

How to capture securitisation and structured debt instruments

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Introduction

“The lack of markets may lead to the mispricing of risk and, with opaque balance sheets, make it harder to monitor risks. ... In the event of financial distress, bond markets can disperse risks; the declining market value of debt spreads the losses over a wide ownership base.”

CGFS, “Financial stability and local currency bond markets”, *CGFS Papers*, no 28, pp 1–2.

Securitisation is a relatively recent phenomenon in the Netherlands. In the United States, the first mortgage-backed pass-through security was issued in 1977 by Bank of America. In the Netherlands, for various regulatory and economic reasons, the first “residential mortgage-backed security” (RMBS) was not issued until 1996 by Fortis. During the following years, however, securitisation has become a widespread phenomenon. Gross issues averaged over EUR 50 billion in both 2005 and 2006. Despite the turbulence in this segment of the capital markets since August 2007, the amounts issued reached a record of EUR 118 billion for the whole of last year. As a result, the total amount outstanding of mortgage- and asset-backed securities issued by Dutch special purpose vehicles (SPVs) reached nearly EUR 300 billion by the end of 2007.

With the proliferation of securitisation in the Netherlands, the need for information on the securities issued by SPVs and its holdership has grown in parallel. The Netherlands Bank currently collects data on securities issued by Special Purpose Vehicles (SPVs) for three main sets of statistics:

- A separate set of statistics on the aggregate balance sheet of SPVs;
- As part of its securities issues statistics; and
- Holdership information for financial accounts and balance of payments.

This paper documents three important issues that are at the heart of the compilation of these statistics: maintaining a complete picture of the population of SPVs, the recording of outstanding amounts, and the valuation of the securities. The paper ends with a short summary of the main methodological issues that have yet to be resolved.

Population

Data on SPVs and their securities are not collected from reporters in the Netherlands, but from public and commercial sources. Nevertheless, the remaining part of this paper is more easily understood after a brief explanation of the different parties involved in a securitisation (see figure 1).

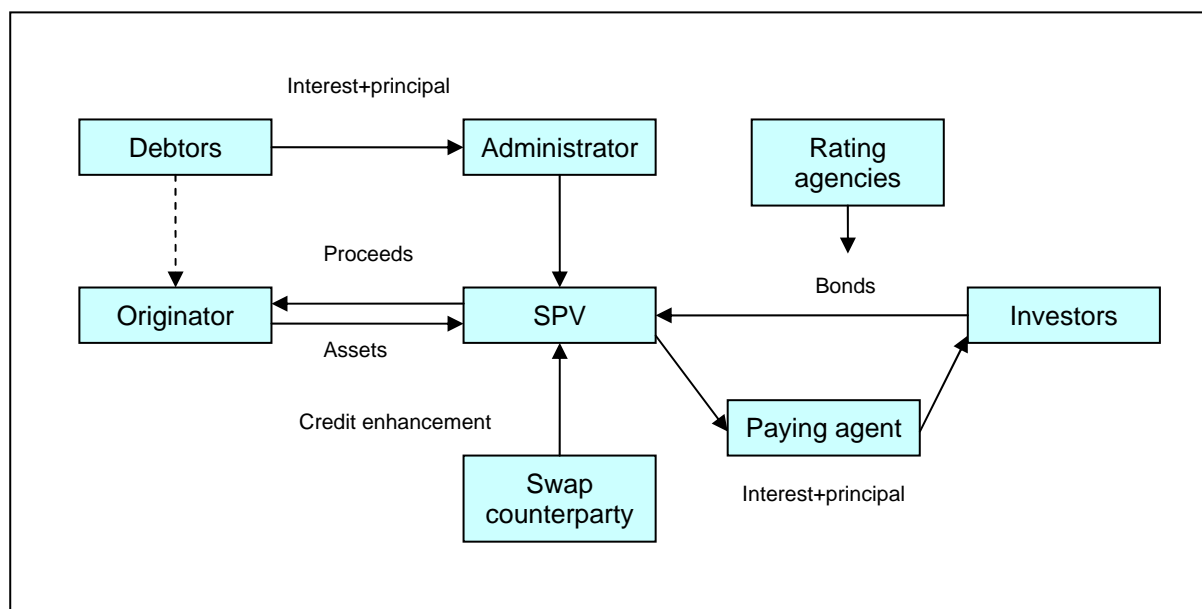
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In a true-sale securitisation, the originator sells the assets (eg a pool of residential mortgages) to a specially founded SPV.² The SPV finances the purchase with the proceeds from the issue of bonds. Each securitisation usually involves the issue of a couple of bonds, known as tranches, of decreasing size and credit quality (from senior to mezzanine to junior). SPVs in the Netherlands are set up so that the originator is not able to lay any claim on the assets it has sold to the SPV in case of its bankruptcy. By placing the equity of the SPV in the possession of a specially created foundation (Dutch: *stichting*), no economic links remain other than that the originator usually acts as an administrator for the assets (for which it earns a fee). The SPV cannot therefore, at least not formally, be regarded as a subsidiary of the originator. Whether this is sufficient for the originator to be able to derecognise the assets is an issue discussed further at the end of this paper. In addition to the originator and the SPV, other parties involved in the securitisation include the debtors (who might not even be informed of the securitisation), the rating agency, the paying agency, and of course the investors in the bonds.

