

## Recent Findings of Research in Economic &amp; Social History

Economic historians have attached considerable significance to the role played by investment during British industrialisation and during periods of relative economic decline. Here Katherine Watson argues that an equally important and integral part of the story concerns the evolution in the finance of industrial investment. The article reviews the changing character of industrial finance during the nineteenth century and considers the extent to which financial institutions impeded Britain's industrial growth.

# *Financing Industry in the nineteenth century*

Some of the most commonly debated themes in British economic history relate to industrialisation and economic growth during the late eighteenth and early nineteenth centuries, and the relative decline of the British economy after 1870. Historians seeking to explain economic development have often focused on investment, and, in particular, fixed capital accumulation. [Box 1] However, in addition to examining the character and scale of investment in British industry, it is just as important to understand how that investment was financed. The evolution of industrial finance has become an integral feature of studies of British industrialisation; equally criticisms of financiers have played a major role in explanations of economic retardation.

Recent research has attempted to integrate the traditionally separate accounts of financial 'revolution' and its industrial counterpart, focusing instead on the interdependence of these sectors. In the light of growing concern about institutional weaknesses in the British economy, historians have sought to investigate whether there was symbiotic evolution of industry and finance, or whether the two sectors were in conflict. The primary question concerns whether finance successfully met the needs of industry, or whether financial sclerosis impeded the development of the British economy.

Debate has focused on whether the evolution of financial markets was prompted by supply or demand-side factors, and hence what these influences imply for the efficacy of industrial finance. Those attributing significance to supply-side forces focus, for example, on changes in the stock of wealth seeking profitable assets in which to invest, and the impact of increased integration of capital markets, facilitating access to national and international, rather than regional, resources. From the supply-side perspective, financial change can be seen as 'leading' industrial change: entrepreneurs were offered increased opportunities for investment, try virtue of the easing of the availability of industrial finance. Similarly, when seeking to explain Britain's relative economic decline, attention could be drawn to a contraction in the supply of capital, perhaps, for example, as a product of increased investment

overseas, crowding out by public investment, preference for land and property rather than industrial capital, or because of a shift in the distribution of income away from the investing classes. In contrast, models emphasising demand-side influences imply that financial institutions evolved in response to changes in the requirements of industrialists. They highlight the transition from a heavy reliance on working (circulating) capital towards a more dominant role for fixed capital, and an increase in scale of capital goods and industrial production as industrialisation proceeded. Application of this analytical framework to questions of economic decline would be less likely to blame capital market failure, and instead seek to explain why industrialists did not demand funds to support investment, or, perhaps, were unable to communicate their needs effectively to potential investors. This latter argument might stress weaknesses in entrepreneurial talent, or in trading opportunities which could constrain innovation and/or profit expectations.

In order to answer these questions concerning the relationship between finance and industry effectively, it is important to understand the origins and evolution of industrial finance. This paper seeks to review the changing ways in which businesses were financed during the nineteenth century, and to consider briefly what impact this might have had on the performance of the British economy.

### *The origins of industrial finance*

During the early stages of industrialisation, the ratio of fixed to working capital [see Box 1] were relatively low and most industrialists

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found their needs were met from the support of merchant capital. in the earliest stages of proto-industrialisation [see Hudson in **ReFRESH** 10] this took the form of the 'putting-out' system, in which merchants would supply raw materials and tools (the working capital) and collect articles for sale on completion. Hudson's work on the wool textile industry of West Yorkshire describes the development of a credit matrix tying together individuals or families supplying goods for sale with those who effectively financed the production process.[1]

During the late eighteenth and into the early nineteenth century, it

**Fixed capital accumulation** - investment in plant and equipment.

**Working (or circulating) capital** - funds required to meet everyday expenses on wages, stocks, commercial credit, etc.

**Bill of exchange** - similar to a modern cheque in that it acted as a means of payment for goods by a written expression of the sum to be drawn from a distant account. However, unlike cheques, bills could be traded, thereby providing a source of credit. A bank (or merchant) could supply credit by buying (discounting) a bill of exchange in advance of its remittance date, the loan being repaid on payment of the bill. Creditors received interest on the loan.

became more efficient for at least some production processes to be co-ordinated under one roof, thereby easing the costs of distributing raw materials to domestic manufacturers, facilitating control of the work-force, and permitting economies of scale.[see Jenkins in **ReFRESH** 16] As the scale of production increased, so too did the demand for industrial capital. Initially investment was largely financed informally from internal sources, including family, friends, partnerships, and by ploughing back profits. However, there is also evidence of a growing reliance on external supplies of capital.

