



EUROPEAN CENTRAL BANK

STATISTICAL CLASSIFICATION OF FINANCIAL MARKETS INSTRUMENTS

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I INTRODUCTION

Financial markets statistics are intensively used by central banks to analyse the relationship between monetary policy and the structure and dynamics of financial markets. These markets are a key channel for the transmission of monetary policy impulses to the economy. Moreover, the developments in financial markets reflect market participants' expectations of future economic developments.

Statistics derived from various financial markets instruments provide complementary information for monetary policy purposes. Generally, the collected information focuses on prices (including remuneration rates) and volumes of financial markets instruments. The prices of financial markets instruments provide valuable information because of their forward-looking nature and are used to gain insight into market expectations and to monitor reactions to shocks to the economy. The transaction volumes are of particular interest in assessing the importance of an instrument and the relevance of its price developments. In addition, volume statistics, including statistics on outstanding amounts and turnover, can shed light on shifts between different types of financial markets instruments, which may influence the components of monetary aggregates and the functioning as well as the stability of the financial system in general. Finally, in the euro area context, financial market statistics and indicators also enable the euro area-wide integration of financial markets to be monitored.

Due to the still fragmented character of the financial markets in the euro area, the provision of harmonised, comparable, euro area-wide financial markets statistics is a particular challenge for the statisticians of the Eurosystem. The work of statisticians and users is currently also commonly complicated by the lack of a uniform and universally used classification of financial markets instruments.

The classification outlined in this document is based on market terminology and usage. Since

financial markets data are used for economic analysis and forecasting, it is important to relate the categories to European and worldwide statistical standards. These are the European System of Accounts (ESA 95) and the System of National Accounts (SNA 93), which are mutually consistent. However, the ESA 95 does not yet provide a detailed breakdown of financial derivatives and does not make an explicit reference to foreign exchange markets. For these variables, the following sections relate the classification mainly to the BIS Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity.

The classification of financial markets instruments described here has been crafted with a statistical perspective in mind. It is meant to be used by market participants, researchers and statisticians. It thus does not fully mimic other existing classifications like the ISO CFI (Classification of Financial Instruments), which provides a set of codes that can be used by all market participants in an electronic data processing environment and permits electronic communication of related data between participants.

2 STATISTICAL CLASSIFICATION OF FINANCIAL MARKETS INSTRUMENTS

2.1 DEFINITION OF A FINANCIAL MARKETS INSTRUMENT

The definition of financial markets instruments used here is based on two international standards that are relevant for financial markets and statistics: the International Accounting Standards (IAS) and the ESA 95. IAS 32.11 defines a financial (markets) instrument as a contract that gives rise to a financial asset of one entity and a financial liability (or equity instrument) of another entity, highlighting the fact that financial markets instruments represent a store of value without possessing an intrinsic value of their own. In turn, this classification makes use of

the ESA 95 to define financial assets. According to paragraph 7.20, financial assets are economic assets¹, comprising a means of payment (e.g. currency), financial claims and economic assets which are close to financial claims in nature (e.g. shares).

Following the IAS definition, the classification below thus disregards those financial assets for which no counterpart liability exists, namely those financial assets classified in the ESA category monetary gold and special drawing rights (AF.1). Moreover, the financial asset categories currency (AF.21), insurance technical reserves (AF.6) and other accounts receivable/payable (trade credits and the like, AF.7) are not included here.

For the sake of completeness, this classification will also include foreign exchange transactions and derivatives, and – as memo items – commodities (including non-monetary gold). The latter are clearly not financial markets instruments, but are regularly traded on financial markets. In addition, from an economic perspective these are the commodities underlying commodity derivatives contracts, which clearly are financial markets instruments. Finally, the fact that commodity derivatives contracts are included in this classification does not imply that all commodities or their related derivatives are relevant for monetary policy purposes.

2.2 CLASSIFICATION

The classification deals with financial markets instruments traded in the following markets:

- markets for interest rate instruments;
- equity markets;
- markets for investment and money market funds' shares/units
- foreign exchange markets; and
- other financial markets.

Moreover, the classification builds on the ESA 95 and is thus consistent with the statistical framework of the European System of Central Banks (ESCB). The prevailing

statistical framework is also used to determine to which category a specific financial markets instrument should be allocated.

