33	Custom Increment	Yuan
1928	31,847,100	8	5.10	Custom Increment	Yuan
1928	15,894,000	9.6	6.36	Tobacco Tax	Yuan
1928	2,649,000	9.6	6.36	Tianjin Custom Tax	Yuan
1928	26,143,800	8.4	5.49	Custom Increment	Yuan
1928	45,751,600	8.4	5.49	Custom Increment	Yuan
1929	12,500,000	2	1.25	Railway income	Yuan
1929	937,500	6	3.75	Eletronic Plant Income	Yuan
1929	1,373,600	8	4.40	Eletronic Plant Income	Yuan
1929	11,111,100	8	4.44	Custom Increment	Yuan
1929	5,681,800	8	4.55	Telecomm. Income	Yuan
1929	13,714,300	8	4.57	Tobacco Tax	Yuan

1929	45,454,500	8	4.55	Custom Increment	Yuan
1929	28,409,100	9.6	5.45	Custom Increment	Yuan
1930	23,904,400	8.4	3.35	Tobacco Tax	Yuan
1930	3,174,600	8	3.17	Export Income	Yuan
1930	31,746,000	9.6	3.81	Custom Increment	Yuan
1930	31,746,000	9.6	3.81	Tobacco and flour tax	Yuan
1930	31,746,000	9.6	3.81	Salt Tax	Yuan
1930	31,746,000	9.6	3.81	National tax	Yuan
1930	31,746,000	8	3.17	Stopped Indemnity	Yuan
1932	6,006,000	6	1.80	Tobacco tax and special fund	Yuan
1932	1,801,800	6	1.80	Eletronic Plant Income	Yuan
1932	1,201,200	6	1.80	Salt Tax and Special fund	Yuan
1932	30,030,000	6	1.80	Custom Increment	Yuan
1933	25,000,000	6	1.50	Custom Increment	Yuan
1933	3,000,000	6	1.50	Railway income	Yuan
1933	3,000,000	6	1.50	Salt Tax	Yuan
1934	34,482,800	6	2.07		Yuan
1934	41,379,300	7.2	2.48	Stopped Indemnity	Yuan
1934	41,379,300	7.2	2.48	Stopped Indemnity	Yuan
1934	34,482,800	6	2.07	Custom Increment	Yuan
1934	241,379,300	6	2.07	Salt Tax	Yuan
1934	10,344,800	6	2.07	Szechuan local tax	Yuan
1934	3,448,300	6	2.07	Telecomm. Income	Yuan
1934	6,896,500	6	2.07	Custom Increment	Yuan
1935	561,538,500	6	2.31		Yuan
1935	130,769,200	6	2.31	Stopped Indemnity and Special Bond	Yuan
1935	10,384,600	6	2.31	Railway income	Yuan
1935	30,769,200	6	2.31	Railway income	Yuan
1935	5,769,200	6	2.31	Szechuan local tax	Yuan
1935	46,153,800	4	1.54	Canton local tax	Yuan
1936	5,384,600	6	2.31	Railway income	

1936	189,230,800	4	1.54	National Income	Yuan
1936	6,538,500	4	1.54	Guang'xi Salt Tax	Yuan
1937	148,656,700	6	1.79	Income tax	Yuan
1937	29,850,700	5	1.49	Salt tax	Yuan
1937	7,440,500	4	1.19	National Income	Yuan
1938	1,153,846,100	6	1.15	National Income	Yuan
1938	1,153,846,100	6	1.15	General Tax and Tobacco tax	Yuan
1939	126,161,600	6	0.61	National Income	Yuan
1940	77,419,300	6	0.39	National Income	Yuan
1940	77,419,300	6	0.39	National Income	Yuan
1940		5	0.33	Filed rent	Corn: 6,730,000 Dan; Wheat: 590,000 Dan
1941	5,291,000	6	0.32		
1941	32,222,200	6	0.32	Britain loan	
1942	168,539,300	6	0.34	Special Fund	
1942	9,831,400			National income	
1942	280,898,800	6	0.34	National Income	
1945	204,778	6			
1945					Grain: 10,000,000 Dan
1946		6	0.00	Foreign Exchange Fund	
1947		15	0.00	National Income	
1947		5	0.00	National Income	Jin Yuan Dollar
1948		5	0.00		Gold: 2,000,000 Liang

Figure 1. Separation of Chinese Domestic and Foreign Stocks in The 1880s.

