

# The treatment of financial derivatives in *BPM6*

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## The Treatment of Financial Derivatives in *BPM6*

The main objective of this paper is to present the international standards for the statistical treatment of financial derivatives, based on the sixth edition of the *Balance of Payments and International Investment Position Manual (BPM6)*. *BPM6* provides clear and detailed guidance for the presentation of financial derivatives in the international accounts.

### I. Introduction

1. In the last 25 years, financial derivatives have become increasingly important in world finance. Financial derivatives are now traded actively on many exchanges throughout the world. Financial derivatives are also regularly traded outside exchanges by financial institutions, fund managers, and corporate treasurers in the over-the-counter (OTC) market.<sup>2</sup> Financial derivatives are also sometimes added to new issues of debt and equity securities, and may be embedded in these securities.

2. The significant increase in the volume and importance of financial derivatives in many economies since the mid-1990s led to the need to update the international statistical standards in order to present these financial instruments appropriately in the international accounts. The fifth edition of the *Balance of Payments Manual (BPM5)*, published in 1993, provided standards for the statistical treatment of exchange traded financial derivatives, including them in portfolio investment or in reserve assets. The *Supplement to BPM5*, published in 2000, identified financial derivatives as a financial instrument in its own right, separately recorded from portfolio investment.

3. The sixth edition of the *Balance of Payments and International Investment Position Manual (BPM6)*, published in December 2009 is the current international statistical standard for external sector statistics (<http://www.imf.org/external/pubs/ft/bop/2007/bopman6.htm>). *BPM6* provides a separate functional category “Financial Derivatives (other than Reserves) and Employee Stock Options (ESOs)”, with complete coverage of financial derivatives other than reserves. *BPM6* also provides clear and more detailed guidance for the presentation of financial derivatives in the international accounts.

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<sup>2</sup> A derivatives exchange is a market where individuals trade standardized contracts that have been defined by the exchange. The OTC market is an important alternative to exchanges, and measured in terms of the total volume of trading, has become much larger than the exchange-traded market.

## II. Definition and main features

### Definition

4. A financial derivative contract is a financial instrument that is linked to another specific financial instrument or indicator or commodity and through which specific financial risks (such as interest rate risk, foreign exchange risk, equity and commodity price risks, credit risk, and so on) can be traded in their own right in financial markets (*BPM6*, paragraph 5.80).<sup>3</sup> The value of a financial derivative contract derives from the price of the underlying instrument, but transactions and positions in financial derivatives are treated separately from the values of the underlying instruments to which they are linked.

5. Financial derivatives contracts are used for risk management, hedging, speculation, and arbitrage. Hedgers use financial derivatives to reduce the risk associated with the potential future price of an asset. Speculators use them to bet on the future movements in the price of an asset. Arbitrageurs take offsetting positions in two or more instruments to lock-in a profit due to a discrepancy between prices in two different markets.

6. Financial derivatives are not debt instruments. In general, no principal amount is advanced that is required to be repaid, and no investment income accrues on any financial derivative instrument. Nevertheless, an overdue obligation on a financial derivative contract is classified as an account receivable/payable (as the claim becomes a debt instrument).

### Risk Transfer

7. Financial derivatives enable parties to trade specific financial risks (such as interest risk, currency, equity and commodity price, and credit risk) to other entities more willing or better suited, to take or manage these risks. The risk embodied in a financial derivative contract can be traded either by trading the contract itself or by creating a new (“reverse”) contract offsetting the risks of the existing contract. Offsetability means that it is often possible to eliminate the risk associated with a financial derivative by creating a new but reverse contract having characteristics that countervail the risk underlying the first derivative.

### Valuation

8. The value of a financial derivative contract derives from the price of an underlying item (reference price). Because the future reference price is not known with certainty, the value of a financial derivative at maturity can only be estimated/anticipated. The reference price may relate to a commodity, financial instrument, interest rate, exchange rate, another derivative, an index, basket of prices, spread between two prices, etc. To calculate the value of a financial derivative, it is important that a prevailing market price for the underlying item be observable or estimated. Exchange traded derivatives have an observable price. The value of OTC derivatives is often established in markets with the use of models.