Table 1 presents an overview of the statistical classification of financial markets instruments and the main breakdowns to be considered for each instrument.² The first column contains the five categories in which financial markets instruments are classified: interest rate instruments; equity-related instruments; investment and money market funds' shares/units and related instruments; foreign exchange and related instruments; and commodity derivatives, credit derivatives and other financial markets instruments. Commodities are added as a memo item. The additional columns include further instrument details/breakdowns and other statistical features. Among these breakdowns, the ESA 95 and Regulation ECB/2001/13 have a clear view on *residence* for statistical purposes: residence is determined by the location of the creditor, the debtor, the issuer or the notional resident unit which incurs the liability, and not by the location of a possible parent institution. Thus, the Frankfurt subsidiary of an American bank is treated as a monetary financial institution (MFI) resident in Germany and contributes to the euro area MFI balance sheet, monetary and other statistics. Residence is a relevant feature of the classification because it may shed light on the integration of markets.

Derivatives are included in the same main category as the underlying instruments because their prices contain market expectations about future prices of the underlying instrument and because a close economic linkage exists between derivatives and their underlying instruments, e.g. for hedging purposes or, more generally, to manage risk exposure.³ As the

1 The ESA 95 in turn defines economic assets as entities functioning as a store of value over which ownership rights are enforced by institutional units, individually or collectively, and from which economic benefits may be derived by their owners by holding them or using them over a period of time.

2 The list of breakdowns might be condensed or modified depending on the purpose of the statistics or data availability.

3 See also Annex 2 on the statistical treatment of derivatives.

Bank for International Settlements also collects comprehensive data on derivatives, the classification in this note generally follows the categorisation and conventions used by the BIS. Derivatives belong to two broad categories: forward-type derivatives and option-type derivatives. The most relevant types of derivatives are: swaps, options, futures, outright forwards and forward rate agreements. Derivatives with more than one underlying instrument should be allocated to the main underlying instrument or, if this is not feasible, be classified in the risk-type category which is highest in the following list.

- I. Credit
- II. Commodity
- III. Equity
- IV. Investment and money market funds
- V. Foreign exchange
- VI. Interest rate

This means that, for instance, a derivative protecting the holder equally against a credit event and an interest rate risk is classified as a credit derivative (see Table 1, item 5.2), whereas a derivative linked to commodities and interest rates is categorised as a commodity derivative (see Table 1, item 5.1).

In turn, this implies that instruments classified as interest rate derivatives (see Table 1, item 1.2) are the *purest* kind of derivatives.

Table 1 presents the conceptual classification of financial markets instruments traded on various markets.

2.3 CONSISTENCY WITH ESA 95 CATEGORIES

The consistency with ESA 95 categories is based on the use of ESA 95 definitions for the main types of instruments.

Table 2 summarises the close links between the ESA 95 categories and the classification of financial markets instruments. It shows that some financial assets as defined in the ESA 95 are not regarded as relevant for a classification of financial markets instruments and are therefore excluded from this classification.

In terms of terminology, it has been intended to use definitions of relevant financial markets instruments that are consistent with the ESA 95. This facilitates the linkage of all kinds of statistics, which in turn enhances their analytical usefulness.

2.4 MAIN INSTRUMENTS COVERED BY THE CLASSIFICATION AND DETAILED LINKS WITH THE ESA 95

2.4.1 INTEREST RATE INSTRUMENTS

The term “Interest rate instruments” as a description of a category of financial markets instruments occurs neither in the ESA 95 nor in other statistical classifications. As Table 2 illustrates, its components can however be related to ESA 95 categories.

Deposits, loans and debt securities

Deposits and loans

The ESA 95 states that the initiative to contract a loan normally lies with the borrower (and, implicitly, that the initiative in placing a deposit lies with the creditor). The ECB’s bank (MFI) balance sheet statistics include the category “deposits” only on the liabilities side of the balance sheet, and the category “loans” only on the assets side. As the explanatory notes explain (Regulation ECB/2001/13, Annex I, Part 3), an interbank placement is thus to be recorded as a deposit by the MFI taking the funds and as a loan by the MFI placing them. The distinction between deposits/loans and debt securities (see below) is that securities are evidenced by negotiable documents recording the debt, while deposits/loans are not.

