11. SHADOW BANKING AND NEW LENDING CHANNELS – PAST AND FUTURE

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11.1. INTRODUCTION

The history of shadow banking is one of shifts in the type of institution involved, and rate growth, but there are two common elements across the decades. Shadow banking has caused or been at the heart of various financial crises in different periods and one important factor behind its growth has been the style and extent of bank regulation. In the 1970s and 1980s the growth in shadow banking (then called secondary banking or non-bank banking) tended to be related to property lending and, even though it was not complex, the crises were sufficiently severe to require central bank/government intervention. The 1990s steadily saw more and more complex structures being used in shadow banking peaking in 2007/8 and being central to the financial crisis. The Financial Stability Board (FSB) estimates that the size of the global shadow banking system grew from USD 26 trillion in 2002 to USD 62 trillion in 2007 (FSB (2012a)). One question is what lies ahead. The Basel III capital and liquidity buffers and wider uncertainty regarding future regulatory change have led to deleveraging and this in turn is leading shadow banking again to grow. The FSB (2012a) indicates that after falling slightly in 2008 shadow banking assets have now grown above 2007 levels² but the market is focused more on traditional banking products than was the case pre-crisis. There has also been a proliferation of different types of lending channel. This chapter looks at the growth of shadow banking and the causes over the past four decades and looks forward at the way the industry could develop and the risks this could pose³.

11.1.1. Definition of Shadow Banking

The FSB (2012b) defined the shadow banking system as ‘credit intermediation involving entities and activities (fully or partially) outside the regular banking system’ but shadow banking is almost certainly broader than this. The Institute of International Finance (IIF) (2012a) sees shadow banking in relation to the

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¹ I thank my Ernst and Young colleagues for comments, in particular Mark London, Gareth Mee and David King, but the opinions are mine and may not reflect those of Ernst & Young.

² This was calculated by aggregating flow of funds data for the major markets covering ‘other financial intermediaries’.

³ Chapter 9 of this volume covers the evolution of bank business models.
three core activities of banks – taking highly liquid deposits, extending credit and providing a payments system. They also point out that in modern financial systems the core activities of banks are often ‘disaggregated, supplanted or supplemented and/or complemented by activities provided by the non-bank financial system.’ As the IIF paper says ‘non-bank financial intermediation activities have existed in some form or other since the origins of modern finance’; this is driven by a range of different factors. One aspect undoubtedly has been regulation of banks or light or non-existent regulation of shadow banks which has encouraged the development of non-banking financial activities. Jackson et al. (1999) sets out the effect of Basel I capital requirements for banks on the development of the securitisation market. Other rule-based constraints also provided the impetus. In the US the development of money market mutuals was driven by the need for methods of cash management which protected the placer of the funds from the default of the counterparty. This is because deposits in banks were only insured up to a limit and deposits over the limit could be placed in money market mutuals and secured by high quality liquid assets. Other non-regulatory factors have also been important. Pozsar et al. (2010) suggest that in cases such as non-bank finance companies, specialisation and greater efficiency are important aspects behind their growth. The role of banks in the development of aspects of the shadow banking system should not be underestimated – the banks were intrinsically intertwined in the securitisation market.

11.2. Shadow Banking before the 2007-2008 Crisis

11.2.1. Non-bank Banks

In the 1970s and 1980s institutions carrying out banking-type activities, but which were more lightly regulated than banks or in some cases unregulated, were at the centre of crises in different countries. In the UK fringe banks developed from the 1960s. Credit controls applied at the time could only be imposed on recognised banks and on the principal instalment credit finance houses (Bank of England (1974)). Uncontrolled deposit takers became established and ‘flourished as a fringe’. When the controls were lifted in 1971 the fringe companies continued lending, taking advantage of a property boom and consumer credit expansion. The established banks supported this by providing standby and other facilities. By summer 1973 public deposits had reached GBP 800 million with the fringe banks, which were outside any banking supervision. They were not banks and the Bank of England lacked effective power over them. In the latter half of 1973 there was sudden loss of confidence in the sector and a crisis ensued. This led to a broadening in the scope of banking supervision.
A similar pattern was seen with Savings and Loans (S&Ls) institutions in the US. S&Ls were more lightly regulated than banks although they faced restrictions on activity. Between 1966 and 1979 interest rates fluctuated sharply and the S&Ls, with fixed-rate mortgages and unhedged interest rate risk, sustained income effects as funding costs rose. Business diversification as a result of deregulation took them into high risk areas such as junk bonds leading to widespread failures.

Another financial crisis where non-banks played a significant role was Japan in the early 1990s. There had been rapid expansion of their role in financial intermediation particularly focussed on real estate exposures. Financial liberalisation in the 1980s had enabled expansion of housing finance and lifting of restrictions on non-banks enabled them to supply a rising proportion of property related funding. With non-bank banks themselves funded by banks, this was in part a way of bypassing credit ceilings on bank real estate loans put in place by the authorities. The collapse of real estate prices in the 1990s led to widespread problems (Kawai (2003)).

### 11.2.2. Money Market Funds

In the USA, a different type of shadow bank grew up in the form of money market funds (a type of mutual fund) established in response to various regulatory limits on banks. The first money market fund was established in 1971 to avoid regulation which limited bank deposit rates. Money market funds effectively acted as interest bearing current deposit accounts, taking customer funds and investing them in highly liquid assets. At first there was very limited regulation.

The role of money market funds evolved over time as Schapiro (2012) sets out – “facilitating efficient cash management for both retail and institutional investors who used them for everything from making mortgage payments... to the short term investment of cash received through business operations”. In effect they provided an important way of getting security on deposits above the deposit protection ceiling. The amount of assets in money market funds grew from under USD 100 million in 1990 to almost USD 4 trillion just before the 2008 financial crisis, (Schapiro (2012)).

The growth was fuelled by the attraction of what were perceived as riskless demand accounts (including cheque books) paying yields above risk free rates. By 2008 two thirds of funds came from institutions. To offer higher yields money market funds increasingly invested in structured products. A key part of the perception of safety was that they would not break the buck. Funds were re-valued daily and investors were given USD 1 shares to reflect the value of the fund. The expectation was that investors would always receive the dollar value. There was implicit sponsor support to prevent breaking the buck.
After decades of being a safe investment, the money market funds fell into difficulty in the 2008 crisis. After Lehman’s failure, one money market fund (Reserve Primary Fund) broke the buck paying 99 cents on the dollar after a delay, triggering a run on other money market funds. Prior to this only one fund had broken the buck – in 1994 paying 96 cents in the dollar (Gibson (2012)).

Schapiro (2012) sets out the background to the problems in the Reserve Primary Fund which made losses the sponsor could not absorb. The USD 62 billion fund held USD 785 million of Lehman’s debt and, when Lehman failed, experienced a run with USD 40 billion of withdrawals in two days. This run then spread to other money market funds which started to hoard cash. With money market funds accounting for 40% of investment in US commercial paper this led to the seizing up of that market creating huge spill-over effects. Money market funds had withdrawn USD 200 billion from the commercial paper market in two weeks.

Over 100 funds were supported by sponsors but the run continued and was only stopped when the government guaranteed the USD 1 share price on USD 3 trillion of money market funds and the Fed created facilities to support the short-term markets, (Schapiro (2012)). Increased regulation of funds was introduced in 2010 to reduce maturity of assets and increase asset quality. Further regulation is under consideration.

