9. **Fifty Years in the Evolution of Bank Business Models**

*David T. Llewellyn*

9.1. **Introduction**

This chapter considers the evolution of bank business models over the past fifty years and in particular in the pre-and post-crisis period which were times of fundamental change in such models. In many respects, new business models became an integral part of the crisis scenario and to some extent changed the underlying economics of banking. The structure of the chapter is as follows. Section 9.2. considers the evolution of business models since the early 1990s with four sub-periods identified. Section 9.3. outlines the basic tenets of the “traditional model” of banking followed in Section 9.4. by a review of how business models changed in the period running up to the crisis. The post-crisis period is subdivided into two: the short term (Section 9.5.) and medium term (Section 9.6.). Section 9.7. concludes.

9.2. **The Nature and Evolution of Business Models**

Bank business models are not static but evolve over time and under the influence of a complex mix of exogenous and endogenous pressures. The more powerful of these pressures include: the structural evolution and internationalisation of the financial system and financial markets; the macro-economic environment in which banks and their customers operate; the decisive impact of EU and national regulation; the competitive environment in banking markets; financial innovation; the impact of technology, and the chosen business objectives of banks (e.g. asset growth, market share, rate of return on equity (ROE), etc).

All of these featured as central aspects of the banking crisis (Llewellyn (2010)). With respect to regulation, it is evidently the case that detailed rules at the time did not prevent the crisis and, as argued elsewhere (Llewellyn (2011)), created incentives to change business models in a way that contributed to the crisis. The impact on business models of regulation, and the incentive structures it creates, can be seen in the Basel capital arrangements which created incentives for banks to, *inter alia*, move assets off the balance sheet, to increase their gearing levels, to securitise assets and create various forms of Special Purpose Vehicles (SPVs) and Structured Investment Vehicles (SIVs) to facilitate this, and to make increasing
use of credit risk-shifting instruments and derivatives. It is argued below that there is a two-way causation between regulation and bank business models: the endogeneity problem (Llewellyn (2011 and 2013)). This implies a symbiotic relationship between regulation and bank business models: business models respond to regulation which in turn responds to the evolution of new business models.

9.2.1. Bank Business Models

The chapter adopts a particular concept of “business models” which might offend management science purists. For purposes of our analysis, it has five core components: (1) the range of business undertaken (e.g. bank-assurance, securitisation and derivatives trading, etc.), (2) the banks’ ultimate business objectives, (3) balance sheet management including funding, gearing and liquidity strategies, (4) the way the core intermediation business of banks is conducted (e.g. securitisation, use of credit risk-shifting instruments, etc), and (5) the management of regulation and in particular how banks respond to regulation through, for instance, regulatory arbitrage. We find that all of these changed (in some cases radically) in the pre-crisis period, and are likely to change again in the post-crisis environment. The concept of business models in this chapter relates to the range of business undertaken, and how the core financial intermediation business is conducted.

Over the years, several SUERF colloquia and publications have discussed various aspects of bank business models. For instance, several authors (including Vander Vennet, Benink, Sijben, Gardener and Molyneux) consider different aspects of the topic (such as the implications of the Single Market Programme, new entrants into banking, internationalisation, and mergers and acquisitions) in the colloquium volume (Gardener et al. (2002)). More specifically, several papers in the colloquium volume (edited by Balling et al. (2003)) addressed the issue of how technology has played a major role in the evolution of business models in banking including how new IT and communications technology, electronic payments and trading platforms have influenced the development of bank business models. In a later colloquium volume (Balling et al. (2006)), several authors (inter alia, Canals, Santomero, Santiago Carbo Valverde, Boonstra and Dermine) offer useful insights into issues such as the range of business undertaken by banks, balance sheet management, intermediation business, and problems associated with compliance with regulation.

Although there can be no precision in identifying specific turning points in the evolution of bank business models, for purposes of exposition and analysis four sub-periods are identified: (1) the “traditional” model of banking in the period from the early 1960s to the early part of the 21st century, (2) the immediate pre-crisis period from around 2000 to 2007, (3) the years immediately following the
crisis period, and (4) a medium-term post-crisis period. The dates for locating (3) and (4) are necessarily uncertain.

In the discussion of the post-crisis period, a distinction is made below between what might be termed the stock-adjustment effect (as banks adjust to the new banking and regulatory environment) and the new steady-state regime after the adjustment has been completed. The essence of the distinction is that how banks behave in the transitory stock-adjustment phase does not in itself indicate how they are likely to behave in a new steady-state regime. Behaviour during the period of moving towards new business models or regulatory regimes is likely to be different from when the new steady-state has been achieved and the adjustment has been made. For instance, the costs of moving from low to higher capital requirements are likely to be higher than the costs in the new steady-state position and after the adjustment has been made.

9.2.2. Context of Structural Change

Our starting point is that the evolution of business models does not occur in a vacuum and the antecedents need to be considered. Several structural changes in the global financial system set the background to the emergence of new business models in the period preceding the crisis:

- a defining feature of the period was a strong development in quantitative financial theory in areas such as option pricing and portfolio theory with implications for the pace of financial innovation, and especially with respect to the emergence of credit derivatives designed to shift credit risk from loan originators (credit risk-shifting instruments). Figures 9.1 and 9.2 show the volumes of asset-backed securities and credit derivatives. A key distinction is that whilst the probability of the risk emerging when transactors use price derivatives is independent of the transaction (e.g. the buyer of a forward currency contract cannot influence the future exchange rate: the probability is exogenous to the transaction), banks are, to some extent, able to affect the outcome when they buy, for instance, credit default swaps as they may be induced to make bad loans and, to some extent, can influence the “credit event” that triggers payment in the contact (Llewellyn (2009a)). To some extent, therefore, the risk is partly endogenous to the bank in some credit risk-shifting instruments;

- a substantial rise in the volume of trading in complex, and sometimes opaque, derivatives contracts. The Bank for International Settlements (BIS) estimates that the outstanding value of Credit Default Swap (CDS) contracts rose to over USD 60 trillion immediately prior to the onset of the crisis;

- an increasing “financialisation” of economies (sharp growth in the value of financial assets and liabilities relative to GDP), and the role of banks in the
financial system and economy generally, and the volume of banks’ trading in financial instruments;

– a more market-centric structure of financial systems which implied a rise in the role of financial markets relative to institutions in the financial intermediation process. Furthermore, banks and markets became increasingly integrated (Boot and Thakor (2009)). One of the many implications of this trend was that losses incurred in markets could be translated into funding problems for banks. Furthermore, financial systems in general, and banks in particular, became more susceptible to shocks emanating in financial markets;

– a greater degree of inter-connectedness (both between banks and between banks and financial markets) and resultant network externalities (see Haldane (2009)). One implication of this is that shocks to any part of the network (either in banks or markets) have potentially powerful implications for the whole network;

– so-called (and largely unregulated) “shadow banks” (such as hedge funds and SIVs) emerged as significant new players in the financial intermediation process (Tett (2008 and 2009)). In effect, a shadow banking system emerged. As argued in Turner (2012), however, there were close and inextricable links between banks and “shadow banks”;

– an increased globalisation of finance and financial markets. One of the features of the pre-crisis business model was a sharp rise in cross-border business (figures 9.3 and 9.4). The impact of globalisation was particularly powerful in the propagation of the crisis: what started as a local mortgage problem in parts of the US was generalised to a wide range of asset classes, to the interbank market, to several countries, and to several different types of financial institution;

– a sharp rise in gearing and leverage both by banks (including intra-financial sector gearing) and households;

– a substantial reduction in the holding of liquid assets by banks and an increased reliance on wholesale markets for liquidity and funding requirements;

– greater degrees of maturity transformation by banks;

– diversification of banks into different business areas with the result that they became increasingly similar to each other. Thus, while individual institutions diversified (which could be regarded as making them less risky through the spreading of different risks), the result was a less diversified system.
Figure 9.1: Global issuance of Asset-Backed Securities

Source: Dealogic

Figure 9.2: Global credit derivatives outstanding (USD trillion)

Sources: BBA, BIS, ISDA and Risk Magazine
Figure 9.3: Share of cross-border banking assets in EU 1997-2009

Note: shows share of assets of non-domestic subsidiaries and branches relative to total banking assets. Measured for EU 27.


