
INTERNATIONAL RESERVES AND

FOREIGN CURRENCY LIQUIDITY

GUIDELINES FOR A DATA TEMPLATE

ANNE Y. KESTER



INTERNATIONAL MONETARY FUND

©2001 International Monetary Fund

Library of Congress Cataloging-in-Publication Data

Kester, Anne Y.

International reserves and foreign currency liquidity : guidelines for a data template /
Anne Y. Kester.

p. cm.

Includes index.

ISBN 1-58906-058-X

1. International liquidity. 2. Foreign exchange. 3. Balance of payments. I. Title.

HG3893 .K47 2001

332.4'5--dc21

2001039491

Price: \$23.00

Please send orders to:

International Monetary Fund, Publication Services
700 19th Street, NW, Washington, DC 20431, U.S.A.
Telephone: (202) 623-7430 Telefax: (202) 623-7201
E-mail: publications@imf.org
Internet: <http://www.imf.org>

Table of contents

Preface	v
1. Overview of the Data Template	1
An Innovative Data Framework to Help Strengthen the International Financial Architecture	1
Concepts of International Reserves and Foreign Currency Liquidity	2
Key Features of the Data Template	4
Structure of the Data Template	7
Structure of this Book	8
2. Official Reserve Assets and Other Foreign Currency Assets (Approximate Market Value)	13
Disclosing Reserve Assets and Other Foreign Currency Assets	13
Defining Reserve Assets	14
Reporting Financial Instruments in Reserve Assets	15
Identifying Institutions Headquartered Both in the Reporting Country and Institutions Headquartered Outside the Reporting Country	19
Reconciling Template Data and the BPM5 Concept of Reserves	21
Defining Other Foreign Currency Assets	22
Applying Approximate Market Values to Reserve Assets and Other Foreign Currency Assets	22
3. Predetermined Short-Term Net Drains on Foreign Currency Assets (Nominal Value)	24
Defining Predetermined Drains	24
Reporting Data on Predetermined Drains	24
Foreign Currency Flows in Template Not Identical to Data on External Liabilities	26
Reporting Foreign Currency Flows Associated with Loans and Securities	26
Foreign Currency Flows Relating to Forwards, Futures, and Swaps	27
Reporting Other Foreign Currency Drains	28
4. Contingent Short-Term Net Drains on Foreign Currency Assets (Nominal Value)	29
Defining Contingent Net Drains	29
Contingent Liabilities	30
Securities With Embedded Options (Puttable Bonds)	31
Undrawn, Unconditional Credit Lines	31
Options	33
5. Memo Items	36
Coverage of Memo Items	36
Financial Instruments Denominated in Foreign Currency and Settled by Other Means	37
Securities Lent and Repurchase Agreements	38
Financial Derivatives Assets (Net, Marked to Market)	39

CONTENTS

Tables

- | | | |
|-----|--|----|
| 1.1 | Reference Index for Item-by-Item Guidelines | 9 |
| 2.1 | Concordance Between Classifications of Reserve Assets in BPM5 and the Template | 21 |

Boxes

- | | | |
|-----|--|----|
| 1.1 | Data Deficiencies as Revealed by Recent Financial Crises | 2 |
| 1.2 | Data Template on International Reserves/Foreign Currency Liquidity | 10 |
| 4.1 | Definitions of Puts and Calls | 34 |
| 4.2 | Definitions of Selected Terms on Options | 35 |

Figures

- | | | |
|-----|---|---|
| 1.1 | Linkages Between Concepts of International Reserves and Foreign Currency Liquidity
—a Schematic Presentation | 4 |
|-----|---|---|

Appendices

- | | | |
|------|--|----|
| I. | The Special Data Dissemination Standard and the Data Template on International Reserves and Foreign Currency Liquidity | 41 |
| II. | Sample Form for Presenting Data in the Template on International Reserves and Foreign Currency Liquidity | 43 |
| III. | Summary of Guidelines for Reporting Specific Data in the Template | 47 |
| IV. | Stress-Testing of “In-the-Money” Options | 49 |
| V. | Reporting Template Data to the IMF for Redissemination on the IMF’s External Website | 55 |

Index

67

Preface

This book sets forth the underlying framework for the data template on international reserves and foreign currency liquidity and provides operational guidelines for its use. Chapter 1 provides an overview of the genesis of the template and outlines its structure and key features. The chapter is primarily intended for readers seeking a general understanding of the template. The later chapters and the appendices are designed to facilitate compilation of the template by data providers, and are more technical in nature.