11.2.3. Finance Companies

A variety of different types of finance company grew up over the 1980s and 1990s. Poschmann (2012) provides an overview and highlights consumer finance firms, commercial finance companies, leasing companies and factors on the one hand, where these are standalone organisations, and on the other captive finance providers which are part of non-financial companies. Much of the captive finance has been auto or equipment lease financing related (Carey et al. (1996)). These finance companies provided loans to consumers and companies and funded themselves to a large degree from the wholesale money markets, rather than taking deposits from the public. The latter would have required a banking license in most countries. Poschmann (2012) shows US finance companies taking 60% of funding from short and medium term debt instruments. For captives, often the funding would be raised at a group level from the commercial paper market or bond market and down streamed to the captive lender, which took advantage of the better rating for the main company.

One question is what the relative comparative advantage is between banks and finance companies. Clearly the captives have access to an existing customer base (almost a vertical integration of services) but the other finance companies –
consumer credit, SME, leasing etc – compete with the banks. Carey et al. (1996) carried out a study using a large micro data set with information on individual loans to assess the differences in lending. They find that at that time finance companies in the US specialised in higher risk borrowers compared with banks – this encompassed firms with higher leverage and more risky cash flow. They also saw more focus from finance company lending on restructuring purposes such as acquisitions, leveraged buyouts and debt consolidation. They find that finance companies were more unlikely to lend without collateral than banks. Carey et al. postulate that reluctance by banks to extend credit to lower risk borrowers may be to limit reputational damage from recoveries processes. In the UK, lending to higher risk consumers is also dominated by non-bank finance. In part this is because of different monitoring regimes in place to try to ensure repayment – for example, for pay-day lenders, agents drawn from the same community. These firms also charge much higher interest rates which the banks might see as reputationally damaging.

Another element is that finance companies built up particular specialisms, probably to enable better management of risks, but also to create more focus in developing a market share. Some exploited perceived gaps in the types of funding provided for SMEs for example. Mishkin and Eakins (2008) argue that finance companies had greater freedom to offer specialised services because they were outside the regulatory net. Certainly they did not have to meet capital requirements set by the banking regulators.

In Europe a significant part of SME finance is provided by leasing or factoring companies rather than by banks. In factoring the bank lends against the collateral (at a discounted value) of the invoices the firm has outstanding and in leasing the bank has the asset as security. This focus on security contrasts with the Carey et al. (1996) finding for the US that finance companies were less likely to require security than banks. Ayadi (2009) finds that in a number of European countries fast growing SMEs used leasing as an important finance mechanism. Kraemer-Eis and Lang (2012), in an EIB working paper, survey the use of leasing by SMEs. They see leasing as a way to overcome information asymmetries and also to help higher risk firms to gain access to funding. Clearly the taking of security is important in this. They cite a study (Oxford Economics (2011)) which shows that for relatively new companies leasing and factoring become sources of finance earlier in the life of the company than bank loans.

However, the funding pressures during the crisis sharply impacted all lenders not just banks. In fact non-bank lenders were more heavily impacted because they could not access insured deposits. This has led to some non-bank finance companies seeking banking licenses.
11.2.4. Repos

One aspect of the market which involves the banking system but also provides a way to by-pass it is repo. A reverse repurchase agreement between two parties, where securities are sold in exchange for cash with a commitment to reverse the transaction at a future date, creates a secured loan. An investor can lend funds fully secured by the securities to which it is given title until the transaction unwinds. This had long been a way for securities firms, which lie outside the deposit insurance mechanism in the US, to achieve funding. The liquid assets in the trading books could be used as collateral for the borrowing. Banks also use it to raise funds and are themselves an intrinsic part of the market.

Collateral received as part of a repo transaction can in turn be used in a new transaction – re-hypothecation. Research published by the BIS shows a doubling in the size of the repo market from 2002 to reach USD 20 trillion across the US and Europe by 2007 (Hordahl and King (2008)).

The FSB (2012c) sets out an analysis of the market and lists typical repo investors amongst others as:
- Money market mutual funds;
- Commercial banks;
- Pension funds, investment funds and insurance companies;
- Official reserves managers.

Stock lending is another facet of the market where the driver is not the need for funding but the need to access particular securities to settle trades or alternatively the need for collateral. Securities are borrowed from long-term holders (insurance companies, pension funds, investment funds) against cash collateral. The FSB (2012c) cites a market source as estimating that USD 1.8 trillion of stock was on loan as of April 2012. Institutional investors are attracted to the market because they can increase returns by lending out securities in exchange for fees.

One aspect of the market is the use of prime brokerage accounts. Hedge funds which short sell need to be able to borrow stock to settle trades, but not all hedge funds can borrow cash or securities direct from institutional investors. Providers of prime brokerage accounts (broker dealers and banks) provide funding and borrow securities for the hedge funds. The hedge funds use the proceeds gained from short selling of securities to collateralize the borrowing of the securities needed to settle the trade.

The FSB has identified shadow banking issues related to repo, in particular leverage enabled by repo financing and facilitation of maturity and liquidity transformation. With regard to leverage, repo in effect reduces the connection between credit worthiness / leverage and access to funding. The lender is protected by the securities transferred and the extra margin taken to cover loss of value in a
forced sale if the borrower defaulted. The effect is that securities firms/hedge funds can, by using their inventory for repo transactions, raise large volumes of funding. Although repo enables greater leverage it also mitigates the effect of a default because borrowers are collateralized. But there can clearly be ripple effects through the market during stresses. One reason for this, highlighted by Gorton and Metrick (2010), is the effect of increases in margin requirements in stress periods. As uncertainty increases either about credit quality of counterparties or the value of the assets being repoed counterparties will increase haircuts, reducing scope for funding. In terms of maturity transformation, very short-term repo contracts could be used to fund longer term and potentially illiquid positions.

### 11.2.5. Securitization

#### 11.2.5.1. Impact of Basel I

The adoption of the Basel I global minimum capital standard helped to drive shadow banking in a different direction – use of vehicles sponsored by banks. The very broad risk categories in Basel I (which barely differentiated between the riskiness of different private sector exposures, except for residential mortgages) provided clear incentives for regulatory arbitrage. One aspect of this was that it encouraged the use of securitization to alter the risk profile of banks’ portfolios relative to the capital being carried. A bank could move the better quality risk exposures off the book, increasing the riskiness of the remaining exposures relative to capital, while leaving its capital adequacy (under the Basel I calculation) apparently unchanged. This was most marked in the US. Basel I was adopted in 1988, and, after the first decade, the Basel Committee conducted a major study of the effects of the adoption of the minimum banking capital requirements (Jackson et al. (1999)). It concludes that capital arbitrage was being used to exploit the large divergence between the economic risks in bank portfolios and the Basel I measure of capital, with low risk portfolios relatively penalized and high risk treated too lightly. It identifies different forms of regulatory arbitrage:

- Cherry picking – simply focusing on origination of lower quality assets;
- Securitization with partial recourse – the sale of assets to a special purpose vehicle (SPV) which financed the purchase of the assets through the issue of asset backed securities (ABS);
- Remote origination – the SPV generating the assets rather than the bank originating.

