Evolution of the UK banking system

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The financial system provides three key services: payment services, intermediation between savers and borrowers, and insurance against risk. These services support the allocation of capital, and the production and exchange of goods and services, all of which are essential to a well-functioning economy. While the basic financial services are relatively timeless, the characteristics of the system providing them change continuously, in response to both economic and regulatory developments. This article tracks the evolution of a core component of the financial system in the United Kingdom, the banking sector, describing how technology has transformed the economics of banking, and how deregulation in the 1970s and 1980s freed banks to take advantage of new opportunities through globalisation and financial innovation. The result has been the emergence of large, functionally and geographically diverse banking groups. Post-crisis, public-policy attention has been focused on the costs of a banking sector dominated by large and complex institutions that are seen as too important to fail.

Introduction

The Bank of England has a longstanding interest in the structure of the financial system. System structure can affect financial stability through influencing the cost and availability of the financial services on which households and businesses depend.

The basic services provided by the financial system are relatively timeless, but the structure of the system that provides them continues to evolve. While new products and players have emerged over the past 50 years, UK banks have become ever larger and more central to the provision of the full range of financial services.

Post-crisis, public-policy attention has been focused on the potential costs of this evolution. In particular, the emergence of large, highly interconnected universal banks has transformed the financial network, increasing the likelihood of system-wide contagion in the event of an individual bank's distress. To the extent that these banks are 'too important to fail', private incentives are distorted and resources misallocated (Haldane (2010)). Acknowledging this, efforts are under way both domestically and internationally to address the risks associated with too important to fail institutions.

This article examines the structure of today's banking system and explores the drivers of change over recent decades. It begins with an overview of the services provided by the financial system and describes how the provision of these has changed over time. It goes on to identify key economic and regulatory drivers for change, before taking stock of the policy challenges ahead.

The role of the financial sector

The financial system provides a range of services that support the real economy. It is convenient to distinguish three main types of financial service:

- **Payment, settlement and transaction services**. These services include the provision of deposit and custody accounts, as well as services to support the efficient settlement of payments between households and companies.

- **Intermediation**. Household savings are typically pooled in deposit accounts, pension funds or mutual funds. They are then transformed into funding for households, companies or government.

(1) The authors would like to acknowledge valuable comments from Michael Anson, Paul Bedford, Roger Clews, Paul Collazos, Iain de Weymarn, Andrew Haldane, Simon Hall, Andrew Mason, Colin Miles, Amandeep Rehlon, Victoria Saporta, Peter Sinclair, George Speight and Belinda Tracey, as well as assistance with charts and data from Clare Rogowski and Laura Wightman.

- **Risk transfer and insurance**. Deposit accounts allow households and companies to insure themselves against liquidity shocks, while securitisation, derivatives and other insurance contracts facilitate the dispersion of other financial risks within the economy. For example, foreign exchange derivatives allow companies to protect their international revenues from fluctuations in foreign exchange rates; and securitisation markets package and disperse banks' loan exposures.

Evolution of the role of banks in the financial system

At the end of the 1950s, around 100 banks provided information to the Radcliffe Committee, which had been established to review the workings of the UK monetary system. Of these, the 16 London and Scottish clearing banks held around £8.3 billion in assets, amounting to 85% of total UK banking assets and more than 30% of UK GDP (**Chart 1**).(1)

Chart 1 Financial intermediation in 1958(a)

Source: Committee on the Working of the Monetary System (1959).

(a) The chart shows assets for each of these groups used in the Radcliffe report. Data are generally for end-1958.

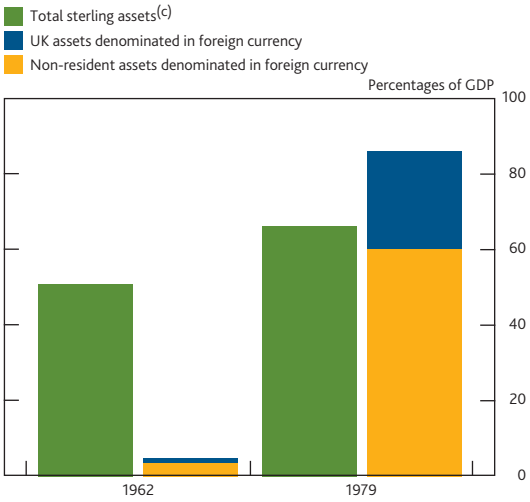
The clearing banks were relatively narrowly focused on the provision of payment services, deposit-taking activities and short-term corporate lending. They were almost entirely funded by customer deposits, 60% of which were held in current accounts (which paid no interest and were accessible on demand). A further 35% of deposits were held in interest-bearing time deposit accounts.

These deposits generally funded low-risk and liquid assets. Indeed, in 1960, 35% of London clearing banks' assets were held in cash, Treasury bills and discounted bills, with a further 28% of assets held in gilt-edged securities.(2) Customer loans constituted just 30% of the London clearing banks' assets.

Other financial institutions were important lenders to households. That included the building society sector, which in 1960 held £2.6 billion of predominantly mortgage assets (around a third of the value of clearing bank assets). Hire purchase and finance companies — not included in **Chart 1** — also engaged in consumer lending.

Banks' and building societies' sterling assets grew steadily over the next two decades, together increasing from around 50% of GDP to 65% between 1962 and 1979 (**Chart 2**). One of the most striking trends in this period was the emergence of London as a truly international financial centre. During the 1960s and 1970s, foreign-owned banks began to expand their presence in the United Kingdom (Davies (2002)). This contributed to a sharp increase in holdings of foreign currency assets by both domestically and foreign-owned banks operating in the United Kingdom. Indeed, by 1979, UK monetary and financial institutions held £172 billion of foreign currency assets — over half of their total assets. Foreign-owned banks were predominantly engaged in wholesale activity, in part reflecting the rise of the eurocurrency market.(3)

Chart 2 Monetary financial institutions' sterling and foreign currency assets(a)(b)