9. *BPM6* recommends that financial derivatives be valued at market prices in the balance of payments and International Investment Position (IIP) accounts. If market price data are unavailable, other fair value methods (such as option models or present values) may be used to value them (*BPM6*, paragraph 7.33).

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<sup>3</sup> The same definition is included in the System of National Accounts 2008 (2008 SNA), paragraph 11.111. The 2008 SNA is available at <http://unstats.un.org/unsd/nationalaccount/sna2008.asp>.

## Settlement

10. Typically, but not always, a financial derivative instrument allows counterparties to change their risk exposure without trading in a primary asset or commodity. Consequently, financial derivatives contracts are usually settled by net payments of cash, often before maturity, rather than by the delivery of the underlying item.

## Aggregation and Netting

11. In some cases, a clear distinction between assets and liabilities may not be feasible, such as for financial derivatives in the form of forward contracts, which could change between assets and liabilities. In such cases, it may not be possible to apply the net recording principle, which requires separate presentation of transactions in assets and transactions in liabilities. For such financial derivatives, net transactions in assets and liabilities combined may have to be recorded in the balance of payments accounts.

## III. Types of financial derivatives

12. There are two main types of financial derivative contracts – forward-type contracts and options. Both types of contracts are mainly related to market risk resulting from changes in market prices of securities, commodities, interest, and exchange rates.

### Forward-Type Contracts

13. A forward-type contract is an unconditional contract by which two parties agree to exchange a specified quantity of an underlying item (real or financial) at an agreed price (strike price) on a specified date (*BPM6*, paragraph 5.88).<sup>4</sup> Forward-type contracts include futures and swaps.<sup>5</sup> The organized exchange facilitates trading by determining the standardized terms and conditions of the contract and requiring a margin to be deposited to mitigate against risk.

14. At the inception of a forward-type contract, risk exposures of equal market value are exchanged, so the contract typically has zero value at that time, and no transactions are recorded. As the price of the underlying item changes, the market value of the derivative will change. Therefore, the classification of a forward-type contract may change between asset and liability positions. Many forward-type contracts involve net cash settlement payments, based on the difference between the agreed contract price and the prevailing market price of the spread between two reference prices, times quantity, for the underlying item. In general, a cash payment is recorded as a transaction that reduces the derivatives liabilities, and a cash receipt is recorded as a transaction that reduces the derivatives assets.

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<sup>4</sup> The term “forward” is often used more narrowly in financial markets, only referring to futures (forward-type contracts traded on organized exchanges) and not including swaps.

<sup>5</sup> A swap contract involves counterparties exchanging, in accordance with prearranged terms, cash flows based on the reference prices of the underlying items. Swap contracts classified as forward-type contacts include currency swaps, interest rates swaps, and cross-currency interest rate swaps.

## Options

15. An option is a derivatives contract in which the purchaser acquires from the seller (writer) the right to buy or sell – depending on whether the option is a call (buy) or a put (sell) – a specified underlying item (real or financial) at a specific price (strike price) on or before a specified date, in return for a premium paid to the writer of the option (*BPM6*, paragraph 5.85).

16. As the creation of an option involves the payment of a premium by the buyer to the writer, a transaction is recorded and a position established. Therefore, the buyer is always the creditor (and has the asset), and the seller/writer is the debtor (and has the liability) – in return for the option premium (often a percent of the nominal amount). The direction never changes from asset to liability and vice versa. Option contracts may expire worthless or are extinguished by a cash payment equal to their market value. Nevertheless, some option-type contracts are settled by the purchase of the underlying asset (e.g., purchase of the underlying asset, such as a stock or bond, at the strike price specified in the contract).