The investors in the bonds are represented collectively by a “security trustee”, which holds various forms of collateral in addition to the assets. The collateral can be used to repay principal and interest in the event that debtors are unable to fulfil their obligations. The paying agent for an SPV functions in the same way as for any other issuer of negotiable debt: it collects funds from the issuer and distributes these funds to the holders of the securities. The rating agencies provide the securities with a credit rating based on the quality of the assets. Since the assets are usually regarded to be of better than average quality, the SPV can issue the securities at a lower cost of capital than the originator is able to demand. (At least, that was the case until last year.) There is usually also a host of legal and financial advisors who support setting up the SPV, but their role is limited once the bonds have been issued.

Figure 1

Parties involved in a securitisation



Source: De Nederlandsche Bank.

² A less frequently used type is synthetic securitisation. In this case, the originator only “sells” the credit risk to the SPV. The SPV puts the proceeds of the bond issue on (time) deposit with the originator.

Statistics on the balance sheet of SPVs in the Netherlands are restricted to those either set up by a resident originator or involving the securitisation of domestic assets. SPVs involved in the securitisation of foreign assets by a non-resident originator are excluded. These SPVs are considered to be part of a special class of institutions, referred to as “Special Financial Institutions” (SFIs for short). SFIs have traditionally been excluded from Dutch national statistics because of the great influence they have on financial flows and stocks without having any significant economic activity in the Netherlands. Since a number of years, both the Netherlands Bank and Statistics Netherlands have started publishing statistics including and excluding SFIs.

The most important source of information on the birth of SPVs and the issue of new securities is the commercial data provider used by the Netherlands Bank. An online terminal provides direct access to the data provider’s database of securities. This database can be queried for new issues by mortgage and funding institutions, as most SPVs are classified. A great deal of current and historical information (among others in the form of investor reports and offering circulars) is also available from a fiduciary group based in the Netherlands that acts as security trustee for a large proportion of SPVs. Additionally, rating agencies such as Moody’s and Standard and Poor’s regularly publish investor reports containing a wealth of information. Data on new SPVs are also checked with information from the department that compiles money and banking statistics.

Outstanding amounts

Compiling information on outstanding amounts of structured debt requires accurate and up-to-date information for each separate security, because a large proportion of the bonds issued by SPVs are so-called “pass-through securities”. This means that the interest and redemption paid by the debtors is channelled almost directly to the investors in the bonds. The bonds amortise during their life, as they mimicking the cash flows of the underlying assets (see figure 2). The most efficient approach to compiling data on outstanding amounts is on the basis of electronic data. The number of bonds has become very large (over 2000 Dutch issues by end-2007) and manual processing is very laborious and prone to errors. For these reasons, the Netherlands Bank also uses the information on outstanding amounts from its commercial data provider.

In the relatively recent past, the Netherlands Bank based its information on outstanding amounts on publicly available information such as the investor reports mentioned above. This had the drawback that investor reports were not available for all bonds. For these bonds, outstanding amounts were estimated using the “weighed average life” (WAL) as reported in the prospectus or by using the WAL of a comparable bond. The WAL is an indication of the expected actual maturity of the bond, taking into account not only contractual redemptions but also prepayments.