Figure 9.4: Cross-border assets and liabilities of euro area banks 1977-2011

The emergence in particular of credit risk-shifting derivatives had several important properties with respect to bank business models, the distribution of credit risks, the generation of credit, and the structure of financial intermediation in the financial system. They also produced a more market-centric financial system. In particular, instruments designed to shift credit risk produced new banking models (originate and distribute, for example) that changed in a fundamental way the underlying economics of banking and also made the system potentially more crisis-prone (Llewellyn (2010)). The main feature was the emergence and sharp growth in credit risk-shifting instruments enabling credit risk to be shifted, traded, insured, and taken by institutions without the need for them to originate loans. Although this proved to be crisis-prone, such credit risk-shifting instruments nevertheless had the potential to enhance efficiency in the financial system (Llewellyn (2009a)).

9.3. THE TRADITIONAL MODEL

It is instructive to begin with a stylised review of the traditional model of the banking firm that was the dominant model for decades and formed the basis of standard text-book analyses of the banking firm (see Llewellyn (1999) for a fuller discussion). In this traditional model, financial intermediation is the dominant business of banks which have information, risk analysis, and monitoring advantages enabling them to solve asymmetric information problems and hence mitigate adverse selection and moral hazard. Banks accept deposits and utilise their comparative advantages to transform them into loans. In this model, the bank accepts the credit (default) risk, holds the asset on its own balance sheet, monitors borrowers, and holds appropriate levels of capital to cover unexpected risk. In the absence of external insurance of loans, it also effectively “insures” its loans internally through the risk premia incorporated into the rate of interest on loans. This is represented in the traditional model in Table 9.1. In this process, the bank offers an integrated service as it performs all the core functions in the financial intermediation process.

In this traditional model, the bank is not able to shift credit risk to other agents because of its asymmetric information advantages: a potential buyer or insurer of a bank loan might judge that, because of the bank’s information advantage, there is an adverse selection and moral hazard problem in that the bank might select low-quality loans to pass on and, if it knew that it could pass on risk, might be less careful in assessing the risk of new loans and conduct less intensive monitoring of borrowers after loans have been made. For the same reason, the traditional view of the bank is that it is unable to externally insure its credit risks but instead applies a risk (insurance) premium on loans for expected risk and holds capital as
an internal insurance fund for unexpected risk. The reason for this is that, given the uncertainties outlined above, an external insurer would reflect this uncertainty in an excessive insurance (risk) premium charged to the bank which in turn would incorporate this in the risk premium in the interest rate charged on loans. Clearly, if this external premium is greater than the internal risk premium the bank would charge borrowers in the absence of external insurance, it would be more efficient for the bank to internally insure its loans. In this traditional view of the bank, credit risk cannot be shifted or insured, there is no liquidity in bank loans, and banks are locked into their loan portfolios.

9.4. **Pre-Crisis Banking Models**

In the decade or so before the onset of the crisis, banks developed new business models and moved away from the traditional model of originate-to-hold. The emergence of new business models focussed partly on new credit risk-shifting instruments. In varying degrees as between different countries, several trends in bank business models emerged in the years leading up to the crisis:

- banks increasingly diversified into more lines of business activity some of which in some cases had previously been inhibited by regulation;
- bank assets expanded at a substantially faster rate than retail deposits creating an ever-widening “funding gap” (Figure 9.5). This is also seen in trends in loan-deposit ratios (figures 9.6 and 9.7). Figure 9.6, for instance, shows that for major UK banks, the ratio of loans to deposits rose to a peak

### Table 9.1: Alternative Banking Models

<table>
<thead>
<tr>
<th>Traditional</th>
<th>Securitisation</th>
<th>CDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Accept deposits</td>
<td>✓</td>
<td>(✓)</td>
</tr>
<tr>
<td>(2) Originate Loans</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(3) Utilise comparative advantage</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>– Information</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>– Risk analysis</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>– Monitoring</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(4) Transform into loans</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(5) Accept risk</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(6) Hold on balance sheet</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(7) Capital Backing</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(8) Insurance</td>
<td>Internal</td>
<td>Shift</td>
</tr>
</tbody>
</table>

*Tradition: originate and hold
Securitisation: originate and sell
CDS: originate and insure*
Figure 9.5: Major UK banks’ customer funding gap

Sources: Dealogic, published accounts and Bank calculations.
(a) Data exclude Nationwide.
(b) Customer funding gap less securitised debt. Where not available, stocks of securitisations are estimated from issuance data.

Figure 9.6: Major UK banks’ loan to deposit ratio

of 136 percent in 2008 but declined sharply thereafter. The net result was a substantial rise in the proportion of total funding represented by various forms of wholesale market funds;

- the rise in bank loans substantially exceeded the rise in banks’ risk-weighted assets held on the balance sheet. For the ten largest US banks, total assets doubled in the period 2004 to 2007 while the sum of risk-weighted assets (against which regulatory capital needed to be held) rose by only 20 percent. Furthermore, the loan-to-assets ratio of these banks declined from 52 percent in 1997 to less than 40 percent, while the investment-to-asset ratio rose from 32 percent in 1998 to 54 percent by 2008. At the same time, the deposit-to-asset ratio declined from 45 percent in 1998 to 36 percent in 2008;

- a key feature of the emerging bank models was a sharp rise in bank gearing ratios. As an example, Figure 9.12 shows the rising trend of leverage ratios of UK banks in the period 2000 to 2008 and the subsequent sharp contraction in the immediate post-crisis period;

- securitisation of loans became a central business strategy for many banks, and took various forms such as asset sales and Collateralised Debt Obligations (CDOs) via Special Purpose and Structured Investment Vehicles. There were (perverse) regulatory incentives for the creation of SIVs because, as regulators regarded them as separate from the owning banks, they were

---

Figure 9.7: Deposit funding gap of euro area banks

Notes: Shows difference between loans to and deposits from non-monetary financial institutions, based on aggregate balance sheet of MFIs in euro area.

largely free of regulatory capital requirements and, whilst they were able to receive outside funding with the owning banks’ guarantees, there was no capital charge against the bank either, (see Tett (2009); McLean and Nocera (2010); Dunbar (2011); Morgenson and Rosner (2011); Thiemann (2012)). This issue is also considered elsewhere (e.g., Chapter 11) in this volume;

