LEVERAGED BUYOUTS AND FINANCIAL STABILITY

Since 2004, activity in the leveraged buyout (LBO) segment of the private equity market in the EU has expanded substantially, with 2006 transaction values reaching levels similar to those seen in the United States, a traditionally larger market. The sizes of individual deals have also grown significantly and, at the same time, the leverage involved in these transactions has increased materially. This article analyses concepts and features of LBO transactions, which are relevant for understanding how the LBO market works. Based on the findings of a recent survey undertaken by the ESCB's Banking Supervision Committee (BSC), it then discusses and assesses the main risks that arise for banks from their involvement in LBO transactions. It also reviews risks associated with debt syndication and credit risk transfer mechanisms, on which banks rely to distribute LBO exposures to other investors so as to reduce their own exposures to comfortable levels, and discusses their potential impact on the stability of the global financial system.

1 INTRODUCTION

The concepts of leveraged buyout and private equity activity are often used as synonyms, which is somewhat inaccurate, given that the LBO market is a segment of the private equity market. The notion that the private equity market provides (medium to long-term) capital to companies that are not quoted on a public equity market is not entirely correct either. Private equity funds are generally devoted to the acquisition of companies with the aim of improving their operational efficiency and financial structure. While the vast majority of these target companies were initially not quoted in public equity markets, investments in listed companies, which are then taken private, have become increasingly common (public-to-private transactions) since 2005.

The private equity market encompasses different types of financing that may include funding new company start-ups, helping existing companies to grow and increasing the operating potential of mature and/or underperforming companies. In broad terms, private equity funds can be characterised as venture capital, buyout or distressed funds according to the state of the companies in which they invest. In 2006, over 80% of the capital raised by private equity funds was devoted to LBOs.[1] Similarly, according to preliminary figures compiled by the European Private Equity and Venture Capital Association (EVCA), €71 billion of the total of €90 billion raised by European private equity funds in 2006 were allocated to buyouts. From a financial stability perspective, the reason for focusing surveillance on the LBO segment of the private equity market stems not only from its size but also from the significant level of banks' involvement in the financing of LBOs. The involvement of the banking sector in the provision of venture capital and the financing of distressed debt, by contrast, tends be more limited on account of the fact that these undertakings generally entail a higher level of risk.

This article provides an overview of the LBO market in the EU and an assessment of the risks the LBO business may pose to the banking system (mostly via direct exposures) and the financial system as a whole (via market risks). Section 2 explains the LBO business model. Section 3 discusses direct risks to the banking sector based on the findings of a survey – conducted by the BSC – of banks' exposures to LBO activity in the EU in 2006.[2] Section 4 considers market risks posed by LBO transactions that may indirectly affect banks and other market participants. In Section 5, recent developments in the US sub-prime mortgage markets are revisited and some parallels are drawn between features of this market and those of the leveraged loan market, an important driver of LBO activity at present. Section 6 concludes.

1 According to Standard & Poor's, *European Leveraged Buyout Review*, fourth quarter of 2006.
2 See ECB, "Large banks and private equity-sponsored leveraged buyouts in the EU", April 2007.

2 THE LEVERAGED BUYOUT MARKET

Since 2003, a combination of robust economic growth and low inflation has underpinned particularly benign global financial market conditions, characterised by low interest rates and low volatility. This environment encouraged a search for more aggressive risk-return profiles among various market participants. It also provided vast borrowing opportunities for the corporate sector, which was offered higher leverage levels, at low cost and on rather favourable terms. In 2006, the global amount of private equity-sponsored LBO transactions was around double the figure of 2005, reaching more than USD 650 billion. The global volume of private equity-sponsored LBOs accounted for more than 17% of the global market for mergers and acquisitions (M&As), compared with a share of just 3% in 2000.[3] In contrast to the hedge fund business (often also involving LBO transactions), which is to be found predominantly in the United States, global LBO activity is split almost equally between the US and EU markets in terms of transaction volumes. In 2006, the volume of LBO transactions in the EU (at around USD 225 billion) matched that in the United States, given investors' growing interest in the untapped EU market.[4]

The capital structures involved in the financing of private equity transactions may include both debt and equity. Debt is usually extended by banks, while equity is provided by private equity funds that raise their capital through, for example, funds of funds, pension funds or investment funds. Capital is raised on private rather than public markets, thereby leading to the term private equity.

