

Aggregate debt securities statistics: classification by sector, currency, maturity and financial instrument

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Background

Debt securities statistics have been traditionally presented on a market-segmented basis, decomposed between those issued and traded in domestic, international and all markets.² This presentation was developed in response to international debt securities markets increasing their role in global financial intermediation in the 1980s. The data have also served to complement international banking statistics to provide a more comprehensive monitoring of international financing market activity.

More recently, a number of studies and policy papers – see, for example, the Committee on the Global Financial System (2007) – have suggested that apart from market segmentation, a minimum number of additional ways to classify aggregate debt securities statistics would be useful for the analysis of financial markets, particularly from the perspective of financial stability. This background note outlines a range of classifications for the presentation of debt securities statistics across sectors, currencies, maturities and financial instruments.

National institutional and regulatory arrangements of debt securities markets have determined how statistics are presented. At the same time, there have been no recommendations made to national compilers to change the approach that they use to report debt securities statistics. This has resulted in statistics with gaps, and that are inconsistent, opaque and lacking in international comparability. Despite this, it is important to examine how existing national data can be “sliced and diced”. This will increase the international comparability and transparency of debt securities data and facilitate improved analysis. Fortunately, compilers of debt securities statistics have well established international statistical standards, guides and manuals to help them with this exercise, though there is no single international standard for the presentation of debt securities statistics.

Sector

From a financial stability perspective, it is important to analyse and understand the relative size of different issuing and holding sectors in domestic debt securities markets, including non-residents. In order to analyse the growing role of financial corporations outside deposit-takers, measures of debt securities issued and held through institutional investors (eg pension funds) are important. Knowledge of the openness of national capital markets can also be gained by having accurate data on the issuance activity of non-residents in domestic markets as well as on the holdings of domestic debt securities by non-residents.

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² The BIS international and domestic debt securities statistics have been published since the mid-1980s and early 1990s respectively. Available via the Internet: <http://www.bis.org/statistics/secstats.htm>.

The *System of National Accounts 2008 (2008 SNA)* groups resident institutional units into five mutually exclusive sectors: non-financial corporations; financial corporations; general government; non-profit institutions serving households (NPISH), and households. The coverage of each sector is outlined below.

Non-financial corporations

The non-financial corporations sector comprises resident corporations (and non-profit institutions) whose principal activity is the production of goods and non-financial services. Some non-financial corporations may have secondary financial activities, such as producers or retailers of goods that provide consumer credit directly to their customers. Such corporations are classified as non-financial corporations, provided their main activity is non-financial. The *2008 SNA* divides the non-financial corporations sector, on the basis of the types of corporations that exercise control over them, into: national private non-financial corporations; foreign controlled non-financial corporations; and public non-financial corporations.

Financial corporations

The financial corporations sector consists of all resident corporations principally engaged in providing financial services to other institutional units. The production of financial services is the result of financial intermediation, financial risk management, liquidity transformation or auxiliary financial activities. Financial corporations incur credit and financial risks, have separate set of accounts for their financial intermediation activities, and provide financial services within the total production of goods and services.

The *2008 SNA* identifies nine sub-sectors within the financial corporations sector – central bank, deposit-taking corporations except the central bank, money market funds (MMF), non-MMF investment funds, other financial intermediaries except insurance corporations and pension funds, financial auxiliaries, captive financial institutions and money lenders, insurance corporations and pension funds.

General government

Government agencies are unique kinds of legal entities established by political processes that exercise legislative, judicial or executive authority over other entities within a given area. Within a single territory there may be different levels of government. The *2008 SNA* provides two methods for delineating the sub-sectors of the general government sector. The first method divides general government into: central government, state government, local government and social security funds. The second method subsumes the social security funds within the general government sub-sectors – central, state, local – in which they operate. The choice between the methods depends on the magnitude and organisation of the social security funds, as well as on the extent to which their management is independent of the government agencies with which they are associated.