– investment and trading activity increased sharply and, in many cases, the proportion of traded assets in the total balance sheet rose substantially. Haldane et al. (2009) note that a major part of bank business strategies in the pre-crisis period was to increase the holding of assets held at fair value through their trading books relative to their holding of loans. In effect, the share of business loans to customers in total assets declined in the period 2000-2007. This rise in trading book positions was due in part to regulatory arbitrage as trading book assets had low risk weights appropriate for market, but not credit, risk. It became capital-efficient for banks to bundle loans into structured tradable products for onward sale in the market. A further characteristic of trading book activity is that positions are marked-to-market with gains and losses taken into the profit and loss account. The corollary is that holding a large trading book position was attractive when asset prices were rising which was the case in the years prior to the onset of the crisis;

– banks reduced their holdings of liquid assets as they developed greater access to wholesale funding markets;

– the extent of maturity transformation increased sharply as increasing use was made of short-maturity money market funding sources. With this came an increased dependency on wholesale and money market funding;

– a powerful trend emerged towards using credit derivatives (such as CDS contracts) as a means of shifting credit risk, (Llewellyn (2010)).

As noted by Borio. “the two most salient idiosyncratic aspects of the current turmoil are the role of structured credit products and that of the O&D (originate and distribute) business model,” (Borio (2008)). The Bank of England also noted that, on the basis of increased gearing, banks expanded into higher-risk assets whose underlying value, quality and liquidity were unknown (Bank of England (2008)). Securitisation and credit derivatives were vehicles for not only an inordinate expansion of bank lending but higher risk lending.

9.4.1. ROE Strategies

Over-arching all of this was a clear shift in overall business strategy towards a focus on the rate of return on equity (Llewellyn (2007)), and with a short-termist focus. There were several reasons for banks focussing on ROE as a benchmark of performance: it was regarded as a useful performance measure which was easy to
measure; remuneration and bonus structures of senior staff were often related to short-term ROE, and a high share price offered a degree of protection from hostile take-over bids. However, as noted in Admati and Hellwig (2013), the ROE is in truth a poor measure of shareholder value because it does not take account of risk and the risk characteristics of the business model that produced high short-term rates of return. As part of this overall strategy, there was a substantial rise in the leverage of banks in the years prior to the onset of the crisis. Banks became extremely profitable though, as noted by Alessandri and Haldane (2009) in a detailed de-composition of returns to banking, this was because of excess gearing, securities trading, and enhanced risk-taking. Thus, while a rise in gearing (increase in debt relative to equity) would raise the ROE, it might also raise the risk profile of the bank and the potential loss to shareholders. The true benefit to shareholders of gearing arises only to the extent that the actual (long run) rate of return on equity is higher than the required rate of return on the basis of a bank’s risk profile.

The basic bank profitability formula usefully illustrates the strategic options available when focussing upon ROE strategies:

$$\text{ROE} = \frac{A}{E1} \times \frac{E1}{E} \times \frac{P}{RWA} \times \frac{RWA}{A}$$

where A is a bank’s total assets, E1 is tier 1 capital, E is common equity, P is the bank’s net income, and RWA is the sum of risk weighted assets: note that A/E1 is the bank’s leverage ratio. Thus, for a given rate of return on assets (P/RWA), the nominal ROE is automatically raised in line with leverage. Put another way, a bank which adopts a business model to maximize the nominal ROE has several strategic options: lower the equity ratio (increase gearing), adjust the ratio of risk-weighted assets to total assets, increase profitable trading and other activity that does not require equity capital, increase debt relative to equity capital, and move up the risk-return curve in favour of more risk. With respect to raising gearing, Admati and Hellwig (2013) emphasise that profitability increases to the extent that the rate of return on assets exceeds the cost of debt funds. Conversely, if this condition is not met the ROE rises with less debt and lower gearing.

In its *Global Financial Stability Report*, the IMF (2009) noted “a collective failure to appreciate the extent of the leverage taken on by a wide range of institutions and the associated risks of a disorderly unwinding.” In addition, there was an increasing volume of trading in credit risks in a situation where it had become evident that the risks in such trading were not always clearly understood.

A central theme is that, in some important respects, financial innovation (and most especially the emergence of credit derivatives) changed the underlying economics of banking and the dominant business model. For illustrative purposes, a distinction is made in Table 9.1 between the *traditional model* of the bank (orig-
inate and hold), the securitisation variant (originate and sell), and the use of credit default swaps (originate, hold and externally insure).

As already noted, many aspects of the traditional model came to be questioned in the pre-crisis period. In the securitisation model in Table 9.1, the process of securitisation (including via CDOs) meant that banks were able to sell loans and hence not hold them on their own balance sheets, did not absorb the credit risk, and hence reduced the need to hold capital against credit risk.

The CDS model is similar to the securitisation model except that, while the credit risk was passed to the protection seller, the asset remained on the balance sheet of the originating bank. In this model there was explicit external insurance of bank loans which, as already noted in the traditional model, was judged to be uneconomic compared with internal insurance.

The two simplified examples of financial innovation in Table 9.1 related to credit risk illustrate that the traditional model of the banking firm came to be modified in a fundamental way.

As a result of all this, and the new business model that emerged, banks stopped behaving as banks in the traditional way and at the margin came to act as brokers in credit risk between ultimate borrowers and those who either purchased asset-backed securities or who offered CDS insurance, rather than their traditional role as market-makers in credit risk. In essence, in the decade prior to the crisis there was a clear strategic shift from the traditional relationship model to a more transactional model (van Ewijk and Arnold (2012)).

It is interesting that in three countries which escaped the crisis largely unscathed (Canada, Australia and South Africa), banks stuck to the traditional model and remained conservative institutions with comparatively little use of securitisation and credit derivatives. Furthermore, a study by the Centre for European Policy Studies – (CEPS) – (Ayadi, et.al. (2010)) found that Cooperative banks in Europe were also considerably less affected by the crisis than many other banks in Europe largely because they maintained the traditional business model of banking. Similarly in the UK, mutual building societies were less affected by the crisis though some did get into difficulty and needed to be supported (Llewellyn (2009)). Interestingly, those building societies that needed support were those which deviated most from the traditional business model of a mutual building society. Furthermore, the two banks that failed completely (Northern Rock and Bradford & Bingley) were former mutual building societies that had converted to bank status largely in order to change their business model. Some analysts, and indeed some bankers, argue from this contrasting experience that the lesson is “stay traditional and conservative”.

LARCIER
An excellent analysis of how the composition of bank income changed as a result of the structural changes in capital markets in a sample of EU countries is given in ECB (2000). This illustrates how changes over time in bank business models impact on the structure of bank earnings.