The core aspect of the use of SPVs in securitization was that the vehicles were treated as legally separate from the sponsoring bank and therefore not consolidated into the bank’s financial statements and regulatory reports. Banks could generally treat the sale of the assets to the vehicle as a true sale (removing the risk
from the bank’s balance sheet). To increase the quality and credit rating of the ABS, the bank did provide credit enhancements (recourse) and these carried capital requirements but even so the bank could improve its risk asset ratio (the Basel measure of capital adequacy) through the process if the assets originated and moved into the vehicles were sufficiently high quality. Recourse took a variety of forms. One way in which the bank could still bear part of the risk was through the provision of standby letters of credit or the holding of subordinated interests in the SPV. To enable the ABS to achieve a high rating, the sponsoring bank would usually hold a first loss piece which would absorb losses up to a multiple of the expected loss on the loans in the pool supporting the structure, before the higher tranches (the ABS) were impacted. The recourse was covered by a 100% capital requirement (i.e. dollar for dollar) but even so the bank’s capital ratio rose.

To go through the example used in the Basel Committee paper (Jackson et al. (1999)), if a bank securitized USD 42 billion of non-mortgage assets and the SPV issued USD 40 billion of ABS, and the bank retained USD 2 billion of risk in the form of a loan to the SPV, the bank’s capital required would change as follows:

- Pre securitization, regardless of the quality of the assets, the Basel I capital requirement was 8% of the amount i.e. GBP 3.36 billion;
- Post securitization of the USD 42 billion of assets, if USD 2 billion in credit enhancement was retained the requirement was only USD 2 billion.

The bank was always better off as long as the loans were of such quality that the recourse needed to cover the core risk in the vehicle (and therefore boost the rating of the ABS) was lower than the risk assumed under Basel I, which was 8% of the amount outstanding. It was a clear arbitrage of the overweighting of the better quality risks in the Basel framework. The bank had an incentive to securitize its best quality loans because, for these, the enhancement needed would be far less than the Basel 8%. However, the increase in average risk in its own portfolio would not change the Basel requirement on the remaining portfolio. This meant that the bank would appear to be better capitalized.

For high quality residential mortgage assets, the gap between the perceived risk (and therefore the enhancement required) and the Basel requirement (4% because the assets were 50% weighted when calculating the 8% risk asset ratio) could be very large. Figure 11.1 illustrates a typical securitisation structure.

Even more pernicious from a financial stability viewpoint was the encouragement that Basel I gave to banks not to originate the loans that went into the vehicles, particularly if these were lower quality. This was perverse because it meant that these lower quality loans did not go through the banks’ lending standards and other checks. If the SPV itself originated the loans, the credit enhancement provided by the bank was treated as an exposure to the SPV and carried an 8% requirement against the enhancement rather than the 100% if it had itself origi-
nated the loans. This paved the way for the origination of mortgages by mortgage brokers to feed the US residential mortgage backed securities (RMBS) growth in the run up to the crisis. In Europe, in contrast, loans for the most part continued to be originated by the banks themselves before being placed in the vehicles. Figure 11.2 shows the end-to-end originate to distribute model prior to the crisis and the extent to which different parties were unregulated.

A further aspect of Basel I provided yet more scope for regulatory arbitrage using securitization. In 1997, the market risk amendment (Basel Committee on Banking Supervision (1996)) for trading books had introduced requirements which could be much lower than the banking book requirements because they recognized the short periods that were needed to sell or hedge trading book assets. The assump-
tion was that in normal times this would be possible overnight and in more difficult times within 10 days. In contrast the banking book requirements were based on a one year assumed holding period. The credit enhancements for securitizations could be held in the trading books which reduced the capital requirement still further relative to the banking book treatment. There was no liquidity test to ensure that only liquid assets could be treated within the trading book requirements. This too paved the way for many of the problems seen in the crisis with large holdings of illiquid securitization exposures, as well as correlated exposures such as loans being warehoused waiting to be placed in vehicles, being held in the trading books with low requirements.

The Basel Committee study (Jackson et al. (1999)) on the effects of Basel I looked at data on the volume of securitization in the US and by March 1998 outstanding non-mortgage ABS amounted to over USD 200 billion; more than 25% of the loan books of the 10 largest US bank holding companies.

11.2.5.2. Growth of Securitization

The abundant credit in the run up to the crisis combined with official encouragement of mortgage lending to weaker borrowers (see SIFMA (2008)) fuelled the expansion of securitization and also a radical change in the structure of the market. Not only did the proportion of securitization underpinned by sub-prime mortgages increase dramatically in 2006 and 2007 but lending also suffered deteriorating standards and due diligence. Figure 11.3 shows the expansion in the market in the run up to the crisis and also the increasing proportion of loans underpinned by sub-prime RMBS.

Figure 11.3: Quarterly Global issuance of ABS

![Quarterly Global issuance of ABS](image)

Source: Bank of England/Dealogic
By 2007 annual new issuance of mortgage-related securities in the US was USD 2.04 trillion of which agency pass-throughs totaled USD 1.15 trillion. Non-agency RMBS, where loans did not meet agency standards, were USD 441 billion (SIFMA (2008)). Sub-prime mortgage originations had almost tripled between 2000 and 2006 to 20% of total mortgage originations (Dell’Arricia et al. (2008)). Mortgages being placed in the vehicles were to a substantial degree being originated by mortgage brokers not by banks, which were sponsoring the vehicles, and there was deterioration in lending standards applied. Dell’Arricia et al. (2008) show that over the run up to the crisis there was a substantial decrease in denial rates on sub-prime loans and an increase in loan to income ratios. Fitch (Pendley et al. (2007)) reviewed a small sample of the 2006 loans underpinning securities which defaulted and found many instances of poor lending decisions and misrepresentation by borrowers. They claim there is evidence of fraud or misrepresentation in almost every file.

The increase in the proportion of sub prime loans in the pools was clear to investors and to enable the securities at the top of the waterfall to continue to be AAA rated, structures became ever more complex, with more and more tranches below the AAA tranche to absorb losses. With more complexity came greater opacity not helped by prospectuses growing to 500 or even in some cases 1,000 pages long.

The basic structures also proliferated. Whereas the original structures were SPVs with pools of loans financed by the issue of securities, other types of vehicle developed which were again more opaque. Structures with collateralised debt obligations (CDO structures) used securities issued by other securitization structures in the pool (rather than loans) with the vehicle financed by the issue of new securities. Figure 11.4 shows the relationship between RMBs, CDOs and CDO squared structures – with the lower tranches of RMBs forming the pools for CDOs and the lower tranches of CDOs forming the pools for CDO squared. Each vehicle had its own tranching structure to absorb risk below the AAA layer. The payout structures also varied, even in some cases creating non ordinal structures where some lower rated tranches would be paid out before some AAA tranches in an early amortization. Increasingly insurance from monolines was used to enhance the rating of the top layer of securities.

Structured investment vehicles (SIVs) were set up, also holding CDOs, but funded by three month commercial paper. These too transmogrified over time to become more risky with the bank liquidity lines, which had been in place to provide funding if the US commercial paper market dried up, being removed to boost yield in some structures. When the three month commercial paper market did indeed dry up during the crisis, this left the sponsoring banks with the unfortunate option of either providing very large amounts of liquidity or suffering the potential reputation damage of letting the structure fail. Figure 11.5 sets out the SIV structure.

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As the demand grew for CDOs, the point was reached where there were not enough securities from securitization structures to generate the volume needed for the different structures. Synthetic CDOs were created to meet the demand with credit default swaps being used to create similar cash flows to the mortgage backed securities which otherwise would have underpinned the CDO structure.