Capital markets were essentially regional in the first instance, drawing, for example, on the talents of local scribes (money lenders) and attorneys who would act as intermediaries between borrowers and lenders overseeing mortgage contracts and transactions of bills of exchange. After 1750 there was also an expansion in the number of country banks.[see Capie in **ReFRESH** 16] These provided an important service as interest-bearing repositories for local savings, which could then be recycled to discount bills of exchange and provide short term loans. In some cases they were also able to issue notes. Country banks thus served a valuable function as intermediaries at a local level between creditors and borrowers, and between regional interests and London. Interestingly, the relationship between country banks and businesses was often very close, many banks having been established by industrialists. Manufacturers typically formed banks as a means of meeting their own needs by being able to draw on deposits, but also to make profitable use of any surplus income by offering it as loans. The brewing, textiles and metals industries were particularly closely associated with the development of banks, the pattern of their trade being most likely to generate surplus loanable funds. [2]

### *The emergence of a national capital market*

Financial historians have devoted considerable energy seeking to identify the date by which an integrated national capital market can be said

to have emerged in Britain. Hoppit has argued that by the end of the eighteenth century, businesses were sufficiently reliant on trade credit via, for example, bills of exchange [see Box 1], that the spheres of public (government) finance (funded by the issue of debt (bonds)) and private finance were integrated. To support his claim he draws on the evidence available from bankruptcy statistics to demonstrate the rapid transmission of financial crises into the real economy. [3] Supporting evidence has also come from Buchinsky and Polak, who suggest that there was a strong association between fluctuations in long term interest rates in London and property transactions in Middlesex and West Yorkshire by the end of the eighteenth century. [4]

This evidence of integration is important. Although the consensus view still accepts Hudson's observation that much of the market for industrial and commercial capital was regional before the 1830s and 1840s, and that the dominant suppliers of finance were still internal to industry, it is clear that the financial network had extended across the national economy by this period. Thus, although there were still obvious imperfections in the capital market largely due to restrictions on communications and information flow, there were nevertheless opportunities for diversifying risk away from the immediate locality, and channels for transmitting funds between regions. As Larry Neal has argued recently, this meant that, far from being separate entities, the financial and industrial 'revolutions' were closely intertwined from the eighteenth century and, furthermore, that financial progress played a vital role in providing the wherewithal for industrial expansion [5].

These arguments are still subject to debate and revision. Joel Mokyr has recently accepted Neal's view that the traditional separation of financial and industrial revolution was an over-simplification, but he still contends that the level of support which finance offered industry was limited. Even if some firms gained from integration of the capital markets, he suggests that there were many who were likely to have been constrained by their dependence on predominantly regional sources of funds. Mokyr concludes that had the imperfections in Britain's capital market been resolved earlier, the industrial revolution might have occurred sooner: far too frequently, fixed capital had to grow by 'pulling itself up by its bootstraps'. [6] Notwithstanding the significant progress made with recent research, it seems clear that there is much left for economic historians to do if this debate is to be resolved.

This recent research (and especially the work of Neal) seems to be more sympathetic to the supply-side argument that finance led industry in its development. However, it is crucial not to lose sight of the demand-side influences. The fact that many of the emerging financial institutions originated in industry, suggests that changes in the demand for capital played a significant role in determining the character of industrial finance. It seems clear that attempts to classify the development of industrial finance should not rely too heavily on supply- or demand-side influences alone. Taking account of this interdependence of factors becomes even more important when considering the increasing sophistication of the capital market after 1830.

## *The evolution of industrial finance after 1830*

By the mid-nineteenth century partnerships and firms under sole ownership still constituted the principal form of business organisation. This reflected in part the legal restrictions and high cost associated with the formation of joint stock companies following the introduction of the 1720 Bubble Act, but was also due to entrepreneurs continuing to resist dilution of personal contacts and control. In the wake of the repeal of the Bubble Act in 1825, further legal reforms began to make company formation more attractive. At last, in 1856 the passage of the

Limited Liability Act finally saw firms able to form joint stock companies which allowed the liability of partners to be limited to the extent of their stake in the company, without having first to seek parliamentary approval. Several subsequent amendments to this Act were eventually consolidated in the Companies Act of 1862 which extended the provisions of the 1856 Act to all companies, including those in banking and insurance. This final relaxation of legal restrictions paved the way for the wider adoption of corporate status in business, with over 24,000 companies registered in the next twenty five years . [7]

During this period there were also significant changes in the opportunities available to companies seeking finance. Supplementing the services provided by the developing banking system, the new issue market and the stock exchanges of London and the provinces began to play an increasingly important role in industrial finance.