9.4.2. Risks in New Business Models

With the development of new business models, the nature of risks also changed. Securitisation and other credit derivatives are designed to shift credit risk and, for some years, they did so successfully. However, they also changed the nature of risks and, in particular, transformed credit risk firstly into liquidity risk (buyers of the securities issued to purchase securitised assets from banks being unable to trade them), then into a funding risk (the securitising banks being unable to either sell assets at other than fire-sale prices or roll-over maturing debt), and ultimately into a solvency risk. The last-mentioned arose because, in the absence of new roll-over money, banks were unable to sell assets in order to continue funding their securitisation programmes. A vicious cycle can easily arise in such circumstances: a bank which has engaged in substantial maturity transformation encounters funding difficulty (inability to roll over maturing debt) which it seeks to alleviate by selling assets which in turn depresses asset prices which in turn undermines the solvency of the bank. This problem becomes acute when all banks simultaneously attempt the same strategy of selling assets to replenish liquidity: herein lies the fallacy of composition whereby what may be rational for an individual bank acting alone ceases to be so when all banks adopt the same strategy.

In the case of Northern Rock (which developed securitisation as a central component of its business strategy (Llewellyn (2008)), an initial shifting of credit risk through securitisation exposed the bank to a liquidity risk that it (or its securitising Special Purpose Vehicle) would not be able to “roll-over” in the wholesale markets its maturing short-term borrowings that were used to fund the acquisition of long-term mortgages. This in turn was quickly transformed into a structural funding risk (as alternative sources of funding were unavailable) which was ultimately transformed into a solvency risk. The Bank of England has described the sequence in Figure 9.8. Securitisation and the use of credit derivatives therefore have both risk-shifting and risk-changing features.

The financial crisis revealed two major implications of credit risk-shifting instruments: (1) in many cases the risk was not in practice shifted as much as banks thought would be the case, and (2) even when credit risk was shifted this was sometimes at the cost of increasing market, liquidity, funding and ultimately solvency risk. In effect, credit risk that was initially shifted may involuntarily come back on to the balance sheet of the originating bank. There were several
reasons for this. Firstly, some banks’ SIVs were unable to continue issuing asset-backed commercial paper to finance the purchase of loans from initiating banks. Secondly, loans that were planned to be securitised proved to be “unsecuritisable” because of funding constraints. Thirdly, originating banks were called upon to honour agreed lines of credit to SIVs. Fourthly, a bank might be induced to take securitised assets back on to the balance sheet in order to avoid a potential reputation risk.

The use of credit-risk-shifting instruments exposed banks to low-probability-high-impact risks in that the reliance on short-term wholesale market funding to finance long-term mortgages meant that some banks became structurally dependent on a limited number of wholesale markets for their funding. It was always judged that the simultaneous drying up of all these markets would be extremely unlikely as it had seldom, if ever, happened before. Equally, however, it would be very serious if it were to occur. In the event, this is precisely what did happen. Banks ignored the low-probability-high-impact risk of liquidity drying up in all markets simultaneously. Such risks applied equally to institutions and investors who issued short-term commercial paper in order to acquire asset-backed securities of various kinds.
9.4.3. Incentive Structures

Linked to new business models were internal incentive and reward structures that were part of banks’ business models. Kashyap et al. (2008) give particular emphasis to the potentially perverse incentive structures in securitisation models.

Several dimensions to bank incentive structures were relevant in the evolution of business models and in the crisis: the extent to which reward structures were based on the volume of business undertaken; the extent to which the risk characteristics of decisions were incorporated (or not so) into management reward structures; the nature of internal control systems within banks; weak internal monitoring of the decision-making of loan officers; the nature of profit-sharing schemes, and whether or not decision-makers also shared in losses. In many cases rewards were asymmetric as substantial bonuses were paid in the event of high short-term profitability, while losses were not equally reflected in reward structures. Reward systems based on short-term profits and front-loaded pay-offs proved to be hazardous as they induced managers to pay less attention to the longer-term risk characteristics of their decisions. High staff turnover, and the speed with which officers moved within the bank, also created incentives for excessive risk-taking. Similar effects could arise through the herd-behaviour that is common in banking. The incentive structures favouring “short-termism” are epitomised in the now infamous statement of the Chairman of Citi (Chuck Prince): “As long as the music is playing, you’ve got to get up and dance. We’re still dancing” (New York Times, July 10th, 2007).

Overall, the evidence suggests that reward structures within banks (which often focus on short-term profitability) produced a bias to excessive risk taking. In particular, UBS (2008) identified systemic deficiencies in its compensation policy as a contributory factor in the substantial write-downs it suffered at the height of the crisis. It emerged that UBS AAA-rated mortgage-backed securities were charged a very low internal cost of capital. Traders holding such securities were allowed to count any spread in excess of this low hurdle rate as income which in turn determined their bonuses. If the internal cost of capital is under-priced, and bonuses are paid on any excess return over this low cost of capital, there is an almost inevitable tendency for traders to take excessive risk. In the case of UBS, there is also doubt about the extent to which senior management were aware of the way the bank’s strategy was being executed or what the risks were in the bank’s business model.

9.4.4. Excess Financialisation

The collective action of banks adopting new business models produced what might be termed “excess financialisation” of economies. This was seen in various
dimensions: the increasing role of banks in the financial intermediation process (figures 9.9, 9.10, 9.11); a sharp rise in the assets of the banking system relative to GDP; the rapid growth and overall size of the financial system in the economy; the burgeoning leverage of banks (as measured by their gearing ratios – Figure 9.12), the sharp rise in overall debt-GDP ratios in economies; the degree of intra-sector leverage (the extent to which leverage increased within the financial sector as financial institutions became increasingly exposed to other financial institutions); the frenetic pace of financial innovation; the sharp rise in trading volumes of banks; the market capitalisation of banks relative to overall market capitalisation of stock market companies (van Wensveen (2008)), and the share of total profits in the economy accounted for by banks.

Figure 9.9: Total assets of MFIs in EU 2001-2011

Note: Bar charts show total assets, dotted line shows assets in % of GDP.

Figure 9.10: Size of the UK banking system

Sources: Sheppard (1971) and Bank of England
In the UK, banking sector assets as a proportion of GDP rose from 40 percent in 1960 to 220 percent in 1990 and to 540 percent in 2008. Although this ratio tends to rise in all countries as national income rises, our theme is that these measures of “financialisation” became excessive and unsustainable.

The unsustainable “excess financialisation” that emerged from new bank business models that occurred in the decade before the onset of the crisis was largely associated with underlying factors which were themselves unsustainable.
(Llewellyn (2010)). The growth of securitisation and structured investment vehicles, and the use of credit risk-shifting instruments, had the effect of inducing an over expansion of banking business and unrealistic perceptions of risk. Combined, these created conditions for banking activity to become excessive which the supervisory process did little to constrain even though in several countries (in various Financial Stability Reports) they expressed concern about many of the trends that culminated in the crisis.