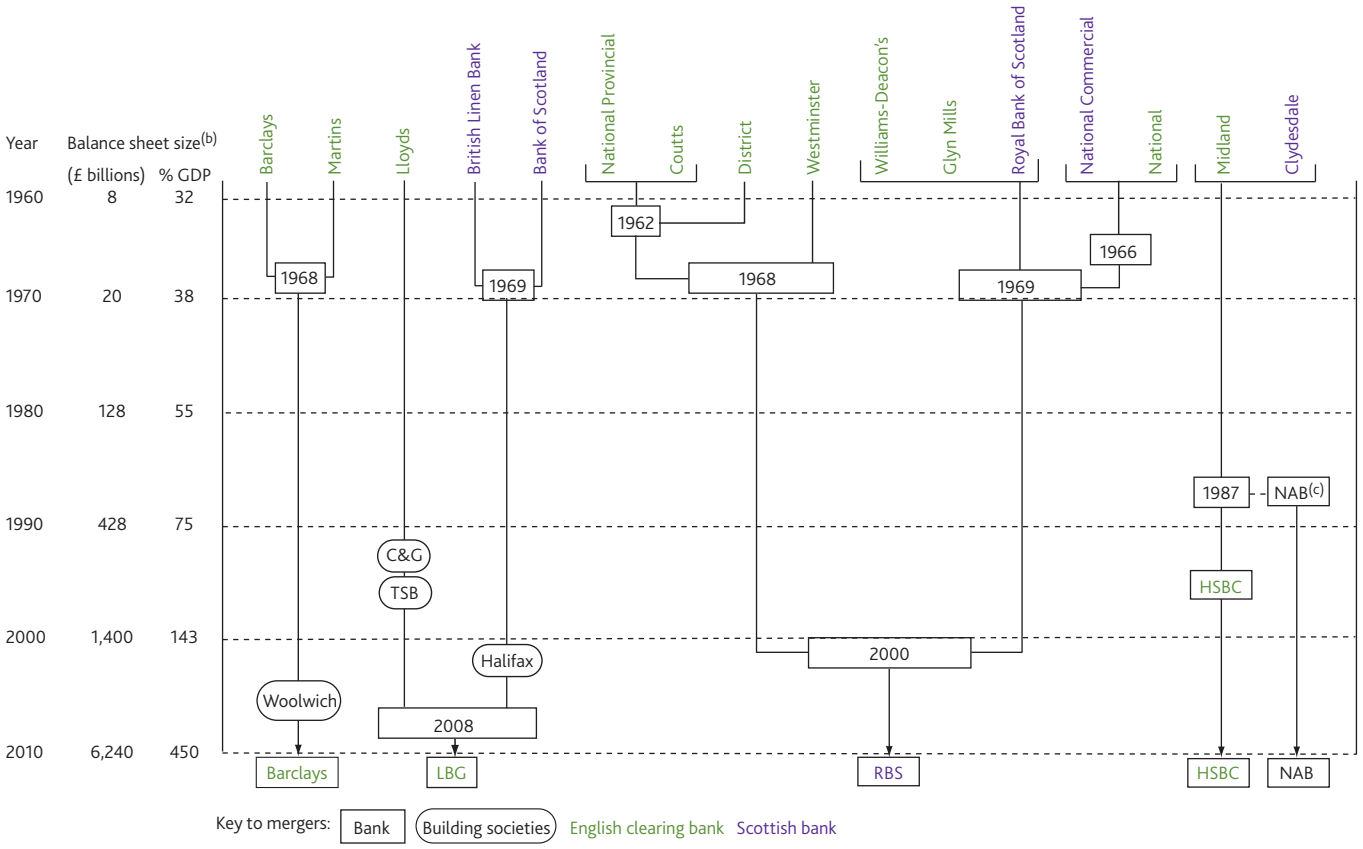


Source: Committee to Review the Functioning of Financial Institutions (1980).

(a) Values for 1979 use building society assets in 1978.
(b) Some components of foreign currency assets in 1962 are unavailable. In such instances, data from the first available period are used. This is likely to overstate the 1962 foreign currency component.
(c) All building society assets are assumed to be sterling.

(1) Here, the term clearing bank refers to a bank that is a member of an organised arrangement for clearing customer cheques and settling the resulting claims between banks. In London, formal daily cheque clearing arrangements were established around 1775. From 1854, settlement between banks took place across accounts at the Bank of England. For a history of clearing and settlement arrangements, see Manning *et al* (2009).
(2) The high level of government debt holdings in part reflected the build-up of debt during World War II.
(3) The eurocurrency market, which initially developed in response to regulatory constraints in the United States, is where financial transactions (eg loans, deposits) in a given currency take place outside of the jurisdiction in which that currency is legal tender.

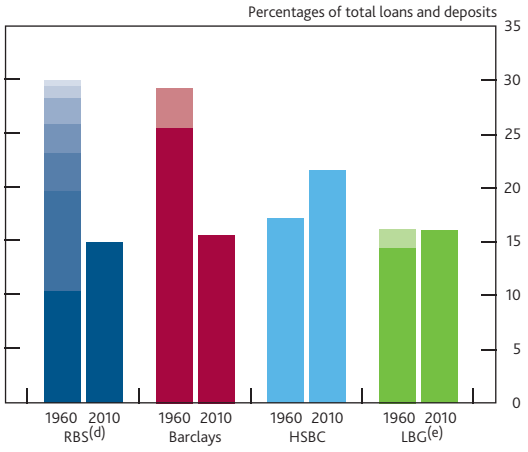
Figure 1 Consolidation of the UK banking sector 1960 to 2010[a]



Sources: Bankers Magazine, Collins (1988), published accounts and RBS Archives.

(a) The figure shows bank mergers involving the 16 London and Scottish clearing banks present in 1960, together with their acquisitions of building societies and demutualised building societies.
(b) The balance sheets of institutions are included from the point of merging or acquisition.
(c) Clydesdale was owned by Midland Bank until 1987 when it was sold to National Australia Bank.

Chart 3 Deposit-taking and lending services by the clearing banks in their 1960 and 2010 forms[a][b][c]



Sources: Bankers Almanac (1961–62), Bankers Magazine (1960), Committee on the Working of the Monetary System (1959) and interim and full-year published accounts.

(a) The shading in 1960 represents the component clearing banks that later consolidated into the banks shown. Clydesdale is excluded.
(b) Values used are total loans and deposits to customers in all currencies.
(c) The total value in 1960 refers to the loans and deposits of the London and Scottish clearing banks, foreign-owned banks and building societies in 1958. The 2010 total includes the loans and deposits as stated in the 2010 interim published accounts of financial groups providing more than 1% of the stock of loans and deposits to UK households and private non-financial companies in 2009.
(d) The value of RBS in 1960 includes RBS, Williams-Deacon's and Glyn Mills.
(e) Values for British Linen Bank are included in the 1960 consolidated accounts of Barclays, who were, at this time, its majority owner.

