Warfare, Public Debts and Capitalism
A financial study of the military defense in Sichuan, 1125-1275

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Song financial history is a renowned period of important financial innovations and monumental developments that has been termed the financial revolution. As many researchers point out, these developments were closely related to the mercantile pursuits of the Song court, which was pressed to sustain a large number of standing armies and wage wars. It increased the extracting ability of the state based on a comprehensive understanding of the market mechanism. Nonetheless, current research on the Song state capacity focus almost exclusively on the New Policies reform (1068-85) and its failure, and fails to capture this revolutionary change in state fiscal administration. Over the three centuries from 960 down to 1279 the Song monarchs learned to use instrument of credits to meet the urgent demands from waging wars. After the fall of Kaifeng in 1127, the conflicts between Song and nomadic powers heightened. Because normal tax revenues were far less sufficient in supporting military defense, Song administration turned government credits into long-term bonds. This newly invented financial instrument played a major role in financing siege wars against the Jurchen and Mongol invasions. This paper will provide an insightful perspective into the role of the Chinese state in the formation of the capital market, in light of the crucial linkage between the Song military mobilization and public debts.

1 Japanese scholar Miyazaki Ichisada (1901-1995) first addressed the concept of the Song fiscal state, the first capitalistic civilization in the world history. Miyazaki’s conceptualization follows the tradition of the German historical school and emphasizes the role of the state in the formation of a market economy. Nonetheless, Miyazaki failed to provide a working definition in his writing. In this paper I will adopt the model provided by some scholars of the “new fiscal history” and define the fiscal state in late imperial China as one that could attain sizeable resources from the market:
1. State revenues must be highly monetized (up to 70-80 per cent at least);
2. Indirect taxes (excises, customs, & mineral products) should take a dominant share in tax revenues;
3. Public debts begin to play a key role in waging wars;
4. High levels of centralization and professionalization in state fiscal administration
5. The size of public expenditures is large enough so that the direct impact of state policies on the market (such as inflation, investments, and real wages) becomes obvious.
By meeting all these criteria, Song China was undoubtedly a powerful fiscal state, or to use Brewer’s term, it possessed strong infrastructural power.
The rise of the capital market is closely related to the rapid development of the market economy during the Tang-Song transition. As shown in *jiaozi* in Sichuan and the promissory note in Kaifeng, two well-known inventions of instrument of credit, the Song state followed private initiatives to provide financial services that were needed by the market. In the first case, unscrupulous merchants in the tenth century issued bills of exchange, known as *jiaozi* 交子, to relieve the coin shortage in Sichuan—the private market creates what it needs. Yet in the coming years the market suffered from both the volatility caused by the bankruptcy of the *jiaozi* shops and the disputes among the investors due to the lack of power to enforce the contract. In 1005 the Sichuan administration found serious problems in local financial markets and undertook a reform by conferring to only sixteen merchant houses the right of issuing *jiaozi*. Later the court decided to take on the entire *jiaozi* business to stabilize the market, and this led to an even faster development of the financial market. In 1024 the *Jiaozi Bureau* 交子务 established in Chengdu, the provincial capital of Sichuan, issued 1.25 million strings of paper notes and defined the expiry period for them. *Jiaozi* notes could circulate for two years before they had to be redeemed at a charge of 3 per cent commission fee. In the second case, the intervention of the promissory note can be traced back even earlier to the long distance tea trade between the south and the north in the early ninth century. After selling tea at the capital in the north, merchants would deposit their money at an official agency in return for a promissory note, known as flying money 飞钱, that could be redeemed at the provincial capitals of the south. To facilitate the circulation of goods and money nationwide, the Song court established in 970 the Bureau of Convenient Cash (便钱务) to receive deposits from these merchants charging a rate of 2 per cent. This development made Kaifeng
the center of China’s financial market. In 1020 the amount of the deposits received at
the capital reached nearly 3 million strings, about five times the amount of the jiaozi
in circulation.2