Table I Statistical classification of financial markets instruments traded on various markets

1 Interest rate instruments	1.1 Deposits, loans and debt securities	1.1.1 Deposits and loans	1.1.1.1 ¹⁾ Short term (up to and including 1 year)	Further potential breakdown by: i. deposits versus loans; ii. currency of denomination; iii. type of collateralisation (e.g. repos); iv. rating; v. residence of counterparty; vi. counterparty sector (according to ESA 95); vii. industry (partially, according to NACE).	
			1.1.1.2 ¹⁾ Long term (over 1 year)		
		1.1.2 Debt securities	1.1.2.1 Short term (up to and including 1 year ²⁾)		Further potential breakdown by: i. original maturity (in particular debt securities up to and including 1 year and debt securities from 1 year up to and including 2 years); ii. currency of denomination; iii. type of collateralisation/securitisation (e.g. covered bonds, asset-backed securities, mortgage-backed securities); iv. rating; v. coupon type (fixed, variable, zero); vi. residence of issuer; vii. sector of issuer (according to ESA 95); viii. industry (partially, according to NACE).
			1.1.2.2 Long term (over 1 year ²⁾)		
	1.2 Interest rate derivatives	1.2.1 Forward-type derivatives		Further potential breakdown by: i. type of market (exchange traded/OTC); ii. type of instrument; iii. counterparty sector.	
		1.2.2 Option-type derivatives			
2 Equity-related instruments	2.1 Stocks	2.1.1 Quoted stocks		Further potential breakdown by: i. residence of issuer; ii. ESA sector of issuer; iii. industry (partially, according to NACE).	
		2.1.2 Unquoted stocks			
		2.1.3 Other equity			
	2.2 Equity-linked derivatives	2.2.1 Forward-type derivatives		Further potential breakdown by: i. type of market (exchange traded/OTC); ii. type of instrument; iii. counterparty sector.	
2.2.2 Option-type derivatives					
3 Investment and money market funds' shares/units and related instruments	3.1 Investment and money market funds shares/units	3.1.1 Money market funds		Further potential breakdown by: i. rating; ii. residence of fund.	
		3.1.2 Bond funds ³⁾			
		3.1.3 Equity funds ³⁾			
		3.1.4 Mixed funds ³⁾			
		3.1.5 Real estate funds ³⁾			
		3.1.6 Hedge funds ³⁾			
		3.1.7 Other funds ³⁾			
	3.2 Derivatives on investment and money market funds' shares/units	3.2.1 Forward-type derivatives		Further potential breakdown by: i. type of market (exchange traded/OTC); ii. type of instrument; iii. counterparty sector.	
3.2.2 Option-type derivatives					
4 Foreign exchange and related instruments	4.1 Foreign exchange	4.1.1 First currency pair			
		...			
		4.1.n n-th currency pair			
	4.2 Foreign exchange derivatives	4.2.1 Forward-type derivatives		Further potential breakdown by: i. type of market (exchange traded/OTC); ii. type of instrument; iii. counterparty sector.	
4.2.2 Option-type derivatives					
5 Commodity derivatives, credit derivatives and other financial markets instruments	5.1 Commodity derivatives	5.1.1 Forward-type derivatives		Further potential breakdown by: i. type of market (exchange traded/OTC); ii. type of instrument; iii. counterparty sector.	
		5.1.2 Option-type derivatives			
	5.2 Credit derivatives	5.2.1 Forward-type derivatives		Further potential breakdown by: i. type of instrument; ii. rating; iii. sector of the derivative writer.	
		5.2.2 Option-type derivatives			
	5.3 Other financial markets instruments				
Memo item: commodities	Gold				
	Oil				
	Other commodities				

1) Original maturity.

2) Residual maturity.

3) The type of funds and their definitions will be reviewed once the ECB has established its new approach for collecting statistics from investment funds.

Table 2 Statistical classification of financial markets instruments with links to the ESA 95