Households

A household is a small group of persons who share the same living accommodation, pool some or all of their income and wealth, and consume certain types of goods and services collectively, mainly housing and food. Unincorporated enterprises are classified as households.

Non-profit institutions serving households (NPISH)

NPISH provide goods and services to households free of charge or at prices that are not economically significant.³ NPISH consist mainly of associations, such as trade unions, professional or learned societies, consumers' associations, political parties (except in single-party states where the political party is included in the general government sector), churches and religious societies (including those financed by the general government sector); social, cultural and recreational sports clubs and organisations providing goods and services for philanthropic purposes rather than those that control them.

Currency

Concerns about currency mismatches may lead to interest in the use of the domestic and foreign currencies in domestic and international debt securities markets. In terms of financial stability, countries that have tax revenue denominated in local currency and debt denominated in foreign currencies can be vulnerable to a large increase in debt repayments during a sharp exchange rate depreciation, even if the initial level of debt is not high. According to the *Balance of Payments Manual*, 6th ed (*BPM6*), financial assets and liabilities can be classified as domestic or foreign currencies. Additional breakdowns into major currencies may be desirable.

Maturity

BPM6 indicates that debt securities can be classified as either short term or long term. Short term is defined as payable on demand,⁴ or with a maturity of one year or less. Long term is defined as having a maturity of more than one year, or with no stated maturity. Debt securities statistics with this split are useful to provide information on when most debt obligations are due.

Maturity may also relate to original and remaining (or residual) maturity. Original maturity is the period from the issue date until the redemption of a debt security. Remaining maturity is the period from the reference date until the final contractually scheduled payment.

Data on both original and remaining maturity are accommodated by the following split:

- (a) Short term on an original maturity basis;
- (b) Long term on an original maturity basis that will mature within one year or less; and
- (c) Long term on an original maturity basis that will mature in more than one year.

Item (a) can be combined with item (b) to derive liabilities due within one year, that is, short-term debt on a remaining maturity basis. Alternatively, item (b) can be combined with item (c) to derive long-term debt on an original maturity basis.

A question is whether data should be reported on an original or remaining maturity basis. The original term to maturity concept is useful for classifying financial instruments in broad terms, and it is likely that most compilers will report data based on this concept. However, it

³ Non-profit institutions financed and controlled by government are part of the general government sector.

⁴ Payable on demand refers to a decision by the creditor, an instrument where the debtor can repay at any time may be short term or long term.

may also be useful to report data where maturity is based on the time remaining until payment of the outstanding debt obligation, or remaining maturity basis. Those interested in debt positions and debt servicing capabilities might prefer data on a remaining maturity rather than an original maturity basis. This concept is more closely related to duration, and given the tendency for debt securities with the same duration to have a similar yield, remaining differences may then be due to the credit risk of the borrower, or market liquidity etc. It would be useful to provide an estimate of total long-term debt securities on a remaining basis with a term to maturity of one year or less.

Another question is whether maturity can be matched with instrument breakdown. When debt securities markets were in their infancy, it is conceivable that short-term debt securities would have comprised treasury bills, bank bills, certificates of deposit (CDs), commercial paper (CP) etc, and long-term debt securities would have comprised bonds and notes. Financial innovation over the past few decades now means that financial markets are more sophisticated than they once were. CP and CDs can be issued with a term to maturity of less than one year as well as more than one year. If, for example, all CP and CDs are treated as short-term debt securities, there is a risk of upward bias to the positions for short-term debt securities and a downward bias to the positions of long-term debt securities.

Financial instrument

There may also be interest in issuance and holdings of different types of financial instruments. From a financial stability perspective, there is growing interest in tracing the importance of credit risk transfers, particularly when monitoring securitisation.

BPM6 provides some examples of debt securities – bills, bonds, bankers' acceptances, CDs, CP, debentures, asset-backed securities (ABS), non-participating preferred stocks or shares, convertible bonds, indexed-linked securities and stripped securities – and a limited list for short-term debt securities – treasury bills, negotiable CDs, bankers' acceptances, promissory notes and CP.