Several factors within new business models lay behind the increasing role of banking and “excess financialisation” in the years leading up to the crisis:

- Banks adopted an explicit growth-orientated strategy in the context of a judgement that traditional banking had become a mature industry with limited growth in traditional business areas.
- Excess gearing, and an under-capitalisation, meant that banks could expand at a faster rate, and to a higher level, compared with the position had they maintained a level of capital commensurate with their risks. Overall, banks became highly leveraged with a rise in assets on the balance sheet relative to total capital, (Alessandri and Haldane (2009) and Wehinger (2008)). The Bank of England’s analysis suggests that the high ROEs achieved by banks in the period running up to the crisis can be attributed almost entirely to increased leverage and higher risk profiles.
- The macro-economic environment, and the collective euphoria of the pre-crisis years (the period of the so-called Great Moderation), meant that risks were systematically under-estimated and also under-priced. This increased both the demand for loans and the willingness of banks to meet that demand. Several supervisory agencies (including the Bank of England (2006 and 2007)), the IMF and the BIS gave frequent warnings that risks were being systematically under-priced.
- The collective euphoria, and the high profitability of banks at the time, meant that the cost of capital was artificially low because it did not reflect the true risks that banks were incurring. This amounted to an effective subsidy to banks.
- The perceived safety-net for banks (government support, etc) also had the effect of lowering banks’ funding costs. Alessandri and Haldane (2009) suggest that banks receive a substantial implicit subsidy from the existence (real or perceived) of bank safety net arrangements. Haldane (2011) gives estimates of the implicit value of guarantees received by banks amounting to an annual average of USD 1.3 trillion over the period 2007-2010.
- For various reasons, including the nature of the competitive environment at the time, banks adopted more short-termist strategies to maximise the rate of return on equity. In truth, profitability was enhanced not by superior banking performance, but by banks raising their risk threshold. As already
noted, internal reward and bonus structures created a bias towards short-termism and also to excess risk taking.

- The universal optimism generated by the dominant economic ideology of the time, namely the rational expectations and efficient-markets hypotheses (see, for instance, Fama (1970)) meant that rating agencies, central banks, governments, supervisors and many other agents, were not inclined to challenge the strategies and business operations of banks.

Each of these factors, created sufficient conditions for an over-expansion of banking activity, and an artificially enhanced role of banks. As might have been put by Sherlock Holmes: “It is elementary Dear Watson: if any industry is ‘subsidised’ or under-prices its product, it will grow too fast and become too big and to a level that becomes unsustainable without the subsidy!”

Our general theme is that new business models generated an “excess financialisation” of economies. The argument is that this became excessive and unsustainable because it was based on factors that were themselves unsustainable. In particular, the banking sector became excessively large and based on various forms of internal and external “subsidies” that could not be sustained in the long run. In this regard, banks expanded beyond their marginal economic and social value. Although banking seemed to be extremely profitable in the years prior to the crisis, this was misleading as such seemingly excess returns were based on various unsustainable “subsidies”, an under-estimation and under-pricing of risk, and excessive gearing.

9.4.5. Diversity of Business Models

Although some common general trends emerged in the pre-crisis period, business models were not homogenous between banks, and diversity remained. A CEPS report (Ayadi et al. (2011)) offers an empirical study of business models and their implications for risk characteristics, business performance, and efficiency. The general conclusions of the study are summarised as follows:

- retail banks tended to be less risky (high Z scores), held more liquidity and made less use of credit risk-shifting instruments;
- investment banks were the most highly leveraged, were heavily engaged in trading activity, and tended to rely on less stable funding sources;
- market-based measures of risk in the period before the crisis (e.g. CDS spreads) seemed not to reflect differences in risk;
- a negative relationship emerged between banks’ use of derivatives and the sum of their risk-weighted assets suggesting that derivatives were used to reduce the capital charge without lowering risk;
— wholesale banks (mainly German Landesbanks) which engaged in extensive securities and derivatives trading, who held lower levels of liquidity, and had a greater reliance on inter-bank funding) were the most risky.

The findings show that banks that kept their focus predominantly on retail business proved more resilient in the crisis, thanks to relatively lower leverage and higher loss absorbency capital. Most importantly, they were less likely to receive government support. Banks that relied excessively on leverage and short-term funding, and engaged in risk-shifting activities without retaining a portion of the risks on their books, were the worst performers during the crisis and the most likely to need government support. The analysis also emphasised that ‘investment banking’ (where the banks were also highly leveraged and heavily engaged in trading and repos markets) were badly hit by the crisis. These investment and wholesale banks were more likely to use derivatives to lower their risk-weighted assets, which was a central concept in measuring the Basel II regulatory capital.

9.5. **Post-Crisis Pressures on European Banking**

This and the next section consider business model scenarios in the post-crisis era in a short- and medium-term perspective. The starting point is that in the immediate post-crisis period, European banks faced an unprecedented combination of pressures in six key dimensions:

1. **balance sheet pressures** focussed on capital, liquidity and funding. Across the euro area, banks faced massive re-financing requirements at a time when conditions in the inter-bank and wholesale markets were extremely difficult. Many banks were effectively frozen out of key funding markets. At the same time, liquidity declined in several key markets, and sovereign debt exposure problems emerged;

2. **profitability** declined substantially in the immediate post-crisis period (Figure 9.13) which *inter alia* limited the extent to which banks could raise capital ratios from internal sources;

3. **the macro economy** in many euro area countries was weak and the forecast for the short-term outlook was at best anaemic. Herein lay the potential for a serious negative-feed-back-loop: weak bank lending impeding the possibility of economic revival, and weakness in the economy impairing the balance sheet position of banks through higher loan-loss experience. As a point of perspective, the December 2011 euro area Bank Lending Survey reported that 35 percent of banks reported a tightening in their lending conditions and lending interest rates rose in 2011(4);

4. **market pressures** mainly focussed on a combination of uncertainty about the position and even durability of the euro, substantial bank exposure to
sovereign debt (most especially with respect to Greece, Spain and Portugal), weakness in the supply of new equity to banks, and a rise in the cost of capital with suppliers of capital factoring in higher risk premia. Although banks across Europe were under capital pressure, few were able at the time to issue new equity capital on any significant scale. Trading conditions for banks weakened markedly as liquidity in some key financial markets was eroded. At various times in the immediate post-crisis period, banks’ CDS prices rose (indicating higher market perceptions of risk), and inter-bank spreads widened as markets re-assessed risks attached to particular banks;

5. funding: Inter-bank, money market, and other unsecured funding sources became difficult. At the same time, imbalances emerged in banking markets with some banks hoarding liquidity at central banks rather than lending in the inter-bank markets, while others had large negative cash positions which were similarly not intermediated via the inter-bank markets;

6. regulatory pressures in the context of one of the biggest-ever intensifications of the regulatory regime focussed on capital and liquidity requirements. The evident danger was that these could prove to be massively pro-cyclical and weaken the financial intermediation role of banks at a time when European economies most need it.

For an excellent outline of the difficult conditions in financial and banking markets that prevailed in the immediate post-crisis period see the Monthly Bulletin of the European Central Bank (December, 2011).
Each one of the pressures outlined above were formidable and presented banks and their regulators with demanding challenges. The central point is that it was the combination of pressures that potentially created a precarious position both for banks and the economies of Europe. Combined, they produced a substantial retrenchment in bank lending conditions.

There were also developments in the stock-market valuation of banks (Figure 9.14). In particular, bank equity prices fell sharply and remained weak with a wide differential emerging between market- and book-values of banks. This normally suggests market doubts about the true value of bank assets, scepticism about future earnings prospects, and a higher uncertainty discount as investors find it difficult to assess the true value of banks in current conditions.

At the end of 2011 banks across the euro area were finding it increasingly difficult (if possible at all) to raise unsecured funds in the bond markets and the cost of funding had risen to 2008 levels. Faced with enormous re-financing requirements in prospect in the first quarter of 2012, banks might have been required to sell assets on a substantial scale which, had such sales had a large impact on asset prices, could have transformed a financing into a solvency crisis for some banks.