				Financial assets as defined in the ESA 95
1 Interest rate instruments	1.1 Deposits, loans and debt securities	1.1.1 Deposits and loans	1.1.1.1 ¹⁾ Short term (up to and including 1 year)	AF.22 Transferable deposits. AF.29 Other deposits. AF.4 Loans.
			1.1.1.2 ¹⁾ Long term (over 1 year)	
		1.1.2 Debt securities	1.1.2.1 Short term (up to and including 1 year ²⁾)	AF.33 Securities other than shares, excluding financial derivatives.
			1.1.2.2 Long term (over 1 year ²⁾)	
	1.2 Interest rate derivatives	1.2.1 Forward-type derivatives	AF.34 Financial derivatives.	
	1.2.2 Option-type derivatives			
2 Equity-related instruments	2.1 Stocks	2.1.1 Quoted stocks	AF.511 Quoted shares, excluding mutual funds shares.	
		2.1.2 Unquoted stocks	AF.512 Unquoted shares, excluding mutual funds shares.	
		2.1.3 Other equity	AF.513 Other equity.	
	2.2 Equity-linked derivatives	2.2.1 Forward-type derivatives	AF.34 Financial derivatives.	
		2.2.2 Option-type derivatives		
3 Investment and money market funds' shares/units and related instruments	3.1 Investment and money market funds' shares/units	3.1.1 Money market funds	AF.52 Mutual funds shares.	
		3.1.2 Bond funds ³⁾		
		3.1.3 Equity funds ³⁾		
		3.1.4 Mixed funds ³⁾		
		3.1.5 Real estate funds ³⁾		
		3.1.6 Hedge funds ³⁾		
		3.1.7 Other funds ³⁾		
	3.2 Derivatives on investment and money market funds' shares/units	3.2.1 Forward-type derivatives	AF.34 Financial derivatives.	
		3.2.2 Option-type derivatives		
4 Foreign exchange and related instruments	4.1 Foreign exchange	4.1.1 First currency pair		
		...		
		4.1.n n-th currency pair		
	4.2 Foreign exchange derivatives	4.2.1 Forward-type derivatives	AF.34 Financial derivatives.	
4.2.2 Option-type derivatives				
5 Commodity derivatives, credit derivatives and other financial markets instruments	5.1 Commodity derivatives	5.1.1 Forward-type derivatives	AF.34 Financial derivatives.	
		5.1.2 Option-type derivatives		
	5.2 Credit derivatives	5.2.1 Forward-type derivatives		
		5.2.2 Option-type derivatives		
	5.3 Other financial markets instruments	The allocation of instruments in this category to an ESA category of financial assets would have to be made on a case-by-case basis.		
	Memo item: commodities	Gold	Commodities are not financial assets.	
Oil				
Other commodities				

1) Original maturity.

2) Residual maturity.

3) The type of funds and their definitions will be reviewed once the ECB has established its new approach for collecting statistics from investment funds.

Other financial assets as defined in the ESA 95

AF.1	Monetary gold and special drawing rights.
AF.21	Currency.
AF.6	Insurance technical reserves.
AF.7	Other accounts payable/receivable.

Regulation ECB/2001/13 requires reporting of outstanding balance sheet items broken down by currency of denomination. This is a critical determinant of the interest rate on deposits/loans and other components of “interest rate instruments”, and therefore this breakdown should be applied throughout this group of instruments.

Since interbank deposits are as a rule not negotiable and bear a fixed interest rate throughout their term,⁴ only the original (or initial) *maturity* is relevant here. “Short-term” in the ESA 95 means with an original maturity of one year or less. Almost all wholesale market (and many retail) deposits/loans fall under this category. More detailed breakdowns would be useful. The ECB’s annual Money Market Study breaks down deposits/loans by original maturity as follows: overnight, tomorrow/next up to and including one month, over one month up to and including three months, three months up to and including one year, one year up to and including two years and more than two years.

The ESA 95 treats repos either as collateralised loans or as other deposits. The present classification treats them as loans but, given their special character, they are singled out, together with other collateralised loans/deposits. The further breakdowns of “deposits and loans” will thus be the following:

- i. deposits versus loans;
- ii. currency of denomination;
- iii. type of collateralisation (e.g. repos);
- iv. rating;
- v. residence of counterparty;
- vi. counterparty sector (according to ESA 95)⁵; and
- vii. industry (partially, according to NACE⁶)⁷

Debt securities

“Debt securities” corresponds to the ESA 95 category “Securities other than shares, excluding financial derivatives” (AF.33). Securities other than shares are defined in the ESA 95 as financial assets which are usually negotiable and traded on secondary markets. They give the holder the “unconditional right to a fixed or contractually determined variable money income in the form of coupon payments (interest) and/or a stated fixed sum on a specified date or dates or starting from a date fixed at the time of issue”. They do not give the holder ownership rights in the entity which issued them. Debt securities include, for example, the following instruments: Treasury bills, certificates of deposit, government and corporate bonds, and asset-backed securities.

