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Money, credit and Smithian growth in Tokugawa Japan*

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Abstract

In the latter half of the Tokugawa period economic growth, however sluggish its pace was, took place in the form of rural industrialisation and the expansion of inter-regional trade. This paper addresses the following questions: how capital was mobilised for such rural-centred growth in production and commerce, and how the *quasi*-capital markets worked in both the Osaka economy and in the countryside, with special reference to trends in interest rates over time, in a pre-modern setting of market segmentation. The paper will argue that although Tokugawa Japan's formal institutions were far from ideal, the credit systems did function as quasi-capital markets reasonably well within each commercial network formed through relational contracting, and that for the Smithian process of early modern growth to work, inter-regional competition mattered more than institutional maturity of the nation's market environment.

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Introduction

In many parts of Eurasia, money and credit markets existed even before the age of modern banking. In Tokugawa Japan too, there were various lenders of money in cities and the countryside, some private and some professional. In the nation's commercial capital, Osaka, in particular, there emerged a group of wealthy merchants specialised in state lending. They regularly advanced loans to overlords (*daimyō*) and their domain administrations. Also emerged was an elaborate credit system established by those Osaka merchants between Osaka where the silver was the standard medium of transactions, and Edo (present-day Tokyo), the samurai-dominated, administrative capital where the gold was used, under which trade and payments were settled with the use of bills of exchange. Other kinds of commercial paper were also used extensively by money changers and merchants within each commercial capital. At the other end of the spectrum were numerous pawnbrokers for common people and rotating saving-credit associations organised by villagers and townsmen themselves. There were also wealthy farmers and merchants who supplied private credit. Some of them are said to have borrowed to lend money to others, for whom Ronald Toby talks of the birth of modern banking in the countryside (Miyamoto 1954; Crawcour 1961; Crawcour and Yamamura 1970; Toby 2004).

Moreover, legal protection was given by the Tokugawa shogunate to support the operation of the Osaka-Edo credit systems. The administration of justice in Tokugawa Japan was based on a body of rules and precedents. They were reasonably general, if not quite unbending, so that people could take any civil dispute to court. Indeed, as case studies show, Tokugawa common people were surprisingly litigious, although there was an unmistakable tendency towards a resort to time-consuming arbitration as a primary means of settling legal disputes (Ooms 1996; Takahashi 2001). In the case of commercial lawsuits, however, protection was ensured not by providing greater predictability through more specific legislation, but by instituting a summary procedure in court hearing. The procedure allowed the magistrate to give a speedy judgement, while its enforcement was nonetheless remained strict. In fact, as J. H. Wigmore, an American professor of law who taught in Tokyo at the end of the nineteenth century noted, it was 'somewhat stricter' than in other cases such as land and inheritance disputes. Hence, it is suggested, 'one of the reasons for the solidarity of the mercantile credit system was the special protection given by law to commercial paper' (Wigmore 1969, p. 127).

Substantial as this development may sound, however, it is difficult to talk about the existence of any *capital* market for this period. The Tokugawa shogunate's seclusion policy forced merchants to withdraw from international trade while the political division of the nation into separate territorial units meant an impediment to internal trade. In such circumstances of segmented markets, no notion of a stock or bond market emerged. Some of the shares of coastal shipping operations, which required larger amounts of capital than ordinary businesses of the day, were often allocated to individual investors, but this practice did not develop into a stock exchange where shares and stocks could be freely traded. Nor did state borrowing evolve into an open market where a government bond could be bought and sold by any participant. Both institutions were introduced from the West *after* the Meiji Restoration of 1868. However, given the recent agreement that there took place Smithian growth during the Tokugawa period, we may raise a question similar to the one put forward elsewhere (Saito 2006). Output growth, however sluggish its pace was, took place in the latter half of the period. It was rural-centred and associated with an expansion of inter-regional trade (Shimbo and Saito 2004). Thus the question is how capital was mobilised for such rural-centred growth in production and commerce. Rural entrepreneurs who wanted to borrow must have been able to find sources of finance, and there must be suppliers of credit to meet the demand. This chapter looks at how such financial capital was supplied, and how the *quasi*-capital markets worked in both the Osaka economy and in the countryside, with special reference to trends in interest rates over time, in a pre-modern setting of market segmentation.