Forward-Type Contract	Options
<ul style="list-style-type: none"><li>No up-front payment (premium).</li><li>Contract has zero value at inception.</li></ul>	<ul style="list-style-type: none"><li>Up-front payment (premium).</li><li>Contract has value at inception.</li></ul>
<ul style="list-style-type: none"><li>During life of the contract, either party can be creditor/debtor (and it may change),</li><li>Forwards can switch between assets and liabilities for both counterparties.</li></ul>	<ul style="list-style-type: none"><li>The buyer is always the creditor, and the writer is always the debtor.</li><li>Along the contract, only asset for one counterparty and liability for the other.</li></ul>
<ul style="list-style-type: none"><li>Obligation for transaction at maturity.</li></ul>	<ul style="list-style-type: none"><li>Exercise at discretion of the buyer (holder).</li></ul>

## Credit Derivatives

17. Credit derivatives are financial derivatives whose primary purpose is to trade credit risk. They are designed for trading in loans and security default risk (*BPM6*, paragraph 5.93). Like many other financial derivative contract, credit derivatives are frequently drawn up under standard master legal agreements and involve collateral and margin procedures, which allow for a means to make a market valuation. Credit derivatives may take the form of forward-type or option contracts. For example, total return swaps exchange cash flows and capital gains/losses, which transfer both the credit risk and the market risk of the underlying asset. Under a credit default swap, premiums are paid in return for a cash payment in the event of a default by a debtor of the underlying instrument.

## IV. Other financial arrangements and recording issues

18. There are a number of financial arrangements that are not financial derivatives, although they share some of their features or purposes.

### Employee Stock Options

19. Employee stock options (ESOs) are not financial derivatives. Although ESOs have similar features to financial derivatives (such as a similar pricing behavior), they are financial assets and liabilities with very different purposes. ESOs are options to buy the equity of a company offered to employees as a form of remuneration. The purpose of the ESOs is to

motivate employees to contribute to increasing the value of the company rather than to trade risk (*BPM6*, paragraph 5.96).

20. *BPM6* includes financial derivative instruments and ESOs in the same functional category. Only in few cases, the entity that issues the ESOs is a resident of a different economy from the employee, in which case, ESOs would imply international transactions and positions to be recorded in the international accounts.

### **Insurance Contracts**

21. Insurance contracts are not financial derivatives. Insurance involves the collection of funds from policyholders to meet future claims arising from the occurrence of events specified in insurance policies. Therefore, insurance is used to manage event risk primarily by the pooling rather than the trading of risk.

### **Contingencies**

22. Contingent assets and liabilities are not financial derivatives. The main characteristic of contingencies is that one or more events must be fulfilled before a transaction takes place. Information on contingences is important for policy and analysis. To this end, *BPM6* recommends the collection and dissemination of supplementary data on contingencies.

### **Embedded Derivatives**

23. Instruments with embedded derivatives are not financial derivatives. An embedded derivative arises when a derivative feature is inserted in a standard financial instrument and is inseparable from the instrument. Instruments with embedded derivatives include bonds convertible into shares, securities with options for repayment in currencies other than those in which the securities were issued, etc.

### **Margins**

24. Margins are payments of cash or deposits of collateral that cover actual or potential obligations incurred in financial derivative and some other contracts. The mandatory provision of margin is standard in financial derivative markets and reflects market concerns over counterparty risks.

25. The classification of margins as financial derivatives depends on whether they are repayable or nonrepayable. Repayable margins are not classified as financial derivatives while nonrepayable margins are recorded as transactions in financial derivatives.

- Repayable margin consist of cash or other collateral deposited to protect the counterparty against default risk. Ownership of the margin remains with the unit that deposited it. Repayable margin payments in cash are classified as deposits (if the debtor's liabilities are included in broad money) or in other accounts receivable and/or payable.<sup>6</sup>

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<sup>6</sup> Nevertheless, when a repayable margin deposit is made in a noncash asset (such as securities), no transaction is recorded because no change in economic ownership has occurred.

- Nonrepayable margin payments reduce the liability created through a financial derivative. The entity that pays nonrepayable margin no longer retains the ownership of the margin nor has the right to the risks and rewards of ownership.

### **Fixed-Price Contracts**

26. Fixed-price contracts are not financial derivatives, unless the contract is standardized in such a way that the risk embodied in the contract can be traded separately. Many traded contracts are fixed-price contracts.

