旧版文章
天人古今
古今通论
古代通论
世界史论
当代三农
现实问题
旁通类鉴
先秦史论
先秦通论
原始经济
文明起源
夏商西周
春秋战国
汉唐史论
汉唐通论
战国秦汉
秦国秦代
西汉东汉
魏晋南北朝
隋唐五代
宋元史论
宋元通论
唐宋通论
北宋南宋
辽金西夏
蒙元史论
明清史论
明清通论
明代通论
明中后期
清代通论
清代前期
近代史论
近代通论
清代晚期
民国通论
民国初年
国民政府
红色区域
现代史论
近世通论
现代通论
前十七年
文革时期
改革开放
学科春秋
学科发展
专题述评
年度述评
学人学术
学者小档
理论方法
史观史法

《工业革命前中国和欧洲的信用市场与投资：另一种视角的考察》英文本

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"Another look at credit markets and investment in China and Europe before the Industrial Revolution"

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A half a century ago, the rise of capital markets was central to the account of Europe's economic success in the eighteenth and nineteenth centuries. European economic historians dutifully sought and found the roots of such institutions in medieval Italy and then traced their transplantation northward. By the mid-eighteenth century England had more banks and a larger stock market than any other country in the world, a neat temporal coincidence with the Industrial Revolution. That smaller more trade oriented, more politically open polities developed higher

levels of financial sophistication, only served to reinforce the appeal of the account because it linked economic development, finance, and liberty. Countries that failed to develop banks or exchanges were given bad marks because they lacked financial markets and possessed repressive governments (Cameron). At first glance this narrative has tremendous power, both across Europe and beyond. If France and Spain for instance, fare poorly by this standard, China is obviously a complete failure as is Latin America.

Yet this tidy narrative has problems--problems that the last three decades of research in European financial history have made all too obvious. There are three fundamental problems. First, financial structure seems to be of limited import to growth, that is whether one has large or small banks, and large or small capital markets, what matters more is the aggregate size of the financial market. Second, finance most often follows rather than leads growth; when processes of structural change arise they create demand for financial services and where political constraints are not over whelming these demands are met either because old intermediaries adapt or because new ones arise. Not all financial transactions are mediated by banks or exchanges. Finally, as we know from twentieth-century experiences of state-led growth, what matters is investment and that finance is only one mechanism for increasing investment.

Nevertheless our revisionism is modest. If we are arguing that capital markets are probably not the main source of divergence between Europe and China, we do not question the existence of this divergence. In fact from our point of view, in the economic context between the two extremities of Eurasia, Europe had won an important round by 1700. By then Europe had gained an ascendance that would be not be challenged by China until the last quarter of the twentieth century. It is our contention, however, that we need to understand differences in this important factor market precisely because that allows to eliminate one hypothesis about the causes of divergence.

We therefore consider credit markets in the broader context of all financial transactions and investment practices. Doing so has three important advantages. It allows us to account for the relatively small differences in economic performance across economies with quite different financial structures. It also allows us to account for the relatively high investments made in China prior to industrialization. Finally, it leads us to be more precise about the advantage Europe gained from the early creation of capital markets. But we must begin with the history of European credit markets.

1: Comparative Financial history and the National Contexts

For many scholars there is a direct link between financial structure—the specifics of the design of a country's financial system and economic performance. During the 1970s and early 1980s the successes of the German, and in particular, Japanese economy had many scholars advocating a 'bank' based system, in which very large banks simultaneously held a large fraction of firms' equity and provided them with long and short-term loans. This system, it was argued, allowed firms to focus on long-term development plans rather than short-term profits. Then, in the late 1980s, the Japanese economy slowed down dramatically and a few years later the US economy began to boom. Sure enough, a new set of scholars became advocates of a 'market' based system that emphasizes publicly traded equities at the expense of long-term debt. Such a system's strength is that it allows monitoring of firms and the pricing of risk. The collapse of the high technology equity market in 2001 has bolstered a third view (Levine et al). It argues that finance matters far more than financial structure. What matters is how much capital moves through the financial system because that affects the capacity of a society to take advantage of high return opportunities. Financial structure matters less when the total financial system is large because both bank and market based system adapt to new opportunities. When the financial system is small, however, it seems to be both more vulnerable to shocks and less responsive to opportunities.