Nevertheless, such developments in both jiaozi and convenient cash refer
exclusively to increasing demands for credits created by private inter- and
intra-regional trade. The profits that the Song government received from providing
financial services remained a minor portion of state revenues. Although the Song
court realized that market, the statesmen intervened reluctantly only when they were
called for action. This brought out a striking contrast with the state intervention in
other fields. By the mid-eleventh century the government already drew more than a
half of its tax revenues from indirect taxation. The monetization of state revenues
reached an unprecedented level as the Song court consciously increased the money
supply in accordance to the expanding market economy. More than 2,000 tax stations
were built up across the country, a number of which could be matched only by the late
Qing tax administration in the 1890s. Professionalized officials and staffs in the
financial administration comprised the largest share of the Song bureaucracy. Even in
the civil examinations the candidates were often asked to analyze monetary pricing
problems. Nonetheless, the Song court could maintain a budgetary balance for most of
the time prior to 1125. This certainly ruled out the possibility for the government to
make a large sum of debts under normal circumstances. As the government collected
the largest share of tax revenues from salt, alcohol and tea monopolies, it was
monopoly rather than the financial market that attracted state attention.

The prototype of the public debt, which is popularly called the voucher (yin 2),
appeared early but developed slowly. This early development was initially associated

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2 The size of jiaozi in circulation amounted to 1.25 million iron coins, about half value of the same amount of
copper coins.
with market-based military provisions at the frontier known as the ruzhong approach 入中法. The Song court already knew to use financial apparatus to solve urgent needs from provisioning the troops at the frontier since the reunification of China in 979. When Emperor Taizong 太宗 (976-997), launched two major attacks against Kitchan at the northern border, Liu Shi 刘式, a newly surrendered official of the Tang kingdom, proposed to the court that the Song administration recruit merchants to mobilize grain and fodders for the border by repaying them with redundant tea and salt which were under the control of the Song monopoly agencies in the south. The entire procedure required at least three stages. First, the merchant had to move provisions to the assigned places in the frontier to receive a receipt from the local administration; second, he needed to present this receipt, endorsed by the brokers and cautioners, to the Monopoly Trade Bureau 榷货务 at Kaifeng for exchange of a salt or tea voucher; third, he would bring this voucher to the assigned monopoly agencies to purchase such monopolized goods as tea or salt and sell them to retail businessmen.

The ruzhong scheme was designed to target long-distance traders who were seeking the huge profits of the long-distance tea and salt trade. Its smooth operation needed and stimulated the development of commercial loans. As the state handed over the receipt to a merchant upon receiving the delivered goods at the frontier, the sovereignty already became the debtor until tea or salt was taken by the merchant. This process would take probably 1-2 years if one includes the sale of tea to the local retail shops as the ending point of a commercial cycle. Given limited capital and knowledge, it is impossible for most merchants to accomplish this complicated and risky inter-regional trade cycle. Therefore, the vouchers became tradable at the market to allow a merchant to work only on one stage if necessary. The sale of vouchers soon gave rise to a financial market at Kaifeng for speculation alone: the middlemen often
purchased the vouchers at low prices from the merchants of the military supplies and sold them to the tea and salt merchants. The distribution and circulation of the vouchers has, for the first time in the world history, created a market for government securities. Nonetheless, as Taizong quickly abandoned his plan after the military defeats, the  *ruzhong* approach was scarcely applied for the first half century of the Song dynasty.

The rapid development in the voucher market came out in the Renzong 仁宗 reign (1022-63) and this breakthrough would be unlikely achieved without the impetus from wars. The Tangut state, a semi-nomadic power centered at the eastern region of the Silk Road, rose in the mid-century and challenged the Song dynasty in Northwest China. The conflicts between the two rivalries lasted a century long until the fall of the Song dynasty at Kaifeng. It was extremely difficult for the court to supply the provisions to the troops stationed in the Yellow Earth Plateau because labors and mules were the only available means for transporting food and fodder to the plateau. The court once again appealed to the  *ruzhong* approach. In 1018 Fan Yong 范雍, Assistant Minister of the Defense 兵部员外郎, proposed to encourage the merchants to deliver goods and cash to the frontier in Shaanxi. The value of salt vouchers the merchants then received would far exceed the market price of the goods delivered to the troop. If a merchant deliver 100 strings cash, for instance, to the frontier, he would be rewarded with 5 strings interests when he claimed the reimbursement at the capital; if he chose the tea voucher for reimbursement, the additional reward would be 7 strings. The pressure on the military supply continued in the 1020s and the statesmen tried hard to induce the merchant into the  *ruzhong* scheme. In 1026 the court began to use *Jiaozi* to attract the merchants from Sichuan, the Upper-Yangtze basin south of Shaanxi, to deliver the needed goods to the frontier.
The merchants might receive the *jiaozi* where they usually received the salt and tea vouchers, and cash them either at the Monopoly Trade Bureau 榷货务 at Kaifeng or at the *Jiaozi* Bureau at Chengdu 益州交子务. The profits gained from the remittance were huge: the court demanded that a merchant should receive 500-700 *wen* of *discount interests* (虚估) when selling the goods at the value of 1000 *wen* cash. As the Song financial administration promised such huge profits, one can imagine the unusual development of the financial market based on speculation of vouchers and *jiaozi*.