## **V. Presentations of financial derivatives in *BPM6***

27. The international accounts for an economy summarize the economic relations between residents of that economy and nonresidents. They comprise three statements:

- Balance of payments (summarizes economic transactions during a specific period),
- Other changes in financial assets and liabilities account (shows changes due to economic events other than transactions), and
- IIP (shows at a point in time the value of financial assets, or gold bullion held as reserve assets, and of liabilities).

28. Transactions in financial derivatives are recorded in the financial account of the balance of payments, holding gains/losses (which may be large) in the other changes in financial assets and liabilities account, and positions in the IIP. Likewise, financial derivatives (both transactions and positions) are classified, to the extent possible, according to the resident institutional sector.<sup>7</sup>

29. Financial derivatives are mostly covered in a separate functional category “Financial derivatives (other than reserves) and employee stock options”. However, financial derivatives that qualify as reserves are included in the “Reserve assets” functional category instead.<sup>8</sup>

### **Standard Components**

30. Standard components are items that are fully part of the framework and contribute to the totals and balancing items. The presentation of the standard components for financial derivatives in the balance of payments (financial account) and the IIP merge derivatives and ESOs. When the latter are significant, separate identification is encouraged. Preferably, assets and liabilities are reported separately, but a net figure may be reported by sector.

31. In addition to the standard components, *BPM6* seeks considerable additional data on financial derivatives, particularly concerning notional values of positions involving foreign currency contracts with nonresidents.<sup>9</sup> The notional values are useful for analysis, because

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<sup>7</sup> The institutional sector classification comprises (1) central bank, (2) deposit-taking corporations, except the central bank, (3) general government, and (4) other sectors, further classified into (a) other financial corporations and (b) nonfinancial corporations, households, and nonprofit institutions serving households (NPISH). Supplementary information on Monetary authorities should be provided for economies in which extensive reserve assets are held outside the central bank.

<sup>8</sup> *BPM6* distinguishes five functional categories: (1) direct investment, (2) portfolio investment, (3) financial derivatives (other than reserves) and employee stock options, (4) other investment, and (5) reserve assets.

<sup>9</sup> The notional value is the amount underlying a financial derivative contract that is necessary for calculating payments or receipts on the contract. This amount may or may not be exchanged (*BPM6*, paragraph 7.37).

they provide information about the risk exposure and assist in understanding the link between financial derivatives and the underlying item to which they relate.

Standard Components for Financial Derivatives in <i>BPM6</i>	
<b>Assets<sup>1/</sup></b>	<ul style="list-style-type: none"> <li>• Central Bank / <i>Monetary authorities (where relevant)</i></li> <li>• Deposit-taking corporations, except the central bank</li> <li>• General Government</li> <li>• Other sectors               <ul style="list-style-type: none"> <li>- Other financial corporations</li> <li>- Nonfinancial corporations, households and NPISHs</li> </ul> </li> </ul>
<b>Liabilities<sup>1/</sup></b>	<ul style="list-style-type: none"> <li>• Central Bank / <i>Monetary authorities (where relevant)</i></li> <li>• Deposit-taking corporations, except the central bank</li> <li>• General Government</li> <li>• Other sectors               <ul style="list-style-type: none"> <li>- Other financial corporations</li> <li>- Nonfinancial corporations, households and NPISHs</li> </ul> </li> </ul>
<sup>1/</sup> Preferably, assets and liabilities are reported separately, but a net figure may be reported.	

## Memorandum Items

32. Memorandum items are part of the standard presentation, but are not used in deriving totals and balancing items. Like in the case of standard components, memorandum items are to be reported to the IMF as completely and accurate as possible.

**Table A9-I. Currency Composition of Assets and Liabilities (at a reference date)<sup>1</sup>**

**Table A9-I-1b. Financial Derivative Positions with Nonresidents  
Foreign Currency Derivatives: Notional Value of Contracts with Nonresidents<sup>2</sup>**

	Central bank	General government	Deposit-taking corporations, except the central bank	Other sectors <sup>2</sup>			Inter-company lending	Total
				Total	OFC	Other		
Receive foreign currency							n.a.	
U.S. dollar							n.a.	
Euro							n.a.	
Yen							n.a.	
Other currencies							n.a.	