Historically, the debate over whether large banks are better than large equity markets may seem utterly irrelevant. After all there were no large, German style, banks in 1800 and save for the shares of semi-public entities like trading companies and canals, no equities were traded on secondary markets. Even bond markets heavily favored public issues. Yet there is a similar set of arguments involving the financial institutions in place at the time in the leading countries and their absence in other places. The argument that Europe grew more slowly in the 1990s than the U.S. because it lacked a NASDAQ style equity market is logically identical to the argument that France's pallid performance in the 18th century was due to its lack of a centralized capital market or network of banks. England boomed because it had both the London capital market and the country bank system (Neal). If we step back another century, the Netherlands' economic success has been attributed to its equity market (that funded local shipping, local governments and the VOC) and to its short debt market (that funded the States General and many private activities) (Gelderblom and Jonkers).

Each of these narratives is perfectly adequate within the confines of nationalistic history. Americans can croon about their markets and performance in the 1990s and ask the rest of the world: Why are you not like us? The Japanese could do the same some thirty years ago, and Germans as well for both their post war miracle and their rapid industrialization after 1860. Even Belgians can point to their Société Générale as the first universal bank and its contribution making them the first continental industrial power in the 1830s (Van der Wee). The British can gloat over the eighteenth-century London bond market, the Dutch about their seventeenth-century short term debt market. And so on.

Persuasive as these narratives seem to be for national cases, they are not very useful for comparative economic history. The inference claiming that the German financial system was superior to the British system after 1870 cannot be made simply because Germany was growing faster. Indeed it is not clear that Germany's faster growth was caused by its financial structure (Cf. Gerschenkron). It is not clear that had Britain adopted German finance it would have grown faster (Collins). More damning yet, in these narratives economic success and financial success are coincident rather than causally connected. To take but two examples, little of British industry was financed directly or indirectly by the London capital market; the bulk of the resources raised there went to fight wars in Europe and a little to expand the empire (Dickson). Similarly, large German-style banks mostly shied away from small and medium-sized firms (Folhin, Guinanne). To put it bluntly, there is little evidence that either Britain's Industrial Revolution or Germany's industrialization depended on what has been extolled about their financial systems. But they each required a financial market of some kind.

Beyond the nationalistic comfort of such narratives, there is another reason for their persistence: scholars of countries without 'superior' markets have largely accepted the narrative. Given that the economic history of France in the 18th and 19th century has largely been the economic history of its failure relative to England, there is no reason to challenge the connection between the London capital market and British industrialization or to investigate the extent of a financial market in France. Had an alternative market existed it could only fit into the narrative if it was inferior to the English capital market. If French credit markets offered a similar level of assistance to the economy then it could not explain France's relative failure. The same account could be given for many a continental country.

2. Europe: Credit Market or Credit Markets

Our consideration of financial must thus be very catholic allowing us to capture both the complementarities across different markets for capital and their substitutability. This effort has been made easier by a recent shifted in focus from financial change at the national level to a more pan-

European scale. The first element of this reconsideration takes a very broad sweep of history by examining interest rates on public bonds (Tracy, Epstein). In the late Middle Ages interest rates on government bonds in Northern Europe were typically above 10%, while in the financially developed part of Europe Italy they had fallen closer to 5%. By the mid-eighteenth century, interest rates were between 4 and 6% everywhere in Western Europe. To be sure, the variation across countries and over time is marked and coincides more with the adoption of new financial institutions, but the long-term trend is unmistakable.