In broad terms, an LBO – as opposed to a regular corporate merger or acquisition – can be defined as an operation involving the acquisition, friendly or hostile, of a firm, in which a significant amount of borrowed funds (bonds or loans) is used to meet the cost of the takeover. In addition to the assets of the acquiring private equity sponsor, the assets of the target company are generally used as collateral for these loans. Ideal LBO targets are firms that generate high and steady cash flows and that have deployable assets that can easily be pledged as collateral.[5] The debt usually appears on the target company's balance sheet, and the free cash flow of the target firm is used to repay the debt. Overall, LBOs allow private equity sponsors to make large acquisitions without having to commit a material amount of their own capital.

The financing of an LBO project tends to involve the following steps. To start with, the general partners, who are the managers of the LBO fund (or sponsors), invest their money in a private equity fund and raise equity capital through institutional investors or limited partners. The general partners may draw down these funds while searching for target companies, but the funds generally need to be invested in target companies within a given time frame. The general partners (who can also have unlimited liability for the obligations of the partnership) usually contribute 3% to 5% to the fund's equity capital, while the limited partners, (who cannot lose more than the amount they invest in the fund) commit to providing the bulk of equity capital (95% to 97%). The general partners, or fund managers, are responsible both for undertaking investments and for participating in the management of the target companies; they are often a team with complementary backgrounds, involving technical experts in the target firm's sector of activity and financial specialists. Limited partners are generally institutional investors such as pension funds, investment funds, hedge funds, insurance companies, endowments, individuals with a high net worth and, to a lesser extent, banks. Once the target companies have been identified, debt financing is raised, typically from banks, which subsequently distribute their credit exposures among the wider investor community.

3 Data from Marketview Research.
4 See Standard & Poor's, *Leveraged Commentary & Data*, 2006.
5 Recent transactions have increasingly involved target firms without this feature (as a result of increased competition for LBO targets), often resulting in a higher level of risk for the overall LBO deal.

Funds for private equity are typically raised with an expected lifetime of around ten years and are invested in a number of target companies (which are thereby acquired). General partners tend to invest the capital committed to the fund in the first five years of the fund's lifetime so as to allow enough time to improve the performance of each of the purchased companies and to arrange the divestment. The expected success of a prospective LBO project is conditional on the target company's capacity to generate future cash flows. The exit strategy is also an important determinant of the prospective success of an LBO investment, given its critical role in determining the final return on the funds invested. The most common exits from LBO deals are secondary sales to other private equity funds, initial public offerings (IPOs), by means of which the target firm is floated on the stock market, trade sales to companies willing to acquire the target firm, or recapitalisations. After the exit, the proceeds of the operation are distributed among the general and the limited partners.

Turning to the debt providers in LBO transactions, it is important to note that the proportion of debt to equity capital has tended to rise over the last three years, thus contributing to increased leverage in transactions. In large European deals, equity capital often represented only around 20% of the capital structure of LBO transactions completed in 2006.[6] The expected returns to debt holders depend on their position in the seniority structure. The debt structure of an LBO deal can be split into senior and subordinated debt, each category generally including a number of different instruments. Senior debt includes senior loans, consisting of revolving facilities and term loans A, B, and C, as well as bridge loans; subordinated debt is often composed of second-lien loans, mezzanine loans, high-yield bonds and payment-in-kind (PIK) notes, the latter including elements with equity-like features.[7] A common feature in current debt structures on both sides of the Atlantic seems to be that an increasing proportion of LBO financing is being provided in the form of leveraged loans – generally comprising senior loan tranches B and C, usually with a non-amortising structure[8], as well as second-lien and mezzanine debt. In turn, banks typically sell leveraged loans to other banks and institutional investors.