In the context of the prices and yields of negotiable securities, *residual maturity* is the most relevant maturity concept as it is more closely related to the duration of the instrument than original maturity. Negotiable instruments with the same residual maturity show a tendency towards the same yield and remaining differences may then be ascribed to the credit standing of the borrower, the depth of the market in the instrument concerned, etc. Therefore, the classification subdivides debt securities into two categories of residual maturity, namely short-term (up to and including one year) and long-term (over one year).

The ESA 95 distinguishes between short and long-term debt securities, with a borderline at one year, in terms of *original maturity*. The ECB’s securities issues statistics apply the same distinction. Original maturity is a useful

4 This does not preclude e.g. the case of deposits which are overnight in principle but for which the interest rate increases if they are held for a longer period.

5 See Annex 1 on economic sectors in the ESA 95.

6 NACE is the Classification of Economic Activities in the European Community.

7 Such an allocation may be somewhat artificial if a corporation is composed of various production establishments that are active in different industries (e.g. manufacturing, trade and finance).

broad-brush way of classifying instruments. For instance, most money market instruments (Treasury bills, certificates of deposit, bankers' acceptances, commercial paper, etc.) fall into the short-term category. As an approximate way of identifying negotiable money market instruments and because of the definition of M3, the classification includes original maturity as one of the further classification criteria. By analogy to the category "deposits and loans", the classification suggests further breakdowns of "debt securities" by:

- i. original maturity (in particular up to and including one year and over one year up to and including two years);
- ii. currency of denomination;
- iii. type of collateralisation/securitisation (e.g. covered bonds, asset-backed securities or mortgage-backed securities);
- iv. rating;
- v. coupon type (fixed, variable, zero);
- vi. residence of issuer;
- vii. issuer sector (according to ESA 95); and
- viii. industry (partially, according to NACE).

Interest rate derivatives

The classification allocates financial derivatives to the same category as the underlying instrument (i.e. the type of financial asset or liability on which they are based). This category therefore presents information on derivatives relating to deposits (and loans) and debt securities.

Accordingly, a breakdown of interest rate derivatives into forward-type and option-type derivatives is recommended. These groups should then be further broken down by type of market (exchange traded or OTC), by

instrument (e.g. futures, swaps) and by counterparty sector.

2.4.2 EQUITY-RELATED INSTRUMENTS

"Equity-related instruments" corresponds to "Shares and other equity, excluding mutual funds shares" (AF.51) in the ESA 95 which defines shares and other equity as financial assets that provide property rights in the issuing corporation. Holders are generally entitled to a share in the profits and in the residual value of the business in the event of a liquidation but are not (unlike holders of debt securities) entitled to a fixed or predetermined variable money income. Nevertheless, the ESA 95 treats shares and other equity as a liability of the corporation to its shareholders. Although they are in principle always negotiable, shares may be quoted on a stock exchange or not quoted. The ESA 95 recognises various forms (redeemed shares, dividend shares, preference shares), some of which may be of minor practical importance in the euro area.

"Other equity" comprises all forms of equity which are not shares, including the equity in partnerships and in "quasi-corporations", i.e. entities which exhibit a similar economic and financial behaviour as corporations and keep a complete set of accounts, but have no independent legal status (for example branches).

Stocks are further broken down by:

- i. residence of the issuer;
- ii. ESA sector of the issuer; and
- iii. industry (partially, according to NACE).

A breakdown of equities by currency (as opposed to the location and the sector of the issuing corporation) is generally not relevant, since equities do not offer a fixed money income and do not have a fixed redemption value. A breakdown by maturity is not relevant either.

Stock market indices are not financial markets instruments and are thus not contained in this category as such – unless they are an integral part of a financial markets instrument (for example an option on a stock index).

Stocks

Quoted stocks

The sub-category “quoted stocks” covers all stocks – excluding shares/units of investment and money market funds – whose prices are quoted on a stock exchange or some other form of secondary market.

Unquoted stocks

This category comprises equity stocks whose prices are not quoted on a secondary market.

Other equity

Other equity comprises all forms of equity other than those classified above.

Equity-linked derivatives

“Equity-linked derivatives” covers both derivative instruments on single equities and those on equity indices. A breakdown of equity-linked derivatives into forward-type and option-type derivatives is recommended. In turn, these categories should be further broken down by type of market (exchange traded or OTC), by instrument (e.g. futures, swaps) and by counterparty sector.