The importance of public debt prior to the nineteenth century does not result from any involvement of European states in development projects but from political competition. This competition involved extremely expensive warfare that required resources. The drive to secure resources for war made governments the most important promoters and destroyers of capital markets. Pre-industrial states were small in many ways. They were small as a fraction of their economies, and their peace time budgets limited relative to the cost rulers wanted to devote to war (Hoffman &Rosenthal). They were also small because rulers did not have the capacity to increase their revenues quickly. Some were also geographically or demographically smaller than others. The way sovereigns viewed finance, as Epstein has argued, was deeply entwined with the decision to enter or exit international competition. As long as they perceived their participation international affairs as temporary, they tended to rely on expedients such as short term finance and made little effort to develop long term financial markets as a result their long term cost of finance was high (Epstein). Over time, more and more rulers came to the conclusion that conflicts in Europe were long, extremely expensive, and that a move from expedients to long-term finance was necessary.

Nevertheless all sovereigns relied heavily on credit markets to fund their military expenses. Their reliance took two opposite forms: support and predation. Some states, like Venice early on, structured their borrowing in ways that supported the expansion of the financial system (Muller); later, the States of Holland's heavy reliance on the obligation market gave a boost to the short term debt market in Amsterdam (Fritschy, Gelderblom and Jonkers), and more famously the development of the consol in the UK create a liquid short term debt instrument was an important element in the growth of local banking (Neal). Everywhere financial intermediaries who entered into the business of public finance extended their reach to private issues as well and vice versa. There was a darker side as well, including Charles II's famous seizure of goldsmith bankers' assets (North and Weingast), the French crown's trump trials of financiers (Desert), and the repeated failure of Spain to develop a domestic debt markets and its devaluation of the currency under the Hapsburgs (Drelichman). In each case sovereigns who were facing significant needs for cash, decided to secure such resources by preying on financial markets and in particular on financial intermediaries. In the short run, this allowed rulers at the very least to cancel debt and at times to secure actual resources. The more pernicious consequence was that it made the financial market far less efficient. Leaving aside the dubious social returns of investments made by European rulers, over the long run they were more favorable than hostile to markets and their borrowing provided an important impetus to credit markets in Europe. Interestingly enough this impetus was typically strongest in smaller politically active polities (Epstein).

Since European states did not invest in development (be it education or infrastructure), capital markets were important vehicles for investment. In most places, families were small and poor vehicles for resources transfers beyond direct kin. In most places, public investment was quite limited—neither cities nor guilds within cities or any higher level of government made much investment in productivity enhancing public goods. Furthermore where such investment occurred as in the case of transport infrastructure in the Low Countries or England, it depended heavily on the existence of private bond markets to fund improvement (Bogart, Tracy). While private credit markets were to some extent subject to the whims of political economy, they were also ubiquitous and in a large swatch of Europe began to grow in the Middle Ages.

Parallel to government bonds, there emerged a market for private credit. Traces of these markets can be found at least a millennium ago. Debt contracts from the Middle Ages survive in abundant numbers in Southern Europe (where thanks to Roman law contracts tended to get written down). While there has been considerable interest in debt contracts related to inter-regional trade (letters of exchange, commenda), these are but a fraction of the more standard debt contracts (Greif, Williamson, Gonzales de Lara). In fact, when the documentary evidence becomes sufficient to allow us to guess at quantitative magnitude, it becomes clear that local markets were the really important ones for private debt. There is good reason to think that local capital markets best suited pre-industrial Europe. Most firms and farms were tiny, and economies of scale were quite limited, hence there was little need to aggregate large pools of capital. In contrast, information technologies made it difficult to communicate the creditworthiness of borrowers across space or to monitor loans at a distance.

One of the oldest markets we can track is that for private perpetual annuities. In these contracts the borrower decided when the debt would be repaid and simply paid the interest charges at specified intervals. In most of Europe these contracts were notarized or registered at local courts and thus survive in abundance and give us the key information about interest charges. In England where there are no notaries, other sources have given us considerable evidence on the same type of contracts known as rent charges.