1. The changing structure of the Tokugawa economy

After the consolidation of political power by the Tokugawa family in 1603, Japan was under control of the shogunate government. However, much of the country's land was governed by samurai overlords. About four-fifth of the total land area was controlled by nearly 300 lords, while the Tokugawa House took the cities of Edo, Osaka and Kyoto, major port towns, mines, and areas around the metropolitan cities. In each territory, called *han* (domain), taxes were paid in kind, i.e. rice. Tax rice collected was sent by the domain governments to Osaka to earn 'hard' currency. Thus the city of Osaka came to dominate the country's commerce in the latter half of the seventeenth century as the market for tax rice grew. With those wholesale merchants who traded in tax rice, the city grew extremely rich, and 'reputedly held 70 per cent of Japan's money in its hands' (Miyamoto 1954, p. 15; see also Hauser 1974, ch. 2).

The Osaka market received rice and other agricultural goods from local domain economies. In exchange, Osaka shipped out handicraft goods produced in the towns and villages surrounding Osaka and Kyoto (the region called Kinai) to the peripheral, local economies. In most cases, the balance of payments was favourable to the local economies; indeed the domain economies had to draw their supply of currency from the Osaka market. All these transactions were made through the channel of Osaka wholesale merchants (*ton'ya*), intermediary dealers (*nakagai*) and local merchants. A transaction at each stage of this chain was never a spot contract; the relationships between the wholesaler and the intermediary and between the intermediary and the local merchant tended to be *continuous and stable*, perhaps as continuous and stable as the relation between today's Toyota and its ancillary parts manufacturers.

This kind of transactional relations is one variant of 'relational contracting' as contrasted with 'vertical integration' (Hayami 1998). The term 'relational contracting' denotes any contract relationship maintained primarily through non-market ties and accumulated trust. Patron-client relations that are said to have been prevalent in South-east Asian countries, and lineage- or native-place-based commercial networks that operated in the Chinese past, are all cases in point (for a Chinese perspective on law and commerce, see Ma 2006). However, the Osaka-centred hierarchical chain of commercial relations was much less to do with those kin- and community-based enforcement mechanisms. The key to the workings of the Osaka-based chain was, simply, recurrent transactions and accumulated trust between the two parties who carried on the transactions within the closed system.

The Osaka wholesalers were not a sort of merchants who earned profits by bridging two separate price regimes. Unlike traders in the Age of Commerce, they traded on a large scale by securing high rates of turnover of capital and merchandise 'with low margins'. They were in many cases specialised in trading one commodity or two with the volume of transactions becoming large. As the firm size grew, it was no longer a one-man business (Miyamoto et al. 1995, pp. 18-19). Within this Osaka-centred network, the wholesaler's money went *in advance* to the intermediary and the intermediary to the local dealer, so that the merchant did not need to find credit before shipment. It was an arrangement that emerged in a situation where no banking businesses developed. The network with the wholesale merchant acting as a creditor of the entire transactions was called the 'wholesaler system'. The profit earned by those wholesale merchants, therefore, must have included a substantially large portion of interests to be paid by the senders of commodities, as indicated by the interchangeable use of the words, 'interest' and 'commission', in Tokugawa days (Miyamoto 1951, p. 420).[1]

From the late eighteenth to the early nineteenth century this Osaka-dominated system of commerce underwent a series of drastic changes. The first change was the rise of Edo as a market for consumer goods. Being a city of 1,000,000 population, its purchasing power extended stimulus to rural areas surrounding Edo and to other regions in the eastern half of the country, thereby giving rise to separate rural-urban linkages outside the Osaka-centred commercial network. Secondly, domain governments in rural regions, both east and west, came to behave more like independent 'mini-states'. For example, many domain administrations started issuing quasi-bank notes (*hansatsu*) in place of shogunate-issued hard currency. Their attempts often failed. Yet there are cases in which domain governments succeeded in keeping the note price from falling. The attempts to issue their own paper money were often coupled with 'export' promotion programmes. One of the aims of such policies was to by-pass the control of Osaka merchants on the marketing of the domain's speciality goods (Nishikawa and Amano 2004). As a result, thirdly, trade between those mini-states grew, so did their trade with Edo. All this resulted in a substantial decline in the volume of commodities arriving at Osaka. Trade statistics for three separate periods show that while the overall volume of trade increased from 1736 to 1804-29, there occurred a marked contraction from the 1804-29 period to 1840 (Shimbo and Saito 2004, p. 362).