All the efforts made by the Renzhong administration were aimed to meet the enormous demands caused by the heightened conflicts with the Tangut. From 1040 through 1042, the Tangut annihilated the main strength of the Song field armies in three decisive field battles. Yet their ambition was frustrated by the Song city defense, for which the Tangut soldiers could barely afford to press the siege on their enemy over a month. The inflow of the military supplies through the *ruzhong* laid the solid foundation for this siege warfare, but the Song government paid unprecedented high costs. The merchants often waited until the last moment for a highest price offered by the provision authority. In doing so they also bribed officials and clerks to make a false bid. The treasury was impoverished as the merchants rushed to the capital to cash their vouchers. To accumulate money at hand the Shaanxi financial administration tried to sell salts to local residents directly by expelling private merchants from the salt retail business in the frontier province. Meanwhile the court increased the production of the imperial mints, which reached 3 million strings in 1045, a figure never known before. However, the intrinsic value of the newly minted coins was far lower than the face value they stood for. The iron coins minted in Shanxi and Shaanxi, for instance, cost only one-tenth of its face value. This caused...
rampant counterfeiting in these areas that drove the qualified coins out of the market. The expansive monetary and financial policies caused a nationwide hyperinflation. An official complains, “The discount interests cost eight-tenth of the value of the vouchers, and the rice price rises to 7-10 strings per Song shi.” The Song grain price remained stable from 960 through 1000, while in the next four decades it skyrocketed up. The rice price rose from 419 wen per shi in the 1000s to 2,902 wen per shi in the 1040s. This can be further named the Qingli crisis as the severity of the economic problems became unmatched during the Qingli period (1041-8).

The financial crisis caused instability in politics. One can find frequently short-lived appointments of the financial administrators accentuated by the even shorter-lived financial policies. There was no lack of confrontations among these policies, yet the new direction was gradually oriented towards recovering the stability of the market. In 1048 Fan Xiang, a high official in the financial administration, was reappointed to administer the salt monopoly in Shaanxi. Fan abandoned all official retail business in prefectures to attract private capital on the one hand, and put constrains on excessive speculation on the other hand. To eliminate undue discount costs the provisional administration accepted nothing but money for remittance at the frontier. The administration would buy the military supplies at the local market. Fan also proposed setting up a fund at the capital to purchase back the vouchers if their market values were much depreciated. Fan’s policy gained popular support in Shaanxi for effectively reducing speculation and stabilizing prices. The central government soon applied this policy to the other areas which suffered the same problems. The Qingli crisis, especially the defeat by the speculation at the financial market, gives the Song court an important lesson. The financial administration in Hebei, for instance,

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3 宋史·食货志》卷一八四 “茶下”
4 Peng, p. 487.
reported that the *ruzhong* approach often allowed the rich merchants to grab huge profits at the expenses of the state and society. To gather 2.8 million Song *shi* of grain, the government paid the large amounts of money (about 1.5 million strings) and monopoly products (about 13 million strings), which far exceeded the price of the grain. Nonetheless the capitalists at Kaifeng reaped most profits through manipulating the prices of the vouchers. In 1051 Emperor Renzong issued an edict that recognized the failure of the *ruzhong* policies and attributed it to the speculation of merchants at the expenses of the state and society. He further accused many officials of eagerly submitting the *ruzhong* proposals to the court without engaging in serious discussion. Though Renzong tried to make the financial official and capitalists the scapegoat for this crisis, he was nonetheless to give a sudden pull to his aggressive policy.

2.