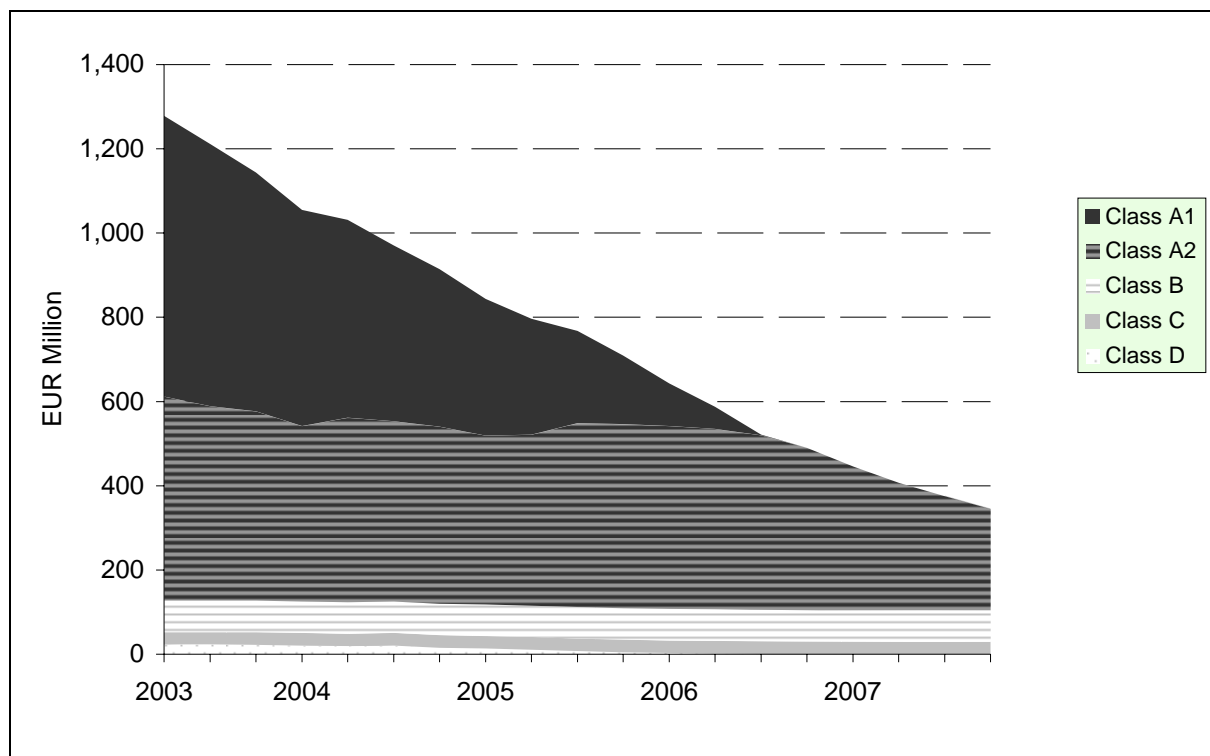
Although the payment of contractual redemptions is very predictable, the incidence of prepayments makes the (remaining) WAL an imprecise measure. While the bonds have a maturity at issue that corresponds to the legal maturity of the longest loan in the pool of assets, which for certain interest-only or redemption-free mortgages can amount to 80 or 90 years, mortgages almost never ever reach their legal maturity. Early redemption, known as prepayment, depends on many factors. Prepayment can be motivated by a decision to refinance, depending on the difference between current mortgage rates and those specified in the existing mortgage. Prepayment can also be made as the result of a domestic

circumstance such as a change of job, divorce or death.³ Some SPVs also incorporate a “grace period” in the issue conditions of their bonds, during which the bond cannot be redeemed. During this grace period, new mortgages from the originator are substituted for those prepaid. This guarantees a certain minimum term to maturity for the investors. Prepayment affects the securities of an SPV differently. The earliest prepayments are passed on to the investors in the bonds with the highest credit quality. The lower credit tranches are only redeemed once the higher classes have been redeemed completely. These tranches also bear any effect of default or arrears that cannot be borne by the additional collateral kept by the security trustee. It should be kept in mind that SPVs sometimes differ substantially in structure and the conditions they attach to their bonds. This means the analysis should be of individual bonds, or at least grouping them by certain characteristics. In conclusion, the estimation of outstanding amounts for securities carries with it the risk of some imprecision.

Although a precise cost-benefit analysis is not feasible, a crude assessment can be made of whether the acquisition of commercial data is worthwhile. This involves weighing the loss in precision together with the effort needed for the collection of information, analysis and estimation, against the costs of a commercial data provider balanced by an increase in efficiency from compiling the data on the basis of electronic data. For the Netherlands Bank, the use of commercial data proved to be the most economical. This was, however also influenced by the fact that the commercial data were also used for other statistics such that the costs could be spread over several statistical areas.