2. <u>Trends in interest rates in the Osaka market</u>

The result of the decline of the Osaka market was a fall in the level of profit rates among Osaka or Osaka-related merchants. For example, according to a detailed account of one such wholesale merchant who traded in cotton and had a branch shop in Edo, the rate of profit over assets net of liabilities in the period around

[1] The word *ton'ya* system was often extended to an institutional arrangement that emerged between merchant-manufacturers and sub-contractor producers, then was adopted later as the translation of the English term 'putting-out system' when economic history writings were brought in from the West. Putting-out is another variant of 'relational contracting', and is said to have been a major form of production organisation in the late-Tokugawa countryside. However, as far as textiles are concerned, recent studies of rural industrialisation have revealed that putting-out spread in a much later phase of development: in late Tokugawa times an arrangement termed *Kaufsystem* seems to have been more widespread than genuine putting-out arrangements, and it was in the early Meiji period when putting-out took root in local industrial districts, especially in growing textile districts. It is not unlikely, therefore, that the local merchants at the other end of the Osaka-centred system bought up their goods solely on a *Kaufsystem* basis.

1700 were well over 10 per cent, but the level started to fall towards the 1770s, then remained below 3 per cent until the end of the Tokugawa period (Kitajima 1962, pp. 200, 387). Similar evidence is available for six urban merchant houses, showing a secular fall in the profit rates from the eighteenth-century level of a little lower than 10 per cent (Ishikawa and Yasuoka 1995). Since a large portion of the profit earned by the wholesale merchant corresponded to interest to be paid by the shipping merchant for advance payments, the declining trend in the level of commercial profits must have reflected a similarly declining trend in interest rates in the Osaka market.

[Tables 1 and 2]

There is some direct evidence confirming this statement. Interest rates charged by Osaka's Kōnoike for loans to domain lords reveal an unmistakable downward tendency over the period from the beginning of the eighteenth to the late nineteenth century (Table 1). In the early eighteenth century the average level of interest was a little over 12 per cent, which was probably a little lower than market rates since the latter is said to have exceeded the 15 per cent mark, a statutory rate of interest set as the upper limit by the shogunate government in 1724 (quoted in Miyamoto 1963, p. 47). By the end of the Tokugawa period, however, the average level declined to 7 per cent. Among the cases there were transactions with very low interest rates, which may be suspect. But even if such suspect cases are excluded, the trend is clearly a downward one: starting with 12.5-3 per cent and ending with 8.7 per cent (second column of Table 1). Other pieces of evidence are for the proportion of received interest to loans to business people. Table 2 shows Mitsui's as well as Kōnoike's average rates from 1721 to 1860. The measure cannot be regarded as a contract rate of interest since some may have been defaulted, but the direction of movements such data reveal may well have reflected market trends. All that Tables 1 and 2 indicate, therefore, seems to suggest that recurrent transactions within this Osaka-based relational contracting system increased predictability within the system, thus allowing interest rates in the Osaka market to fall.

[Figure 1]

The final piece of evidence for this section, a time-series of interest rates charged by pawnshops in Osaka, focuses on the last phase of the Tokugawa period. The series, shown in Figure 1, is annual and covers from 1830 to 1879. According to this graph, there was a slightly downward tendency up to the early 1860s, then occurred a sharp drop of the interest rate. It is usually the case that pawnshops charged higher rates than ordinary creditors did, but since the data were those provided by a guild organisation, it is likely that the figures did not reflect transactions of ruthlessly high-charging shops. Wherever the actual level was, however, the trend and annual movements were unmistakably clear from this graph. And what is really interesting with this interest rate series is that its movements were negatively correlated with an Osaka price index (price data from Saito 1975). Although the negative relationship is relatively weak in the 1840s, the correlation coefficient for the entire period is -0.76, which means that when prices were high, interest rates tended to fall rather than to rise. If a rise in the price level reflected a general prosperity, then we should expect a positive relationship between the two; but if the price rise was occasioned simply by an excess supply of, or a reduced demand for money, or both, it is likely that interest rates in the money market would fall. In the age of industrialisation, i.e. 1893-1940, it is documented that the two were positively correlated, suggesting that low interest rates could stimulate investment in commercial and industrial activities (Fujino 1965, p.524). In contrast, the negative correlation seems to have been the case for late-Tokugawa Osaka. There, while the government supply of money was unmistakably on the increase in the period after 1820, the demand for money was contracting. This must have been a reflection of its declining position in the Tokugawa economy.