3 RISKS TO BANKS FROM THEIR DIRECT EXPOSURES TO THE LBO MARKET

The rapid growth of private equity-sponsored LBOs since 2004 has attracted considerable attention from market observers, central banks and prudential regulators alike, especially on account of the important role banks play as debt providers in LBO transactions. The fact that leverage in LBO transactions has increased steadily over the past few years has fostered further interest in banks' involvement in this business.

In April 2007 the ECB published a report – prepared by the BSC – on large banks' exposures to LBO activity in the EU, based on a survey comprising 41 banks.[9] The survey was conducted in June 2006 and presented the situation at two points in time, namely in June 2005 and in June 2006. Of the 41 banks surveyed, 30 were domiciled in the EU,[10] while 11 were global banks (from the United States, Switzerland and Japan) that were active in the EU LBO market via affiliates in the United Kingdom. Among the risks involved in LBO transactions, the banks surveyed emphasised intense competition in leverage levels offered to private equity sponsors for financing buyouts, as well as competition in pricing and in the extent of the

6 See ECB, "Accounting for rising leveraged buyout activity", *Financial Stability Review*, June 2007.
7 See ECB, op. cit., April 2007, for a more detailed description of these debt instruments.
8 A non-amortising (or bullet) loan is a loan that has a one-off payment of principal and interest on termination.
9 See ECB, op. cit, April 2007.
10 The EU countries involved were Belgium, Germany, Spain, France, Italy, the Netherlands, Austria, Portugal, Sweden and the United Kingdom.

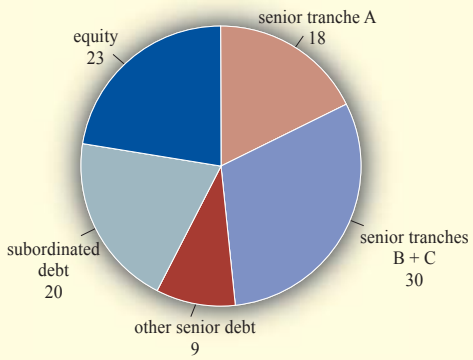
loan covenants[11] designed to protect creditors against changes in borrowers' repayment capabilities.[12]

In general terms, banks can be exposed to the LBO market via three main channels, namely debt exposures from financing or underwriting LBO transactions, non-interest income generated by arranging LBO deals (e.g. fees and commissions earned from related advisory activities and from arranging financing packages) and equity exposures from their own-account equity investment in LBO funds or other funds participating in LBOs.[13] Banks' exposures via each of these channels depend largely on their respective business models as providers of leveraged finance. Two distinct approaches can be identified: (i) the "portfolio" model under which lenders provide finance and intend to retain a significant portion of the debt on their books, thereby earning both fee and interest income from holding these positions; and (ii) the "capital turnover" or "originate and distribute" model under which providers of leverage finance often arrange the transactions and aim at reducing their exposures to low levels in a short period of time once the transaction has been completed. Institutions adopting the latter business model focus on earning fees, rather than interest income, and dispose of exposures via the leveraged loan market (e.g. syndications) or by using credit derivatives. Banks may not actually strictly follow one or the other model and can combine features from both, as was the case for a number of banks in the survey.

The survey confirmed that the average size of LBO transactions had increased significantly in the 12 months up to June 2006. Almost 60% of the capital turnover in respect of banks' LBO debt in June 2006 related to large deals of more than €1 billion. Senior debt – debt that has priority of claim over other obligations – was by far the largest element in transactions' capital structure (representing almost 60%; see Chart 1), while non-amortising senior tranches B and C accounted for 30% of the total capital.

Chart 1 Capital structure of LBO transactions in June 2006

(percentage shares)



Source: BSC.
Note: Based on the top five LBO transactions reported by each surveyed bank in the 12 months to June 2006. Tranche A is the safest type of senior debt that generally has a fixed amortisation schedule, while tranche B encompasses lower-grade senior debt that is typically structured in a non-amortising way and tranche C covers the lowest-grade senior debt that is likewise structured in a non-amortising manner.