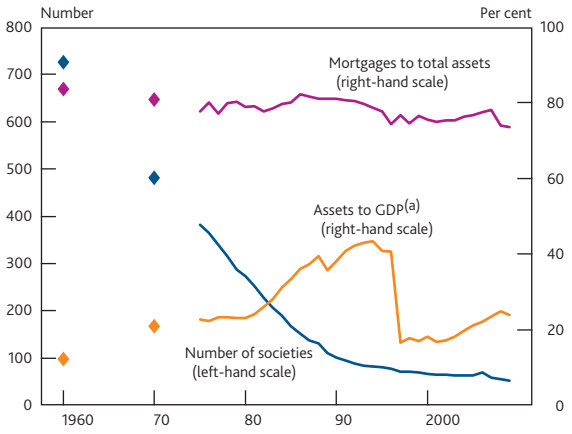
Today, more than 300 banks and building societies are licensed to accept deposits in the United Kingdom. However, the provision of retail banking services is highly concentrated. Of the 16 clearing banks present in 1960, fifteen are now owned by the four big UK banking groups: RBS, Barclays, HSBC and Lloyds Banking Group (LBG) (**Figure 1**).[1] These banks, along with Nationwide and Santander, together account for almost 80% of the stock of UK customer lending and deposits. Collectively, however, the four largest groups account for a smaller share of the market for these services than the banks from which they originated (**Chart 3**).

The building society sector, having continued to expand during the 1980s and 1990s, saw a sharp contraction in the mid-late 1990s, as many building societies demutualised and became banks (**Chart 4**). Over the past 50 years, the number of societies declined from over 700 in 1960 to just 52 today.

As the clearing banks have grown and consolidated over recent decades, they have also taken on a broader range of

(1) The only clearing bank among the 16 present in 1960 that is not now owned by one of the four large UK banking groups is Clydesdale, which was acquired by the National Australia Bank from Midland Bank in 1987.

Chart 4 Building societies, 1960–2010

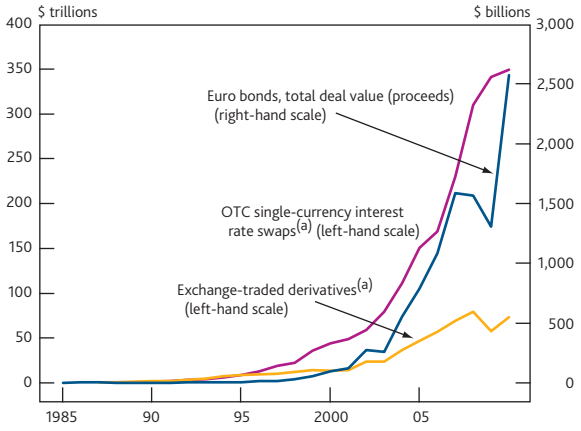


Sources: Building Society Association and Bank calculations.

(a) The steep decline in building societies' assets relative to GDP in the mid-1990s was mainly driven by the conversion to bank status of a number of societies (following Abbey National's lead in 1989): Halifax (in 1997), Alliance & Leicester (in 1997) and Northern Rock (in 1997) (British Bankers' Association (2002)). This resulted in over half of building society assets, equivalent to 15% of GDP, being transferred out of the sector.

functions. The largest banks have become truly 'universal' banks, their activities encompassing securities underwriting and trading, fund management, derivatives trading and general insurance.(1) This expansion coincided with a period of significant growth in securities markets and the markets for foreign exchange and derivatives (**Chart 5**).

Chart 5 Expansion of OTC interest rate swaps, exchange-traded derivatives and euro bond markets



Sources: *BIS Quarterly Review*, Dealogic and ISDA Market Survey.

(a) Notional amounts outstanding.

The UK banks have established themselves as major global players in these markets (**Table A**). For instance, recent market surveys place three UK banks among the top ten worldwide in several markets, including bond underwriting, foreign exchange trading and interest rate swaps.

The evolution to universal banking is reflected in an increase in the contribution of non-interest income to banks' earnings. Today, non-interest income accounts for more than 60% of banks' earnings, having been a minor share three decades ago (**Chart 6**).

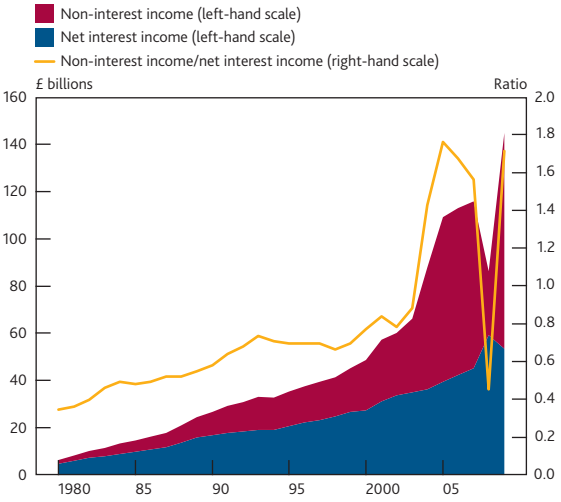
Table A Peer rankings of UK universal banks in selected market segments in 2010

	International bonds(a)	Corporate bonds(a)	Foreign exchange(a)	Interest rate swaps(b)
Barclays	1	4	3	1
HSBC	4	8	7	–
RBS	8	10	5	3

Sources: Bloomberg, Euromoney Foreign Exchange Survey (2010) and Risk Corporate Survey (2010).

(a) Positions are based on market shares.
(b) The results on interest rate swaps — drawn from the Risk Corporate Survey — are based on the responses of 40 global large companies on their top three preferred dealers.

Chart 6 UK banks' sources of earnings(a)



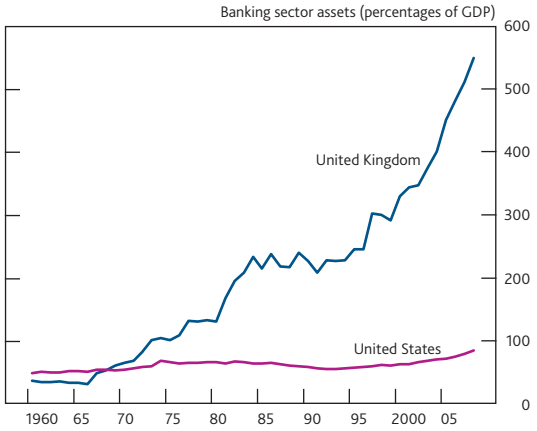
Sources: Bank of England and published accounts.

(a) The data are a backwardly consistent sample of institutions providing banking services in the United Kingdom in 2009. The sample includes the following financial groups: Barclays, Bradford & Bingley, HSBC, Lloyds Banking Group, National Australia Bank, Nationwide, Northern Rock, RBS and Santander UK. Where data are consistently available for the UK component of the banking group, these have been used.