<sup>1/</sup> Table A9-I is a memorandum item.

**Table A9-I-2b. Financial Derivative Positions with Nonresidents  
Foreign Currency Derivatives: Notional Value of Contracts with Nonresidents**

	Central bank	General government	Deposit-taking corporations, except the central bank	Other sectors <sup>2</sup>			Inter-company lending	Total
				Total	OFC	Other		
Pay foreign currency							n.a.	
U.S. dollar							n.a.	
Euro							n.a.	
Yen							n.a.	
Other currencies							n.a.	

<sup>1/</sup> Original maturity.

<sup>2/</sup> OFC = other financial corporations, Other = nonfinancial corporations (except intercompany lending), households, and NPISHs.

33. Table A9-I identifies the memorandum items for financial derivatives in *BPM6*. The table presents the notional value of foreign currency derivatives contracts with nonresidents broken down by currency (rows) and cross-classified by institutional sector (columns). Data on financial derivatives in the table should include those foreign derivatives that swap foreign currency liabilities into domestic currency. These items correspond to the currency composition of the notional value of foreign-currency derivatives positions with nonresidents

related to contracts to receive foreign currency (Table A9-I-1b) and to contracts to pay foreign currency (Table A9-I-2b).

34. A financial derivatives contract to buy foreign currency with domestic currency at a future date is classified as a contract to receive foreign currency. A financial derivatives contract to buy domestic currency with foreign currency at a future date is classified as a contract to pay foreign currency. The decisive factor in determining whether the financial derivative is to be classified as to receive or to pay foreign currency is the exposure to currency movements. Therefore, if payment of a financial derivatives contract is linked to a foreign currency, even though payment is required in domestic currency, the financial derivatives is to be classified as a contract to pay foreign currency, and vice versa. If a single financial derivatives contract both pays and receives foreign currency, the notional amount should be included under both categories; i.e., to pay and to receive foreign currency (*BPM6*, paragraph 5.108).

### Supplementary Items

35. Supplementary items are outside the standard presentation of the balance of payments and the IIP, but are they compiled depending on circumstances in the particular economy, taking into account the interests of policymakers and analysts as well as resource costs. The IMF encourages economies to report supplementary items where relevant.

36. Four supplementary presentations of financial derivative contracts with nonresidents are recommended in *BPM6*: (1) currency composition of foreign-currency derivative contracts, (2) currency composition of foreign-currency derivative contracts by institutional sector and type of instrument, (3) financial derivatives (other than reserves) and ESOs by type of instrument, and (4) financial derivatives contracts by risk categories.

### Currency Composition of Foreign-Currency Derivative Contracts

37. Table A9-II presents the currency composition of the notional value of foreign-currency derivatives positions with nonresidents related to contracts to receive foreign currency (Table A9-II-1b) and to contracts to pay foreign currency (Table A9-II-2b). This table covers time series data (does not cover projections).

**Table A9-II. Currency Composition of Assets and Liabilities (time series data)<sup>1</sup>**

**Table A9-II-1b. Financial Derivative Positions with Nonresidents**

**Financial Derivatives: Notional Value of Foreign Currency Contracts with Nonresidents**

All Sectors	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Receive foreign currency								
U.S. dollar								
Euro								
Yen								
Other currencies								

<sup>1</sup>Table A9-II is supplementary and covers time series data, not projections.

**Table A9-II-2b. Financial Derivative Positions with Nonresidents**

**Financial Derivatives: Notional Value of Foreign Currency Contracts with Nonresidents**

All Sectors	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Pay foreign currency								
U.S. dollar								
Euro								
Yen								
Other currencies								

### **Foreign-Currency Derivative Contracts by Institutional Sector and Type of Derivative**

38. Table A9-III presents the notional value of foreign-currency and foreign-currency linked financial derivatives contracts with nonresidents classified by institutional sector and further broken down between positions in options and positions in forwards. Table A9-III-1b relates to contracts to receive foreign currency, and table A9-III-2b to contracts to pay foreign currency.