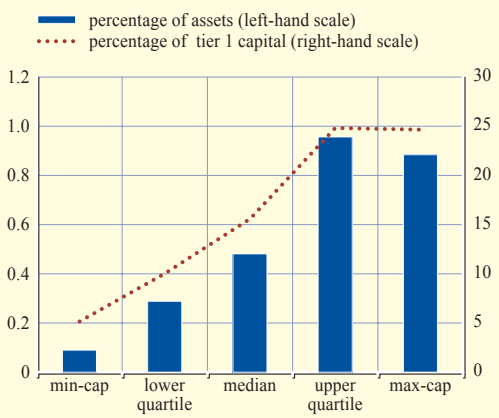
Although still part of secured debt, non-amortising tranches, which are generally repaid in full at maturity, necessarily carry higher credit risk for the lenders and render exposures sensitive to macro-financial outcomes several years into the future. Together with eroded covenant packages, the fact that, in the case of this type of loan structure, the debt servicing burden on target companies may be reduced significantly in the early years may also delay the identification of financial problems in LBOs. In addition, indicators of leverage, such as the ratio of debt to equity, the ratio of debt to earnings before interest, tax, depreciation and

11 Covenants are agreements that impose restrictions on the borrower's behaviour, often on the basis of specific indicators, so as to limit the borrower's ability to increase the credit risk over and beyond pre-determined parameters; a covenant breach may allow the lender to call the loan.

12 Historically, loans were subject to maintenance covenants (covenants tested on an ongoing basis), while bonds were subject to incurrence covenants (covenants tested only when an event occurs). More recently, loans have been increasingly granted with bond-style incurrence covenants, or with "covenant-light" features, according to which loans are subject to incurrence, instead of maintenance, covenants.

13 Another channel (which is more macroeconomic in character) relates to the possibility that LBO transactions may increase the leverage of target companies with outstanding loans from several banks. The LBO transaction may increase leverage ratios beyond the optimal level for those banks.

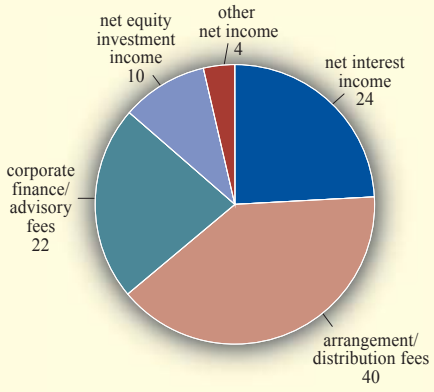
Chart 2 LBO exposures of EU banks in June 2006



Source: BSC.
Note: Based on EU banks' total net exposures.

Chart 3 Structure of net income of "capital turnover" banks in June 2006

(percentage shares)



Source: BSC.
Note: "Capital turnover" banks represented a quarter of all surveyed banks.

amortisation (EBITDA) and the ratio of the transaction price to EBITDA, increased across the board from June 2005 to June 2006. Moreover, there have been no subsequent signs of it declining in 2007.[14]

With respect to banks' direct credit exposures, however, the survey revealed that retained LBO debt accounted for a relatively low proportion of banks' total assets or own funds. Therefore, the argument that such exposures could pose risks to the banking or financial system are not supported by the findings of the survey. For three-quarters of the surveyed EU banks, LBO exposures represented less than 1% of the total size of their balance sheet, and the median value of LBO debt as a share of tier 1 capital was around 15%, reaching 25% in a few cases (see Chart 2). There were also indications that exposures are mainly concentrated on banks' top five deals. For "capital turnover" banks, in particular, the median value of exposures to the largest five transactions as a share of their LBO portfolio was just below 60%.