3. Rural development

It is widely agreed that the decline of Osaka was a consequence of rural development. Most of the commodities 'exported' from regional economies were labour-intensive goods such as textiles, dye stuff, paper and straw goods. Undoubtedly, wage differentials between the rural Kinai (areas surrounding Osaka and Kyoto) and remote districts played a part (Shimbo and Saito 2004). The question here, however, is how the development of such rural 'export' trade was financed.

One obvious source of finance came from local domain governments. As noted above, the domain authorities became increasingly concerned with macro-economic management of their own economies, especially with their trade with Osaka.[2] Their awareness of potential gains from 'export' of their speciality goods to Edo and other metropolitan markets often led them to institute schemes

[2] The following account draws on Nishikawa and Amano (2004). For political economy of domain-level mercantilist approaches in the late Tokugawa period, see also Roberts (1998) and Ravina (1999). The former looks at Tosa and the latter at Yonezawa, Hirosaki and Tokushima.

of trade promotion, setting up 'monopolies' and 'trading bureaus'.[3] Such attempts were found as early as the seventeenth century. However, according to a comprehensive list compiled from various sources, the number of domain governments who adopted such schemes increased in the last quarter of the eighteenth century: 26 in the 1601-87 period, 28 in 1688-1735, 39 in 1736-88, 80 in 1789-1829, 98 in 1830-59, and 106 in 1860-71. The list also indicates that those domain governments often issued paper money. Initially, it was simply an attempt to make up for their budget deficits, but they increasingly came to realise its potential as a measure of trade promotion. Although it is difficult to quantify how many of the total of the above-mentioned trade-bureau schemes were linked with such monetary policy, the following case studies strongly suggest that there were close connections between the two.

A case in point is Tokushima domain, well-known for its indigo products. In 1766 a reform proposal was made by a wealthy indigo merchant to the Tokushima government, which 'taking the eighteenth-century development of the [Tokushima] indigo industry as its basis, called for the establishment of an indigo-ball trading bureau which the domain government would control in Tokushima and keep separate from the distribution and financial controls of Osaka wholesalers'. The proposal also 'called for the Tokushima government to function as a commercial credit provider in place of the Osaka merchant houses' (Nishikawa and Amano 2004, p.256). It seems that credit was provided in the form of notes rather than hard currency. Although this reform failed as the central shogunate government took the side of the Osaka merchants, this clearly shows how such a domain-level scheme operated. In the 1790s, another reform effort was made. The aim of the reform programme was the same as in the 1760s. However, this time they turned their eye on to the Edo market, and the Tokushima merchants played a larger role in advancing funds to local dealers (Amano 1986, pp. 28-46).

Two other examples come from Himeji, a cotton area, and Kaga, the largest of all daimyō domains, producing silk. Both domains exhibited successful operations of 'export'-promotion development policies in the early nineteenth century. Both, in order to by-pass the Osaka oligopoly, turned their eyes to Edo as a market and the

[3] Although all these domain-level schemes were customarily called 'monopolies' (*senbai-sei*), inter-domain 'monopolies' in the inter-domain markets were not many. Most of them were actually 'monopsonies' within their own domain. Given the competitive nature of the metropolitan markets, this implies that in the case of 'domestic monopsony', the domain's trade bureau could not exercise any monopolistic power in the inter-regional markets. See Nishikawa and Amano (2004), pp. 249-250.

direct shipment of their 'export' goods to Edo was one major factor for the success of their schemes. Also noteworthy was their 'conscious use of domainal notes [paper money] as regional currency', with which credit was provided to shipping merchants (Nishikawa and Amano 2004, pp. 257-259).

The final case study is concerned with inter-domain trade between Takamatsu and Wakayama, neighbouring domains across the Kii Channel. The initiative began in the 1830s from the Takamatsu side, which was a major supplier of sugar products. From the beginning it involved the use of paper money. The Takamatsu government discontinued the circulation of old notes and issued new ones, 'by taking a specie reserve into account'. The new notes were used via a 'sugar exchange fund' to provide loans to shipping merchants. Initially shipment was bound for Osaka, but with a petition from a rural merchant a new bureau was set up in order to by-pass the Osaka market and came to include Wakayama domain as a partner in 1845. Again, it is worth noting that the whole operation was made possible by the issuing of paper money as regional currency (Nishikawa and Amano 2004, pp. 260-264).

4. Interest rates in the countryside

The above account of regional trade promotion policies suggests that money was in short supply in those local economies, and also that there existed no way in which excess stock of funds in Osaka was invested into commercial and industrial opportunities in the regional economies. Without formal institutions, the capital markets were very much segmented.