2.4.3 INVESTMENT AND MONEY MARKET FUNDS’ SHARES/UNITS AND RELATED INSTRUMENTS

Investment and money market funds’ shares/units

Shares/units issued by investment and money market funds correspond to “Mutual funds shares” (AF.52) in the ESA 95. AF.52 comprises shares/units issued by entities called either mutual funds, unit trusts, investment trusts or other collective investment schemes, and refers to both open-ended and closed-ended funds. Irrespective of their structure (corporate or mutual), entities issuing these

shares/units are classified as financial corporations (S.12) in the ESA 95. Money market funds are classified as MFIs (S.122); other investment funds are classed as “other” financial intermediaries excluding insurance corporations and pension funds (S.123). If investment funds are corporations, the shares represent ownership rights. If they are mutual funds, the shares/units represent participations in the portfolio held by the fund.

The classification breaks down investment and money market funds by their purpose (which is closely related to the type of asset predominantly held by the fund). These categories are: money market funds; bond funds; equity funds; mixed (bond and equity) funds; real estate funds; hedge funds; and other funds. These categories and their definitions will be finalised on the basis of the forthcoming ECB Regulation on other financial intermediaries, of which investment funds are an integral part. Without prejudice to this Regulation, each investment fund category may be further broken down by location of the fund and, if possible, by rating. There is no breakdown by maturity (though it is clear that money market funds are likely to hold mainly short-term assets).

Derivatives on investment and money market funds’ shares/units

A breakdown of derivatives on investment and money market fund shares/units into forward-type and option-type derivatives is recommended. In turn, these groups are further broken down by type of market (exchange traded or OTC), by instrument (e.g. futures, swaps) and by counterparty sector.

2.4.4 FOREIGN EXCHANGE AND RELATED INSTRUMENTS

Foreign exchange

This category covers foreign exchange transactions. While they are not financial markets instruments as such, this category plays a crucial role for financial market

participants. Indeed, the market for exchanging currencies is the most liquid of all financial markets.

Foreign exchange derivatives

The derivatives included in this category are thus all foreign exchange derivatives to the extent that they have a market value or may be offset in the market. Consistent with existing BIS statistics, a breakdown of foreign exchange derivatives into forward-type and option-type derivatives is recommended. In turn, these groups are further broken down by type of market (exchange traded or OTC), by instrument (e.g. futures, swaps) and by counterparty sector.

2.4.5 COMMODITY DERIVATIVES, CREDIT DERIVATIVES AND OTHER FINANCIAL MARKETS INSTRUMENTS

The ESA 95 (§5.67) makes clear that options to buy or sell non-financial assets and commodity futures contracts are financial markets instruments, irrespective of whether they are designed to be settled physically or in cash. A breakdown of commodity derivatives into forward-type derivatives and option-type derivatives is recommended here.

In addition to commodity derivatives, credit derivatives are included. These have grown in importance over recent years and protect the holder against credit events, e.g. a downgrading or a default. Finally, this category consists of any other financial markets instrument that is not covered in the aforementioned categories. They would have to be allocated to existing ESA financial asset categories on a case-by-case basis.

3 CHANGE MANAGEMENT POLICY

To keep this classification up to date, minor upgrades may be introduced every year, if appropriate. Long-term reviews, which may result in major changes to the classification, will be conducted every three to five years, according to need.

ANNEXES

I ECONOMIC SECTORS IN THE ESA 95

The ESA 95 groups together into sectors institutional units which display similar economic behaviour. Some sectors are divided into sub-sectors. The aim is to add together transactions or balance sheets of similar entities to form coherent aggregates for the purpose of economic analysis.

Non-financial corporations (S.11) have as their principal activity the provision of goods and non-financial services through the market. Their activities are distinct from those of their owners (who may be households or part of the government sector).

Financial corporations (S.12) have as their principal activity the provision of financial intermediation or ancillary services through the market. Their activities are distinct from those of their owners.

S.12 has five sub-sectors. Monetary financial institutions (MFIs) are financial intermediaries which take deposits or close substitutes for deposits. These make up two of the five sub-sectors: the central bank (S.121) and other MFIs (S.122), the latter comprising credit institutions, money market funds, and a few other institutions. "Other" (non-monetary) financial intermediaries excluding insurance corporations and pension funds (S.123) form a heterogeneous group sharing the features that they do not take deposits or the like and are not insurance corporations or pension funds. They include in particular investment funds, financial vehicle corporations, financial corporations engaged in lending, securities and derivatives dealers and financial holding corporations. Investment funds (other than money market funds) account for about 75% of the total balance sheet of S.123 institutions in the euro area. Financial auxiliaries (S.124) do not themselves engage in financial intermediation but provide associated services, e.g. brokerage. Financial supervisory

authorities and mutual and pension fund managers are also included in S.124. Insurance corporations and pension funds (S.125) comprise insurance corporations (life, fire, accident, etc., insurers) and autonomous pension funds. "Autonomous" means that the pension funds make their own decisions and keep a complete set of accounts. Non-autonomous funds are part of the institutional unit which set them up, and thus of the concomitant sector.