One of the factors behind the demand for the securities from securitization structures was the shortage of AAA securities in the 2000s. With shrinking public sector debt there had been a downward distortion of yields on government bonds given that a variety of financial institutions and investors needed highly rated paper. This had led to a search for highly rated securities offering a higher yield. This was satisfied by the ever growing volume of securities from securitization structures.
Banks and securities firms were completely intertwined in the market and developed large concentrations in exposures to the US mortgage market through a variety of channels. Banks and securities firms sponsored the securitization vehicles and set up the SIVs, they provided the enhancements which enabled the AAA rating on the top tranches and held large quantities of securities issued by third party securitization vehicles as investments. Held in the trading books these securities did not attract much in the way of capital requirements (largely flowing into the VaR calculations as if they were standard corporate bonds with the particular rating). The bank investments were driven by the same incentives as for other investors – a need for high quality paper and higher yield. Treasury operations of banks, for example, had large blocks of mortgage backed securities in the liquidity pools to meet earnings targets. Banks were also warehousing loans to go into future securitisations in conduits adding to the concentrations. It was this nexus of exposures which fuelled the solvency problems at the heart of the crisis once the value of the securities started to be marked down. This in turn triggered liquidity pressures as solvency came into question.

Pozsar (2008) argues that “the accumulation of massive amounts of senior and super-senior CDO tranches in SIVs and the buildup of enormous securitization pipelines through conduits formed a network of highly levered off-balance-sheet vehicles that constituted a shadow banking system”. He is here focused on the leverage that was created by the structures (SIVs 15 times levered and conduits 100% debt financed) and the maturity transformation – with SIVs and conduits financing longer term exposures with short term funding.

In fact the shadow banking implications went far beyond this. In effect what had happened in the US (and to a limited degree in Europe) was the outsourcing of mortgage loan generation to shadow banks. In the US it was to a large extent mortgage brokers which originated the loans and dealt with the borrowers. An enormous market had developed underpinned by loans that had not gone through bank lending standards and processes. The weak and eroding standards applied meant that the whole edifice of RMBS, CDOs, CDO squared, SIVs and so on was built on shaky foundations. In this it had parallels with early non-bank bank crises which had their genesis in poor lending standards or poor risk management in the non banks. The leverage that was built on these foundations just exacerbated the fall when it occurred.

Protections had been built into the market. Gorton and Metrick (2010) point to the protections against adverse selection where a bank originates the loans and places a portion of the loans originated in the SPV, in particular detailed eligibility criteria and the retaining of the equity or first loss positions – so that the bank would suffer if the loans experienced large losses. The problem with the RMBS market in the US was not as much an adverse selection as a principal agent issue.
For the most part in the US the loans were not being originated by the banks but by mortgage brokers. Protections had been built into the system to deal with the risks this created, in particular sampling of borrower documentation by sponsoring banks, but the failures in documentation highlighted by Pendley et al. (2007), show this was not effective. There is anecdotal evidence of a reduction in sampling as volumes grew and pressures to cut costs increased. Loans were going into the pools with no verification and documentation of borrower income and employment. Standard & Poor’s (2009) has found for the 2006/7 vintages ‘loans with little or no verification of income, assets or employment were among the worst performing’.

11.3. DEVELOPMENTS SINCE THE 2007-2008 CRISIS

11.3.1. Switch from Securitization to Covered Bonds

The securitization market on both sides of the Atlantic has been tarnished by the crisis. Investors experienced a mix of adverse consequences from higher default rates to extreme illiquidity of the bonds held leading to substantial marking down of positions. Paradoxically the US securitization market has remained largely open while the European market which was much smaller has been more affected. This was despite much lower default rates on European securitizations than US. Blommestein et al. (2011) quote Standard and Poor’s default rates for all European structured finance issues of 0.95% between mid-2007 and end 2010 compared with 7.7% for all US structured finance issues.

European securitization activity has been severely constrained post crisis. Blommestein et al. (2011) show placed issuance as increasing from EUR 25 billion in 2009 to EUR 88 billion in 2010 but this is still way down on the EUR 460 billion in 2006. In 2012 placed securitization fell to EUR 72 billion, (AFME (2012)). In addition, Blommestein et al. show that most European securitization has been used to raise funds from the ECB rather than being sold to the wider market. They also highlight that the US RMBS market has benefited from the continuing activity of the federal mortgage agencies which are currently funding more than 90% of US mortgages; non agency issuance was only USD 129 billion in 2010 down from over USD 2 trillion in 2006.

To fill some of the funding gap from securitization, European banks have increased issuance of covered bonds and this is increasing in the US as well. Covered bonds are relatively new in the US but are an established instrument in Europe, encouraged by favorable legislation in many countries which confers bankruptcy protection. Unlike securitizations, in a bankruptcy the bond holders have recourse to both the bank and the covered bond pool. Table 11.1 compares
covered bonds and securitizations. Covered bonds are also much more transparent and have been more palatable to the market given concerns about securitization structures. There are two ways of structuring covered bonds. In one approach the bank originates the loans and ring fences the loans on its balance sheet to back the securities it issues. In a bankruptcy the bond holders would have first claim on the proceeds from sale of the ring fenced loans as well as having a claim on the rest of the assets of the bank. Alternatively the bank can set up an SPV which holds the loans and issues the bonds. But the economics of the transaction is very similar. The bond holders in this structure also have recourse to the issuing bank as well as first claim on the pool. There is a covered bond trustee which supervises the management of the covered bond pool. Covered bonds are more like secured funding than shadow banking. Banks originate the assets and the bond holders have recourse to the bank and the pool. The assets are high quality and bonds are not tranched. They are therefore more transparent than the securitization structures where tranching was used to enhance the quality of the upper tranches, given sometimes low quality loans in the pools. The US authorities are currently encouraging the development of the US covered bond market to supplement the securitization market. The FDIC has clarified the position in a bank failure, setting out the circumstances where expedited access to pledged collateral can be obtained removing one of the main uncertainties for the US market (FDIC (2008)). One issue with covered bonds is that by ring fencing assets they increase encumbrance, reducing the free assets which can support a payout to creditors in a bankruptcy. Another disadvantage compared with securitization paper is that they are a claim on the bank and therefore go into a single name limit reducing the amount that any one counterparty can hold.

The future growth of securitization is uncertain. Simpler, more transparent and guaranteed higher quality structures would be needed to encourage institutional investors back into the market. It is possible the authorities could provide incentives for the market to go further in this direction through use of regulatory levers (see Jackson 2011). One recommendation in the paper was to use access to the

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<th>Covered bonds</th>
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<td>On bankruptcy</td>
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<td>Tranching</td>
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banks’ liquid assets buffers to encourage greater simplicity and quality. The Basel Committee has now announced that securitizations may be included in the liquidity pools but has not set any requirements regarding greater simplicity, (BCBS (2013)).

11.3.2. Growth of New Shadow Lending

The pressures on the banks and the general de-leveraging by the banking industry is leading to the development of non-banking activities that are much more like traditional bank lending than was the case with the explosion of various types of structured product in the run-up to the crisis. In a very low interest environment non-banks are searching for yield and a move into banking style assets provides scope. Shadow banking mechanisms are growing up or expanding to provide finance to SMEs, mid-market corporates and projects. The following sections examine these developments. For SME and mid-market corporate lending to be successful mechanisms need to deal with the information asymmetry between the lenders and borrower. Banks lend using a mix of hard and soft information on borrowers. Berger and Udell (2004) set out how soft information is gained through contact over time with the SME with an important role for loan officers. The new shadow banking mechanisms, to be successful, must have mechanisms to assess risks sufficiently well to ensure margin covers the likely defaults going forward. The success of these mechanisms will be an important part of the sustainability and growth of the shadow banking sector.