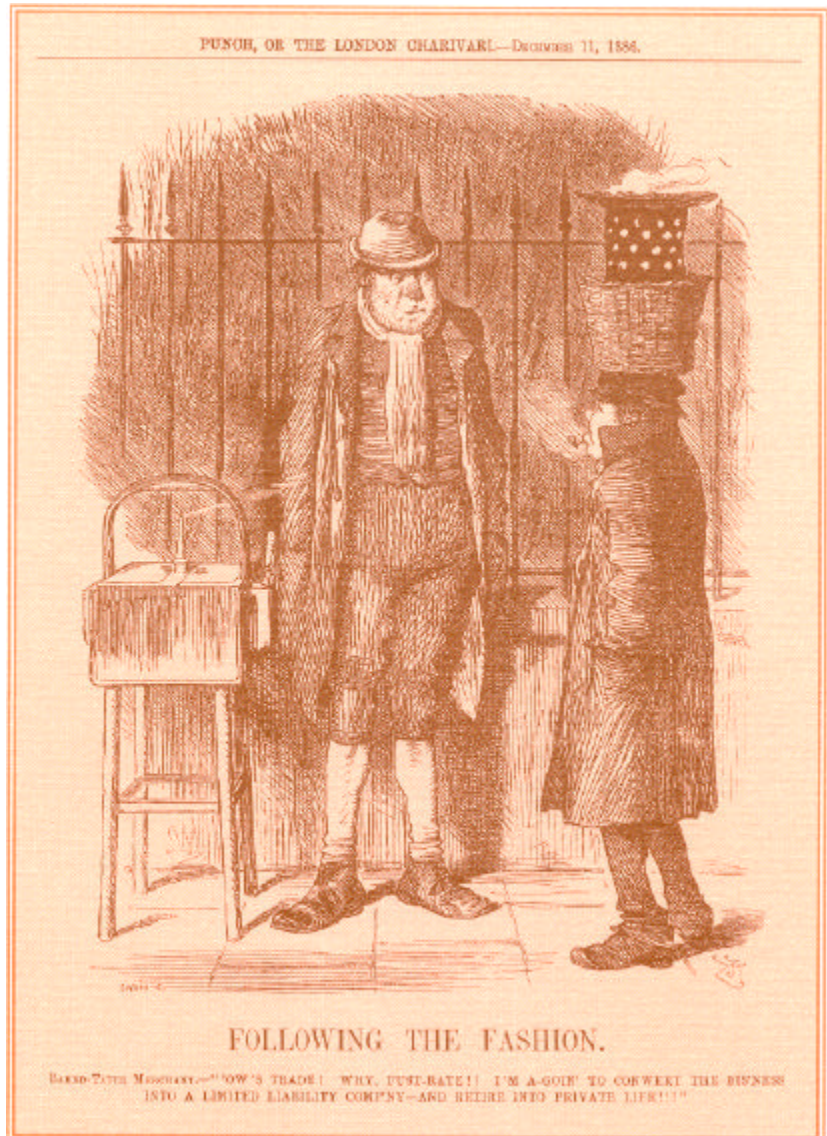
The development of the railways provided a major stimulus to the expansion of the capital market, both via improvements in communication and integration of the national economy, and via their direct influence on institutional developments. Although canals and utilities had been quoted on the London stock exchange from the early nineteenth century, railways provided the greatest volume of securities aside from government debt. During the 1830s and 1840s the railway 'mania' gathered pace. The provinces benefited particularly from this increased volume of trade. London had previously been dominated by trade in foreign and government debt, leaving provincial stockbrokers largely confined to trade in the securities of canals and utilities. The attraction of railways in the provinces was immense; the foundation of formal stock markets in the provinces was a logical outcome of this increased trade.[8] With stock exchanges established in the principal regional industrial centres including Manchester and Liverpool in 1836, and Leeds and Birmingham in 1845, the potential for mobilising local capital was increased. Improvements in transport and communications via railways initially, and, later, the telegraph and telephone, facilitated information flow, reducing risk, and encouraging an expansion in capital supply.

Despite these changes in the availability of capital, the development of external industrial finance was very slow, primarily because of the reluctance of partners in what were often family businesses to relinquish control to 'outside' investors. Wilson cites the example of Sebastian de Ferranti, who, having earned an extensive reputation in electrical engineering, rejected all advice to convert his firm into a public limited company. He was convinced that if his control of the business was diluted, he would lose all interest in it.[7] Similar examples can be found in the brewing industry, where partners were concerned not to impair family influence. [9]

Eventually, the demands of industrial innovation forced many businesses to look beyond the immediate avenues of internal finance to support investment. The scale of fixed capital requirements increased during the latter half of the nineteenth century, placing many projects beyond the reach of private investors. In addition, in sectors where investment projects faced long gestation periods, industrialists often preferred to share the burden of risk by floating capital for public subscription.[10] From the 1860s onwards, increasing numbers of industrial companies sought capital from the new issue market beginning with iron and mining companies, cotton and shipping firms.