Collectively, UK banks' balance sheets are now more than 500% of annual UK GDP, with much of this growth having occurred over the past decade (**Chart 7**). Three of the four largest banks individually have assets in excess of annual UK GDP. Relative to the size of the national economy, the UK banking system is second only to Switzerland among G20 economies, and is an order of magnitude larger than the US system.(2) The expansion of the UK banking sector, particularly since the late 1990s, far exceeds that in other financial sectors (**Chart 8**).

(1) The 'universal' banking model was already an established feature of some other banking systems. For instance, in Germany, banks had an established role in facilitating funding for long-term industrial investment projects (Gerschenkron (1966)). The UK universal banking model is somewhat different to that in Germany however, since UK banks' lending to corporates remains typically relatively short term.
(2) See Demirgüç-Kunt and Huizinga (2010).

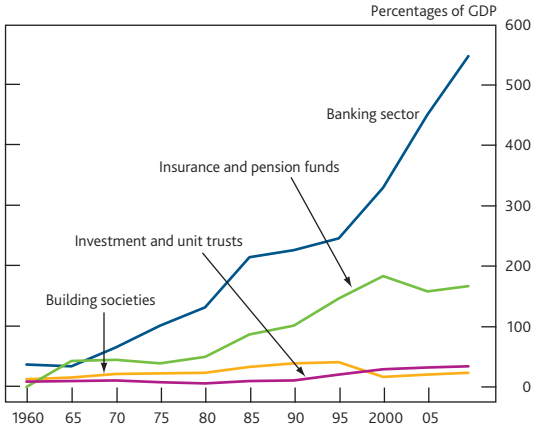
Chart 7 Sizes of the UK and US banking systems[a]



Sources: Sheppard (1971), Bank of England, Federal Deposit Insurance Corporation and ONS.

(a) The definition of UK banking sector assets used in the series is broader after 1966, but using a narrower definition throughout gives the same growth profile.

Chart 8 Assets of UK financial subsectors



Sources: Sheppard (1971), Watson (2004), ONS and Bank calculations.

Drivers of banking sector evolution

This section examines the factors that have influenced the evolution of the banking sector. It first examines the evidence on economies of scale and scope, before exploring how the economics of banking and the evolution of the market structure might have been influenced by changes in demand and regulation. It closes with some thoughts on the potential role of 'too important to fail' in the evolution of the banking system.

Economies of scale and scope

One reason for the observed development of the banking sector may be banks' pursuit of economies of scale and scope. These arise, respectively, when the unit cost of providing a given banking service declines as the scale of provision of that service increases, or when the unit cost of providing a mix of services jointly is lower than the sum of providing each separately. The presence of such efficiency gains would be consistent with both consolidation in the banking industry and the expansion of banks' roles beyond their traditional functions.

The nature of these efficiency gains is likely to have changed over time, driven by technological advances, financial innovation and the globalisation of markets. Furthermore, banks' ability to take advantage of such economies has also evolved. In the past, institutional and regulatory restrictions on banks' activities prevented banks from fully responding to economic drivers. Financial deregulation in the 1970s and 1980s removed these constraints. At the same time, deregulation also introduced stronger competitive forces in the banking sector, encouraging banks to expand into new markets offering higher (albeit more volatile) margins.

Recent banking industry studies have examined the potential cost efficiencies inherent in the universal banking model. These studies emphasise efficiencies arising from: spreading fixed costs over a larger volume of output; and risk diversification through capital pooling.[1] For large banks, it is estimated that around 15%–20% of total costs are fixed. Of these, the largest components are technology costs and corporate centre costs (eg head-office functions), for which 50%–60% and 80%–90%, respectively, are estimated to be fixed (JPMorgan (2010)).

However, these industry studies rely primarily on case studies and anecdotal evidence to support their claims. The majority of academic studies, on the other hand, do not find positive evidence for economies of scale and scope beyond a relatively small size. For instance, Saunders (1996) surveys at least 20 empirical studies and finds little evidence of scale economies for banks with assets greater than $5 billion. Similarly, in a survey of more than 50 studies by Amel *et al* (2004), the minimum efficient scale in retail commercial banking appears to be somewhere below $10 billion in assets, depending on the sample, country and time period. Applying these findings to the global population of banks in 2008 would suggest that several hundred are above the threshold at which no positive evidence for economies of scale could be found. Beyond a certain size there may even be *diseconomies* of scale, possibly due to the complexity of managing large institutions (Haldane (2010)). While some recent studies are more supportive of the existence of scale economies in banking, including a review of studies of mergers and acquisitions in banking by DeYoung *et al* (2009), taken together the bulk of the empirical literature to date has failed to identify material economies of scale in commercial banking beyond a relatively modest size.

(1) The notion of risk diversification is consistent with anecdotal evidence in Frontier Economics (2009) that large global banks are more likely to continue to lend during an economic downturn.

The evidence on scope economies is mixed and inconclusive. Empirical research in this area is complicated by the low incidence of specialist companies against which to compare the outcomes of functionally diverse companies. Stiroh and Rumble (2006) fail to identify substantial economies of scope, and in a study of financial conglomerates, Laeven and Levine (2007) find evidence of a conglomerate *discount*, rather than a premium (ie the market value of a conglomerate is less than the sum of the market values of the individual entities from which it is comprised). However, other studies, such as Hughes *et al* (2001) do find in favour of scope economies.

Over time, technological advances have undoubtedly transformed the economics of banking. Automation in retail banking and innovation in both risk management practices and the design of financial products have all triggered changes in the provision of the three core financial services. But the net effect of these changes on economies of scale and scope is unclear. On the one hand, the unit cost of processing power continues to decline. But at the same time, banks have adopted new financial technologies and increased the breadth and quality of their services, requiring increased expenditure (Berger and Mester (2003)). Smaller banks may also have been unable to keep up with the pace of technological change (Wheelock and Wilson (2010)). One outcome of this is increased market-wide reliance on a limited number of large firms in the provision of technology-intensive services, such as trade-execution and post-trade infrastructure provision. For example, as execution services in foreign exchange have become more automated, the banks with the financial capacity to make the largest up-front information technology investment have gained market share (Barker (2007)). Indeed, the ten largest institutions in foreign exchange (by turnover) have a combined market share of around 77%, and the 20 largest 93%.[1] And advances in information technology and telecommunications would seem to have accelerated the globalisation of finance towards the end of the 20th century.