This work replaces the provisional Operational Guidelines for the Data Template on International Reserves and Foreign Currency Liquidity issued in October 1999. At that time, the International Monetary Fund (IMF) invited comments from users with a view to providing a final version of the Operational Guidelines in 2001, which now appear as this important volume. Users generally were supportive of the October 1999 document, and many cited the importance of the framework for promoting data transparency. For this reason, this final version does not depart significantly from the provisional version of October 1999. The main changes from the provisional version are refinements to aid clarity of exposition. This document also includes an additional appendix (Appendix V) that describes how countries can report the template data to the IMF for dissemination on the IMF's website.

The IMF and a working group of the Committee on the Global Financial System (CGFS) of the Group of Ten central banks jointly developed the template in 1999. The template is innovative in that it integrates data on balance-sheet and off-balance-sheet international financial activities of country authorities and supplementary information. It aims to provide a comprehensive account of countries' official foreign currency assets and drains on such resources arising from various foreign currency liabilities and commitments of the authorities. The public disclosure of such information by countries on a timely and accurate basis promotes informed decisionmaking in the public and private sectors, thereby helping to improve the functioning of global financial markets.

The template is a prescribed category of the IMF's Special Data Dissemination Standard (SDDS), which the IMF established in 1996. The SDDS, to which countries may subscribe on a voluntary basis, provides a standard for good practices in the dissemination of economic and financial data. The SDDS requirements of the template with respect to the frequency and periodicity of reporting are described in Appendix I.

Countries' template data can be found on the websites of their central banks or finance ministries. The data are also accessible on the IMF's website at <http://www.imf.org/external/np/sta/ir/index.htm>. The IMF website redisseminates countries' template data in a common format and in a common currency to facilitate users' access to the information and to promote data comparability across countries.

The guidelines set forth in this volume clarify data concepts, definitions, and classifications and discuss ways to disclose the requisite data in the template. In developing the guidelines, the IMF staff consulted with IMF member countries, the CGFS, the European Central Bank (ECB), and other institutions. The IMF is grateful for their comments and suggestions.

Within the IMF, we are indebted to our colleagues for their review of this document, in particular those at the Policy Development and Review Department for their insights and observations. We particularly thank Anne Y. Kester of the Statistics Department for her unstinting efforts in drafting the operational guidelines and contributing to the development of the data template. Thanks go also to Sean M. Culhane of the External Relations Department for managing the production of these guidelines.

Carol S. Carson, *Director*
Statistics Department
International Monetary Fund

I. Overview of the Data Template

1. *International financial crises in the late 1990s underscored the importance of disseminating comprehensive information on countries' international reserves and foreign currency liquidity¹ on a timely basis.* Deficiencies in such information have made it difficult to anticipate and respond to crises by obscuring financial weaknesses and imbalances. (See Box 1.1) Moreover, both the complexity and the importance of such information have increased as a result of the ongoing globalization of financial markets and financial innovations. The international financial activities² that countries' central banks and government entities undertake now occur in myriad forms, involve multiple domestic and foreign entities, and span locations around the globe. To assess countries' foreign currency liquidity requires supplementing traditional data on international reserves that cover largely cross-border and balance-sheet activities with those on foreign currency positions and off-balance-sheet activities.

2. *Timely disclosure of such information serves a number of purposes.* It can strengthen the accountability of the authorities by better apprising the public of the authorities' policy actions and risk exposure in foreign currency. It can spur a more timely correction of unsustainable policies and possibly limit the adverse effects of contagion in times of financial turbulence. It can allow market participants to form a more accurate view of the condition of individual countries, of the vulnerability of regions, and of possible international consequences, thereby limiting uncertainty and the associated volatility in financial markets. Enhanced data transparency also can assist multilateral organizations to better anticipate emerging needs of countries.

¹The concepts of international reserves and foreign currency liquidity are discussed later in this chapter and elaborated on in later chapters of this book.

²International financial activities here refer to financial transactions and positions in foreign currencies.

An Innovative Data Framework to Help Strengthen the International Financial Architecture

3. *Information on international reserves and foreign currency liquidity will best inform public and private decisionmaking if countries disclose it in a coherent, common framework.* As part of the effort to strengthen the architecture of the international financial system, the IMF and a working group of the Committee on the Global Financial System (CGFS) of the Group of Ten central banks in 1999 developed such a framework in the form of a data disclosure template for countries' use.³

4. *The template, which is shown at the end of this chapter, was devised in consultation with country authorities, statistical compilers, international organizations, market participants, and users. It reflects the efforts of all concerned to balance the anticipated benefits of increased data transparency and potential costs of adding to the authorities' reporting burden.*

5. *The template is intended to be comprehensive and innovative; it integrates the concepts of international reserves and foreign currency liquidity in a single framework.* In addition to covering the traditional balance-sheet information on international reserves and other selected external assets and liabilities of the authorities, the template takes account of their off-balance-sheet activities⁴ (such as in forwards, futures and other financial derivatives,

³Work to develop disclosure standards on the trading and investment activities of private market participants was undertaken at the BIS, the Financial Stability Forum, the IMF, and other international bodies. The *New Basel Capital Accord*, released by the BIS in 2001, was an example of such efforts.