Figure 2

Outstanding amounts per tranche for a typical RMBS (Hermes VI)



Source: De Nederlandsche Bank.

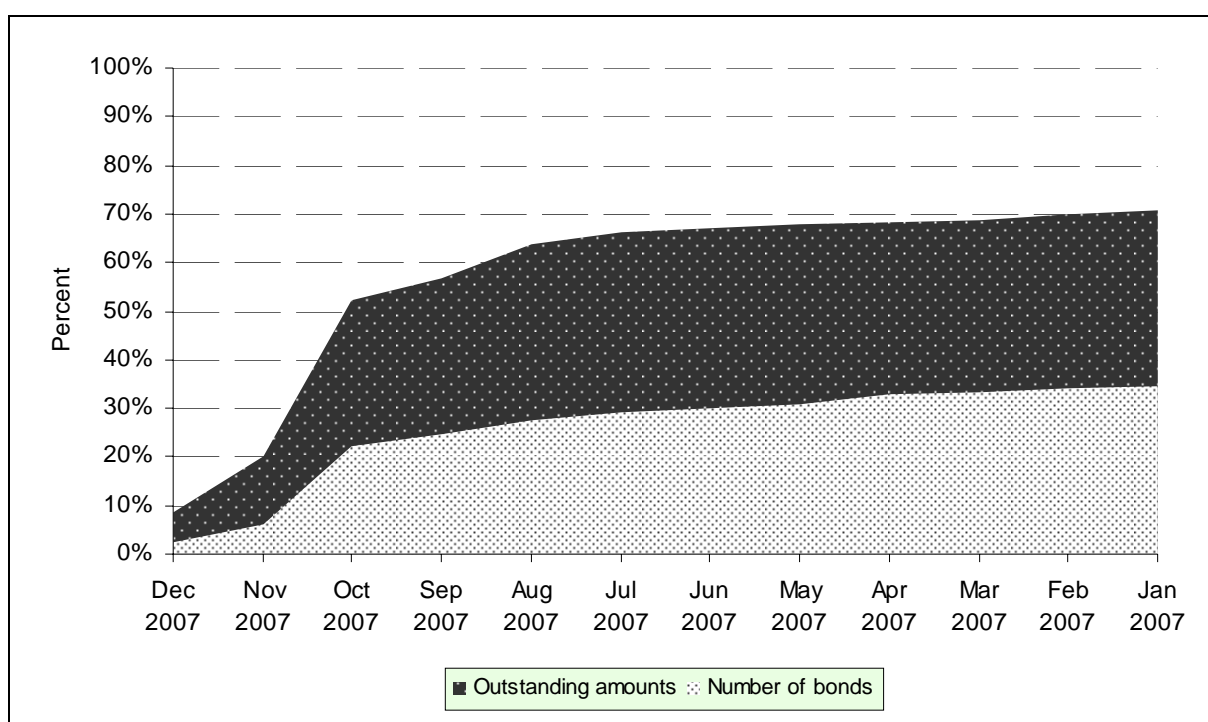
³ A good introduction to more sophisticated models used to estimate prepayment is that by Kang and Zenios (1992).

Valuation

The outstanding amounts of securities included in the SPV balance sheet and securities issues statistics are valued at nominal value. In financial accounts and balance of payments statistics however, international guidelines prescribe market values. The extent to which this is possible depends on the availability of market prices for structured debt.

An investigation for this paper into the availability of trade prices showed that the commercial data provider delivered a trade price for December 2007 for only 52 out of 2004 bonds. If the range of useful prices is extended to prices less than a year old, the coverage increases very significantly but still to only 696 or 35% of bonds, ie just 35% of bonds was traded at least once during 2007. Although this proportion is alarmingly low, the price coverage calculated in terms of amounts outstanding is much more reassuring. Due to the fact that large tranches are traded more often than the smaller tranches, the coverage of prices rises to 71% for 2007 when measured this way. In fact, the coverage already reaches 66% when the range is extended to cover prices up to a maximum of just 6 months old (see figure 3).