Another factor operating on economies of scale and scope is the value of specialist knowledge and private information. Traditionally, knowledge transfer (either within or across business lines) allows firms to respond quickly to new opportunities, eg as new products and new markets emerge. Economies of scope may also arise from access to private information; for example, deposit-taking activity may generate information relevant for lending decisions. However, the importance of such private information may have declined over time, particularly as judgement-based credit assessments — especially in retail lending — have increasingly been replaced with credit-scoring models. Indeed, potential information loss arising from increased use of models as a bank grows in size, instead of basing decisions on judgements and relationships, could itself generate diseconomies of scale.

Interaction with demand-side drivers

The functional expansion of UK banks may reflect the changing demands of the corporate sector. For instance, UK private non-financial corporates increasingly rely on bond and equity finance — currently comprising 65% of total liabilities — rather than bank finance, and therefore seek issuance, underwriting and market-making services. They also increasingly seek to hedge their financial risks via derivatives markets. Of the world's 500 largest companies, 93% of non-financial businesses report using derivatives (ISDA (2009)).

There is evidence that large companies value the provision of investment banking services by their bankers. For example, bonds underwritten by commercial banks appear to outperform those underwritten by investment banks, due to the perceived 'certification' of the issue by a party with privileged information on the borrower (Puri (1996), Gande *et al* (1997) and Yasuda (2005)).

Multinational companies may also value being able to work with one bank present in a range of countries. Indeed, according to Frontier Economics (2009), banks often enter new markets purely on the basis of demand from their multinational clients. However, the Association of Corporate Treasurers noted that, while some very large companies will occasionally find it convenient to deal with one or two large banks, corporate customers generally 'do not need very large banks' (Association of Corporate Treasurers (2009)).

The interaction of regulatory and economic drivers

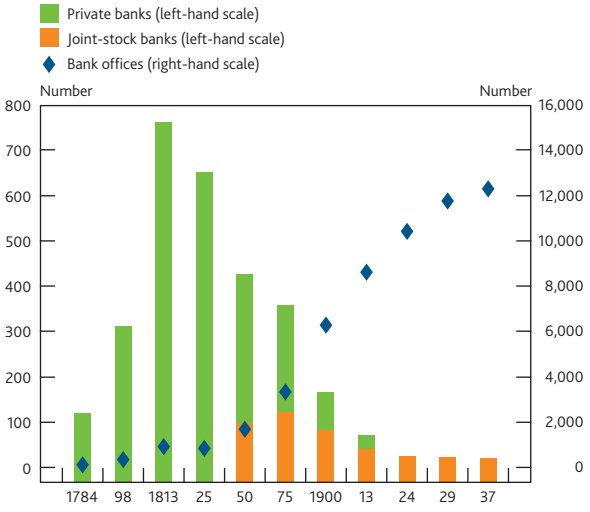
Regulation influences banks' behaviour by shaping the competitive environment and setting the parameters within which banks are able to pursue their economic objectives. This subsection examines how these regulatory changes may have interacted with economic drivers to catalyse the observed changes in the market structure.

The Joint Stock Bank Act, 1826

Banking crises often result in new regulations. In the United Kingdom, a banking crisis in 1824–25 resulted in an important legislative change. Banks were no longer required to be small private partnerships, sponsored by no more than six partners, but rather could be incorporated as joint-stock companies.[2] These new banks, able to raise capital from shareholders, quickly took over older private partnership-based lenders (**Chart 9**).

(1) See Broderick and Cox (2010), drawing on data from BIS (2010).
(2) There were 93 bank failures in England and Wales in 1825–26. In response to this, the Banking Co-partnership Act (May 1826) ended the Bank of England's monopoly on joint-stock status (from 1709 to 1825, the Bank's charter had not permitted other banks to form partnerships with more than six participants). The Joint-Stock Companies Banking Act 1857 permitted banks to register with unlimited liability, which was extended to limited liability in 1858.

Chart 9 Banks in England and Wales, 1784–1937



Sources: Collins (1988), Pressnell (1956) and Bank calculations.

The number of joint-stock banks declined equally quickly, starting around 1875, as banks sought scale through acquisition. Over the same period, the volume of deposits grew rapidly, with banks gaining broader national reach by opening new branches. This meant that by 1900 much more banking was being done, but by far fewer institutions.(1)

Several key regulatory events in the second half of the 20th century were then instrumental in even more fundamentally altering the structure of the UK financial system. These included, most notably, Competition and Credit Control in 1971 and the Big Bang in 1986.

Competition and Credit Control, 1971

Competition and Credit Control was introduced by the Bank of England in 1971, with the aim of promoting competition both within the banking sector and between banks and the non-bank financial sector.

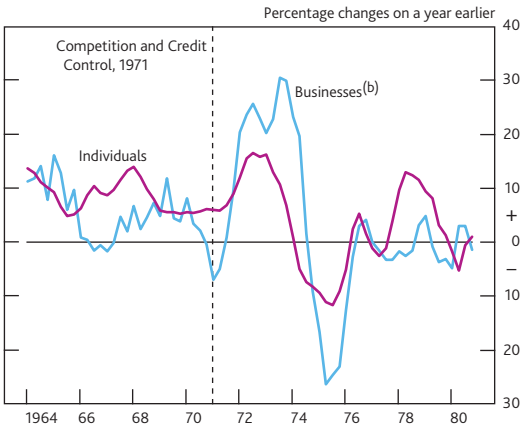
At the time of the reforms, clearing banks were the main providers of retail banking services in the United Kingdom, but had begun to face increased competition from non-bank intermediaries — notably, the so-called 'fringe' banks.(2) Within the banking sector itself, price competition was limited by (open) collusion in setting deposit rates and other customer charges, leaving banks competing primarily on the basis of reputation.

The 1971 reforms sought to end collusion on interest rates and began the process of widening the scope of banks' activities, breaking down old barriers between different types of intermediary. Among the measures introduced, deposit banks were allowed to participate freely in the wholesale market; previously they had only been able to do this through their finance house subsidiaries. The reforms also extended the scope of special deposits.(3) At the same time, liquidity requirements were relaxed. Before 1971, the clearing banks had been required to hold liquid assets equivalent to 28% of deposits.(4) From 1971, this was relaxed and extended, requiring all banks to hold reserve assets equivalent to 12.5% of eligible liabilities.

As such, the reforms improved the relative competitiveness of clearing banks and were expected to trigger a gradual process of reintermediation away from the fringe banking sector (Cameron (1998)). As Capie (2010) notes, however, fringe banks continued to expand after the introduction of Competition and Credit Control, in part reflecting economic expansion during the 1971–73 period and a relaxation of controls on property development.