11.3.3. Factors Driving Growth

11.3.3.1. Regulatory Change

Bank regulation played an important role in the development of shadow banking up to the crisis, although it was by no means the only factor. Search for highly rated securities offering significantly higher yields than government bonds as well as the demand for lower cost methods of funding loans were also important factors in the development of securitization. A very large part of the response to the crisis has been further tightening of bank regulation and this will in turn drive more business into shadow banking sectors.

Following the financial crisis it was recognized by regulators and the industry that bank equity levels were too low and needed to be adjusted. The Basel Committee has made a series of changes to bank capital requirements. Minimum common equity levels are to be increased from 2% to 4.5% and over and above this level banks have to hold a capital conservation buffer of 2.5% which can be utilized but only with penalties, (BCBS (2010)). In addition, globally systemically impor-
tant banks will have to hold a further buffer of between 1% and 2.5%. These requirements will be supplemented by a non-risk based leverage ratio. Banks are targeting core Tier 1 ratios of between 10% and 13% or so to give a buffer over the minimum requirements. The requirements are being phased in – see Figure 11.6 – but official action and market pressure have led banks to move much more quickly than required.

A new liquid assets buffer (the LCR) is adding to bank costs because of the low yielding assets in which it has to be invested – although the size of the buffer has been reduced by changes made to the requirements by the Basel Committee, (BCBS (2013)).

| Figure 11.6: Basel capital buffers, leverage and liquidity requirements<sup>4</sup> |
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| Phase-in arrangements (shading indicates transition periods). |

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11.3.3.2. Regulatory Uncertainty

Banks are finding new capital raising to meet the requirements extremely difficult. One part of this is probably the unusual amount of ‘noise’ and uncertainty regarding the future path of bank regulation. Different authorities are expressing a range of views about the possible end point for bank capital (some proposing as much as 20%), bank structure with ring fencing (Volcker, Vickers and Liikanen) as well as possible structural changes under recovery and resolution planning. The Basel Committee too is continuing to look at different aspects of the capital requirements – for example the trading book requirements and operational risk as well as RWAs under Basel III. This all means there has not been a clean step change to a new regulatory regime.

<sup>4</sup> The Phase-in arrangements are those in the European implementation through CRD IV, (European Commission (2013)).
This regulatory uncertainty is at a time when the banking sectors have not yet recovered from the crisis and indeed pressures on Eurozone banks have intensified. It cuts across the received wisdom in terms of public policy which is that increasing the ratio of signal to noise is a critical factor in success – for example in monetary policy (Amato et al. (2003)).

The Association of British Insurers in evidence to the Parliamentary Commission on Banking Standards (2012) stated that “regulatory uncertainty and inconsistency are a significant investor concern. Lack of clarity regarding capital levels, and the apparent conflict between resilience and recovery, are muddying the investment case for UK banks”. This view is also supported by surveys of investors carried out by the Institute of International Finance (2012b). 75% of investors surveyed believed that regulatory uncertainty was contributing to the current low price to book ratios.

Banking business models have to be changed to reflect the impact of the new regulatory regime on profitability of different business lines and the regulatory uncertainty is making those decisions difficult. It also makes it difficult for the institutional investors to assess future profitability. Institutional investors react to uncertainty by discounting future projected earnings much more heavily which will drive price to book ratios lower.

The literature on the effects of increases in equity requirements for banks which focuses on Modigliani Miller (1958), see Admati et al. (2011) does not consider the effect of uncertainty when the end point is unclear nor the adjustment time and costs.

11.3.3.3. Bank De-leveraging

The net effect of the adjustment that the banking system is going through and the difficulties in raising capital is deleveraging which is providing opportunities for shadow banks.

The global banking system had to deleverage following the crisis and the need to build higher capital buffers quickly has intensified the effect. One aspect of this is a retreat by banks back to their core home country activity. The 82nd BIS Annual Report (2012) shows the degree of international portfolio cutting by Belgian, Dutch, French, German and Italian banks. This has amounted to more than USD 6 trillion (43% of their international portfolios) between early 2008 and end 2011. This has however been partly offset by some expansion by some country groupings.

The IMF (2012) carried out an exercise to assess the potential scale of asset reduction at EU banks and the impact on lending to the private sector to achieve particular structural targets, in particular a core tier 1 target of 9% introduced by the...
EBA. They found that in Q4 2011 alone total assets of the largest EU banks fell by USD 580 billion. A greater issue was the estimated further cut in assets by a sample of 58 large European banks of USD 2.2 trillion to USD 3.8 trillion by end 2013. In an update in October 2012, they saw a divergence between the cutbacks the banks were making in their exposures at the periphery and bank credit at the core which was continuing to rise. However, World Bank figures for domestic credit (provided by the banking sector) as a percentage of GDP show a relatively flat or declining picture in many countries – see Figure 11.7.

Figure 11.7: Domestic credit provided by banking sector (% of GDP)

One question has been the extent to which this is due to low demand rather than low supply. There is some evidence that restricted supply is playing a part. The Bank of England’s Agents’ Summary of Business Conditions (August, 2012) states that “some businesses were refraining from applying for loans due to a perception that they would be unavailable”. The ECB started a survey in the aftermath of the crisis to assess access to funding for SMEs in the Euro area. The first survey in 2009 (ECB (2010)) found that although the majority of loan applications were successful, access to finance had deteriorated post crisis. 43% of those SMEs that
had made bank loan applications in the first half of 2009 had seen reduced availability of funds, a larger proportion than was the case for large firms, and micro businesses and younger businesses were particularly hit. What were seen as high charges deterred some micro firms. This has opened up a gap in the market which new lending channels are expanding to fill.

New approaches to investment in credit exposures are also being driven by banks’ need to focus on originate to distribute using mechanisms other than securitization. Anecdotal market comment indicates that in response to the need to deleverage, banks are reducing the extent to which business units can use the balance sheet to support lending, which is pushing the market towards a new type of originate to distribute lending. Loans are made or finance is provided and then packaged to go to other banks or end investors. Some banks are using insurance to enhance the credit quality of the exposures before they are sold on into the market. This is rather like traditional loan syndication by going into the hands of a wider variety of investors.

Overall a variety of channels are growing up to enable end investor funds to be invested in loans or other credit exposures without using securitization vehicles. This includes structures for institutional investors and private investors.

### 11.3.4. New Mechanisms

#### 11.3.4.1. Institutional Investors

Institutional investors (insurance companies and pension funds) are moving into a variety of lending-style activities such as commercial mortgages, project finance and infrastructure as well as direct lending. Life insurance companies, for example, which have many long-dated liabilities and need matching assets, are affected (as are pension funds) on both the liability and asset sides of the balance sheet by the current low interest rate environment and are searching for sources of higher yielding assets. The downward pressure on yields on their traditional assets has been exacerbated by the high demand for liquid assets, particularly government bonds, by the banks which are building up their liquid assets buffers. At the same time, the banks’ retreat from capital intensive lending areas, such as project finance, given the new regulatory environment, has opened up opportunities. Because life insurers have many relatively stable long dated liabilities they are willing to match them with illiquid assets. In the UK this has resulted in some so-called liquidity swaps where insurers have swapped lower yielding government bonds for illiquid bank assets as well as finding other routes to invest in lending type assets. The focus of insurers tends to be on credit exposures which have some kind of security. In the UK they are also trying to focus on assets which have a perceived lower estimated credit risk such as infrastructure with a govern-
ment sponsor or social housing, although elsewhere some insurance companies are also going into lending more broadly, for example SME loans. By investing in direct credit exposures insurance companies can increase yields to 200-300 basis points over LIBOR.