Banks' equity investments in LBO transactions appeared quite limited according to the survey results. Equity exposures may derive from equity investments in LBO funds or from other funds exposed to LBO activity, or from co-investments in the equity part of LBO transactions.[15]

Turning to banks' income exposures to LBO transactions, the survey indicated that many banks earn significant income from the fees and commissions derived from LBO-related activities. "Capital turnover" banks, in particular, confirmed their focus on non-interest income, stating that they extract 40% of their total LBO-derived income from arrangement and distribution fees, and more than 20% from advisory fees (see Chart 3). Even a partial reliance on LBO-related non-interest revenues suggests that a slowdown in the market could have a negative impact on these institutions' income streams. However, it appears unlikely that an adverse income scenario would in itself be sufficient to generate systemic effects since income generated from LBO transactions

14 See Standard & Poor's Leveraged Commentary & Data, LCD EuroStats, May 2007.
15 However, the survey results may have underestimated banks' provision of equity capital for LBO transactions since the activities of these separate structures might not have been consolidated in banks' replies, especially in the case of non-EU banks' affiliates. The total stock of equity exposures in June 2006 amounted to €12 billion, as opposed to the stock of debt exposures of around €100 billion.

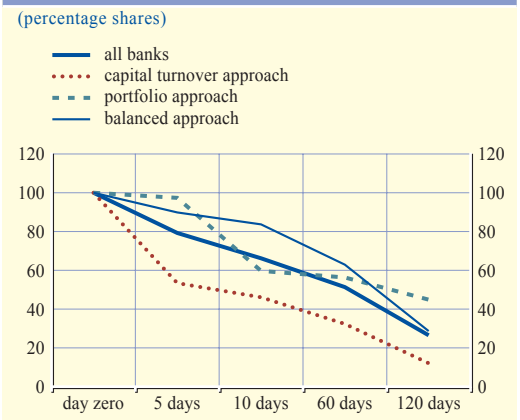
represented an only moderate fraction of total income.[16]

Surveyed banks indicated that due diligence, credit analysis and the ability to syndicate and distribute credit risk are key elements in their assessment of the risks associated with LBO lending. Banks that arranged syndications typically carried out their own due diligence, while banks participating in syndications often relied to a great extent on external due diligence. However, banks considered it to be crucial to carry out their own credit analysis, with the aim of determining both the level of debt the target companies could cope with in adverse scenarios and the bank's ability to dispose of exposures down to comfortable levels.

Banks perceived their ability to pass on acquired debt exposures as depending largely on market sentiment regarding LBO debt, which could worsen significantly in the case of an adverse credit event or an early default of a target firm. The most important source of risk to banks identified by the survey concerned "warehousing" or underwriting risk if the LBO market should experience a sharp and unexpected downturn. This risk arises from the large LBO debt concentrations which the underwriting banks, especially those closer to the "capital turnover" approach, are exposed to from the day they commit to finance an LBO transaction until its completion, and throughout the debt distribution process to the market. The survey revealed that, on average, the period of time from a bank's commitment to provide funds until the finalisation of the transaction (i.e. the execution of the cash transfer) was 60 days. Once a transaction is finalised, LBO debt can be disposed of in the market. However, the survey revealed that the time frames for distributing debt exposures to the market tend to be rather lengthy as well. The survey results also showed significant variations in the speed at which banks were able to distribute their exposures further, again predominantly reflecting their respective business models (see Chart 4).

Chart 4 Reduction in exposures over time, by business model, in June 2006

(percentage shares)



Source: BSC.
Notes: Based on the top five LBO transactions reported by each surveyed bank in the 12 months to June 2006. A significant number of banks in the sample classified themselves as following a balanced approach that combines features of both the capital turnover and the portfolio approach.

Chart 4 shows that banks' LBO debt distribution profiles do not strictly follow the expected paths for the "portfolio" or the "capital turnover" models since, on average, all banks dispose of their LBO debt exposures. "Capital turnover" banks distribute, on average, 50% of their exposures within five days of finalising a transaction, which can be considered quite efficient. However, should their aim be to distribute exposures down to zero, the process could take more than four months. Taken together with the LBO execution time frames, this yields, on average, a period of roughly half a year, with an even longer time lag for banks that follow alternative business models.