For the financial market in the years after the Renzong reign, the lesson the government learned from the preceding failure led to the dominance of a conservative policy. Government’s attitude towards public debts tended to be conservative. This can be clearly found in the New Policies period (1068-85), a period of radical reforms in many political, economic, and social dimensions aimed to strengthen the power of the state. However, the financial market was even not at the list of the priority reforms. This is clearly demonstrated in a discussion held in January 1075 among Emperor Shenzong 神宗 (1068-85), Wang Anshi 王安石, primary minister, and Lu Huiqing 吕惠卿, vice-primary minister on financing the military in Shaanxi. As the military conflicts with the Tangut intensified again, the court faced the same challenge but became much cautious in using the vouchers as payment means. Among the three
people the emperor likes the idea of supporting the military campaigns by issuing promissory notes and is eager to establish a *jiaozi* bureau in Shaanxi modeled after the Sichuan case. However, Wang Anshi worries that the circulation of *jiaozi* will distract the merchants from purchasing vouchers of salt that has proven a reliable source for state income. Lu Huiqing seems to support the emperor by pointing to the fact that since per head salt consumption was stable there is no hope for a substantial increase in the revenue from the salt monopoly. *Jiaozi* if managed well, he believes, will help solve the problems for both public and private sides. An ad hoc committee was soon established to study how to manage the issuance and circulation of *jiaozi*. In 1075 the committee concluded eight must-dos in its report to the emperor:

First, an annual quota of the voucher must be set up to avoid over-issuing;
Second, a back-up fund must be set up to purchase back the undervalued vouchers when necessary;
Third, the costs for sale of vouchers should be counted into the budget for military expenditure;
Fourth, the other official agencies such as the Trade Bureau 市易司 should purchase the vouchers at the market price when the voucher was for long time in circulation and losing the value;
Fifth, the Trade Bureau should not always purchase vouchers at much lower prices (they should buy earlier), because by the end the very low price of the voucher would encourage the speculation manipulated by the rich merchants;

... 

The committee demonstrates a comprehensive understanding of the risks at the voucher market, and emphasizes a systematic solution against speculation. As the Song court pursued an expansive policy in the Shenzong reign and afterwards, it successfully avoided the economic crisis that would have been caused by the similar
policy three decades ago. The evidence comes from the stability of the jiaozi market.

The jiaozi Bureau acquired 0.5 million string cash in 1110 for a fund to back up the market. Meanwhile, the holders of jiaozi were allowed to either pay taxes or to redeem them at the official agencies. These measures had important effect on maintaining jiaozi’s credibility. From a national perspective, the major progress was made by Cai Jing 蔡京 in the post-Wang Anshi period. That was the opening of the salt and tea retail business as the government shifted the focus on direct control of monopolized goods to reliance on the voucher market. Cai realized that healthy circulation of the vouchers means prosperity of tea and salt trade. In 1112 he launched important reforms to promote the efficiency of the salt and tea monopoly administration. The local officials became the target of the reform. The court ordered to cut off bureaucratic procedure and to retreat from direct supervision of the market. Meanwhile, a series of policies were enforced to facilitate the circulation of vouchers, to protect the merchants of tea and salt, and to curb the smuggling trade. Merchants and producers have to trade at the Contract Market 合同场 set up by the government. All shipments had to follow standardized packages. All the standardization measurement in private procurement would reduce tax evasion and attract private investments. Vouchers then played a major role in the entire management of long-distance trade and became widespread among merchants.
The Cai Jing reforms in the tea and salt monopolies thus laid a solid foundation for the market of public debts. However, the statesmen were not ready to issue mid- or long-term public debts even at the dawn of the twelfth century largely because the taxation in general could meet the demands from the military expenditures. When facing a choice between monopoly and public borrowing, the statesmen would usually turn to stabilize and further increase the revenues from the monopoly. Wang Anshi’s administration in particular favored the latter. The tea monopoly in Sichuan is another example. Although the Song court had abandoned the strategy to enhance trade privileges of the official agencies over the last half of the eleventh century, the press to wage the war against Tangut forced the court to turn the Sichuan tea trade into a state-dominated commercial enterprise, and set up the Tea and Horse Agency 茶马提举司 in 1074 to manage the monopoly. Northeast Tibet and Central Asia not only was the largest consumer of Sichuan tea, but also provided excellent horses which were in extreme needs from the Song cavalry troops. From the 1074 to 1115 the net revenues gained by the Tea and Horse Agency went up from 400,000 strings of coins in 1074 to 4,835,000 strings (profit plus taxes) in 1114-1115, an increase of 12 times in only forty years. This tea-horse international trade between Sichuan and Tibet thus gave a mercantile flavor to the Song’s expansion against Tangut in Shaanxi because it is the key region that joined Northeast Tibet and Sichuan. The Song court consciously
exploited warriors of the Tibetan tribes in its military defenses, and viewed tea-horse trade as a powerful tool for engaging a strategic relationship with the latter.\(^5\) The business of tea-horse trade involves two parts: on the Sichuan tea part, the government would purchase all tea products at local plants; on the border the government would open hundreds of markets for the kind-to-kind exchange. Although Sichuan is the closest tea-growing region to Central Asia and Tibet, conveying a large amount of tea across the Upper-Yangtze basin and the Qinling Mountain 秦岭 to the border areas was proven a hazard business. The government relied heavily on merchants to transfer tea from Sichuan to border markets, who, nonetheless, gained high profits by selling tea to official agencies there at a price at least triple of the purchase price at tea plants. No commercial contact was allowed for between private merchants and nomads. In other words, tea-horse trade is a tripartite game strictly regulated and jointly played by the official agency at each level. Such monopolistic enterprise, though abolished by the Cai Jing reform in the 1110s nationwide, remained alive in Sichuan. On the one hand a sudden opening of an external market to the Sichuan tea industry had brought great benefits to every trade partner. It is unlikely that merchants and tea growers, without state involvement, could find and secure this foreign market by themselves. On the other hand a government would not automatically prefer a market means over control until it was forced to do so. Thus the