⁴Off-balance-sheet foreign currency activities refer to financial transactions and positions in foreign currency not recorded on the balance sheet.

Box I.1 Data Deficiencies as Revealed by Financial Crises in the 1990s

Financial crises in the 1990s revealed a number of data deficiencies, including:

Incomplete information on reserve assets

- Pledged assets (for example, assets used as collateral for third party's loans) frequently were not identified, and assets of a similar nature, such as securities lent and repurchase agreements,¹ often were included in reserve assets without separate identification, distorting information on the liquidity positions of the authorities.
- Deposits held in financially weak domestic banks and their foreign affiliates, which were not available for use in a crisis, often were included in reserve assets, leading to overestimation of reserves.
- Valuation practices could depart significantly from market values, complicating assessments of the realizable value of reserve assets.
- Coverage of international reserve assets varied among countries, impeding cross-country comparisons.

Lack of publicly available information on official short-term foreign currency obligations

- Public information was lacking in many countries on the off-balance-sheet activities of the authorities that could affect foreign currency resources. An absence of data on forward commitments of foreign exchange under financial derivative contracts,² for example, could result in understatement of encumbered reserve assets.
- Lack of information on the authorities' financial derivative activities (for example, in foreign currency futures and forwards) could also obscure the risk exposure of government entities, which could lead to sudden sharp drains on foreign currency resources. Significant drains could occur, for example, in the event of changes in exchange rates. Similarly, unavailability of information on options written and bought by the authorities could hinder assessment of potential inflows and outflows of foreign currency when the options were exercised.
- Inadequate information on actual and potential foreign currency liabilities of the monetary authorities and central government could hamper monitoring of drains on foreign currency resources. Such inadequacies included incomplete information on principal and interest payments on loans and bonds falling due in the short term, on the authorities' foreign exchange guarantees, and on contractual provisions in debt instruments that allow creditors to demand early payment in the face of changing economic conditions.
- Publicly available information on reserves generally did not take account of unused unconditional lines of credit, which could represent either a complementary source of foreign exchange in times of need or a potential drain on such resources.

¹ Securities lent and repurchase agreements are discussed in detail in Chapter 2 and Chapter 5.

² Forwards, futures, and options are financial derivative instruments. Various aspects of these instruments are discussed later in this chapter and in all other chapters of this document.

undrawn credit lines, and loan guarantees). It also notes future and potential inflows and outflows of foreign exchange associated with balance-sheet and off-balance-sheet positions. Moreover, it includes data intended to illustrate how liquid a country's international reserves are (such as the identification of assets pledged and otherwise encumbered) and to reveal a country's risk exposure to exchange rate fluctuations (including that relating to options contracts).

6. *The template is forward looking.* It covers not only the authorities' foreign currency resources on a reference date but also inflows and outflows of foreign exchange over a future one-year period. The one-year horizon is consistent with the convention of defining "short term" to cover a 12-month period.

7. The rest of this chapter elaborates on the underlying framework of the template and delineates its key characteristics and structure. Chapters 2 through 5 provide guidelines on how the data called for in the various sections of the template should be reported.

Concepts of International Reserves and Foreign Currency Liquidity

8. The underlying framework of the template is built on two related concepts, international reserves and foreign currency liquidity, which are integral to the structure and coverage of the template. The two concepts and their linkages are explained below.

International Reserves (Reserve Assets)

9. The fifth edition of the IMF *Balance of Payments Manual*⁵ (*BPM5*) sets forth the underlying concept of international reserves. A country's international reserves refer to "those external assets that are readily available to and controlled by monetary authorities for direct financing of payments imbalances, for indirectly regulating the magnitudes of such imbalances through intervention in exchange markets to affect the currency exchange rate, and/or for other purposes." (*BPM5*,

⁵ See *Balance of Payments Manual*, Fifth Edition, International Monetary Fund, Washington, D.C., 1993.

para. 424.) As defined, *the concept of international reserves is based on the balance-sheet framework, with “reserve assets” being a gross concept. It does not include external liabilities of the monetary authorities.*⁶

10. Underlying the concept of international reserves is the distinction between residents and nonresidents,⁷ with reserve assets representing the monetary authorities’ claims on nonresidents.

11. Also integral to the concept of international reserves are the provisos “readily available to” and “controlled by” the monetary authorities. That is, only assets that meet these criteria can be considered reserve assets.

12. Types of reserve assets cover foreign exchange assets (consisting of foreign currencies and foreign currency deposits and securities), gold, special drawing rights (SDRs), reserve position in the IMF, and other claims.