4 INDIRECT RISKS: RELIANCE OF LBO ACTIVITY ON CREDIT RISK TRANSFER

Although it is apparent from the results of the BSC survey that large banks' direct risk exposures to LBO transactions in the EU are limited, there are important caveats to that

16 While dispersion was significant across banks, LBO income represented more than 5% of total income for only a quarter of the EU responding banks in June 2006.

conclusion. These are mainly related to the role played by the markets for credit risk transfer (CRT) that support the mechanisms of hedging and debt distribution used by banks to limit their credit risk exposures. Indeed, it can be argued that most banks – both "portfolio" banks and, in particular, "capital turnover" banks – that are active in the debt financing of large LBO transactions would not participate in such transactions in the absence of a well-functioning market that allows them to shed credit risk exposures.

However, even after the successful completion of a deal, the CRT mechanisms invoked to facilitate debt distribution and hedging can give rise to various risks. These can be classified broadly into three different categories, although additional risks could also be identified. First, counterparty risks arise from the possibility that the party taking on the bank's credit risk exposure fails, for some reason or another, to meet its contractual obligations. Second, operational risks could materialise if the market for credit derivatives fails to function properly under certain market conditions. Third, legal risks may arise after a failure of an LBO undertaking if the various parties that had acquired exposures to the LBO project in the CRT market have very different objectives and incentives in the ensuing distress resolution (or workout) process. These risks are covered in more detail below.

With regard to counterparty risks, the immediate counterparties for the banks in the context of their financing of LBO transactions are the private equity fund and the target company. Once the contractual arrangements for the debt underwriting transaction have been completed, however, the banks start disposing of their loan exposures in the secondary market using CRT channels. In this process, the number and variety of potential counterparties increases substantially: the purchasing parties of the LBO credit exposures can include other banks, insurance companies, pension funds, credit portfolio investors and hedge funds.

The various counterparties in the secondary markets for debt are typically interested in acquiring different types of loans, according to their particular risk-return profiles. Therefore, investors with pronounced buy-and-hold strategies and/or limitations on the level of risk they are allowed to bear, such as banks, pension funds and insurance companies, often invest in the most senior (least risky) loan tranches. On the other hand, investors seeking to maximise the returns on the investment, such as hedge funds and managers of large credit portfolios, may regard the more subordinated loan tranches as more attractive. It should be noted, however, that the EU market for LBO loans is developing rapidly and that it is becoming increasingly difficult to classify investors' demand according to their "traditional" risk-return profiles.

Should counterparty risks materialise, the underwriting bank could find itself exposed to a risk it had thought not to have any exposure to. The emergence of unexpected risk exposures could lead to a re-statement of the bank's current and past earnings, could have adverse consequences on the bank's profitability and share price and could, in extreme events, affect the bank's capital. To avoid such adverse scenarios, banks that are active in LBO financing should make sure that the debt exposures which are off-loaded from the balance sheet are properly priced to reflect possible changes in the operational environment of the underlying LBO undertaking over the entire lifetime of the loan. In addition, after the credit risk exposures have been hedged or sold, a continued monitoring by banks of the activities and financial soundness of both borrowers and banks' counterparties in the secondary market for debt remains of crucial importance.

Turning to the operational risks, given that the risk management techniques used by banks active in LBO financing are characterised by a widespread use of credit derivatives, the robustness of the derivatives market infrastructure becomes key for ensuring that the hedging processes function smoothly. The vast majority of all transactions in derivatives

take place in over-the-counter (OTC) markets where many of the instruments traded are non-callable and non-standardised.[17] Against the background of the sharp increase in trading volumes in recent years, problems in the OTC market infrastructure have been highlighted which contributed to a multiplication of supporting documentation and an accumulation of non-confirmed trades. Such distortions could create bottlenecks in the system in situations where trading volumes surge unexpectedly, as in cases where several investors want to unwind their hedging positions simultaneously. In response to these concerns, central banks, regulators and market participants in major financial centres have taken pro-active measures to prevent risks from materialising. However, the rapid growth of, and product innovation in, the derivatives markets require practices to be constantly updated so as to guarantee a smooth functioning of the market in all circumstances.