rise of public debts in Sichuan had to wait until a new storm destroyed the entire monopoly system. This happened when the Song administration came under attack from the Jurchen. Song armies were defeated in Shaanxi in the 1120s, and the route of the tea-horse trade was cut off. With the entire loss of the external market the monopoly administration received a heavy blow, which it would never recover from. Only under such circumstances did the capital market come to the center of the stage.

3.

The rise of nomadic power in East and Central Asia, especially the Mongols, marked the twelfth century a most violent period in Chinese history, in which the Song dynasty enjoyed only 18 years of peace. The Song court lost its territory in the north and moved the capital from Kaifeng to Hangzhou, a city in the Lower Yangtze Delta. South China’s geography was dominated by hills and rivers, which gave the Song defense a great advantage in carrying out siege wars in defense of the nomadic invasion: fortifications, engines, and projectile technology (even fire rockets), all these military innovations were applied to the campaigns. The extremely capital-intensive way in Song military defense forced the government, who was already puzzled by the budget deficit, to appeal to the financial market for help. In a short period after the fall of Kaifeng, the Song fiscal regime moved from a tax state towards a statehood largely based on public debts. By 1178 the size of public debts in Sichuan increased to 45 millions strings, far exceeding what the Sichuan administration collected from taxes. Following the jiaozi model, the central
government issued *huizi* 会子 to meet the deficit caused by military expenditures in other regions. By the last decade of the twelfth century the amount of *huizi* in circulation already exceeded the yearly tax revenues. In 1252, just two decades before the Mongol conquered Song, the amount of *huizi* reached 640 million, about 7 times tax revenues (see Table 1).

Table 1  Amounts of Huizi in circulation and the yearly tax revenues in Southern Song, 1162-1252 ( million strings )

<table>
<thead>
<tr>
<th>Year</th>
<th>Tax revenues A</th>
<th>Amount of huizi B</th>
<th>Index of prices (1162=100)</th>
<th>A/B</th>
<th>Real tax revenues A/B</th>
<th>Index of real tax revenues (1162=100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1162</td>
<td>60</td>
<td>28</td>
<td>100</td>
<td>2.1</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>1165-73</td>
<td>50-55</td>
<td>20-24</td>
<td>70</td>
<td>2.1-2.75</td>
<td>71-79</td>
<td>118-132</td>
</tr>
<tr>
<td>1189</td>
<td>65.3</td>
<td>48</td>
<td>85</td>
<td>1.36</td>
<td>77</td>
<td>128</td>
</tr>
<tr>
<td>1194</td>
<td>65.3</td>
<td>52</td>
<td>87</td>
<td>0.82-1.1</td>
<td>52</td>
<td>87</td>
</tr>
<tr>
<td>1201-72</td>
<td>80</td>
<td>84-139</td>
<td>220</td>
<td>0.58-0.95</td>
<td>36</td>
<td>60</td>
</tr>
<tr>
<td>1241-52</td>
<td>90</td>
<td>640</td>
<td>1000-2500</td>
<td>0.14</td>
<td>3.6-9</td>
<td>6-15</td>
</tr>
</tbody>
</table>