In such circumstances, it is difficult to assume that interest rates in the regional economies moved in accordance with those in the Osaka market. Unfortunately, no evidence is available with respect to how credit markets operated in Tokushima, Himeji, Kaga, Takamatsu and Wakayama. There are only scattered pieces of evidence for rural credit and interest rates in other areas. Ronald Toby in his paper on a wealthy farmer-banker in a province of central Japan has made analysis of money-lending ledgers for the 1829-37 period, arguing that there were local networks of money lenders who borrowed to do money lending businesses. In so doing, he suggests that the rural level of interest rates on retail loans seems to have been in the range of 12-15 per cent per annum, unmistakably higher than the Osaka market rates, although other local studies he quotes include loans at single-digit rates as well as those at 20-30 per cent (Toby 2004).

[Table 3]

In another case study of a farmer of similar status in Izumi province in the Kinai, Satoru Nakamura has shown us how rural interest rates changed over time (Nakamura 1968). The Nakamura data for two series of lending rates, i.e. pawning and mortgage rates (set out in Table 3), reveal that while most of yearly averages of interest rates charged by the farmer-creditor were within the range that Toby suggested for the countryside, i.e. 12-15 per cent, there occurred two changes in the level of interest rates during the period of one and a half centuries. The interest rate declined in the eighteenth century: in the pawning series the average declined from 18 per cent to the level of 10-11 per cent during that century while in the mortgage series the decline took place a little later in the second quarter of the nineteenth century. The chronology of the decline was more or less in line with the trend in the Osaka money market, and is confirmed by another study of rural credit. Based on a number of contract documents in Harima, a province adjacent to the Kinai, Shoji Uemura shows a steadily declining trend in the average interest rate from the level of 15-20 per cent to that of single-digits (Uemura 1986, pp.235-238). On the other hand, the Izumi-province data (Table 3) reveal an upturn in the level of rural interest rates in the period from c.1860 to 1880. This was a period of inflation. Especially the 1860s saw a hyper inflation during which Osaka's pawnshop interest rates fell sharply (see Figure 1 above). In other words, the response of market interest rates to price change differed between Osaka and the countryside in the inflationary period that followed immediately after the opening of the country into world trade: in the 1860s and after demand for money went down in the urban market while it increased in the countryside.

Interesting and illuminating as these rural trends in interest rates are, however, it is not quite clear at this stage of research how these phenomena were related to the ways in which inter-regional trade expanded in the latter half of the Tokugawa period. Did the schemes instituted by the domain governments to promote 'export' trade bring interest rates down in the countryside? How did local 'export' merchants respond to emerging markets? Did their response eventually lead to a decline in interest rates, just as the Osaka-centred system of commerce had achieved in the eighteenth century? Or did the 'export' merchants behave differently from what the Osaka wholesalers did? Unfortunately, it is not possible to examine these questions in relation to the specific cases of Tokushima, Himeji, Kaga, Takamatsu and Wakayama.

5. The case of the early Meiji silk trade

For a more general question of how 'export'-oriented rural development was financed, however, it is not impossible to draw an inference from early Meiji case studies for the period after the country's entry into international trade. Particularly interesting is the silk trade which grew strongly in the rural provinces of central and eastern Japan after the commencement of overseas trade in 1859.[4] The trading port was Yokohama, a Treaty port, and it was export merchants in Yokohama who played an important role in the growth of silk export. They were called 'wholesale merchants' (*ton'ya*) but most of them had rural origins, having no relations at that stage with the established wholesalers in Osaka and Edo (although Mitsui entered the business as early as 1876 by setting up Mitsui Bussan, a trading company). Of course, it should be remembered that in the early Meiji period, unlike in late Tokugawa years, commercial banks in a modern sense came into existence, first as American-style 'national banks'. There also emerged a number of non-bank lending businesses in rural industrial districts, especially in export-oriented silk-producing areas in Shinshū and Jōshū. In 1880 the Yokohama Specie Bank was established as a quasi-government bank specialised in financing foreign trade, and two years later the Bank of Japan came to operate as a central bank, replacing the decentralised American system of 'national banking'. Nevertheless, even when credit from those 'modern' banking institutions became available, the role played by the export merchant-wholesalers in Yokohama was crucial in financing the development of silk export, the system of which came into being in the late 1870s.