Private bond yields experienced the same secular decline as public bonds—if anything the decline was stronger. In the late Middle Ages interest rates on private debt in Northern Europe were well above 10% and in Italy charges were higher than those on the public debt market. From 1500 to 1750 a remarkable process of convergence took place such that by the mid eighteenth century interest rates were between 4 and 5% everywhere in Western Europe. Even where public interest rates were above 5% (as in France) private yields were lower (Hoffman, Postel-Vinay, and Rosenthal 2001; Velde and Weir). Although the timing of the decline varied from place to place (earlier in the Low countries, later in England and France), the pattern is unmistakable and has little to do with the specifics of the capital market structure. All across Europe yields declined because capital markets grew. They grew at the local level (Hoffman, Postel-Vinay and Rosenthal) as financial intermediaries reduced information asymmetries and they grew inter-regionally as well (Neal rise of Fin cap). In other words, markets grew because capital became more abundant and more secure, and finally because financial intermediaries became sophisticated. The last of the development is of concern to us here because it occurred before most of Europe had any German style banks or a hierarchal bank network like England's country-city bank system.

Rent charges and perpetual annuities were the lowest interest bearing securities around. They were regulated by usury legislation that although rooted in canon law, had long been a matter of state policy. Despite usury legislation, there existed a very large set of alternative securities where yields were much higher. These included short term debt where interest was disguised as a discount, book credit where prices were inflated to reflect the lack of cash payment and a host of other IOUs where the cost of credit to the borrower was heightened by transaction fees. While by the eighteenth century 5% per annum was thought to be an acceptable charge, polemicists railed against credit arrangements that would lead to 10 or even 20% per annum in credit costs. Even in the nineteenth century, fixed fees for loans combined with a general negative relationship between the size of loans and their maturity could easily lead to a doubling of credit cost between inter-quartile ranges of loans. Indeed some costs varied by loan size but not by duration (taxes) or they did not much even by loan size (registration fees), since small loans tended to also be shorter term loans, costs could rise quickly (Hoffman, Postel-Vinay, and Rosenthal). Nevertheless what matters here is that these markets existed and that they were large.

In England it is easy to show that credit markets have existed for centuries, but evidence on their size is harder to come by. Indeed, the British did not institute lien registries or notarize their debt contracts. During most of the Industrial Revolution, banks were either sole proprietorships or partnerships and we have only limited evidence about the volume of their credit or their capital. Hence we are left to guess at the magnitude of the mortgage market, the private IOU market and even the bank intermediated commercial debt market. Fortunately, on the continent because most of these contracts were notarized we can estimate their importance. Recent work on France shows that notarized credit was quite important even if it was only a fraction of the market. On an annual basis some 400,000 debt contracts were notarized in France around 1740 (Hoffman, Postel-Vinay and Rosenthal 2005). Estimates of the stock of such debt to GDP suggest that it was about one fifth—better than what some developing economies can manage today with a far more 'sophisticated' set of financial intermediaries (Haber). Given that notarized debt does not include either short term private IOUs or commercial debt it is a significant underestimate of the size of the credit market in France. That these types of markets were responsive to demand is evident. Private debt to GDP jumped from 20% to nearly 34% from 1740 to 1780. New instruments were developed and financial integration improved as can be seen from a more rapid rise of lending in larger cities than elsewhere in the country. It may be that the private English financial system was better developed by the 1740s than what has been found for France but as noted above the case rests far more on presumption than on evidence.

The notarized credit suggests that scholars might consider turning the bank-credit connection upside down. England had the most concentrated distribution of real estate wealth anywhere in Europe (Lindert). This implies that a standard mechanism for enterprise was simply unavailable to most Britons: the mortgage. Yet by the eighteenth century England was well engaged in a capital intensive structural transformation from an agrarian to a manufacturing economy. Because land was so mal-distributed, it had to develop alternative credit instrument: the obvious one was short term commercial debt. It, in turn, required development an information system capable of keeping track of the IOUS, hence commercial banks. When industrialization came to the continent the demand for commercial banks was less because their existed an alternative debt market that was superior for making long term investments: the mortgage market. Banks entered when there was enough demand for commercial debt for commercial purposes. This is precisely the pattern one finds in Northern French towns like Troyes, Elbeuf or Louviers all of which have banks *and* active mortgage markets and where manufacturers are important borrowers in the early phases of local development. In the South notaries did one better and simply integrated the short term market in their activities, thereby delaying the arrival of banks.