There are a variety of mechanisms for placing funds into lending products. In the UK, insurers and pension funds are filling the gap from the retreat of banks from private finance initiative (PFI) type public sector projects. Institutional investors are directly replacing the loans which were being provided by banks to the SPV. The structure of the investment is set out in Figure 11.8.

Figure 11.8: Infrastructure lending

Insurers and pension funds provide the loans and PE companies or hedge funds provide the equity – in a ratio of equity to loans of 10/90. The same structure is used to finance privately owned infrastructure projects where a private company has the contract with the SPV – for example renewable energy. There are also other mechanisms (see Figure 11.9) for secured lending, for example student accommodation. The institutional investor could provide a loan direct to a university secured by the student accommodation. The advantage here is that the University is in effect acting as an intermediary aggregating a large pool of residential assets. Further mechanisms are used to invest in commercial mortgages. Some insurers have in-house lenders which provide the loans, giving the following structure:
Investment fund vehicles are being used to channel institutional funds into a wider variety of lending (see Figure 11.10), including SME lending. One issue for non-bank lenders is that banks lending to SMEs can benefit from a wide variety of fees covering services such as factoring and invoicing. This substantially increases the return. Non-bank lenders do not usually offer the same range of services. But on the other hand banks may be slower to approve lending – with probably a minimum three week turnaround.

The exposures in the funds could be standard loans or profit streams from projects. Where banks are providing the loans from their existing portfolios (as part of deleveraging and exiting areas of activity which demand very high bank charges) credit insurance is sometimes used to enhance the quality of the assets. In some structures the PE house has its own in house non bank finance company which generates the loans. The loans are then placed in funds in which the institutional investors invest.
A further variant (see Figure 11.11) is where the PE house owns a fund which finances different non-bank lenders. The institutional investor is investing in the vehicle which acts as intermediary.

**Figure 11.11: PE house lending to non-banks**

Another structure which is being used is uni-tranching (see Figure 11.12). The fund manager takes a pool of loans into the fund as the assets and then tranches the credit risk and allocates it to different funds being managed. Investors invest in a fund with a particular credit risk profile, rather than investing in different securities as would be the case in a securitization structure.

**Figure 11.12: Uni-tranching structure**

A further structure is where the institutional investor buys loans direct from the bank but the bank acts as an agent continuing to service and manage the loans.
One factor behind the growth in these channels appears to be the relative magnitude of capital required if banks versus insurance companies hold the loans. Pension funds have limited or minimal capital requirements. Table 11.2 compares the indicative requirements which have been estimated for an insurance company using models under Solvency II against a bank using advanced IRB models under Basel II. For secured loans of different types the capital requirements are substantially lower for the insurance company than for the bank.

Table 11.2: Indicative Requirements – Solvency II vs Advanced IRB Models under Basel II

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<th>Asset</th>
<th>Solvency II (internal model)</th>
<th>Banks (advanced IRB)</th>
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<tr>
<td>Commercial property mortgage</td>
<td>6.0%</td>
<td>9.5%</td>
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<tr>
<td>Social housing</td>
<td>0-1.4%</td>
<td>1.1%</td>
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<tr>
<td>Corporate loans 1 year, 90% secured, unrated</td>
<td>3.5%</td>
<td>6.1%</td>
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<tr>
<td>Corporate loans 10 years, 90% secured, unrated</td>
<td>3.5%</td>
<td>6.1%</td>
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This clearly gives an arbitrage opportunity. Solvency II is not yet in place (and may not be adopted before 2016 or later) but the Solvency II models are close to the internal models currently being used to drive insurance company capital in the UK and therefore in the UK the comparison will remain valid. Elsewhere in major European countries (France, Spain, Germany, and Italy for example) there is no risk-based capital reserve – no distinction is drawn between investing in cash or corporate loans – and the arbitrage opportunities are therefore greater.

11.3.4.2. Credit Platforms

a) Receivables Exchanges

Another area of development is the growing use of credit platforms of various kinds to channel investor funds in lending. One channel is the use of exchanges which are managing the bidding by different investors for blocks of receivables.

The Receivables Exchange is an example. It is a US based market place for receivables with the auction being held on line. Businesses can post receivables for sale and can set a minimum price for the auction. Accredited institutional investors bid in real time for the receivables. NYSE Euronext took a stake in the exchange in 2011. The Receivables Exchange registers buyers and sellers, verifies identities and coordinates payments between the two parties. The same approach was introduced in the UK with MarketInvoice which started in 2010.
These exchanges help to ease funding pressures on firms as well as allowing funds to be raised on invoices not allowable by factors (the traditional approach). There is also a European Trade Receivables Exchange, EuroTRX.

**b) Peer to Peer Lending**

Following the crisis, one aspect of the shadow banking market has been a proliferation of peer-to-peer lending facilitators/platforms. These firms, set up by individuals in their 20s and 30s (rather like the dot coms), have established a new mechanism to facilitate retail lending to small corporates and even other individuals. Peer-to-peer lending is the practice of direct unsecured lending to small businesses or individuals by other individuals and potentially other businesses but in terms of quantity is predominantly lending to individuals. The peer-to-peer firm is only an intermediary and does not underwrite the risk. But they provide other services such as marketing to attract lenders and borrowers and information gathering and monitoring.

Individuals wishing to lend money specify the types of borrower to which they wish to lend to via an online platform provided by the peer-to-peer firm, which also validates and provides information on those wishing to borrow. In order to diversify risks, lenders’ funds are split into many small loan parts that are spread amongst different individual borrowers matching the criteria. For example, an account holder may agree to lend at a certain rate to all high street butchers in the north East of England which have an A rating provided by the peer-to-peer firm. The instruction from the lender results in the lender’s funds being divided into many small loan parts (e.g. GBP 10) which are distributed among the matching (and willing) counterparties. For each loan part, the loan agreement is directly between the lender and the borrower not with the intermediary – the peer-to-peer firm. The peer-to-peer firm has obligations and responsibilities in terms of provision of accurate information for the original loan decision and continues to monitor the borrowers and updates the ratings. In terms of lending to SMEs, there are in some cases covenants, which, if breached, force the lender to repay.

For some peer-to-peer lenders the process can be in the form of an auction in which lenders bid to lend to particular counterparties at a certain rate and the borrowers select the best rate that they can get. Lenders may also be able to resell their “loan parts” in a secondary market provided by the same peer-to-peer intermediary. The investor’s funds prior to investment are in a ring fenced account and cannot be used by the intermediary. Peer-to-peer lending firms offer the platform and the information. The peer-to-peer firm transfers the funds to the borrower and collects repayments from borrowers redistributing them to lenders accounts. They publish lending and credit performance information and appoint collections agencies to deal with bad debts.
The rating provided by the peer-to-peer lender is based upon on-line sources such as (in the UK) Experian, Equifax, and Callcredit as well as analysis by the peer-to-peer intermediary. Initial sole reliance on publicly available credit data has now been supplemented with direct discussions with borrowers prior to loans being made. The structure of the peer-to-peer firms, and the way of operating, differs across the market. Some peer-to-peer firms (e.g. RateSetter) have set up provisions to provide a buffer against losses, accumulated from part of the commission paid to the peer-to-peer firm by borrowers. Most others leave the full risk with the lender on the principal that the individual loans are very small.