Before examining their activities since the mid-1870s in the trade between the silk district and Yokohama, however, it is worth having a look at the situations in the period from the beginning of foreign trade to the mid-1870s.[5] Raw silk was the single most important of all export goods of Japan since the entry into world trade. A number of merchants came to Yokohama where lucrative trade opportunities were suddenly created since 1859. Initially, as price gaps between the rural districts and Yokohama were large, they went round to buy raw silk in the countryside, or bought goods from producers who brought their merchandise with them to Yokohama. With the development of long-distance communications, especially of telegram, the price differences narrowed and the 1870s saw district producers forming their trade co-operatives, which acted as consignors to Yokohama. Correspondingly, similar trade associations were formed by Yokohama's export merchants. The moves were occasioned by government-introduced regulations which required the product stamped in the

[4] For the development of Japan's silk export, see Sugiyama (1988), ch.4, which covers both changing situations in trade and production.
[5] The following account draws largely on Ishii (1972), ch.2, and Nakabayashi (2003), ch.7.

silk district and its quality checked in Yokohama. Although the regulations were repealed several years later, this gave a further opportunity for export merchants to extend their influence onto local consignors. The former provided advances to the latter before the merchandise was handed to a Western merchant. Because of this financial role, their handling share increased over time. Indeed, export of raw silk from Yokohama grew at the average annual rate of 8 per cent from 1873, when the regulations were announced, to 1887, while the amount the export merchants handled increased by 10 per cent over the same period (Yokohama-shi 1959-76, III, *jō*, p.584).

This kind of advance finance in the silk trade is said to have started by a branch shop of the Mitsui House in 1870. However, it was the emerging Yokohama export merchants who adopted it as a major medium of business strategy (Yamaguchi et al. 1966, p.61). According to this method, summarised in Figure 2, raw silk produced in the rural district was delivered through a local consignor (or an agent from the co-operative) to the export merchant in Yokohama, who sold the products to Western merchants. The local consignor drew a documentary bill through a local bank on the export merchant in Yokohama and was financed for 70-80 per cent of the estimated selling value. The export merchant took the silk dispatched by the consignor to his warehouse on settling a bill of exchange with interest. The settlement was made *before* the agreement with a Western merchant was reached. The export merchant was financed by a commercial bank in Yokohama, most notably by the Yokohama Specie Bank, which in turn was financed by the Bank of Japan since its establishment in 1882.

Thus the export merchants received interests as well as commissions. According to one large export merchant's account book in 1884, for example, interest earnings, net of interest payments, amounted to 20,687 yen while commissions totalled 25,788 yen. Commission rates seem to have been fairly low. According to an agreement in 1883, the rate was 1.1 per cent of the total transaction value, which was reduced to 1 per cent in 1886. Interest rates charged by them to advances to local consignors were not so cheap (annual average rates, converted from daily rates, are set out in Table 4). In 1882 the average was 18.3 per cent per annum, but the level came down to the range of 9-12 per cent by 1890. These rates were said to be higher than market rates in Yokohama. Twenty years later, however, export merchant rates declined further and became lower than market rates in the rural silk districts (Yokohama-shi 1959-76, III, *jō*, p. 561; Tokyo Kōtō Shōgyō Gakkō 1915, p. 47). It seems, therefore, that as the relations between the Yokohama export merchant and silk-producing districts became closer and stabilised, recurrent transactions between them enabled interest rates to fall.

6. Conclusion

In this early-Meiji silk trade, it is possible to identify an element of continuity from the Tokugawa past on at least two counts. One is the role played by wholesale merchants in financing trade growth. After the opening of its Treaty port, Yokohama saw spontaneous growth of a hierarchical system of commercial relations with the silk districts, similar to the age-old 'wholesaler system' that had been at work between Osaka and regional economies. In the core of the system was the supply of credit by the wholesale merchant. Initially the rates of interest were high but tended to fall eventually as transactions within the system became continuous. The other is the way in which the export trade was promoted. In both late-Tokugawa and early-Meiji development policy regimes, the government saw money supply as a principal means of trade promotion. Late-Tokugawa domain governments issued paper money to finance their trade promotion programmes, and early-Meiji policy makers of the 1870s believed that increased money supply from note-issuing 'national banks' would mean an increase in the supply of capital to merchants and producers in the export business. In the silk trade from the late 1880s onwards, the role played by them was taken over by the central bank (Hashino and Saito 2004, pp. 244-245).