13. Chapter 2 explains in detail the concept and coverage of reserve assets as set forth in the *BPM5*. It also discusses how the terms “readily available” and “controlled by” can be invoked in practice to identify reserve assets.

14. In the template, reserve assets are referred to as “official reserve assets.”

Foreign Currency Liquidity

15. Foreign currency liquidity is a broader concept than that of international reserves. In the data template, foreign currency liquidity has two dimensions. It refers to (1) the foreign currency *resources* (including both official reserve assets and other foreign currency assets) at the disposal of the authorities that readily can be mobilized to meet demand for foreign exchange and (2) both predetermined (known, or scheduled) and contingent (potential) demands (referred to hereafter as “*net drains*”)⁸ on foreign

currency resources resulting from the short-term⁹ foreign currency liabilities and off-balance-sheet activities of the authorities. That is, *the authorities’ foreign currency liquidity position refers to the amount of foreign exchange resources that is readily available, taking into account both predetermined and potential net drains on such resources.* Underlying the liquidity concept is the notion that prudent management of this position requires managing foreign currency assets along with foreign currency obligations to minimize the vulnerability to external shocks.

16. *The concept of foreign currency liquidity is broader than that of international reserves in at least three respects:* (1) while reserve assets refer to external assets of the monetary authorities, foreign currency liquidity concerns foreign currency resources and drains on such resources of the *monetary authorities and the central government*, referred to hereafter in combination as “the authorities,” as opposed to “monetary authorities” (see next section on “institutions covered”); (2) while reserve assets represent the monetary authorities’ claims on nonresidents, foreign currency liquidity relates to the authorities’ foreign currency claims on and obligations to *residents and nonresidents*; and (3) while the concept of reserve assets is based on the balance-sheet framework, the concept of liquidity encompasses inflows and outflows of foreign currency that result from *both on- and off-balance-sheet activities of the authorities.*

17. The concept of foreign currency liquidity is also broader than the notion of net international reserves. Net international reserves refer to reserve assets net of outstanding reserves-related liabilities at a point in time, with such assets and liabilities representing the monetary authorities’ readily available claims on and short-term liabilities to nonresidents. Foreign currency liquidity takes account of foreign currency drains on existing foreign currency resources arising from the authorities’ financial activities vis-à-vis residents and nonresidents in the coming 12-month period. *Information on whether a country’s short-term foreign currency drains exceed its foreign currency resources could be used, among other data, to analyze the country’s external vulnerability.*

18. To enhance the transparency of data on countries’ international reserves and their foreign currency liquidity, the template calls for comprehensive

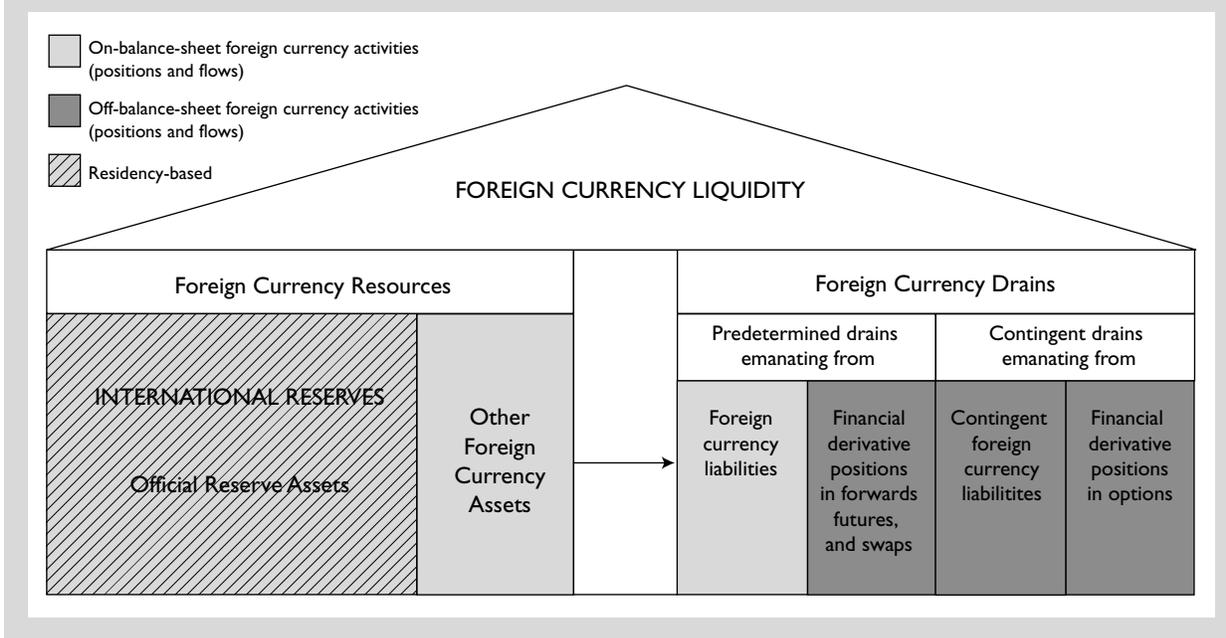
⁶The term “monetary authorities” is defined later in this chapter under “Key Features of the Data Template.”