This combination of regulatory and economic factors coincided with one of the most rapid periods of credit growth in the 20th century (**Chart 10**). It also contributed to an ongoing decline in banks' liquidity holdings, ultimately to below 5% of total assets by the end of the 1970s (**Chart 11**).

Chart 10 Real lending growth in the 1960s and 1970s(a)



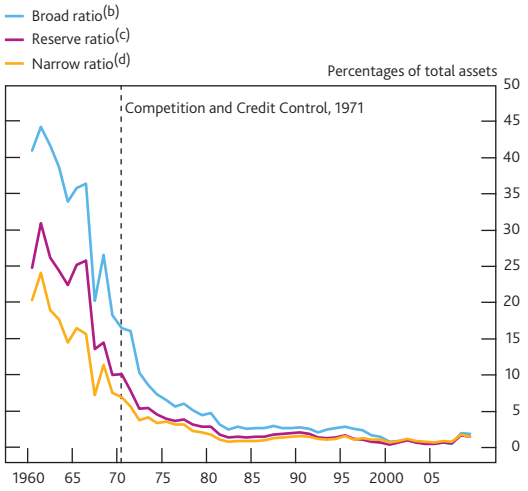
(a) Both series show real values constructed using the ONS GDP deflator.
(b) Sterling lending to UK PNFCs.

Other regulatory changes

From 1939, only authorised UK banks had been permitted to deal in foreign exchange, keep accounts in foreign currency for non-residents, and carry out certain exchange-control functions.(5) In the light of changes in the international monetary system over the course of the 1970s, these

(1) See Newton and Cottrell (1998). This timing contrasts with the United States, where consolidation did not begin in earnest until the 1980s.
(2) See Reid (1978). Fringe banks — or secondary banks — were individually small lenders who were not subject to Competition and Credit Control. Their expansion in the early 1970s ultimately ended in the Secondary Banking Crisis of 1973–75.
(3) Special deposits, whereby clearing banks were required to hold a percentage of their total deposits with the Bank of England, were first introduced in 1958 (implemented in 1960).
(4) From 1951, the clearing banks held liquid assets equivalent to 28%–32% of total deposits. From 1963, this was formalised into a minimum liquidity requirement of 28%.
(5) Delegated to them by the Bank of England (Hadjiemmanuil (1996)).

Chart 11 Sterling liquid assets relative to total asset holdings of the UK banking sector(a)



Sources: Bank of England, Bankers Magazine (1960–68) and Bank calculations.

(a) Data before 1967 cover only the London clearing banks.
(b) Cash + Bank of England balances + money at call + eligible bills + UK gilts.
(c) Bank of England balances + money at call + eligible bills.
(d) Cash + Bank of England balances + eligible bills.

arrangements were deemed no longer appropriate, and in 1979 exchange controls were lifted.(1)

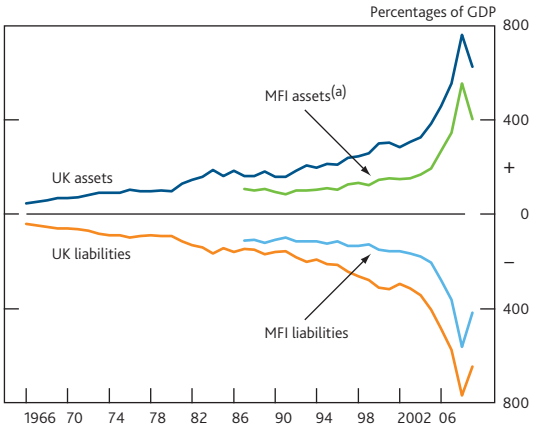
At the same time, the 1979 Banking Act was passed. This Act, the first to establish a regime of banking supervision, created a two-tier system of banks and licensed deposit-takers. Although this distinction created some barriers to entry, the combined effect of these changes was increased competition for UK banks from both foreign banks and non-bank institutions.(2)

Judging the specific impact of the abolition of exchange controls is complicated by the presence of other economic factors (such as rising oil prices) and other economic policies of the incoming government.(3) However, following the removal of controls, the differential between domestic sterling and euro sterling interest rates disappeared and international capital flows accelerated. With exchange controls also lifted in several other countries, gross capital outflows as a percentage of world GDP grew from an average of 2.8% during 1980–89, to 4.5% during 1990–99, and further to 8.7% during 2000–09.(4)

This mirrored the globalisation of product markets, consistent with demand drivers playing a part. From the 1980s onwards, UK banks became increasingly global. Many established a presence overseas (either organically or through acquisition) and other cross-border business also expanded. By the peak in 2008, UK financial institutions' external assets were approaching six times GDP (**Chart 12**).

The abolition of exchange controls made subsequent financial liberalisation more likely, because businesses had

Chart 12 UK external position



(a) Monetary financial institutions. These comprise of entities resident in the United Kingdom that are licensed to accept deposits.

an option to relocate to less tightly regulated jurisdictions. Such deregulation occurred over the course of the 1980s, particularly in 1986.

The phrase 'Big Bang' refers to a series of reforms that sought to eliminate perceived anticompetitive practices at the London Stock Exchange and put London's financial markets on an equal competitive footing with its international rivals, particularly the United States.(5) Among other things, the reforms sought to remove price rigidities in the provision of securities transactions and dismantle barriers to entry onto the Stock Exchange.(6) Two practices received particular attention: fixed minimum commissions; and so-called 'single capacity', which prevented both brokers from trading on their own account and market makers ('jobbers') from acting for customers.(7)

The abolition of minimum commissions changed the economics of brokerage and market-making, making joint-provision of these functions and foreign entry inevitable.(8) Although the total number of institutions did not increase, there was a marked rise in the number of individual members of the Stock Exchange (**Chart 13**). There was also a wave of consolidation in the broking and market-making industry.(9)

(1) The Bretton Woods era of fixed but adjustable exchange rates was dissolved between 1968 and 1973.
(2) See Matthews *et al* (2007).
(3) See Artis and Taylor (1989). Indeed, one motivation for the lifting of exchange controls had been to facilitate the investment abroad of North Sea oil surpluses.
(4) For example, the United States lifted some exchange controls in 1974, Japan in 1980, Australia in 1983, and France and other European countries in 1986.
(5) Earlier, in 1979, the Stock Exchange rule book had been referred to the Restrictive Practices Court by the Director-General of Fair Trading.
(6) See Plender (1986).
(7) See Gower (1988).
(8) See Piesse *et al* (1995).
(9) London merchant banks acquired stakes in eleven brokers and three jobbers in 1986, and 65 foreign financial institutions acquired stakes in 90 brokers and fifteen jobbers. See Michie (1999).