Figure 3
Availability of prices to value year-end stocks
for Dutch structured debt during 2007



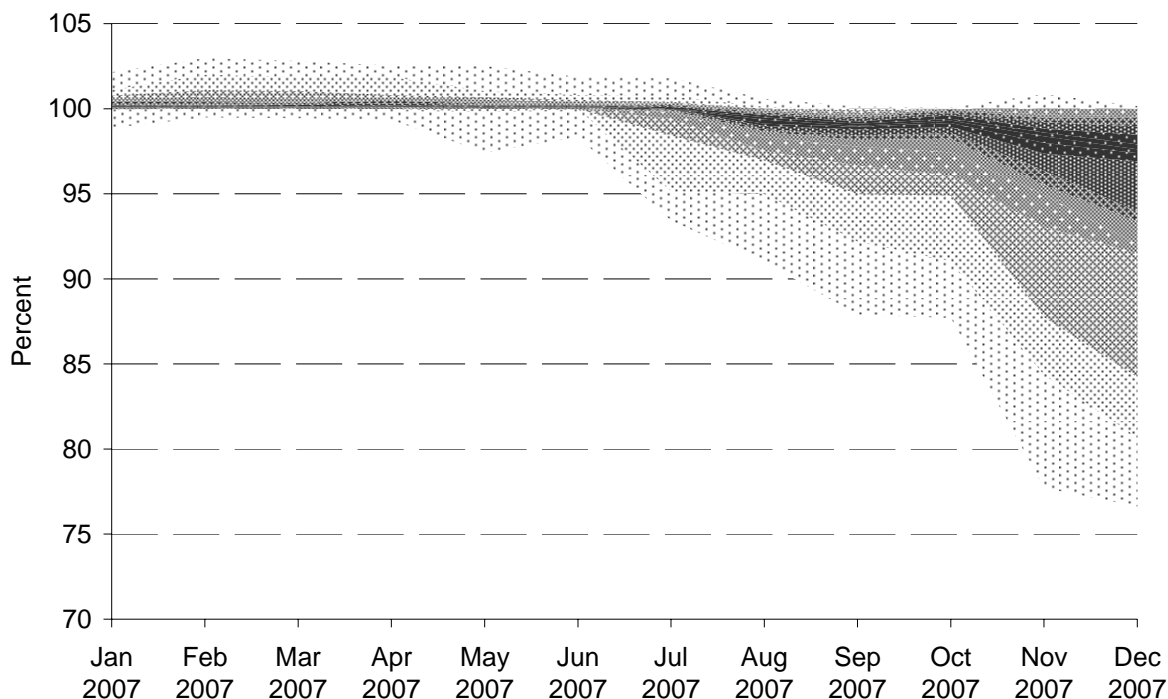
Source: De Nederlandsche Bank.

Those securities without a relatively recent price are valued at 100% or, if available, the issue price in the compilation of national accounts and balance of payments statistics in the Netherlands. As a high proportion of structured bonds have a floating coupon rate, it was thought that their price would not deviate much from 100% anyway. This assumption has been severely tested in recent months. At the start of 2007, 90% of bonds for which a trade price was reported had a price of between 99.5% and 102.1%. By December 2007, the range had broadened to 76.6–100.2% (see figure 4). It seems safe to assume that the aggregate outstanding amounts at market value are overestimated to the extent that securities without a recent price should be valued below 100%. For the moment, however,

when even market participants are uncertain about the correct price of these securities, estimation of prices is not a very attractive alternative, even if it were feasible.

Figure 4

**Distribution of prices by quintiles
for Dutch structured debt during 2007**



Source: De Nederlandsche Bank.

The lack of price information due to the fact that most securities are never or hardly ever traded can also be approached from another angle. There is evidence that the originators themselves figure prominently among the investors in the securities. Banks thus turn their assets into negotiable securities, making them pledgeable for repurchase agreements since many central banks in Europe accept these securities as collateral in open market operations. In case banks carry these securities as “held-to-maturity” (which is suggested by the lack of trading), they will not be measured at fair value on their balance sheet but at amortised cost. The valuation of the securities will thus be very close to the value of the original assets if they had not been derecognised. This brings us to the question of whether securities that are not intended to be traded and are valued by investors at close to nominal value should be regarded as securities at all. Both the UN’s Advisory Expert Group on National Accounts and the Balance of Payments Committee at the IMF, however, have decided not to reclassify securities as loans when they are not traded in practice (Shrestha 2005).

Unresolved methodological issues

There remain two important methodological questions that have an important bearing on the measurement of structured debt and SPV balance sheets, but have not yet been resolved. These questions are the recognition of SPVs as institutional units and the treatment of credit derivatives.

In their comment on the draft SNA chapter on institutional units and sectors, Lyon and Wright of the Bank of England argue that SPVs should not always be regarded as separate institutional units. They also argue that in some cases the original assets are kept on the balance sheet of the originator, which could lead to double-counting. To avoid this, they propose to follow IFRS rules for the derecognition of assets, which are laid down in IAS 39, paragraphs 18–20 for the compilation of statistics.