Due to the lower overheads of peer-to-peer firms relative to banks, lending rates and yields may be more attractive than a bank could offer to savers and borrowers. However, it is a very different model compared with a bank. A bank may have more access to private information gained from the borrower although the gap is much less now in the UK because peer-to-peer lenders can access current account information. A bank also takes collateral to reduce the losses if borrowers default – the Economic and Social research Council study of small firm credit showed that 40% of term loans are collateralised, (Fraser (2009)), and this has probably increased substantially since. Even here the gap is narrowing because peer-to-peer lenders can also take security. However, the banks also take floating charges which put them ahead of other creditors including peer group lenders in a bankruptcy.

The peer-to-peer market was at a very early stage prior to the crisis (with one facilitator established in the UK) but have proliferated since in the UK – see tables 11.3 and 11.4 below. There are two reasons for this. The first is that in a low interest environment, investment vehicles which can offer retail customers returns (net of charges) of 5% up to 11% are attractive. Any restrictions on SME lending because of bank capital pressures and de-leveraging will also have encouraged the set-up of these firms.

The tables below set out the different providers in the UK and US and approximate figures for lending to date sourced from their websites.
Peer-to-peer lending still has a microscopic part of the overall SME market and what is almost certainly holding it back is funding availability. While it is still dependent on retail funding, growth will probably remain limited. Only by providing mechanisms which attract institutional investors as lenders will real growth be created. Institutional investors require much enhanced information on performance, but this will be solvable over time as more data is available. The companies are potentially very data rich and are not constrained by the legacy systems of the banks making the development of state of the art information systems possible. Substantial lending by institutional investors could provide a tipping point. This in turn could come from the use of intermediary vehicles investing in peer-to-peer.

Looking forward, their success and final importance in overall lending and competition with the banks will also depend on how they perform and their overall credibility. Credit evaluation procedures could well be less effective than is the case for banks. A sudden sharp increase in defaults could severely damage the reputation of the market. They can offer high returns to investors but it depends if these are seen as providing sufficient reward for the risk. Default rates have been very low in the UK to date, but this has not been the case in the US. In 2008, although peer-to-peer lenders were unregulated the Securities and Exchange
Commission (SEC) issued a ‘cease and desist’ order regarding Prosper, one of the two big peer-to-peer lenders, in response to very high 20% plus default rates (SEC (2008)). The SEC subsequently required peer-to-peer companies to register their ‘notes’ or loan parts as securities which has been a substantial burden and deterred growth. Growth in the US was also held back by the minimum 3 year maturity on loans making investments illiquid for investors. The setting up of a secondary market eased these issues. Lending Club has now received funds from sovereign wealth funds and even banks and with total lending now over USD 1 billion is preparing for a public offering.

In the UK the sector is covered by the Office of Fair Trading because the platforms require a license for their debt administration activities. The Peer-to-Peer Finance Association (a trade body) sets out principles that must be adhered to. The industry has requested formal regulation to enhance credibility and in December 2012 the UK government announced plans to regulate peer to peer lending through the Financial Conduct Authority (FCA). This may foster further growth. The UK government has pledged GBP 55 million of government funding to different peer to peer firms (Zopa, Funding Circle, Boost & co and Credit Asset Management limited) and other finance providers as part of the Business Finance partnership and this too will bring greater credibility (Department for Business, Innovation and Skills (2012)).

The model is also being adopted in China with websites being used to match lenders to borrowers deemed too risky by the banks.

Looking forward, the growth of peer-to-peer lenders is likely to be largest in markets where public data is available covering many of the core credit risk factors. In the UK, the banks, to improve their own access to good quality market wide data, cooperated with companies such as Experian, providing data on borrowings by individual companies and late payments etc. The assumption probably was that the main beneficiaries would be the banks themselves because they would have access to cross market data. This data is now, however, narrowing the gap for non-bank lenders between the information they have access to and the information to which an individual bank has access.

11.3.5. Shadow Trading Activity

The crisis led to a substantial shakeout of the hedge fund industry both with the disappearance of a number of funds and large net outflows. However, there have been sizeable inflows more recently with net inflows of USD 24 billion in 2010 and H1 2011 combined, (Parker (2011)). Industry estimates point to USD 1 trillion of institutional funds being placed in hedge funds by 2016 (Citi (2012)).
Over time more proprietary trading will shift from banks to hedge funds. The key driver here is the much increased capital requirements for banks’ proprietary trading as well as the ring fencing / trading bans being introduced with Volcker, Vickers and Liikanen. Hedge funds are part of a shadow banking world to the extent that they support credit intermediation through the instruments they hold pre-crisis, for example securitisation positions. A key question is the extent to which leverage will build up in that market.

11.4. IMPLICATIONS GOING FORWARD

11.4.1. Potential Growth

Potential growth of all these channels and their importance in the system will depend on a number of factors. One factor is pressure on returns if interest rates remain low. Continuing low interest rates will encourage longer term investors to search for yields and to utilise credit vehicles which provide access to higher yields.

One issue for institutional investors is ease of access to a channel and the ability to place large quantities of funds. The growth of new overarching fund of fund type mechanisms sitting above the new channels would enable institutional investors to access peer-to-peer and other diverse lending channels more easily. This is the path that the fund management industry has already gone down in terms of other investment mechanisms. A possible structure is set out in Figure 11.13. The funds could be invested through a variety of shadow banking mechanisms to give the requisite tranched risk profile.

Figure 11.13: A Model for the Future
Perceived success of the new channels, in the form of access to continuing high achieved yields would attract more investors and even banks to invest in these channels. Clearly credit performance will be an important element in the delivery of returns which are higher than available from traditional investments and stable.

A tipping point could be reached where the volumes magnify hugely, as institutional access becomes easier and as experience grows.

However, it is also possible that as yields improve elsewhere players for whom credit provision is a marginal activity will retreat. Also the lending channels do not offer the liquidity which is available through investment in securities although even here secondary markets in lending exposures could become more common.

11.4.2. Credit Performance

Different channels have different mechanisms for dealing with the credit risks attached to lending and the success of these mechanisms will affect longer term returns and the reputation of the channel. All credit intermediation has to deal with information asymmetries between the borrowers and lenders.

Banks mix external data including credit bureau data and internal data to assess credit. In the UK information in the current account provides a considerable amount of detail on a company or individual’s expenditure and income patterns, although there is a question whether banks use all the information in as effective a way as possible. The taking of security is used to provide protection where less is known or can be known about the borrower or risks are higher. For example, some UK banks would only lend unsecured to individuals if they had held the individual’s primary current account but would extend mortgage finance to a wider range of borrowers. Security of various kinds, particularly property security, is used extensively by banks for higher risk SMEs to reduce loss given default. Likewise finance companies are heavily dependent on collateral. For example, lease providers have much less access to private information than a bank but do have access to security.