That France had a market which favored brokered transactions through notaries, while England favored intermediated debt is clearly a product of their different histories. Rather than emphasizing these differences, scholars should be attuned to the fact that both types of markets proved responsive to demand and to shocks. This view allows us to resolve the relative performance of the British and French economies, in ways that more traditional analyzes cannot. Although institutions in the two countries were quite different, and at times one did pull ahead of the other (as England did in the 1770s or France in the 1950s), these advantages were temporary and small. Over the past two centuries France has either been ahead or behind Britain by at most 25% of English GDP per capita. This is paltry compared to the gap between China and Europe which has been near 90% GDP per capita in the past half century. It may well be that the French system was more adaptive, because France suffered far greater shocks between 1700 and 1918 than did Britain, yet over these two centuries their per capita income growth rates were virtually identical. While Britain had a larger financial market on the eve of WWI, France was also among the leaders (Rajan and Zingales). Consider the alternative, namely that the only institutions capable of funding growth are banks. In this case why didn't England's path diverge more from France's?

Responsiveness to changes in demand is not the privilege of one kind of credit system, although adaptation may well be different, in some adaptation may be through entry, in other by change within existing intermediary firms, and in yet other through the entry of new intermediaries. The tale of British finance is in fact precisely a tale of piece- wise adaptation. For instance the City banks of London did not exist in the 17th century; neither did country banks (Neal, Quinn; Neal and Quinn). Instead, goldsmith bankers offered deposit services to Londoners, and in the rest of England merchants offered commercial services. The City banks arose in response to the greater role of London in public finance and international trade. Then the country bank system was put in place during the period of structural change; industrial equities were quoted on either regional or national exchanges only after their firms had achieved substantial scale: the investments had already been realized. In the French case, we observe the same phenomenon of piece-wise adaptation. In the eighteenth century one can surmise (Rosenthal) that increasing commercialization was partly at least responsible for the rise of the fixed obligation contract within the notarial system. Then in the first half of the nineteenth century notarial credit markets in places that industrialized like Lyon, Troyes, or Ste Marie les Mines boomed, while in other places they languished. More adaptation soon followed. In many of these places wholesale merchants turned themselves into banks and connected themselves to Paris. Rondo Cameron not withstanding, there were 725 bank offices in France in 1829, by 1851 on the what is supposed to be the eve of French industrialization, the number had nearly doubled to 1360 and it would rise to better than 3,000 in 1898 (Annuaire Didot-Bottin, Lescure). To be sure few of these banks were corporations and few of them were large. And to be sure, given the relative differences in the size of the two countries, England always had a massive advantage in coverage. But to blame the Bourbon or Orleans governments is simply silly. The number of bank offices outside Paris grew by a factor of five over from the 1820 to then end of the century. In the capital, a market for shares in limited partnerships emerged in Paris in the 1830s (because it was informal and did not involve shares in corporations, it has been neglected). Finally, banks diffused rapidly from the mid 1830s onward. At bottom we may say that France had a limited financial system in the nineteenth century because industrialization was slow rather than industrialization was slow because of constraints on finance While it is true that there were strict restrictions on listing on the Bourse or on forming joint stock banks into the 1870s, there were important escape valves. Individuals could freely enter into private banking and there was an active curb market for shares. If France did not have the best financial institutions, it certainly avoided the worst and when demand for finance increased there was a significant supply response.

Our structured account of European financial history suggests that the Europe-wide decline in interest rates probably reflected an improvement in property rights and the increased sophistication of financial markets. From European evidence alone it would seem that financial market development is a necessary condition for making investments feasible. But when we move to China where families and kin groups were large and where both central and local governments were active in making investments, it seems more reasonable to suggest that European financial market development was sufficient to increase investments, but not necessary.

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