⁷In the *BPM5*, the concept of residence is not based on nationality or legal criteria; it is based on the transactor’s center of economic interest. A transactor is considered a resident of a country if its center of economic interest is in the economic territory of the country. The economic territory of a country generally corresponds to its geographical boundaries (although it can extend beyond them). A transactor whose center of economic interest is outside the economic territory of the country is considered a nonresident.

⁸As will be elaborated on in Chapter 3 of this document, “net drains” refer to outflows of foreign currency net of inflows of foreign currency.

⁹See the definition of “short-term” as provided later under “time horizon” in this chapter.

Figure I.1. Linkages Between Concepts of International Reserves and Foreign Currency Liquidity (A Schematic Presentation)



disclosure of the authorities’ (1) official reserve assets, (2) other foreign currency assets, (3) predetermined short-term net drains on foreign currency assets, (4) contingent short-term net drains on foreign currency assets, and (5) other related information. As discussed later in this chapter, these data components form the structure of the template.

19. A schematic presentation of the framework of the template, showing the linkages between the concepts of international reserves and foreign currency liquidity, is provided in Figure 1.1.

Key Features of the Data Template

The data template sets forth the institutions that are to be covered and their financial activities over a certain time horizon in order to facilitate analysis of the authorities’ foreign liquidity and risk exposure.

Institutions Covered

20. *The template is intended to apply to all public-sector entities responsible for, or involved in, responding to currency crises. In practice, this coverage includes the monetary authorities, which man-*

age or hold the international reserves, and the central government (excluding social security funds),¹⁰ which, together with the monetary authorities, accounts for most of the official foreign currency obligations. Demands on the authorities’ foreign currency resources also could arise from elsewhere in the public sector. These other public entities generally are not covered in the template because of the difficulties of obtaining the data from these entities on a timely basis. Nonetheless, these other public-sector entities may be included if their foreign currency activities are of material significance; where data on such other public-sector entities are included, they should be clearly indicated in country notes accompanying the data.

21. Consistent with the *BPM5* (para. 514), the template defines “*monetary authorities*” as “*a functional concept*” encompassing the central bank (and other institutional units such as the currency board, monetary agency, etc.) and certain operations usually attributed to the central bank but sometimes car-

¹⁰The coverage of both the monetary authorities and the central government is explicit in the template. The operation of a currency board (with stipulations that the central government’s foreign currency obligations are not to be met by resources of the monetary authorities) does not remove the requirement for reporting of data on the central government in the template.

ried out by other government institutions or commercial banks. Such operations include the issuance of currency; maintenance and management of international reserves, including those resulting from transactions with the IMF; and the operation of exchange stabilization funds.¹¹

22. In conformity with existing international guidelines, the template defines the central government to include “all government departments, offices, establishments, and other bodies that are agencies or instruments of the central authority of a country” (*A Manual on Government Finance Statistics*, p. 12). *The central government excludes state governments, local governments, and social security funds operating at all levels of government (1993 System of National Accounts*, para. 4.114): the requirement to disclose relevant information on a timely basis precludes the inclusion of these elements in the data to be reported. Social security funds are “social insurance schemes covering the community as a whole or large sections of the community that are imposed and controlled by government units” (*1993 SNA*, para. 4.130).

23. A single template is to be produced for each country covering foreign currency activities of both the monetary authorities and the central government (excluding social security funds). (See also Chapter 2.) Countries in a currency union should report reserve assets in accordance with the reserve assets allocated to them by their central bank or in proportion to their contributions to the central bank’s reserve assets.

Financial Activities Covered

24. For the purpose of liquidity analysis, the template specifies that *only instruments settled (i.e., redeemable) in foreign currency are to be included in resources and drains* (as covered in Sections I through III of the template). The rationale is that, as concerns future inflows and outflows of foreign currency arising from the authorities’ contractual obligations, only instruments settled in foreign currency can directly add to or subtract from liquid foreign currency resources. Other instruments, including

¹¹ Depending on institutional arrangements in a country, the definition of “monetary authorities” in the template could include other public-sector entities, such as government-owned commercial banks actively employed to offset foreign currency drains. In the template, the term “other central government” is used to clarify that the monetary authority functions undertaken by the central government are included in monetary authorities.

those denominated in foreign currency or with a value linked to foreign currency (such as foreign currency options) but settled in domestic currency, will not directly affect liquid resources in foreign exchange.¹²

25. *Instruments denominated in foreign currency or indexed to foreign currency but settled in domestic currency (and other means) are to be reported as memorandum (memo) items* (as covered in Section IV of the template). These instruments can exert substantial indirect pressure on reserves during a crisis, particularly when expectations of a sharp depreciation of the domestic currency lead holders to exchange the indexed liabilities for foreign currency. Among such instruments are domestic currency debt indexed to foreign currency and nondeliverable forwards settled in domestic currency.