Chart 13 Stock Exchange membership, 1960–91

Source: Piesse *et al* (1995), drawing on data from the London Stock Exchange.

(a) Individuals acting on behalf of member firms.
(b) Pre-1986, the total number of firms refers to the sum of the broker and jobber firms (single-capacity trading required the market intermediaries to be separated according to their function). Following the abolition of the single-capacity trading requirement in 1986, no distinction is made between the number of brokers and dealers.

Freed from regulatory restrictions, banks began to diversify into new activities, using existing knowledge and infrastructure to cross-sell new products (Melnick *et al* (2000)). This attempt to increase returns from existing assets ultimately led to the emergence of universal banking. Perhaps contributing to this, the managed funds industry saw a marked expansion in the years following these reforms, increasing competition for household savings and reducing margins on retail banking activities.

While the direction of travel in the 1980s was towards ending functional restrictions in the banking sector, this period also saw the beginnings of a shift towards internationally agreed prudential regulation, notably through the introduction of the Basel Accord in 1988. This arguably also generated incentives for banks to grow, by introducing an additional fixed cost of meeting regulatory capital requirements and associated reporting and supervision.

Too important to fail

So far, this section has argued that deregulation during the latter part of the 20th century freed competitive forces in the banking system and allowed banks to pursue efficiencies through functional and geographical expansion.

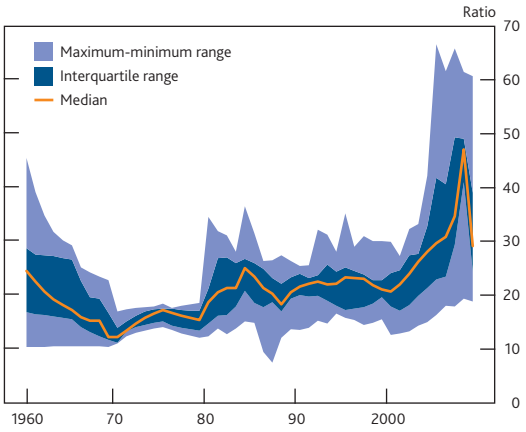
But, as banks grew and broadened their scope post-deregulation, they increasingly became 'too important to fail'. This may have altered their private incentives in a fundamental way.

A financial institution becomes too important to fail when the potential losses to the financial system and wider economy associated with its failure or distress would be so large or uncertain that a government is unable to commit credibly not to intervene in support. These costs might include disruption to critical banking functions, such as payment and transaction services.

The potential economic costs associated with the default of a large, complex, universal bank — particularly one that combines the provision of payments services and trading activities in a single entity — would most likely be sufficiently high that government support would be forthcoming. Such support was, of course, observed during the recent financial crisis. As a result, the banking structure in numerous jurisdictions now exhibits a greater incidence of full and partial public ownership.

Once a bank is perceived to be too important to fail, a wedge is driven between private and social returns to scale and scope, since the bank does not internalise the potential economic costs of its failure. As such, too important to fail banks may be subject to less market discipline, and are likely to grow more rapidly and become more dependent on debt funding — and hence more highly interconnected and leveraged. Indeed, over the period 1969 to 2009, retail deposits became a smaller percentage of total liabilities, declining from 88% to less than 40%. Particularly in the years prior to the financial crisis, banks relied heavily on wholesale funding (Shin (2010)) and their leverage ratios increased rapidly (**Chart 14**).

Chart 14 Leverage, UK banks(a)(b)



Source: Published accounts.

(a) Ratio of total assets to shareholders' claims.
(b) See footnote (a) to **Chart 6**.

Reliance on wholesale funding, as well as functional expansion into derivatives and securitisation markets, have led to the formation of highly connected bank and non-bank intermediaries. This complex network of exposures can propagate isolated shocks, such that distress at one node can quickly spread through the system (Gai and Kapadia (2010)).(1)

(1) Furthermore, more complex interconnectivity can reduce the transparency of the financial network (Haldane (2009)), leading to panic in the financial system in the event of a shock (Caballero and Simsek (2009)).

Institutions that are perceived to be 'too important to fail' may also engage in excessive asset and maturity transformation. As King (2010) remarked: 'greater risk begets greater size, most probably greater importance to the functioning of the economy, higher implicit public subsidies and hence yet larger incentives to take risk...'. Through this dynamic, too important to fail is likely to have amplified the evolution towards universal banking associated with underlying economic forces.

Conclusion

This article has illustrated the significant changes in the structure of the UK financial system over recent decades. It argues that evolution reflects a number of factors, including the natural economic drivers of economies of scale and scope, interacting with demand-side drivers and financial deregulation.

That expansion has given rise to a banking system with large balance sheets, significant functional and geographical diversity and complexity, a high level of leverage, and extensive network interconnectivity. The emergence of large institutions that are deemed 'too important to fail' presents important challenges for public policy. Before the crisis, commentators emphasised the efficiency gains associated with these structural changes, in terms of the availability of credit to households and businesses, the decline in lending spreads, and the availability of a broad array of risk-insurance services. The IMF (2006), for example, observed that globalisation and financial innovation had increased credit availability to the economy.

Since the crisis, however, policymakers and governments have begun to examine the social cost of pursuing such efficiencies (Haldane (2010)). And it is increasingly recognised that having too important to fail institutions is a paradox that must be tackled (Bank of England (2010)).

In response, an Independent Commission on Banking has been established in the United Kingdom to consider the case for structural reform in the banking sector. And, internationally, the Financial Stability Board is examining a broad range of policy options to mitigate the financial stability risks posed by systemically important financial institutions.[1]

(1) See Independent Commission on Banking (2010) and Financial Stability Board (2010).

References

Amel, D, Barnes, C, Panetta, F and Salleo, C (2004), 'Consolidation and efficiency in the financial sector: a review of the international evidence', *Journal of Banking and Finance*, Vol. 28, Issue 10, pages 2,493–519.

Artis, M J and Taylor, M P (1989), 'Abolishing exchange control: the UK experience', *CEPR Discussion Paper no. 294*.

Association of Corporate Treasurers (2009), 'Comments in response to Turner Review: a regulatory response to the global banking crisis and the accompanying FSA discussion paper DP 09/02 — A regulatory response to the global banking crisis'.

Bank for International Settlements (2010), *Triennial central bank survey of foreign exchange and derivatives market activity in 2010*.

Bank of England (2010), *Annual Report 2010*.

Bankers Almanac (1961–62).

Bankers Magazine (1960–68).

Barker, W (2007), 'The global foreign exchange market: growth and transformation', *Bank of Canada Review*, Autumn, pages 3–12.