Figure 9.14: Euro 300 Banks Share Price Index

Source: EBA (2013) – Data: Bloomberg, E3BANKS
9.5.1. ECB Intervention

It was at this stage that the ECB intervened on a massive scale with its new bank financing facility (LTRO), and the balance sheet of the ECB expanded sharply. In December 2011 and February 2012, the ECB made low interest rate and long-maturity loans to euro zone banks of over EUR 1 trillion. These loans were at a lower interest rate, in larger amounts, and for longer maturities than were available in the market. The intervention eased the immediate funding pressure on banks, removed the immediate need for substantial asset sales, bought time for banks to adjust and for countries to adopt structural reforms, and also allowed banks to meet margin calls on derivatives trading if, and when, required to do so.

All this represented a new business model not only for banks (relying on the central bank rather than the inter-bank market for funding) but also for the ECB as it was providing semi-permanent funding for commercial banks which is not the traditional role of a central bank. In effect, it took over bank financing from the interbank market. Several implications and reservations attached to this new business model for both banks and the ECB:

- ECB intervention in itself did not change the underlying position of banks that existed at the time;
- whilst it bought time (three years), there was always the issue of whether funding conditions would improve over this period and by the time that repayments needed to be made. There was, therefore, an exit problem to consider and whether the interbank market would take over the funding operations of the ECB or whether central bank support would be required for a longer period;
- it implied the ECB being exposed to potential credit risk;
- perversely, access to ECB funding sometimes had the effect of weakening banks’ access to (and raising the cost of) private funding markets to the extent that the best quality collateral had already been pledged to the ECB;
- given the low cost of funding from the ECB (1 percent) there was an arbitrage incentive for banks to buy peripheral sovereign debt. Whilst the ECB is not allowed to lend directly to governments, it is able to lend to banks that in turn purchase sovereign debt;
- there was a danger that banks would develop business models on the assumption of ECB funding which, in time, they might find it difficult to extricate from.

In some respects (due largely to intervention by the ECB) there was some easing in the conditions faced by European banks in the second half of 2012 and in 2013: bank stock market prices rose from their low points in February 2009; what could have been serious re-financing problems for banks in 2012 was alleviated, and the European Banking Authority (EBA) indicated that most banks...
were on track in raising their capital ratios. The problem, however, remained that palliatives and respites that buy time are not sustainable alternatives to structural adjustments to underlying problems.

However welcome the ECB’s initiative was, it remained a palliative, and could not realistically become a permanent feature of European banking models. Whilst substantial ECB intervention through the LTRO programme alleviated funding problems and bought valuable time, the key question was always how the time bought would be used to strengthen bank balance sheets and business models.

9.5.2. The Debate about Equity Capital

The regulatory regime in the post-crisis scenario will imply significantly higher equity capital requirements (including minimum gearing ratios) on banks and most especially those regarded as systemically significant. This could have powerful implications for bank business models and the way that business strategies are constructed. A key, and controversial, issue is what impact such higher equity capital requirements will have on the cost of banking and bank lending strategies.

This is a much disputed area both within the regulatory community, academia and the banking community. A central issue is the extent to which (if at all) higher equity capital requirements impose a real cost on banks and the economy. It is frequently claimed (mostly by bankers) that imposing higher equity capital requirements and limiting gearing levels will lead to a rise in the funding costs of banks, lower bank lending, and lower rates of return on equity. This is allegedly because, as the cost of equity is higher than the cost of debt, raising the equity component will necessarily raise the overall cost of funding. It is because of this reasoning, and the tax advantage that applies to debt, that banks prefer debt rather than equity, and opt for high gearing.

On the other hand, there are theoretical and empirical challenges to this view. Admati and Hellwig (2013), and other academic studies including by the author (Llewellyn (2013)), challenge this assessment. In a comprehensive and detailed study, Admati and Hellwig make a powerful case for higher equity capital requirements arguing that it will neither raise the overall cost of capital (and hence bank lending margins) nor reduce the volume of lending. Other research also finds there is little, if any, impact on lending or the cost of loans (Hanson (2011); Miles (2011); Buch and Prieto (2012); Cole (2012); Junge and Kugler (2012)). Most empirical studies suggest that the macroeconomic costs of higher equity ratios are modest most especially when viewed in the context of the enhanced systemic stability that higher ratios would likely bring.
The basis of these studies is ultimately the standard Modigliani-Miller theorem regarding capital structure. If raising equity ratios lowers the probability of bank failure, the cost of both debt and equity will be lower. If the cost of both debt and equity becomes lower when equity is substituted for debt (because of lower risk), and equity holders have less to lose per unit of investment, there is no reason to suppose that the net effect will be a higher overall cost of capital. This also implies that, while the actual rate of return on equity might become lower, the required rate of return to equity investors is also lowered.

Similarly, there is no obvious reason why lending would be lower with a substitution of equity for debt as this would simply represent a different structure of funding of the same quantum of assets.

There are, however, limitations to these conclusions and derive from the restrictive assumptions of the Modigliani-Miller theorem. Firstly, bankruptcy costs in banking are not zero. Secondly, there are tax advantages with banks funding loans through debt (where the interest paid is tax-deductible) rather than equity. Thirdly, the existence of deposit insurance complicates the picture because, in theory at least, as there need be no risk premium in the interest paid to protected depositors, the cost of this component of debt would not decline with higher equity capital ratios. Our conclusion here is that whilst the impact of higher equity ratios on the overall cost of capital is likely to be modest, the Modigliani-Miller offset is unlikely to be total.

### 9.5.3. Strategic Options for Banks

Even by 2013 European banking remained more fragile and vulnerable than appeared on the surface (most especially with respect to capital and funding) and that the true position was being concealed by a combination of the substantial ECB intervention (displacing the inter-bank market in the context of funding difficulties faced by some banks), an under-estimation of risks associated with the weak European economy, inadequate provisioning against under-performing loans, and a manipulation of risk weights applied to some banks’ assets. The net effect was that significant parts of the European banking system were probably under-capitalised and some banks had become excessively dependent on the ECB.

Banks that are capital constrained (for instance, when required by regulators to raise equity-assets ratios) have five broad strategic options within their business models: (1) inject more private equity capital either by capital issues or through retained profits although the latter can be a slow process when profitability is also under pressure; (2) issue convertible or bail-inable debt; (3) make various balance sheet adjustments: limiting loans and credit, selling assets or parts of the business, and technical balance sheet adjustments that have the effect of raising the equity.
ratio (such as buying back bank debt that is trading at a discount and, where possible, re-calculating risk weights attached to some balance sheet items); (4) securitisation whereby banks generate loans though do not hold them on the balance sheet (and hence avoid a full capital charge) but sell loan packages to investors who fund the purchase through issues of securities, and (5) governments injecting capital.