Treatment of Financial Derivatives Activities¹³

26. The template covers various aspects of financial derivative activities, including (1) predetermined foreign currency flows pertaining to the authorities’ forwards, futures, and swap contracts; (2) potential flows arising from their options positions; and (3) the net, marked-to-market value of outstanding financial derivative contracts. The extensive coverage of financial derivatives activities in the template is based on the fact that measures of risk associated with such activities are relevant only when constructed on an overall portfolio basis, taking into account notional (and nominal) values and cash market positions, and offsets between them.

27. *The focus of the template is on financial derivatives settled in foreign currencies.* (Nondeliverable forwards and options settled in domestic currency are to be disclosed as memo items.) Such information is especially important in times of crisis when there is strong pressure to devalue and when considerable official obligations in foreign currencies are already outstanding.

¹² Of course, changes in the overall supply and demand for domestic currency assets will influence the balance of payments and thus, indirectly, affect liquid foreign exchange resources.

¹³ Financial derivatives are financial instruments linked to underlying assets, reference rates, or indexes such as stocks, bonds, currencies, and commodities. Derivative instruments allow users to disaggregate risks, accepting ones that they are willing to manage, and transferring those they are unwilling to bear. Derivative contracts range from simple contracts (forwards, futures, and swaps) to complex products such as options. (See Chapters 3 and 4 for greater detail on this subject.)

28. Because inflows and outflows of foreign currency related to the authorities' financial derivative activities may involve different counterparties, risks, and maturities, *the template calls for reporting separate information on short and long positions.* Long positions correspond to inflows that augment the foreign currency resources of the authorities; short positions represent outflows that diminish such resources.

29. *The net, marked-to-market values* of financial derivatives to be reported in the template are those of outstanding contracts settled in foreign currency.

30. The template incorporates the results of “*stress testing*” to assess the authorities' risk exposure to fluctuations in exchange rates. Stress testing involves examining the effect of large movements in key financial variables on a portfolio. It is different from historical simulation in that it may cover situations absent from the historical data. Rigorous stress testing can signal the authorities the risk exposure they face. *In the template, stress testing is applied to the authorities' options positions.*

31. The template's “stress testing” calls for the notional value of “in-the-money” options under several exchange rate scenarios. “In-the-money” options refer to option contracts that would be exercised on the basis of the assumptions specified in the scenarios—i.e., options which, when exercised, could entail foreign currency flows.¹⁴

Valuation Principles

32. In the template, the values of foreign currency resources are to reflect what could be obtained for them in the market if they were liquidated; that is, at market prices on the reference date. In cases where determining market values on a frequent basis is impractical, *approximate market values* can be substituted during the intervening periods. (See Chapter 2 for details.)

33. Drains on foreign exchange resources, including predetermined and contingent drains, are to be valued in *nominal terms*; that is, *the cash-flow value when the currency flows are due to take place.* Generally, this means the principal repayments reflect the “face

¹⁴As will be explained in Chapter 4, a call option is “in-the-money” if the strike price is less than the market price of the underlying security. A put option is “in-the-money” if the strike price is greater than the market price of the underlying security.

value” of the instrument and the interest payments reflect contractual amounts due to be paid.¹⁵

34. Inflows and outflows of foreign currency related to forwards, futures, and swaps are to be reported in nominal terms. For options, the template requires disclosure of the notional value. *The notional value of an option contract is the amount of foreign exchange that can be purchased or sold by the exercise of the option.* Market values of outstanding financial derivative contracts are to be disclosed on a net, marked-to-market basis. (See also Chapter 5.)

Time Horizon

35. Consistent with the focus on liquidity, the horizon covered in the template is short term. For practical purposes, “short-term” is defined as “up to one year.”¹⁶ Finer breakdowns of time horizon of “up to one month,” “more than one month and up to three months,” and “more than three months and up to one year” are included to enable policymakers and market participants to assess the authorities' liquidity positions within the one-year time frame.