Securitisation structures to a significant degree relied on the diversification effects of the large number of loans in the pools, and the housing security for the RMBS. As mechanisms to examine borrower loan documentation and income deteriorated, the diversification proved illusory. In the case of RMBS, this was because of the underlying common risk factors in terms of US house prices and common failings in the mechanisms to review borrowers’ credit worthiness and bona fides. The tranching and provision of other credit enhancements such as monoline insurance was also key in making investors confident with the structures but did not remove the concentration risk.
Peer-to-peer lending also relies on diversification – the very small individual exposures. The peer-to-peer intermediaries use public information to assess credit quality and as set out above the gap between this and the banks’ internal sources has narrowed because banks provide information on lending to data providers. However, much will depend on the default outcomes. The peer-to-peer lenders do not always have the benefit of the security which banks take for many SME loans, although some do using SPVs to hold security and assets. Nonetheless banks may have more capacity to manage security and, with a large number of defaults, this would give banks an advantage outweighing the benefit that the peer-to-peer lender has in terms of lower costs.

Institutional investors by lending on project finance and commercial property exposures have used security as the protection. However, if they started to invest in peer-to-peer lenders through say a fund of funds mechanism then they would be reliant on diversification – again a large number of individual loans. One lesson from the crisis with regard to RMBS was the danger of relying of security rather than borrower credit assessment. It is possible that some forms of shadow banking may again be too dependent on security at the expense of an overarching credit assessment. This could again encourage some weaknesses/bubbles to develop. If mechanisms developed, as in Figure 11.13, to channel large scale institutional funds into a variety of mechanisms, bubbles could well be exacerbated.

For all of these channels a core issue will be the clustering of defaults in particular periods as conditions deteriorated and if common risk factors lay behind the exposures.

Figure 11.14 below shows the relative reliance on different risk mitigants by different channels. By and large the credit assessment mechanisms are far more developed in banks with shadow banks relying on other mechanisms. Higher reliance on mechanisms such as security can blind the lender to the effects of bubble conditions.

11.4.3. Confidence and Opacity

A core factor in the growth of any channel is the reputation that the channel has and its relative opacity. Reputation partly depends on performance but also how risks are perceived. The further development of securitisation in Europe may well be dependent on the creation of much simpler structures with reduced tranching, smaller clearer prospectuses and high standards for loans going into the pools. ‘Skin in the game mechanisms’ where originating banks have to invest themselves will also help confidence.
One issue with all the channels is whether greater growth will lead to increased opacity. The securitisation market started with simpler structures but growth in the market and a drive to place lower quality assets in the pools led to more tranching and other forms of credit enhancement. The generation of loans outside the banking system by thousands of mortgage brokers also added opacity over lending standards, borrower documentation etc.

11.4.4. Risk Assessment

The robustness of the new channels will depend whether the lenders correctly assess the risks and if these are appropriately priced. Large volumes of funds are starting to flow into lending from the institutional investors and there is much more that can move. However, as the market grows so opportunities for low risk lending such as PFI lending in the UK or housing associations will diminish and more funds will have to flow into various types of corporate or personal sector lending or riskier projects. Institutional investors are already investing heavily in commercial property which has caused many banking crises in the past. This raises an issue regarding the quality of the models being used to assess the risk. Here many of the approaches treat lending as if it was a corporate bond and do not fully recognise the illiquidity and its implications. In a structure such as that set out in Figure 11.13 the fund itself could set up a risk assessment mechanism of a size and quality that would be difficult for any one institutional investor.
11.4.5. Regulation

Another factor which will affect growth is the regulation of shadow banking. This is a two edged sword. For a new market like peer-to-peer lending regulation is seen as positive because it will add to credibility. However, more regulation will narrow the cost advantage of some channels relative to banks. Relative regulation of banks and insurance companies will also affect shadow banking. It is too early to say where regulation will get to. The FSB (2012b) set out a possible framework for strengthening oversight and regulation of shadow banking. This focussed on five economic areas when assessing the risk in shadow banking and the need to put in place a policy toolkit including forward looking and proportionate regulation. The five key areas are:

– Management of client cash pools with features that make them susceptible to runs;
– Loan provision that is dependent on short term funding;
– Intermediation of market activities dependent on short term funding or secured funding;
– Facilitation of credit creation;
– Securitisation and funding of financial entities.

The policy toolkits would be tailored to the economic functions. Interestingly the key areas encompass the sectors which, backward looking, were identified with the crisis-securitisation, money market mutuals, repo. Facilitation of credit creation is identified but in the FSB paper the focus is on quasi bank entities rather than platforms and structures to enable institutional investors to make direct loans.

One lesson from the past is that poor risk assessment or due diligence can create foundations which will lead to systemic problems. This may be outside any quasi bank structure.

Over time, as shadow banking becomes more extensive, the regulation will tighten but it may miss some growing concentration.

11.5. Conclusions and Financial Stability Implications

The past 40 years have seen a variety of non-bank or shadow banking channels develop and sit at the heart of various banking crises. Undoubtedly regulation of banks has been one factor behind the growth of shadow banking, although some areas like leasing and factoring have grown up to provide specialist finance mechanisms. The 1990s and 2000s saw ever growing complexity in shadow banking.
with increasingly opaque securitisation structures and credit enhancements including monoline insurance. Since the crisis the range of channels has proliferated with new approaches like lending platforms starting to move credit intermediation into new areas. Search for yield, which drove many of the structures in the run up to the crisis, is still an important factor in the post crisis world but, with suspicion of securitisation, is driving the new mechanisms.

It is too early to say where this evolution will take the markets and many mechanisms are at an early stage of development. At the moment the direction of travel is towards fragmented approaches without the intertwining across the financial system that was at the heart of the crisis. But it is possible that mechanisms and platforms will become linked together possibly through fund of funds arrangements to allow more efficient placement of large volumes of institutional funds and opacity and interconnectedness will again ensue. Profitable mechanisms will encourage more and more large players to find a way, including banks, of participating. The issue then becomes what the fault lines are in the activities and the hidden concentrations which develop. The focus since the crisis has been on leverage and liquidity but poor quality credit assessments have been at the heart of most crises as well as the last in terms of mortgage origination by mortgage brokers.

There is a pattern in the growth of markets which can be characterised as a move from diverse and high quality to interconnected and lower quality as larger and larger investments are made to benefit from yield. This results from funds flowing into the channel outweighing the traditional investments. It is quite possible that this will also be the result of the growth in the new shadow banking channels as low yields elsewhere persist.

Another, quite different risk, is that with a wide range of new entrants into direct credit extension, an increase in default rates or an improvement in yields elsewhere could lead to a sudden falling away in the provision of credit through these channels. Going forward with high capital requirements and leverage ratios banks will not be able to concertina balance sheets in the same way as in the past, limiting ability to take up any slack if shadow banks retreat, with damaging economic consequences.

It is too early to say which path is most likely and indeed the first outcome could lead to the second.
REFERENCES


AFME, 2012, Securitisation Data Report Q4:2012, prepared in partnership with SIMFA.


LARCIER


European Banking Authority, 2011, The EBA details the EU measures to restore confidence in the banking sector.


Fraser, S., 2009, Small Firms in the Credit Crisis: Evidence from the UK Survey of SME Finances, Centre for Small and Medium-Sized Enterprises, Warwick Business School, University of Warwick, Economic & Social Research Council.


Gorton, G., Metrick, A., 2010, Regulating the Shadow Banking System, Yale and NBER.


Kawai, M., 2003, Japan’s Banking System: From the Bubble and Crisis to Reconstruction, Institute of Social Science University of Tokyo, Japan, PRI Discussion Paper Series (No. 03A-28).