In this regard, two immediate policy objectives emerged in the immediate post-crisis period: to sustain a stable banking system, and to ensure that banks were able to support growth and a revival of the European economies through their lending most especially to the corporate sector. A conflict between the two objectives arose when the former required a rise in equity capital ratios while the latter required an expansion of bank lending. This apparent conflict could be removed simply by banks injecting more equity capital. However, the conditions that prevailed at the time meant that this was both difficult (in some cases impossible) and expensive. In which case, banks responded to the need to build up equity ratios by de-leveraging which was precisely the opposite of what was needed if banks were to support the economy. In fact, bank lending in many EU countries was falling for some time in the immediate post-crisis environment.

Capital (equity) ratios in European banks rose in 2011 and 2012 with Core Tier 1 capital in UK banks, for example, rising from 6.5 percent in 2008 to around 11 percent and leverage on average declined sharply in UK banks from a ratio of 48 in 2008 to around 25 by the end of 2012. This was brought about by some capital injections but mainly a reduction in risk-weighted assets reflecting both de-leveraging and shifts to lower risk weighted assets or assigning inappropriately low risk weights to some assets. British banks also substantially lowered the loan-deposit ratio from 138 percent in 2008 to around 105 percent, reflecting both asset disposals and a rise in retail deposits.

However, in many cases capital (equity) ratios remained too low. Firstly, in many cases (including in the UK as warned in the Bank of England’s December Financial Stability Report) banks were under-estimating and under-provisioning credit risk. Partly because of low interest rates, and also in order not to impair measured capital positions, banks increased forbearance in the weak state of the economy compared with past cyclical downturns in the economy. Although more companies were making losses during the recession than in the early 1990s, the number of insolvencies was sharply lower. Secondly, the risk weights applied to loans are opaque, often inconsistent between different banks, and often not a reflection of true risk. The Bank of England indicated that, on its assumptions, the aggregate equity position of UK banks was over-stated by between GBP 20 billion to GBP 50 billion. The IMF also argued on several occasions that across Europe there was an urgent need to re-capitalise banks.
9.5.4. Stock-adjustment Phase

In the immediate aftermath of the crisis, and in what earlier was termed the stock-adjustment phase, considerable market uncertainty developed about banks’ capital position due to uncertainty focussed on the true value of bank assets. In many cases, banks were sitting on hidden losses of zombie companies. There was something of a vicious circle in all this: banks were under-estimating risks and over-estimating true asset values, which meant they needed to raise more capital. At the same time, and for the same reasons, markets were reluctant to supply new equity which in turn created further incentives for banks to forbear on low-quality loans. The banking sector faced formidable challenges. Across the European Union, some banks remained fragile and exposed to the possibility of further shocks (see Llewellyn (2013a)). In the words of Lascelles (author of the Centre for the Study of Financial Innovation’s 2012 annual survey of banking conditions – Banking Banana Skins): “…concern about the outlook for banks has never been greater…concern this year is at the highest point in the thirteen years we have been compiling it.” (Financial World, February, 2012)

In the post-crisis stock-adjustment phase, new features of bank strategies emerged including lower degrees of maturity transformation, a retreat from cross-border business (in some cases partly induced by supervisory pressure on banks), increased dependence on ECB funding, a relative decline in wholesale as opposed to retail funding, increased forbearance by banks on problematic loans, increased liquidity holdings (partly induced by regulation and increased risk aversion), and in some cases a sharp drop in the number of employees most especially in investment banking areas. For instance, UBS substantially reduced the number of employees in its fixed-interest business and cut back substantially its investment banking business. Similar trends occurred in many other banks.

Overall, there was a sharp tightening in credit conditions due in part to capital and liquidity constraints in the new regulatory regime, weak access to market financing, the requirement to build liquidity on the balance sheet, concerns over the value of collateral offered on loans, and the strategy of de-leveraging, combined with enhanced risk aversion. The context was also a sharp weakening in the general economic outlook in many European countries.

9.6. The Crisis as Long Term Transformational

Having considered the traditional business model of banking that existed decades before the crisis, and those prior to the crisis and the immediate aftermath, this section considers possible post-crisis scenarios in the medium to longer term (the new steady-state). The central theme is that the crisis will prove to be
Fifty Years in the Evolution of Bank Business Models

transformational in several dimensions and three in particular: (1) the relative size of the banking industry, (2) bank business models, and (3) the cost of bank services. Post-crisis steady-state business models are likely to be dominated by four pressures: the unwinding of pre-crisis unsustainable business models and practices, the specific lessons of the crisis, a substantially more demanding regulatory environment, and structural measures (such as ring-fencing) imposed by new regulation. Liikanen (2012) observed that “markets are already forcing business model changes that will come about when Basel III is fully implemented”.

9.6.1. Size and Cost of the Banking Industry

As many of the trends that supported the earlier “excess financialisation” and growth of banks were unsustainable, their removal is likely to have the reverse impact towards a more sustainable system and set of business models. As a result, banks may become less dominant in financial intermediation business than in the past. A member of the Bank of England’s Monetary Policy Committee takes a similar view arguing that it is likely, and probably desirable, that “banks will become less significant intermediaries in channelling savings from households to companies and other households,” (Miles (2009)). In particular, there is likely to be slower growth in bank balance sheets, bank business will decline as a share of GDP, they are likely to be less profitable than in the period running up to the crisis, and bank services are likely to become more expensive. This was also the scenario that emerged after the 1929 crash. The IMF has also argued:

“immediate, short-run policies and actions taken need to be consistent with the long-run vision of a viable financial system….and that the viable financial sector of the future will be less leveraged and therefore smaller relative to the rest of the economy.” (IMF (2009)).

Several factors work in this direction. Banks are likely to become more realistic about risks and their pricing and reverse the earlier under-pricing of risk. In addition, they are likely to become more risk averse. Notwithstanding the critique of Admati and Hellwig (2013), in practice the requirement to operate with significantly higher capital ratios and lower gearing is likely to impose some limit on the role of banks compared with the years prior to the onset of the crisis. This is likely to be reinforced by banks facing a higher and more realistic cost of equity capital. Regulatory costs more generally (including the requirement to hold more liquidity on the balance sheet) will also rise. It is also likely that internal reward and bonus structures will change to remove the bias towards excess risk-taking. Furthermore, banks will receive less comfort from being “too-big-to-fail” for two reasons: under new intervention arrangements (such as new Resolution arrangements) banks may be closed before they become insolvent, and penalties
(including tax) could be imposed on banks with access to safety nets. The latter
could take the form of what amounts to *ex ante* insurance premia to be paid by
banks to pay for rescues that might be needed in the future and in order to
minimise the potential burden on the tax-payer. Hitherto, the tax-payer has
effectively acted as an “insurer of last resort” but without extracting *ex ante*
premiums.

For all these reasons, the cost of bank services is also likely to rise with the pros-
psect that intermediation margins (the difference between lending interest rates
and the rate of interest on deposits) widen. Because there will be a strong demand
for retail deposits as banks shift away from wholesale funding, the widening of
margins is likely to take place more in terms of higher lending rates than lower
deposit rates.