Sources: Guo Zhengzhong, p. 191; Bao, p. 89; Liang, pp. 191-201; Wang, 1985, pp. 142-4.

說明：1. 會子發行量包括「兩界相遝而行」的會子，即在流通中、尚未兌收的全部數目，具體界分及其流通時間判定，見汪聖鐸，〈南宋各界會子的起訖、數額及會價〉，頁142-144。
2. 根據梁庚堯，《南宋的農村經濟》頁191-201所載「南宋江浙米價」一表，推算平均價格如下：紹興末期 1 升 20 文，乾道間 1 升 14 文，淳熙末 1 升 17 文，紹熙間 1 升 25 文，嘉泰、開禧間 1 升 44 文，淳祐間 1 升 200-500 文。
3. 實際賦稅收入計算以 1162 年價格為基準。

*Jiaozi* served the prototype for the development in the Southern Song financial history. The financial reform led by Zhao Kai 赵开 in Sichuan deserves our attention because it clearly demonstrate a shift in the financial policy towards placing reliance on public debts. The bright of the Sichuan tea monopoly in the late eleventh century quickly dimmed out after the collapse of the Northern Song dynasty. The attempts to apply the same model to the internal tea markets in Sichuan could be undermined by the unaffordable costs: the intra-regional trade was far more difficult to supervise than
the international trade. As the Sichuan administration loses hope for the monopolies, it turned to the emerging market of public debts. Zhao immediately undertook the reform after he was appointed the head of the Horse and Tea Agency in 1128. The bibliography of Zhao Kai in *History of Song dynasty* 宋史 tells the reform of the tea monopoly briefly as following:

The direct government purchase and sale of tea were both abolished, and the articles and regulations of 1112 on the Eastern Capital Metropolitan Tea Bureau 东京都茶务所 consulted. Tea licenses were printed and merchants permitted to bear these licenses with them to trade face-to-face with the tea households. The old tea-purchase and sales market of Chengdu was renamed the Contract Market License Bureau 合同场买引所; and in all the prefectural and district contract markets, tea markets were set up. Trade could take place only in these markets, and the licenses and volume and type of tea actually exchanged had to correspond.

Ten or fifteen tea households formed one guarantee-unit (bao 保); and the names of the tea shops were registered and fixed; and they were charged with mutual responsibility for investigating illicit trade. Licenses cost 70 cash per catty in the spring and 50 cash per catty in the summer. Payment of such earlier surtaxes as the shili and touzi was unchanged. Recklessly increasing these fees was prohibited. Other than inspecting licenses, weighing the tea, and wrapping and marking it for release, the contract-market inspectors were prohibited from interfering in the transaction between the tea merchants and the tea cultivators.

The production and sale of alcohol was abolished. The administration took apart the official brewery into many units that could be franchised to private merchants separately. The merchant brought rice only to the unit, and the administration provide 酒曲 and the utensils. The merchant will be charged at the rate of 3,000 wen per shi of rice with 22 wen additional fee. No quota limit was put on the production of each franchised unit. In the next year this policy was applied to the entire territory of Sichuan.