36. The term “residual maturity” is used in the template to indicate the types of “short-term” foreign currency flows to be reported for the various subperiods of the one-year time horizon. Residual (remaining) maturity is commonly referred to as the time remaining until the final repayment of the outstanding obligations. Accordingly, applying the “residual maturity” concept, one should include (1) flows emanating from short-term instruments with original maturities of one year or less and (2) flows arising from instruments with longer original maturities whose residual (remaining) maturity is one year or less. In addition, in the template, this concept also includes principal and interest payments falling due within one year on instruments with original maturities of more than one year that are not already covered in (2).

Other Reporting and Dissemination Considerations

37. The template does not specify the currencies (national, U.S. dollar, euro, or others) in which the

¹⁵Under most circumstances, the nominal value of principal payments, expressed in the currency of denomination of the contract, would correspond to the face value of the instrument concerned. However, in some circumstances, the anticipated cash-flow value will differ from the face value.

¹⁶This is consistent with the definition of “short-term” used in the *BPM5*.

data are to be reported. It is recommended, however, that compilers report data in the template in the same currency they normally use to disseminate data on official reserve assets. This will enhance the analytical usefulness of data disclosed in the template and promote reconciliations among different data sets. To facilitate data comparability over time and among countries, it is preferable that the reporting currency be a reserve currency or, at a minimum, a stable one.

38. The reference date in the template is the end date of the reporting period (e.g., the reference date for September refers to the last business day of September). For position data, data to be reported refer to outstanding stocks of assets (and liabilities, as applicable) on that date. For flow data, data to be reported refer to the anticipated amount on the reference date of future outflows and inflows of foreign currency, associated with known predetermined or contingent positions outstanding on the reference date. Where appropriate, the convention of applying a plus (+) sign to denote assets and inflows of foreign currency and a minus sign (–) for liabilities and outflows of foreign currency should be used

39. In determining outstanding foreign currency resources and flows, it is recommended that transaction dates (not settlement dates) be used. Transaction dates are the preferred basis of recording because the time lags for countries' settlement practices differ. Where settlement dates are used, they should be applied consistently from period to period.

40. *The template is designed for use in diverse economies.* Although not all items in the template are applicable to all countries, it is important that items not applicable (i.e., in which there are no stock positions or transactions) be left blank in the template. Where the value of an item is zero, an entry denoting zero should be shown.

41. In view of the varied information called for in the template, data in the different sections of the template are not to be added to or subtracted from one another to derive a single number for the whole template. Various analyses, however, can be made by examining data reported by countries in the various sections of the template.

42. *To enhance the analytical usefulness of the data and to minimize the prospect that users will misinterpret information reported in the template, it is recommended that country-specific exchange rate*

arrangements (such as the operation of a currency board or the implementation of dollarization), special features of reserves management policy (including the matching of maturities of foreign currency assets and liabilities and the use of hedging techniques), and accounting practices and statistical treatments of certain financial transactions (as discussed later throughout this document) be disclosed in country notes accompanying the data, where appropriate. It would also be useful to disclose the major sources of funds for reserve assets and other foreign currency assets, which may include foreign currency earnings from exports, issuance of foreign currency bonds, and foreign currency deposits from domestic banks. (See also item 8 of Appendix V.)

43. The template data can be disseminated to the public on the Internet or through other media.

44. Given the comprehensive coverage of the template, various data sources need to be tapped to collect the requisite information. Close collaboration between the monetary authorities and other relevant government agencies is a prerequisite for timely and accurate reporting of the template data.

Structure of the Data Template

45. *The data template has four sections. Section I covers information on the authorities' foreign currency resources, including official reserve assets and other foreign currency assets. Sections II and III consider data required to reveal the net drains on such foreign currency resources in the short term. Section IV specifies the memo items on which supplementary information is needed.*

46. The types of data to be reported differ in the four sections. Section I concerns *stock (position) data*; Sections II and III cover foreign currency *inflows and outflows* associated with various on-balance-sheet and off-balance-sheet positions. Section IV provides supplementary information *on positions and flows*.

47. Specifically, *Section I* of the template deals with the composition and magnitude of a country's foreign currency resources, including the authorities' holdings of various types of financial instruments. *Reserve assets are distinguished from other foreign currency assets, facilitating reconciliation between*

existing data countries disseminate on international reserves and those in the template.

48. *Sections II and III, respectively, address predetermined and contingent drains (demands) on foreign currency resources in the short term* in view of their different nature. Examples of predetermined drains on foreign currency resources include those relating to amortized debt service payments and known commitments in forwards, futures, and swaps contracts. Examples of contingent drains are those associated with government guarantees, options, and other contingent liabilities. The separate reporting of predetermined and contingent drains on foreign currency resources is intended to avoid a mingling of the authorities' actual and potential short-term liabilities.

49. *Section IV* provides information on (1) *positions and flows* not disclosed in Sections I through III but deemed relevant for assessing the authorities' reserves and foreign currency liquidity positions and risk exposure in foreign exchange (for example, the domestic currency debt indexed to foreign currency); and (2) *additional details on positions and flows* disclosed in Sections I through III (for example, the currency composition of reserves and pledged assets included in reserves).