One thing that separated the Tokugawa systems from the early-Meiji case is that the late-Tokugawa local economies were never integrated into a national market. Links between the local domain economies were weak, and the Osaka-centred system of credit chain was virtually cut off from those of the growing rural economies. In the late-Tokugawa Osaka market, as we have seen, there was an over supply of money; yet there was no institutional channels through which investment funds were allocated across the semi-independent commercial networks. Had the excess funds that glutted the Osaka money market been diverted to rural investment opportunities outside the Osaka-centred network, the rate of growth in the nation's output could have been somewhat higher.

Two additional points may be made, however. First, this chapter has emphasised that although Tokugawa Japan's formal institutions were far from ideal, the credit systems could function as *quasi*-capital markets reasonably well *within* each commercial network formed through relational contracting. Transactions costs as reflected in interest rates did not remain inhibitingly high. Rather, relational ties and trust accumulated through recurrent transactions enabled the cost of financing trade growth to decline in each of the closed systems. Moreover, secondly, this does not necessarily imply that market forces were not at work in the inter-regional spheres. As we have seen, the whole process of output growth in the late Tokugawa period may be seen as a product of *increased competition* between the Osaka-centred and the other commercial networks, which took place in the form of mutual competition between the regional mini-states. Indeed, it is likely that for the Smithian process of early modern growth to work, inter-regional competition mattered more than institutional maturity of the nation's market environment.

Table 1. Interest rates on loans to overlords: House of Kōnoike, 1707-1880

Period	Average rate (% p.a.)	
	All cases	Excluding cases with below 6 % interest rate
1707-1740	12.5	12.5
1741-1760	12.1	13.0
1761-1780	11.3	11.3
1781-1800	6.5	9.3
1801-1820	7.3	9.3
1821-1840	7.1	8.3
1841-1860	6.8	8.7
1861-1870	7.4	8.7

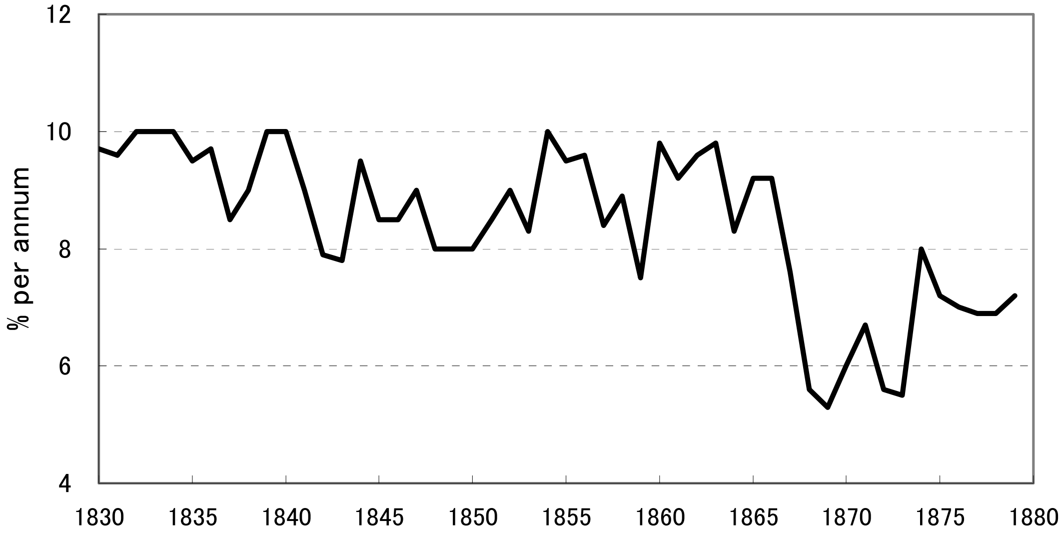
Source: Miyamoto (1963), pp. 348-365.

Table 2. Rates of received interest to loans: Mitsui and Kōnoike Exchange Houses, 1721-186

Period	Average rate (% p.a.)	
	Mitsui	Kōnoike
1721-1740	4.9	6.3
1741-1760	4.1	5.5
1761-1780	3.4	4.9
1781-1800	1.7	3.8
1801-1820	1.8	2.2
1821-1840	1.9	3.4
1841-1860	—	3.3

Source: Shimbo and Saito (2004), p. 358.

Figure 1. Interest rates charged by pawnshops in Osaka, 1830-79



Source: Miyamoto (1963), p. 344.