Berger, A N and Mester, L J (2003), 'Explaining the dramatic changes in performance of US banks: technological change, deregulation, and dynamic changes in competition', *Journal of Financial Intermediation*, Vol. 12, pages 57–95.

British Bankers' Association (2002), *Annual Abstract of Banking Statistics*, London.

Broderick, T and Cox, C (2010), 'The foreign exchange and over-the-counter interest rate derivatives markets in the United Kingdom', *Bank of England Quarterly Bulletin*, Vol. 50, No. 4, pages 354–65.

Caballero, R J and Simsek, A (2009), 'Complexity and financial panics', *MIT Department of Economics Working Paper no. 09–17*.

Cameron, G (1998), *Monetary policy in the UK since the Second World War*, Oxford University.

Capie, F (2010), *The Bank of England 1950s to 1979*, Cambridge University Press.

Collins, M (1988), *Money and banking in the UK: a history*, Croom Helm.

Committee on the Working of the Monetary System (1959), Report of the Radcliffe Committee on the working of the monetary system.

Committee to Review the Functioning of Financial Institutions (1980), Report of the Wilson Committee to review the functioning of financial institutions.

Davies, G (2002), *A history of money from ancient times to the present day* (third edition), University of Wales Press.

Demirgüç-Kunt, A and Huizinga, A (2010), 'Are banks too big to fail or too big to save? International evidence from equity prices and CDS spreads', *CEPR Discussion Paper no. 7903*.

DeYoung, R, Evanoff, D D and Molyneux, P (2009), 'Mergers and acquisitions of financial institutions: a review of the post-2000 literature', *Journal of Financial Services Research*, Vol. 36, pages 87–110.

Euromoney Foreign Exchange Survey (2010), *Euromoney*, May, Vol. 41, pages 75–91.

Financial Stability Board (2010), 'Reducing the moral hazard posed by systemically important financial institutions', *Interim report to G20 Leaders*, June.

Frontier Economics (2009), *Do universal banks need special regulatory treatment?*, July.

Gai, P and Kapadia, S (2010), 'Contagion in financial networks', *Bank of England Working Paper no. 383*.

Gande, A, Puri, M, Saunders, A and Walter, I (1997), 'Bank underwriting of debt securities: modern evidence', *Review of Financial Studies*, Vol. 10, Issue 4, pages 1,175–202.

Gerschenkron, A (1966), *Bread and democracy in Germany*, H Fertig.

Gower, L C B (1988), ''Big Bang' and city regulation', *The Modern Law Review*, Vol. 51, Issue 1, pages 1–22.

Hadjiemmanuil, C (1996), *Banking regulation and the Bank of England*, LLP.

Haldane, A G (2009), 'Rethinking the financial network', available at www.bankofengland.co.uk/publications/speeches/2009/speech386.pdf.

Haldane, A G (2010), 'The $100 billion question', available at www.bankofengland.co.uk/publications/speeches/2010/speech433.pdf.

Hughes, J P, Mester, L J and Moon, C (2001), 'Are scale economies in banking elusive or illusive? Evidence obtained by incorporating capital structure and risk-taking into models of bank production', *Journal of Banking and Finance*, Vol. 25, pages 2,169–208.

Independent Commission on Banking (2010), *Issues Paper. Call for evidence*, September.

International Monetary Fund (2006), *Global Financial Stability Report*, April.

International Swaps and Derivatives Association (2009), *2009 ISDA Derivatives Usage Survey*, Research Note No. 2.

JPMorgan (2010), *Global banks — too big to fail? Big can (also) be beautiful*, February.

King (2010), 'Banking: from Bagehot to Basel, and back again', available at www.bankofengland.co.uk/publications/speeches/2010/speech455.pdf.

Laeven, L and Levine, R (2007), 'Is there a diversification discount in financial conglomerates?', *Journal of Financial Economics*, Vol. 85, Issue 2, pages 331–67.

Manning, M, Nier, E and Schanz, J (2009), *The economics of large-value payments and settlement — theory and policy issues for central banks*, Oxford University Press.

Matthews, K, Murinde, V and Zhao, T (2007), 'Competitive conditions among the major British banks', *Journal of Banking and Finance*, Vol. 31, Issue 7, pages 2,025–42.

Melnick, E, Nayyar, P, Pinedo, M and Seshadri, S (2000), *Creating value in financial services: strategies, operations and technologies*, Chapter 3, pages 37–52, Kluwer Academic Publishers.

Michie, R (1999), *The London Stock Exchange: a history*, Oxford University Press.

Newton, L and Cottrell, P L (1998), 'Joint-stock banking in the English provinces 1826–1857: to branch or not to branch?', *Business and Economic History*, Vol. 27, Issue 1, pages 115–28.

Piesse, J, Peasnell, K and Ward, C (1995), *British financial markets and institutions. An international perspective*, Prentice Hall.

Plender, J (1986), 'London's Big Bang in international context', *International Affairs*, Vol. 63, Issue 1, pages 39–48.

Pressnell, L S (1956), *Country banking in the industrial revolution*, Oxford University Press.

Puri, M (1996), 'Commercial banks in investment banking — conflict of interest or certification role?', *Journal of Financial Economics*, Vol. 40, pages 373–401.

Reid, M (1978), 'The secondary banking crisis — five years on', *The Banker*, Vol. 128, Issue 634, pages 21–30.

Risk Corporate Survey (2010), *Risk*, April, pages 42–45.

Saunders, A (1996), *Financial Institutions Management: a modern perspective*, Irwin Professional Publishing.

Sheppard, D K (1971), *The growth and role of UK financial institutions, 1880–1962*, Methuen.

Shin, H S (2010), 'Financial intermediation and the post-crisis financial system', *BIS Working Paper no. 304*.

Stiroh, K and Rumble, A (2006), 'The dark side of diversification: the case of US financial holding companies', *Journal of Banking and Finance*, Vol. 30, Issue 8, pages 2,131–61.

Watson, K (2004), 'The financial services sector since 1945', in Floud, R and Johnson, P (eds), *The Cambridge economic history of Great Britain*, Vol. 3, Cambridge University Press.

Wheelock, D C and Wilson, P W (2010), 'Do large banks have lower costs? New estimates of returns to scale for U.S. banks', *Federal Reserve Bank of St. Louis Working Paper no. 2009-054C*.

Yasuda, A (2005), 'Do bank relationships affect the firm's underwriter choice in the corporate-bond underwriting market?', *Journal of Finance*, Vol. 60, Issue 3, pages 1,259–92.