The consequence of not treating SPVs as separate institutional units but instead consolidating them with the originator is that the securities issued by SPVs would then not be classified as issued by an other financial intermediary (S.123) but in most cases by a monetary financial institution (S.122). In light of the fact that (at least in the Netherlands) SPVs cannot be considered subsidiaries of the originator, whether consolidation is even possible seems questionable. It would also mean that the outstanding amounts of securities issued by monetary financial institutions would double and that it would no longer be possible to identify the securities separately. The treatment of SPVs that Lyon and Wright propose would therefore lead to a loss of information on what has become an important class of securities.

The potential for double-counting when the originator does not derecognise the original assets is a serious problem. IAS 39, however, paragraphs 18–20 focus on the right to receive the cash flows from the original assets, which for a “true-sale” securitisation lie clearly with the SPV. In the case of a synthetic securitisation, the originator retains ownership of the original assets and the potential for double-counting is nil.

The final issue raised here is the treatment of credit derivatives. SPVs involved in synthetic securitisation basically act as the counterparty to the originator in a credit derivative. In such a contract, the SPV receives a premium from the originator. In return, the SPV compensates the originator for any losses (due to bankruptcy or failure to pay of the debtors) on a pool of assets. The guidelines published by the IMF in its supplement to the fifth edition of the *Balance of Payments Manual* mention only that certain credit derivatives are more properly classified as insurance (paragraph FD 31). They do not mention which criteria should be used to make this distinction. Unfortunately, although the economic significance of these contracts is growing, this has not been discussed in preparation of the revisions of either the *Balance of Payments Manual*, nor the System of National Accounts. For the moment, the preferred treatment of credit derivatives therefore remains unclear.

Summary and conclusions

The Netherlands Bank compiles various statistics involving the issue of or investment in structured debt instruments. For these statistics, the Netherlands Bank increasingly depends on the information provided by a commercial data provider. Although costly, the electronic form in which it is delivered, its coverage and quality make it an excellent source for accurate and up-to-date information. Due to the large volumes involved, both in terms of amounts outstanding as well as the number of securities, collection of information from public sources is no longer efficient. The commercial data are used for several other statistical areas, which reduces the average costs to the compiler. The quality of commercial sources notwithstanding, data on prices are very incomplete. This problem can however be mitigated by allowing for the use of prices up to half a year old. As far as methodology is concerned, a number of questions remain unresolved, specifically regarding the recognition of SPVs as institutional units and the treatment of credit derivatives.

Annex

Table 1

Balance sheet of Special Purpose Vehicles in the Netherlands

EUR million

	2002	2003	2004	2005	2006	2007
Assets						
1. Mortgages	36,361	56,239	65,241	81,956	112,581	176,368
2. Loans	7,064	6,964	8,652	9,667	14,744	25,948
3. Shares	0	0	0	0	0	0
4. Deposits	21,696	22,644	14,049	36,620	38,127	61,777
5. Cash	1,485	2,503	2,123	3,262	2,633	2,009
6. Other assets	7,539	7,358	7,552	3,620	3,022	3,320
Total assets	74,145	95,708	97,617	135,125	171,108	269,422
Liabilities						
1. Equity	1	1	2	2	3	3
2. Long-term debt securities	71,998	92,502	94,415	131,556	167,467	266,153
3. Loans	175	306	433	444	503	392
4. Other liabilities	1,972	2,898	2,727	3,122	3,136	2,875
Total liabilities	74,145	95,708	97,577	135,125	171,108	269,422

Note: excluding SPVs with foreign assets set up by non-resident originators.

Source: De Nederlandsche Bank.

References

IMF (2000): *Financial derivatives, A supplement to the fifth edition of the balance of payments manual*, Washington DC.

Joosen, EPM and MG van 't Westeinde (2002): *Securitisatie*, NIBE-SVV, Amsterdam.

Kang, P and SA Zenios (1992): "Complete prepayment models for mortgage-backed securities", *Management Science*, 38(11), November, pp 1665–85.

Kendall, LT and MJ Fischman (1996): *A primer on securitization*, MIT Press, Cambridge.

Lyon, M and C Wright (2007): *The statistical treatment of securitisation vehicles*, Bank of England.

Shrestha, M (2005): "Borderline between securities and other financial instruments", paper presented at the fifth meeting of the Advisory Expert Group on National Accounts (AEG), 27 June to 1 July, 2005.