39. A further breakdown of other sectors into (1) other financial corporations and (2) nonfinancial corporations (except intercompany lending), households, and NPISHs is encouraged in Table A9-III.

**Table A9-III. Currency Composition by Sector and Instrument (at a reference date)<sup>1</sup>**

**Table A9-III-1b. Financial Derivative Positions with Nonresidents**

**Financial Derivatives: Notional Value of Foreign-Currency and Foreign Currency-Linked Contracts with Nonresidents**

To Receive Foreign Currency	
<b>Central bank</b>	
Forwards	
Options	
<b>General government</b>	
Forwards	
Options	
<b>Deposit-taking corporations, except the central bank</b>	
Forwards	
Options	
<b>Other sectors<sup>1</sup></b>	
Forwards	
Options	
<b>Total</b>	
Forwards	
Options	

**Table A9-III-2b. Financial Derivative Positions with Nonresidents**

**Financial Derivatives: Notional Value of Foreign-Currency and Foreign Currency-Linked Contracts with Nonresidents**

To pay foreign currency	
<b>Central bank</b>	
Forwards	
Options	
<b>General government</b>	
Forwards	
Options	
<b>Deposit-taking corporations, except the central bank</b>	
Forwards	
Options	
<b>Other sectors<sup>1</sup></b>	
Forwards	
Options	
<b>Total</b>	
Forwards	
Options	

<sup>1</sup>A further breakdown for (i) Other financial corporations, and (ii) Nonfinancial corporations (except intercompany lending), households, and NPISHs is encouraged.

### **Financial derivatives (other than reserves) and ESOs by type of instrument**

40. *BPM6* recommends the separate identification of financial derivatives (broken down into forwards and options) and ESOs as supplementary items (*BPM6*, paragraph 5.95).

Financial derivatives transactions and positions are to be recorded at market value in the financial account of the balance of payments and the IIP, respectively.

41. As mentioned in the previous section, financial derivatives that qualify as reserves are included in the “Reserve assets” functional category.

**Financial Derivatives and Employee Stock Options, by Type of Instrument**

<b>Assets</b>
- Financial Derivatives (Other than Reserves)
- Options
- Forward Type Contracts
- Employee Stock Options
<b>Liabilities</b>
- Financial Derivatives (Other than Reserves)
- Options
- Forward Type Contracts
- Employee Stock Options

**Financial Derivatives by Risk Categories**

42. Additional supplementary breakdowns of financial derivatives also are by main market risk categories (see table below).

43. If more than one risk category is involved, the financial derivatives may be reported separately according to individual components or, if not possible, in a single category based on the most significant underlying risk component. The allocation of such products with multiple exposures should be determined by the underlying risk component that is most significant. If there is doubt about the correct classification of multiexposure derivatives, the allocation by risk component should be made according to the order of precedence adopted by the Bank for International Settlements (BIS): commodities, equities, foreign exchange, and single-currency interest rate. (*BPM6* paragraph 5.95).

**Financial Derivatives by Risk Categories**

<b>Assets</b>
- Foreign exchange
- Single-currency interest rate
- Equity
- Commodity
- Credit
- Other
<b>Liabilities</b>
- Foreign exchange
- Single-currency interest rate
- Equity
- Commodity
- Credit
- Other

## VI. Financial derivatives data reported to STA

44. The IMF Statistics Department (STA) collects financial derivatives data from member countries, which are published in the International Finance Statistics (IFS) and the Balance of Payments Statistics Yearbook (BOPSY). Fifty-five economies have reported financial derivatives data over the 2007–2009 period.

45. Most economies reporting financial derivatives provide both transactions data in their balance of payments and positions data in their IIP (about 90 percent of the reporting economies in 2007–2009). However, the reported detail of the data varies considerably. Some economies reported quarterly data and others annual data. About two-thirds of the reporting economies presented transactions data disaggregated into assets and liabilities, the rest only reported a net figure (assets minus liabilities). All major reporting economies presented position data separated into assets and liabilities. A number of economies classify financial derivatives data by institutional sector as recommended by *BPM6* (see table below).