Legal risks constitute a latent risk related to the sharing of LBO credit risk exposures, as is facilitated by CRT. Market observers have pointed out that distressed debt resolution after failed LBO projects could become substantially more complicated than it tends to be in traditional relationship lending. In contrast to the situation in relationship lending, where the creditor is a bank or a group of banks with a long history of financing the firm, the counterparties in the debt resolution process in LBO financing can be institutions that have acquired exposures in the secondary market and may have rather differing preferences, incentives and investment horizons. In addition, in the case of LBO transactions that involve cross-border elements, the fact that the debtor and the various creditors may be operating under multiple bankruptcy legislations may further complicate the proceedings.

By way of an example, one can imagine, on the one hand, a hedge fund that has bought the most junior (equity) tranche of the LBO debt financing package and would, consequently, be the first party to be hit by the financial distress of the LBO target company. At the same time, the often short-term nature of its funding structure might not allow it to sustain losses beyond the short term, suggesting that it could be rather keen to force the firm into liquidation at an early stage in order to recover at least part of its loss. On the other hand, banks and pension funds are typically long-term investors with stable balance sheets and funding sources which buy the more senior loan tranches and could have an incentive to allow the firm to re-structure its debt and to continue its operations. It is not entirely clear ex ante how such differences would be resolved in an orderly manner in a potentially rapidly evolving market environment.

5 RISKS INVOLVED IN LBO ASSET-BACKED SECURITIES MARKETS

An important driver of the demand for loans originated from LBO transactions has been the financial innovation that pools high-yield, often low credit-quality bonds and slices the cash flow into tranches with varying exposure to credit risk. Such instruments include asset-backed securities (ABSs) and collateralised debt obligations (CDOs). CDOs whose collateral pool consists of bank loans, rather than bonds, are called collateralised loan obligations (CLOs). The high demand for such products in recent years has partly been driven by the low returns on many traditional financial assets such as bonds. The most senior tranches of CDOs and CLOs are protected against defaults by the more junior tranches, which absorb the first credit losses to the asset pool. Consequently, the senior tranches can achieve very high credit ratings, despite the fact that the underlying assets in the collateral pool may be rated sub-investment grade. Reflecting the degree of the relative default risk, the various tranches pay a yield premium over the market rate. Investors in such products are often insurance

17 This entails, among other things, that a derivatives contract, once issued, can only be cancelled by issuing a contract that takes an opposite position to that expressed in the original transaction, thus multiplying the amount of transactions required in the marketplace.

companies and pension funds which have been keen to find assets that match their risk profile and nevertheless provide sufficient excess returns relative to the yields paid by long-term government bonds. However, many market observers have pointed out that the high credit ratings granted for structured credit products fail to account for the fact that, as leveraged instruments, CDOs and CLOs are also subject to, sometimes significant, market risk and could face illiquidity problems in less benign trading conditions.

In the United States, popular assets to be included in CDO collateral pools have been bonds originated from the securitisation of so-called sub-prime mortgage loans.[18, 19] Popular assets for CLO loan pools are loans originated under LBO transactions (so-called leveraged loans). Both types of debt instruments have characteristics that provide, on the face of it, ideal building blocks for structured credit products. The original loan transactions are rather "secure" in that mortgages and loans granted to firms with steady cash flows (which are often targets for LBOs) are long-term contracts providing steady interest payments to maturity. This is important for CDO/CLO managers as the replacement of non-performing or defaulted bonds and loans is costly.

In the course of 2007, financial markets were shaken by the news that delinquencies in sub-prime mortgages extended in 2005 and 2006 had increased rapidly. The reasons behind the borrower re-payment difficulties were mainly lower house prices, higher interest payments and reduced re-financing possibilities. Since many CDO tranches are not constantly marked to market on account of the illiquidity that is due to their bespoke nature, the pricing of such products is dependent on complex models that often rely on strong assumptions (i.e. the instruments are marked to model). As a result of the changes in the external environment that were not fully factored into the CDO pricing models, or were not reflected in the short time series of historical data used to calibrate them, the model assumptions underlying the rating, risk management and pricing of US sub-prime loans broke down in 2005 and 2006.