The *qianyin* Bureau was established in Qinzhou to model after the *jiaozi* Bureau in Chengdu. It opened a mint in Xingzhou to produce copper coins. When the financial administration sells silver and silk textiles the merchant is allowed to use *qianyin* to buy them. *Qianyin* should be accepted legally in tax payments, public expenditures, and private transactions whenever the coins are used. It is allowed to trade *qianyin* at the market, and the price should be decided between the vendee and vendor, but no severe depreciation in the face value should be allowed. As the policy encourages the circulation of *qianyin*, it is convenient for people to use them. The amount of the *qianyin* in circulation increased to 41.9 million strings. People did not feel it is excessively issued, and the price of the *qianyin* was still stable at the market.
According to the biography, Zhao started his reform from abolishing the tea monopoly, which led to 1.7 million strings of tax revenue in 1130. When Zhang Jun came to Sichuan in 1129 in preparation of the military campaign against the Jurchen in Shaanxi, Zhao was promoted to the head of the Sichuan financial administration and in charge of the military provision. Zhao then told Zhang that only a thoroughgoing reform of the financial system could save the government from bankruptcy. Zhao’s reform spread to the alcohol and salt monopolies, which then had contributed the largest share to the tax revenues. Zhao’s reform comprised two related dimensions. First, following the Cai Jing reform, Zhao abolished the state-owned retail business and embraced private investment. However, businessmen should trade with tea and salt producers only at the Contract Market, the marketplace supervised by the monopoly agency. Meanwhile, the government also registered the names of both the rural households in tea production and the owners of tea shops at cities. All this was to reduce tax evasion on the one hand, and management costs on the other hand. So was the concentration of privately-invested production at the official brewery site under the reform of the alcohol monopoly. The opening of these markets to private merchants could bring stable revenues via taxes against urban consumption. Second, these revenues would be further used as funds to back up the credibility of jiaozi (now renamed as qianyin 钱引), which became the major means of payments in Sichuan’s enormous military expenses. The amount of qianyin reached nearly 42 million strings, about 17 times of what was issued a century ago. Encouraged by what Zhao did in Sichuan, the Song officials in the other regions also resolutely promoted the public debts the chief means in financing wars.

At the first step Zhao’s reform modeled after the Cai Jing reform, but the reform at the second step led to a transition from an indirect-tax-based administration to the
public-debt-based one. The state used tax revenues, esp. that from the monopolized consumption goods, as the leverage to sustain jiaozi’s reputation at the market. The mechanism in raising debts includes a careful design of the term, interest, and redeemability. The government promised to redeem jiaozi in at the end of a fixed period (usually two years). Nonetheless, old jiaozi was without few exceptions replaced at the expiation date by the new ones with discounts in value. This successive extension of redeeming jiaozi makes it a de facto long-term bond that first came to be known in the world history. No fixed interest was offered upon the arrival of jiaozi, but the existence of the security market, esp. permission of speculation, would produce a gap between its market value and its face value. As jiaozi were widely accepted by the government as payment means, this gap should be recognized the interests because it is the incentive that people invested money to hold jiaozi. Nonetheless, when the market value of jiaozi was severely depreciated the administration sought to promote its credibility by purchasing them back in a large quantity with back-up funds.

Although Chinese historians view Song promissory notes like jiaozi and huzi as the precursor to the paper currencies issued in the post-Song periods and call them paper notes 纸钞 without differentiation, Southern Song notes should be identified as the bond. It is an important instrument of debt that enables the government to borrow loans over a long term, and leads to an enormous expansion of the financial market based on purchasing and selling of bonds. Owing to the unique connection between commercialized warfare and monetized financial development, speculation and business-like wars went hand in hand in Song China. In contract, the government in post-Song China may attempt to produce paper notes as a sign of its sovereignty over the market and society. As presented in the case of Daming baochao 大明宝钞 in the
Ming dynasty, the court would issue paper notes to weaken the market economy when it could not eliminate the money. It is thus impossible for these ruling elite to assume the state as an equal partner at the negotiation of debts. As demonstrated in the previous sections of this paper, Song paper notes evolved from the remittance businesses and became closely related to the voucher market. By recognizing and elaborating on the rights of creditors and debtors, all these credit tools facilitated transfer of money and debts in the long-distance trade. The lessons the Song administration learned from the voucher market, esp. from the speculation, laid a solid foundation for the market of public debts. After the escalating military spending in the twelfth century made the emergence of this market inevitable, the Song financial officials made great efforts to accelerate the circulation of these notes. Furthermore, the government also exploited the market to assure the vendee that jiaozi could be purchased as financial assets. Ever since the establishment of the voucher market at Kaifeng in the mid-eleventh century, speculation occurred more than frequently and gave birth to a number of capitalists who owned the voucher shop 钞引铺 and harvested huge profits from purchasing and selling the vouchers. To promote the circulation of chaoyin, the Southern Song court even encouraged the speculation as shown in Zhao Kai’s reform. Speculation was a double-edge blade: it was not only able to raise the price of financial assets and attract a large number of private investors, but also might cause a radical fall in the bond value and scare away the investors. To prevent the severe depreciation the financial administration learned to establish back-up funds to redeem the bonds when necessary. The important campaign in defending the credibility of chaoyin came in 1208-10. As the market price of chaoyin declined to 400-500 iron coins, about one half of its face value, the Sichuan financial administration spent 25 million strings of back-up funds (including silver, gold, and
cash) altogether to push the price back. The redeemed amount reached 25 million strings, about 47 per cent of *chaoyin* in circulation.