### Financial Derivatives

Standard Components	BOP (transactions)			IIP (positions)		
	Period 1	Period 2	Period 3	Period 1	Period 2	Period 3
<b>Financial Derivatives (Net)</b> <sup>1/</sup>						
<b>Assets</b>						
Central Bank / <i>Monetary authorities</i>						
Deposit-taking corporations, except the Central Bank						
General Government						
Other sectors						
<b>Liabilities</b>						
Central Bank / <i>Monetary authorities</i>						
Deposit-taking corporations, except the Central Bank						
General Government						
Other sectors						

1/ Assets minus liabilities.

Sector classification according to *BPM6*, Appendix 9

### Ten Largest Reporting Economies

46. The table below presents financial derivatives position data for the ten largest reporters of financial derivatives included in their IIP during 2007–2009. The largest ten economies represent about 95 percent of the total financial derivatives position data reported to STA for the period 2007–2009. Among them, the United Kingdom and the United States have by far the largest financial derivatives positions.

47. Financial derivatives data show a distinctive trend for 2007–2009. For both assets and liabilities, the levels more than doubled from 2007 to 2008 and then dropped by about 40 percent back to approximately \$8 trillion in 2009. This mainly reflects the trends observed in the financial derivative data of the top two reporting economies (United Kingdom and United States).

48. According to the U.S. Bureau of Economic Analysis (Survey of Current Business, July 2010 issue), U.S. holdings of financial derivatives (both assets and liabilities) decreased in 2009 after even larger rises in 2008. The large declines in 2009 were mainly due to decreases in U.S. assets and liabilities from interest-rate and credit-default swap contracts. In late 2008, the values of interest-rate, exchange-rate, and credit contracts hit a peak as interest rates plunged, the dollar appreciated rapidly, and credit spreads increased sharply. The value of contracts fell in 2009 as the markets adjusted to lower short-term interest rates and long-term interest rates rose, the dollar depreciated, and credit spreads were reduced.

## Financial Derivatives--Position data at end-year <sup>1/</sup>

### Top Ten Economies Reporting Data to STA <sup>2/</sup>

Billions of US Dollars

	Assets			Liabilities		
	2007	2008	2009	2007	2008	2009
1 United Kingdom	2,761	5,890	3,565	2,789	5,708	3,436
2 United States	2,559	6,127	3,512	2,488	5,968	3,384
3 France	355	326	343	460	403	419
4 Switzerland	123	209	165	67	194	128
5 Netherlands	120	248	159	123	242	185
6 Spain	66	151	112	93	159	113
7 Australia	65	78	n.a.	62	75	n.a.
8 Finland	53	130	117	51	129	114
9 China, P.R.: Hong Kong	48	87	49	33	74	39
10 Japan	39	77	46	44	86	57
<b>Top 10 total</b>	<b>6,189</b>	<b>13,323</b>	<b>8,067</b>	<b>6,210</b>	<b>13,037</b>	<b>7,874</b>
<b>Total Reported to STA <sup>3/</sup></b>	<b>6,390</b>	<b>13,829</b>	<b>8,489</b>	<b>6,460</b>	<b>13,590</b>	<b>8,334</b>

n.a. = not available.

1/ According to *BPM5* and *BPM6*, IIP data are to be recorded at market value.

2/ By largest financial derivatives asset positions included in the IIP for 2007.

3/ Fifty five economies reported data to STA during 2007-2009.

Source: IMF, Balance of Payments Statistics Yearbook (BOPSY) 2010, Position data included in IIP statistics.

## VII. Concluding remarks

49. For many economies, financial derivatives are important to measure. Financial derivatives can be volatile, and capital gains and losses on holdings may be sizable for some economies in some periods. Financial derivatives may have an important financial impact on an economy's foreign currency positions.

50. It may be challenging to obtain comprehensive data on derivatives. Notional values may be relatively easy to obtain, data on market values of investment positions may also be somewhat easy to obtain, whereas comprehensive data on transactions are usually very difficult to obtain. Aggregate notional values do not necessarily provide a good measure of risk exposure. Risk exposures differ by type of derivative, and maximum risk exposure may be greater than, less than, or equal to notional values.