The global leveraged loan market, including a large European segment, shows some similarities to the US sub-prime mortgage market that could raise financial stability concerns in the case of an adverse turn in the credit cycle. The high leverage ratios in recent buyouts can be compared with high loan-to-value ratios in sub-prime mortgages. In addition, the practice of dividend re-capitalisation, whereby the LBO partners can take advantage of the rising market valuation of target companies, is similar to the mortgage re-financing that was an important factor supporting the sub-prime market in the years of rising US house prices. As banks have been competing hard for underwriting and advisory business in the LBO market, lending standards may have deteriorated and increasingly borrower-friendly structures, such as "covenant-light" debt contracts, may have been adopted. This is akin to the interest-only and negative-amortisation mortgages applied in the sub-prime lending business. While it can be argued that some of these kinds of practices improve the degree of standardisation in the market, allowing an introduction of tradable indices and hedging instruments such as loan credit default swaps (LCDSs), they could at the same time allow unviable companies to stay in business longer than they would otherwise without having to file for bankruptcy. When the firms finally default, the recovery rates for creditors could have deteriorated substantially.

18 Sub-prime mortgages are loans for house purchase granted to borrowers with little or no credit history, and are usually characterised by high loan-to-value ratios and variable interest rates. The institution originating the mortgage subsequently sells the loans to investment banks, which securitise them and sell the bonds in the wider marketplace. Sub-prime mortgages were often initially extended with lower "teaser" interest rates that were re-set at higher levels after a pre-specified period of time.

19 According to Moody's, the average share of sub-prime assets underlying CDO collateral pools was about 45% in 2006. However, there is a wide range of CDOs that are broken down into different risk categories, with the less risky ones including only prime mortgages in the collateral pools, while others could contain up to 80% of sub-prime loans.

There are, of course, also important differences between the two markets: the key difference is that, unlike borrowers in the sub-prime mortgage markets, borrowers in the leveraged loan markets are generally highly sophisticated in financial terms. They have therefore been able to push for arrangements that would in many cases shelter them from short-term cyclical fluctuations. Despite these protective structures, the experiences of the sub-prime mortgage markets could provide an illustration of how the leveraged loan market could unfold in a broader credit market downturn. Since many recent LBO transactions may have been made with the expectation of a further rise in purchase prices that would allow the deals to be quickly re-financed, a decline in the market could expose many deals to market conditions that were not priced into the original transactions. For example, higher market interest rates would decrease the interest coverage of existing deals, possibly pushing some of them into default.[20] In addition, in cases where LBO loan re-payments are scheduled to take place at the end of the loan (back-ended amortisation schemes), the retained earnings and cash flows of the target companies may turn out not to be sufficient to service the debts if the economic environment were to deteriorate at the time when the re-payments are due.

6 CONCLUSION

When attempting to assess the risk to financial stability that arises from the LBO market, it is important to consider the extent to which the risks of a slowdown in this market could have systemic consequences. While banks' direct debt exposures to LBO transactions appear limited, given that most debt is disposed of via CRT instruments or securitisation, the uncertainty about the identity of the final holders of LBO credit risk that is being distributed is substantial. However, if the experience from the US sub-prime market is any guide, the impact on banks of a market downturn is likely to come in several phases. In the first instance, banks which keep direct exposures to LBO projects – through equity or direct credit – in their balance sheets could be hit. The potential systemic consequences would then play out in ways rather similar to those in the case of a sudden deterioration in the quality of the corporate loan book of a large bank. In particular, financial stability risks would depend mainly on the adequacy of the financial buffers of the affected bank and on its relevance for the broader financial system, for example, via the interbank markets. The second impact could be transmitted via the counterparty risks in the CRT market, to the extent that some of the institutions which have acquired exposure to credit risk may not be able to sustain losses beyond the short term. Given the significant role of CRT markets for large banks, particularly in their business models and risk management, any shock that leads to a profound dislocation in product pricing, market-making or trading functions in these markets could have potential consequences for a number of institutions at the same time.

20 The BSC survey revealed that a large share of European LBO deals financed by banks in 2005-2006 had, at the time, only marginal interest rate cover, which measures the earnings above an estimated multiple of scheduled interest payments.