Nonetheless, it was the short interval of peace that gave the Song court this precious chance. After the Mongol troops began to invade Sichuan in 1231, the intensification of siege wars reached an unprecedented level. In the 1240s the Sichuan administration built up at least 20 important fortifications mostly located on hills and river banks. The soldiers used for defending cities amounted to 50,000, about two times the strength of the invading Mongol troops. Sichuan became the only region where the Mongol cavalries was defeated repeatedly in their history of conquests. In the campaign of 1258-9, the Mongke, the Khan of the Mongol Empire, got killed in the battle at the Fishing fortification 钓鱼城. It is not surprising the Sichuan economy and society paid great costs in order to win battles. From 1231 on the Southern Song financial market has witnessed severe inflation in its monetary economy caused by the overflow of *qianyin* and *huizi*. In 1256 the chief administrator of the Song military defense in Sichuan reported the undergoing economic crisis, “the price of silver increased in one season from 3,000 strings to 7,500 strings of *chaoyin*, and the rice price rose from 2000 strings to 5000 strings”. The Southern Song’s war economy predicts the economic crisis in our modern world caused by wars. Hyperinflation spread nationwide in the last two decades of the Song history, and urban communities, whose daily livelihood relying on the market, were impoverished. Largely due to this catastrophic end, some modern researchers follow the Confucian literati in post-Song periods to view the public debts as a sign of the Song state’s weakness, but one should not forget the fact that the Sichuan soldiers won a couple of key campaigns and did not surrender until all the other regions of China were occupied. It is apparent that this new military-fiscal pattern gave enormous strength to the Sichuan local administration.
in defense of the Mongol troops.

One can further argue that the formation of the Song capital market, especially the Sichuan story, serves as evidence that the state was a core in a coherent scheme of capitalism. It is largely through Bruadel’s study of early modern Europe and now agreed by most social economic historians that capitalism substantially differed from the market economy in a sense the former is the infrastructure dwelling on the market. Monopoly, speculation and public debts thus characterized greatly European early (mercantile) capitalism. It is probably much less known that based on his observation of the rise of the Song fiscal state in relation to its commercialized military mobilization, Miyazaki Ichisada made the similar proposition no later than Braudel. This survey points to the important role the Song state played in the fiscal developments during the Tang-Song transition. Though interests and loans were first and most used in private commerce, the capital market, which involves complicated instruments and sizeable investment, was by no means an accumulative development of private commerce; rather it was the state that made the breakthrough possible by borrowing a large sum of money from the merchants. A capital market needs overcome tremendous difficulties (such as the lack of information, capital and enforcement of contract, etc.) before it could work well. As one can recall the sixteen merchant houses in the jiaozi case, private business is often proven incapable in sustaining transactions in credits and loans across the nation and over long-term due to its weakness in structure and power. Therefore, the Song mercantile state was the first leverage for the emergence of a capital market in China. On the one hand the rapid expansion in public debts helped the government to mobilize resources effectively in time of wars and greatly increased the monetized portion of the pre-industrial economy. On the other hand the Song state owned many resources that
made her the appealing offeror to investors and merchants: it has the legal power to enforce contracts, the centralized bureaucratic administration run by financial expertise, and the control of enormous tax revenues to back up the bonds. Nonetheless, this debt dynamism owed much to the commercialized warfare. The transition from the Northern Song “tax state” to the Southern Song “debt state” demonstrates that the state won’t be a speculator at the financial market until the escalating military expenditures override its conservative concern of market risks.

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