These trends are likely to produce two outcomes: less credit generation in total,
and some displacement of credit from banks to other routes: a process of *disin-
termediation*. If banks become more constrained in the post-crisis environment,
a key issue is who will provide the displaced credit previously generated in the
banking sector. Displacement could occur, for instance, through a re-activation of
securitisation though in order to avoid some of the problems that surfaced during
the crisis, it would need to be done in a different way, not the least through initi-
ating banks keeping some of the risk themselves. Liikanen (2012) argues that
“….the most complex types of securities such as CDOs and CDO-squared seem
impaired beyond repair”. Displacement may also occur through non-finance
companies, and the capital market as bond financing displaces bank financing.
Siemens announced that it is to establish its own bank in order to reduce reliance
on bank financing and to give it access to deposit facilities at the central bank.
There may also be further development of peer-to-peer lending.

All this leaves open the possibility that, with a lower role for banks and a greater
focus on the capital markets, European financial systems may, to some extent,
begin to converge on the US model of finance where markets relative to banks
play a larger role.

### 9.6.2. Future Business Models

Bank business models are likely to change as a result of the trauma of the banking
crisis and the regulatory response made to it. This could involve a reversion to the
more traditional model of “originate to hold” implying originating loans, holding
the assets on the balance sheet, monitoring borrowers, and holding capital
against the credit risk with internal insurance displacing external insurance
instruments such as CDSs.
The change in the nature of bank business models is also likely to include less reliance on more volatile wholesale funding sources and a greater reliance on traditional retail deposits. This will be accentuated by the withdrawal of official exceptional funding and liquidity support in some countries. Holdings of liquid assets will also be higher than in the past. It is also likely that internal reward and bonus structures will change to remove the bias towards excess risk-taking.

Regulation (and the requirement to create “living wills”) is likely to induce banks to create less complex business structures, and higher regulatory capital requirements on banks’ trading books may limit the extent of this business. The various proposals (Liikanen (2012) and the Independent Commission on Banking (2011) for ring fencing of different aspects of banks’ business, will have the same effect. Overall, as Basel III squeezes the profitability of trading in fixed interest securities and derivatives, there is likely to be less trading, reversing the trend that emerged in the pre-crisis period.

With respect to structural regulation, there is something of an evolutionary line ranging from the Glass-Steagall Act of 1933 through to its abolition in the Gramm-Leach-Bliley Act of 1999, the Volcker Rules, and the idea of “ring fencing” as advocated by the UK’s Independent Commission on Banking (2011) and subsequently the Liikanen Report (2012). Glass-Steagall limited the extent to which commercial banks could undertake investment banking business and have business links with investment banks (see, for instance, Bath et al. (2000)). The repeal of Glass-Steagall fundamentally changed the regulatory framework in which choices were made about business models and led to the emergence of financial conglomerates in the US which conducted a wide range of business not previously open to them. Some commentators have argued that the abolition of Glass-Steagall was a significant contributory cause of the 2007-2009 banking crisis. In the UK, the Report of the Independent Commission on Banking (2011) which was established by the British Government to consider regulatory implications of the crisis, proposed that, while banks could be free to conduct a wide range of business, a ring fence be placed around retail and small business commercial banking and that any investment banking business and securities trading they conduct should be undertaken through separately capitalised subsidiaries. In 2012, the Liikanen Report recommended mandatory separation of proprietary trading and other high risk trading from commercial banking, and a strengthening of capital requirements on trading assets and real estate lending.

There are both political and business challenges to the universal banking model. It seems likely that investment banking in European banks will lose global market share to a small number of US investment banks, a trend which emerged in the immediate post-crisis period. The Economist (2013) reported that in Europe investment banking revenues, volumes of business, and ROEs in investment
banking declined sharply as did the number of employees and remuneration levels. Regulatory requirements (regarding capital levels, ring-fencing, possible bans on proprietary trading, etc.) will also have a significant impact on investment banking in Europe in particular. While making a comprehensive case for Universal Banks on both efficiency and systemic stability grounds, Deutsche Bank Research (2012) recognises that “the political dynamics in Europe has shifted against universal banks…...and risks putting European banks at a competitive disadvantage to their peers in the US and Asia”.

In some business areas, the nature of investment banking is also likely to change. With the development of technology (such as algorithmic trading systems) many of the activities formerly undertaken by bankers will come to be carried out by computers. In some cases, many of these systems are being bought by banks’ customers allowing them to trade directly with one another.

A key issue centres on the future role of securitisation in bank business models. Given the more constrained position of banks, there is an economic argument in favour of resurrecting the securitisation market which had become largely dormant in the immediate post-crisis years. Citigroup estimates that in 2008 securitisation supplied between 30 and 75 percent of credit in different sectors. Notwithstanding the problems that emerged with securitisation, and the fact that very little had been undertaken in the years immediately after the onset of the crisis, it remains a viable model and needs to be a major technique in the financial system. This is most especially the case if, as has been argued, banks will face more balance sheet constraints than in the past. There are systemic advantages to securitisation. The skill lies in developing the securitisation model while avoiding some of the pitfalls. This could include, for instance, greater transparency, a requirement for banks to keep some of the credit risk on their own balance sheets, and techniques that are less complex than in the past.

9.7. Assessment

For decades, banking in the major industrialised countries (with some exceptions such as in Scandinavia in the 1990s) was comparatively stable and based on what has been termed the “traditional” model of the banking firm. In this model, banks generated loans and kept the assets on the balance sheet and absorbed the resultant credit risk. This gave way (around 2000) to new models a key feature of which was that credit risk was shifted from the balance sheet through a process of various forms of securitisation and the use of credit-risk shifting derivatives such as CDOs and the use of credit default swaps. This in turn enabled banks to expand at a faster rate than would have been possible in the context of the traditional business model. The post crisis scenario has two phases: the immediate
stock-adjustment effect following the fall-out from the banking crisis, and an uncertain future longer-term scenario.

The European banking industry has reached something of a turning point where major regulatory changes will impact the size, growth, future business models and the structure of the financial system as a whole. The evolution of European banking and its business models over the coming years is likely to be dominated by the legacy of the crisis and the regulatory and supervisory responses to it. How the sovereign debt and euro crises are finally resolved will also significantly influence future bank business strategies. As always, technology will also continue to have an impact. A new (though uncertain) dimension will also come from the emergence of some form of European Banking Union.

Two dimensions to bank business models were identified at the outset: the range of business lines, and the way the traditional financial intermediation role is conducted. A key issue with respect to the latter is whether, and to what extent, banks will revert to the “traditional” model. Two issues emerge with respect to the former: the range of business lines adopted by banks, and the extent to which different business lines are to be conducted within differentiated business structures. A key dimension recommended by the Vickers Report (Independent Commission on Banking (2011)), and the Liikanen Report (2012), is the extent to which different business activities are to be “ring-fenced” and in particular whether core business is to be ring-fenced from other activities such as investment banking and securities trading. Regulatory decisions made in this area will have significant implications for future bank business models.

REFERENCES


LLEWELLYN, D.T., 2010, The Global Banking Crisis and the Post-Crisis Banking and Regulatory Scenario, Topics in Corporate Finance, Amsterdam Centre for Corporate Finance, University of Amsterdam, October.


MCLEAN, B. and NOCERA, J., 2010, All the Devils are Here: The Hidden History of the Financial Crisis, New York, Portfolio Trade.


NEW YORK TIMES, 2011, Citi Chief on Buyouts: We’re Still Dancing, July, 10.


UBS, 2008, Shareholder Report on UBS’s Write-down, UBS, Zurich, April.