The *Monetary and Financial Statistics Compilation Guide (MFSC Guide)* nominates some standard types of debt securities, and some specific types that are issued and traded in international markets.

- Short-term debt securities sold on a zero coupon (discount) basis include: treasury bills and other securities issued by central government or its agencies; tax anticipation notes and other debt securities issued by state and local governments; commercial and financial paper issued by non-financial and financial corporations; negotiable certificates of deposit issued by deposit-taking corporations, and bankers' acceptances.
- Long-term debt securities sold on a fixed-rate coupon basis include: central government bonds; general obligation and revenue bonds issued by state government and municipalities; corporate bonds; negotiable certificates of deposit issued by deposit-taking corporations; and preferred stock.
- Pass-through debt securities and other asset-backed securities (including principal-only and coupon-only strips).
- Debt securities with embedded derivatives including: denominated in foreign currency; variable interest rate (including with interest caps, floors, or collars); interest or principal indexed to equity values, commodity prices, or other reference variables; callable at the option of the issuer; puttable at the option of the holder; convertible to equity shares; extendable maturity; and credit derivative features.

- Debt securities issued and traded in international markets that are short term include: London certificates of deposit – negotiable certificates of deposit issued by a London bank or a London branch of a foreign bank; euro commercial paper and euronotes; and euro bankers' acceptances.
- Debt securities issued and traded in international markets that are long term include: global bonds that are issued simultaneously on the domestic and euro market; eurobonds that are issued by an issuer in a foreign country and denominated in the eurocurrency (US dollar, euro, yen etc) and underwritten and sold by an international syndicate of financial corporations; Brady bonds that are issued to refinance a developing country's debt to foreign commercial banks, and floating rate notes (FRN) that are medium- to long-term securities with variable rates usually linked to Libor.

The ECB *Statistical Classification of Financial Markets Instruments* lists a range of debt securities split between short term and long term.

- Short-term debt securities include: treasury bills and other short-term paper issued by general government; negotiable short-term paper issued by financial and non-financial instruments, such as CP, commercial bills, promissory notes, bills of trade, bills of exchange and CDs; short-term securities issued under long-term underwritten note issuance facilities (NIF), and bankers' acceptances.
- Long-term debt securities include: bearer bonds; subordinated bonds (or debt); bonds with optional maturity dates, the latest of which is more than one year away; undated or perpetual bonds; FRN; index-linked securities, where the value of the principal is linked to a price index, the price of a commodity or to an exchange rate index; deep-discounted bonds and zero coupon bonds; eurobonds; global bonds; privately issued bonds; securities resulting from the conversion of loans; loans that have become negotiable de facto; debentures and loan stock convertible into shares; shares or stocks that pay a fixed income but do not provide for participation in the distribution of the residual value of the corporation on dissolution, including non-participation preference shares; financial assets issued as part of the securitisation of loans, mortgages, credit card debt, accounts receivable and other assets.

Other possible classifications

With regard to monetary policy, the share of debt comprising fixed and variable interest rate debt securities is relevant, particularly in the analysis of the monetary policy transmission mechanisms. In the case where a large share of debt is issued with a variable interest rate, the interest rate channel of the monetary policy transmission mechanism is likely to be more significant. Hence, a possible additional breakdown is fixed and variable interest rate debt securities. From a financial stability perspective, there is interest in information on debt securities split by credit rating, that is, prime, sub-prime and unrated securities.

Conclusion

In this background note, a range of classifications for aggregate debt securities statistics have been outlined across sectors, currencies, maturities and financial instruments. Existing international standards, guides and manuals already provide a sound approach with most of these classifications. Debt securities statistics presented consistently and transparently will

help facilitate international comparability, and assist with monetary policy and financial stability analysis.

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