The relative success of many of these ventures inspired confidence  
Watson, Refresh 22 (Spring 1996)

in lenders and borrowers alike, but it was not until the 1880s and the home investment boom of the 1890s that public quotation of industrial companies really accelerated, eventually enticing 'new industries' such as electrical engineering, chemicals, cycles and motor-vehicles to enter the market. By the late 1880s the trade in new issues of converted limited liability companies was so buoyant that some commentators began to urge wariness about the quality of the issues on offer, fearing that scoundrels might seize the opportunity offered by an



investment boom to float companies that were in effect worthless .[See illustration]

Indicative of the growth in trade during this period was the growth of the financial press seeking to reach a wider audience of potential readers interested in the functioning of the markets. Although some papers provided a vehicle for unscrupulous company promoters to 'puff' their securities, journals such as the *Investor's Monthly Manual*, *Burdett's Official Intelligence* and the *Investors' Review* provided a wealth of commentary and advice on the issues of the day. These developments in financial journalism had the effect of increasing information flow and raising awareness of issues, thereby encouraging the expansion of formalised external finance of industry.

It is important to consider the changing character of industrial securities during this period, as well as noting the increased scale of flotations and the ever broader range of industries making issues. The pattern of industrial finance during this period provides valuable clues

as to the nature of the growing relationship between industrialists and financial institutions. The experience of the brewing industry provides a good example of the developing sophistication of industrial finance during the late nineteenth century.

In 1886, Guinness converted to a public limited company, floating capital worth an immense 46 million. Their issue was oversubscribed many times, boosting confidence in the availability of capital, and stimulating a rapid rise in the value of their shares. Other brewers were attracted by the success of Guinness and by the opportunity to raise

**Equity capital** - Ordinary shares with a voting stake in a business, entitled to a share of profits, once payments to preference and debenture holders have been made.

**Preference capital** - non-voting shares usually earning a fixed dividend payable after debenture holders have received their interest.

**Debenture capital** - a loan which incurs a fixed annual rate of interest. Interest must be paid even when firms make a loss, otherwise holders have the right to seek liquidation of the company.

capital which would enable them to purchase licensed houses to consolidate a trade which was becoming increasingly competitive. Investors too were enticed by the apparent security of brewing shares which seemed only to rise in value. Given the abundance of public support for brewing flotations, brewers were able to side-step the problem of compromising control of the business when seeking external capital. In many cases the original partners and directors of the family firm retained the equity capital in the business, issuing only preference and debenture capital.[see Box 2] In this way, too, in periods when profits were expected to rise, companies would only be liable for relatively low fixed interest payments, releasing a larger share of profits for distribution amongst the holders of equity capital or for reinvestment in the company.

This strategy of issuing relatively high proportions of capital as debentures rather than equity ('high gearing') had been made possible by the increased diversity in the characteristics and denomination of shares offered for trade. During the 1880s there had been a move towards shares being issued in much smaller denominations. Arguments raged about the advisability of these arrangements, fearing that if investors held only a small stake in a company, their commitment would be reduced and speculation might be encouraged. However, the advantage of issuing shares of lower value was that more investors could afford to participate in the market for industrial securities. Similarly the development of preference shares, which entitled holders to priority payment of a guaranteed dividend, helped to tackle perceived problems of risk aversion amongst investors. By designing this range of securities, industrialists were better able to take advantage of the opportunities available in the new issue market for supporting fixed capital accumulation.

## Capital market failure?

Despite the transformation in financial institutions during the nineteenth century, most industrial investment continued to be financed from internal resources, with some firms making occasional incursions into the new issue market, and others relying on banks and institutions such as insurance companies to supply essentially short term loans. As late as 1914, approximately 75 per cent of the limited

registered were private rather than public concerns, meaning that they could not trade shares publicly via the stock exchanges.

A long-running debate in economic history has focused on the extent to which this relatively limited use of these new opportunities by industrialists reflected capital market (and also bank) failure. Attention focused initially on the dramatic expansion of overseas investment prior to the first world war and the belief that British industry may have been starved of funds by biased investors. The work of Michael Edelstein [11] has largely exonerated investors from blame, but the debate has now shifted to suggest that institutional imperfections restricted the flow of information within the domestic market, impeding the supply and efficient allocation of industrial investment.[12] This view has been challenged strongly by Michie, who focuses instead on the factors influencing changes in the demand for industrial investment, emphasising, in particular, legal restrictions which constrained the implementation of innovations. [10]

The evidence presented here suggests that the nineteenth century saw a dramatic transformation in the potential sources of industrial finance, and a significant increase in the flexibility of approaches adopted, even if most business largely remained wedded to their traditional ways. Much of this transformation was prompted by the changing demands of industrialists. To this extent, it seems essential that finance should remain an integral feature of studies of industrial performance. Furthermore, given the extent and character of this transformation, it seems unreasonable to regard financial institutions as impeding industrial development. While supply-side factors should not be ignored, this paper is sympathetic to those who stress the importance of demand-side influences.

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