The general government sector (S.13) is divided into four sub-sectors: central government (S.1311), state government (S.1312), local government (S.1313) and social security funds (S.1314). The common feature of the first three sub-sectors is that they provide services for collective or individual use (administration, defence, health and education, etc.) through the budget mechanism.

Finally, there are the sectors households (S.14) and non-profit institutions serving households (S.15).

The rest of the world sector (S.2) comprises all entities which are not resident in the economic territory concerned. Broadly, "not resident in" means "not having a centre of economic interest in".

2 STATISTICAL TREATMENT OF FINANCIAL DERIVATIVES

The key to the statistical treatment of derivatives is that the derivative should always be regarded as a separate financial markets instrument from the underlying instrument.

Financial derivatives may be based on an index, a commodity or a financial markets instrument. They may relate to market risk (arising from movements in prices, interest rates or exchange rates) or to credit risk (arising from changes in the credit standing of a borrower or category of borrowers, or even default). All that is necessary for them to be recorded in the statistical system is that they have a market value or may be offset in the market (meaning that a party to the contract can in effect reverse it by taking out another contract with an opposite effect).

The current market price of a derivative equals the value of the claim of one party to the contract on the other party. This price can be zero, as it is at the start of a swap and where a variable margin is continuously adjusted. Measuring the current market value of claims/liabilities implicit in derivatives contracts is what the ESA 95 and other statistical standards are concerned with. Some other points may be made on the statistical treatment of derivatives:

- If derivatives contracts are closed before maturity, or cash payments are made during the life of the contract (e.g. under interest rate swaps, or where a non-repayable margin is adjusted), the exchange of cash is treated in the accounts as a financial transaction repaying a liability.
- Delivery of the underlying financial markets instrument or commodity on maturity of the contract is treated as a separate transaction. Since this case illustrates nicely the point that the derivative is treated separately from the underlying instrument, an example may be helpful.

Example: A contracts to buy a barrel of oil from B at EUR 32. The spot price when the contract matures and A takes delivery is EUR 35. The purchase and sale of oil is recorded in the accounts at EUR 35. B is regarded as simultaneously paying A the amount of EUR 3 to extinguish his liability (A's asset) recorded under financial derivatives (AF.34). On balance, A pays B EUR 32, as agreed in the derivatives contract.

- The premium paid at the start of an option is recorded as a financial transaction (purchase of a financial asset in the form of the option) in AF.34. The seller of the option records a financial liability of the same amount also in AF.34. The treatment of a premium is to be distinguished from the payment of a fee or commission to a broker, which is recorded in the current account as a payment for services.
- As noted above, a non-repayable margin is a settlement under a derivatives contract and is recorded in the financial account (AF.34). By contrast, a repayable margin is treated statistically as a placement of collateral which remains the property of the depositor, and is recorded in "other deposits" (AF.29).
- If a derivative is embedded in the underlying financial markets instrument and cannot be separately identified, it is in effect ignored for statistical purposes. Thus, the IMF's supplement to its Balance of Payments Manual reads: "An embedded derivative (*a derivative feature that is inserted in a standard financial instrument and is inseparable from the instrument*) is not considered a financial derivative [...]. If a primary instrument such as a security or loan contains an embedded derivative, the instrument is valued and classified according to its primary characteristics, even though the value of that security or loan may well differ from the values of comparable securities and loans because of the embedded

derivative. Examples are bonds that are convertible into shares and securities with options for repayment of principal in currencies that differ from those in which the securities were issued.”

Counterparties to forward-type derivatives contracts have an unconditional obligation to deliver or receive cash or the underlying instrument of the contract, while in the case of option-type instruments the buyer has the right, but not the obligation, to deliver or receive cash or the underlying instruments. If derivatives entail both types of obligations, i.e. forward and option features, they should be classified as an option-type derivative instrument.