Table 3. Interest rates in Izumi province, 1728-1890

Period	Pawning rate (% p.a.)	Period	Mortgage rate (% p.a.)
1728-1758	18.0		
1771-1788	10.6		
1789-1800	11.7	1781-1801	13.2
1801-1824	10.1	1818-1832	14.5
		1833-1845	11.8
1845-1859	10.9	1848-1859	10.2
1861	11.6	1860-1867	12.0
1871-1874	13.5	1868-1875	14.2
		1876-1881	18.7
		1882-1890	17.6

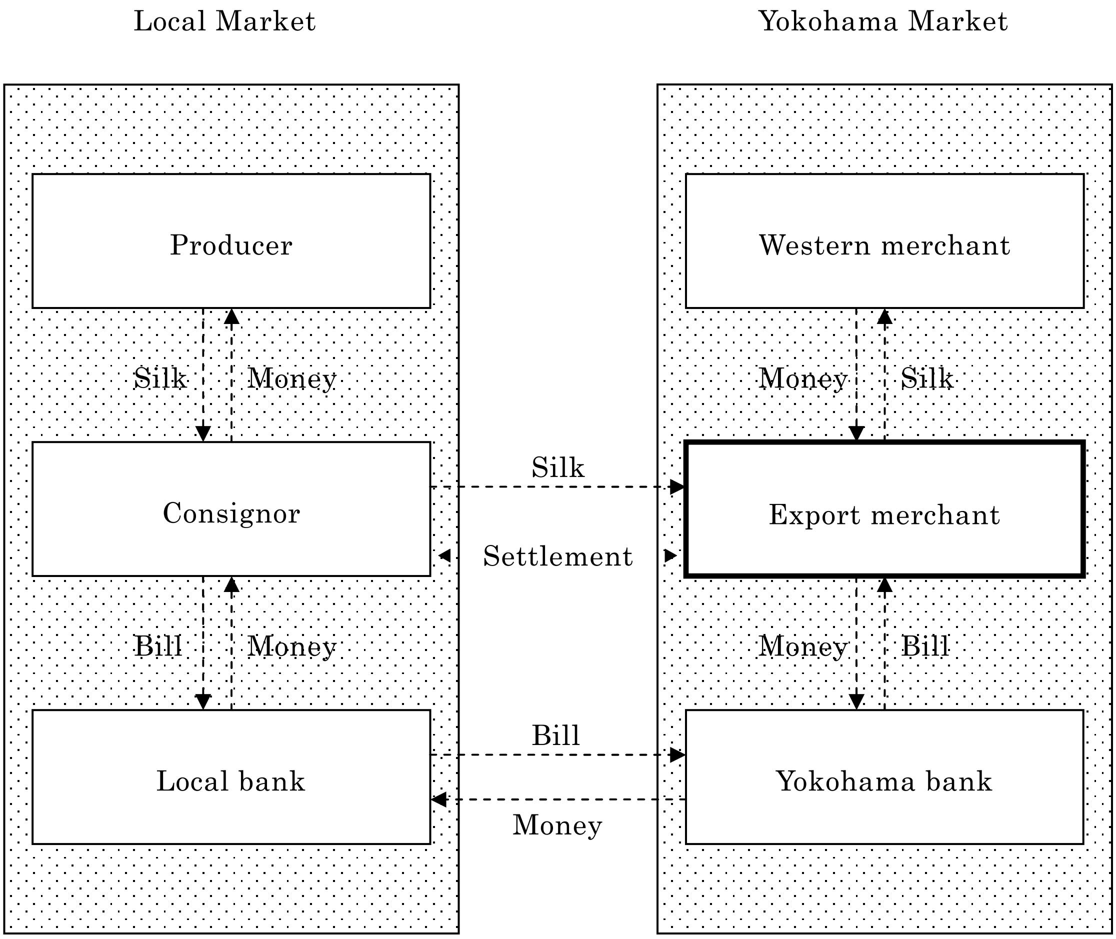
Source: Nakamura (1968), p. 348.

Table 4. Interest rates charged by Yokohama export merchants, 1882-91

Year	Average rate (% p.a.)
1882	18.3
1883	15.3
1884	13.5
1885	12.8
1886	10.2
1887	8.8
1888	11.0
1889	11.0
1890	12.0
1891	12.0

Source: Yamaguchi et al. (1966), p. 47.

Figure 2. The export merchant in the silk export trade, c.1880



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