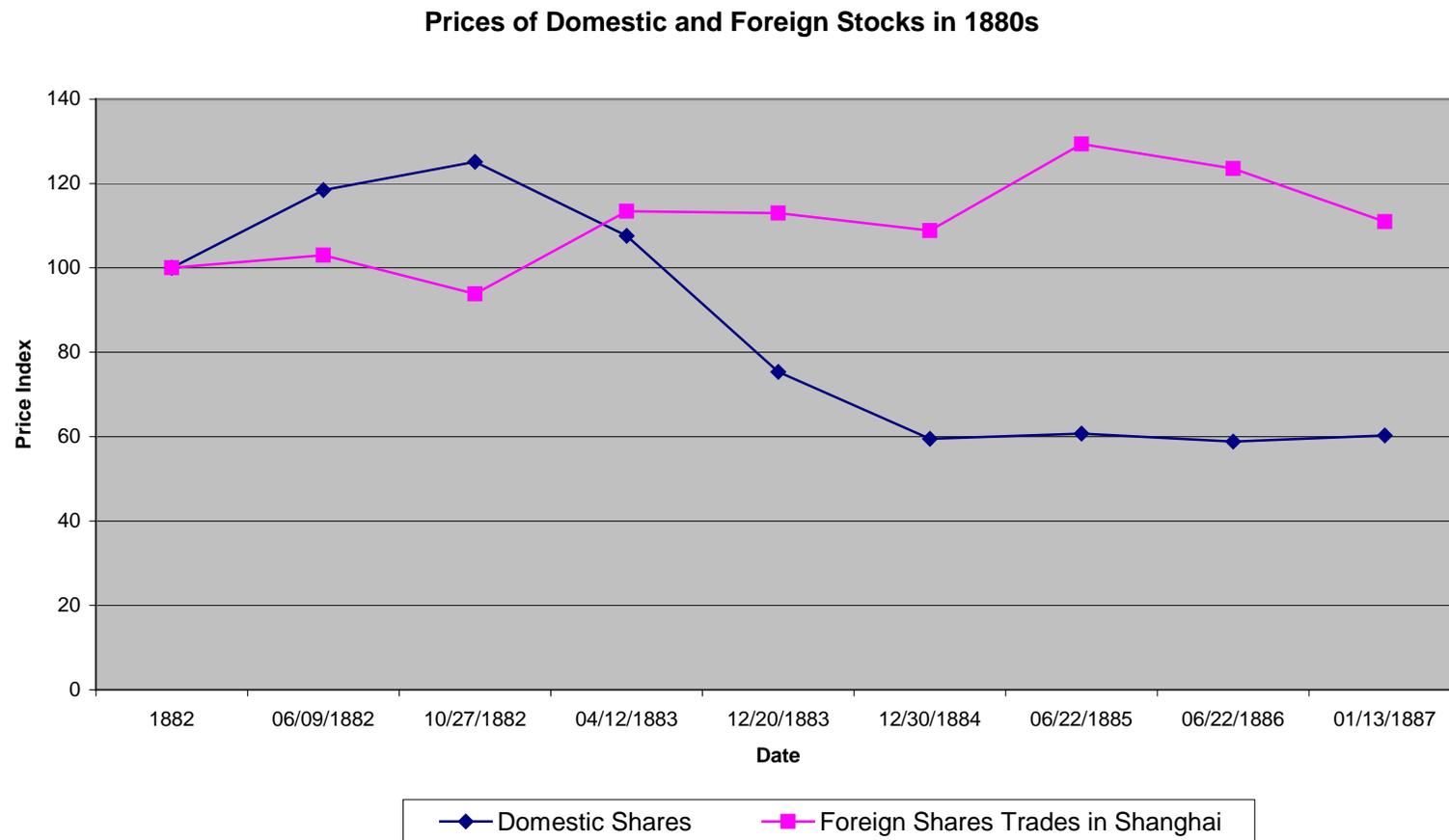


Figure 2. Yields of Foreign Public Debts of Russia, China, Japan and India

Yields: Russia, China, Japan, India

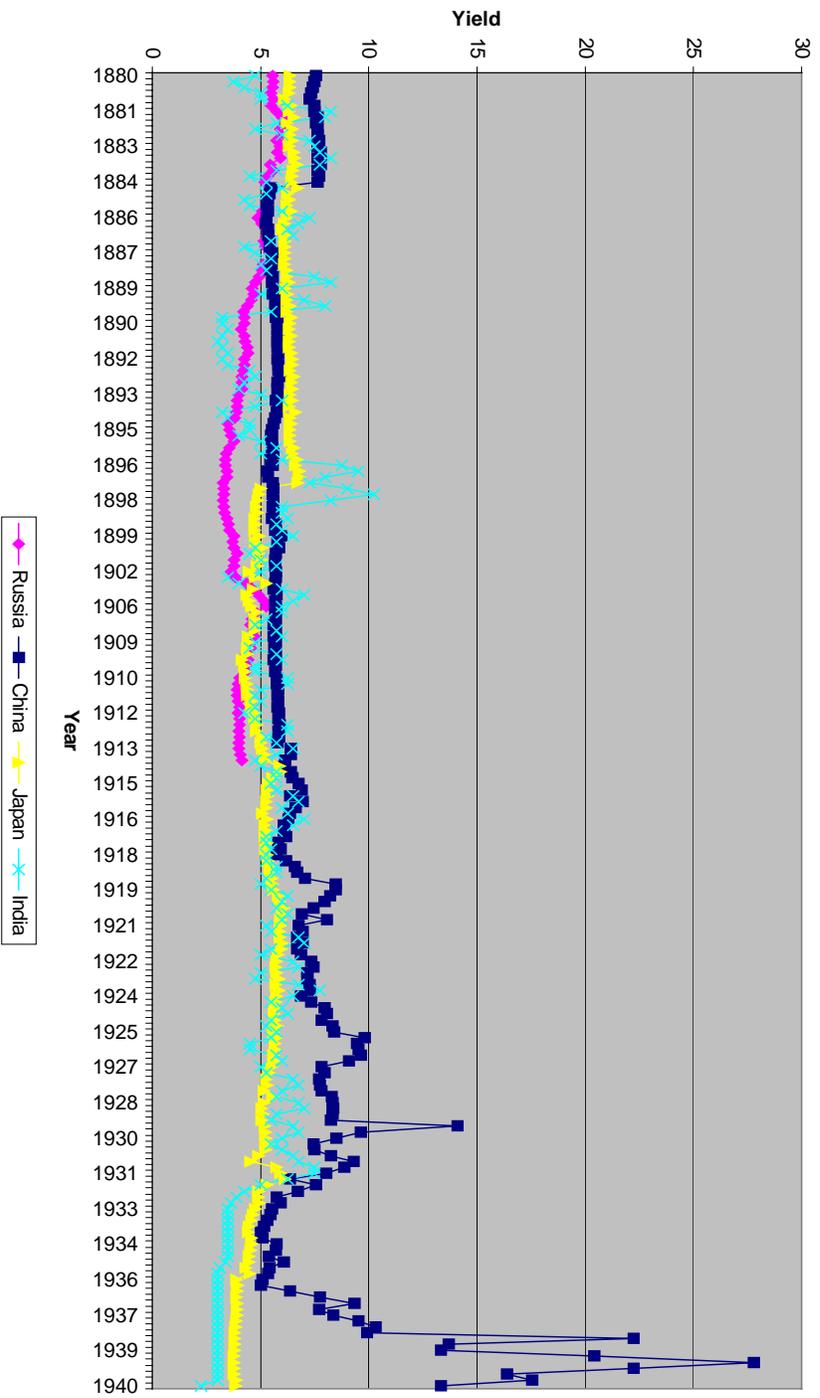


Figure 2. Yields (Relative to British Gilt) of Foreign Public Debt of Russia, China, Japan and India

Yields (Relative to British Gilt): Russia, China, Japan, India