50. *Financial derivatives are explicitly covered in four different sections of the template:* the disclosure of inflows and outflows of foreign currency associated with forwards and futures in nominal values is addressed in Section II; notional values of options positions are covered in Section III; and net, marked-to-market values of various types of financial derivatives are to be disclosed in Sections I and IV.

Structure of this Book

51. Chapter 2 of these operational guidelines elaborates on steps that can be taken to provide comprehensive coverage of the authorities' foreign currency resources, comprising coverage of *official reserve assets* and of *other foreign currency assets*.

52. Chapter 3 notes ways to report on predetermined short-term net drains on the authorities' foreign currency resources, including those associated with *loans and securities, forward commitments, and other foreign currency inflows and outflows*.

53. Chapter 4 discusses how contingent demands on such foreign currency resources are to be disclosed, including those related to *government guarantees, securities with embedded options, and undrawn, unconditional credit lines*. It also sets forth the steps to be taken to report on the notional values of *options positions* and explains how stress testing can be undertaken.

54. Chapter 5 presents ways to provide supplementary information such as on short-term *domestic debt indexed in foreign currency, pledged assets, market value of financial derivatives*, other relevant activities in foreign currency (in particular, *securities lent and collateralized under repurchase agreements, and currency composition of reserve assets*).

55. *Item-by-item guidelines* are provided for each section of the template in the respective chapters. Table 1 presents a reference index showing where the item-by-item guidelines can be found in this document.

56. To facilitate the dissemination of the template data by countries, *Appendix II presents a sample form for presenting all items of the template and, at the same time, incorporating details called for in the footnotes of the template and guidelines provided in this document*. For ease of exposition, line items identified in the guidelines presented in Chapters 2 through 5 refer to those shown in the sample form contained in Appendix II.

57. A summary of recommended guidelines for reporting specific types of transactions in the template is presented in Appendix III. An illustration of stress-testing of "in-the-money" options is shown in Appendix IV. Appendix V describes the IMF's dissemination of countries' template data on the IMF's website to facilitate users' access to the information. It also provides guidelines for countries to report the data to the IMF for such purpose.

Table I.1 Reference Index for Item-by-Item Guidelines

	Paragraph Number ¹
I.A. Official reserve assets	
(1) Foreign currency reserves	77
(a) securities	79
(b) deposits	91
(2) IMF reserve position	96
(3) SDRs	97
(4) Gold (including gold on loan)	98
(5) Other reserve assets	102
I.B. Other foreign currency assets	118
II. Predetermined short-term net drains	
(1) Foreign currency loans and securities	159
(2) Aggregate short and long positions in forwards, futures, and swaps	167
(3) Other	178
III. Contingent short-term net drains	
(1) Contingent liabilities	191
(2) Securities with embedded options	199
(3) Undrawn, unconditional credit lines	206
(4) Aggregate short and long positions of options	222
IV. Memo items	
(1) (a) Short-term domestic currency debt indexed to the exchange rate	242
(b) Financial instruments denominated in foreign currency and settled by other means	247
(c) Pledged assets	243
(d) Securities lent and on repo	255
(e) Financial derivatives (net, marked to market)	262
(f) Derivatives that have a residual maturity greater than one year, subject to margin calls	244
(2) (a) Currency composition of reserves	246

¹ Refers to paragraph numbers in this document.

Box I.2. Data Template on International Reserves/Foreign Currency Liquidity

(Information to be disclosed by the monetary authorities and other central government, excluding social security)^{1,2,3}

I. Official reserve assets and other foreign currency assets (approximate market value)⁴

- A. Official reserve assets
 - (1) Foreign currency reserves (in convertible foreign currencies)
 - (a) Securities
 - of which:*
 - issuer headquartered in reporting country
 - (b) total deposits with:
 - (i) other central banks and BIS
 - (ii) banks headquartered in the reporting country
 - of which:*
 - located abroad
 - (iii) banks headquartered outside the reporting country
 - of which:*
 - located in the reporting country
 - (2) IMF reserve position
 - (3) SDRs
 - (4) Gold (including gold on loan)⁵
 - (5) Other reserve assets (specify)
- B. Other foreign currency assets (specify)

II. Predetermined short-term net drains on foreign currency assets (nominal value)

	Total	Maturity breakdown (residual maturity)		
		Up to 1 month	More than 1 month and up to 3 months	More than 3 months and up to 1 year
1. Foreign currency loans and securities ⁶				
2. Aggregate short and long positions in forwards and futures in foreign currencies vis-à-vis the domestic currency (including the forward leg of currency swaps) ⁷				
(a) Short positions				
(b) Long positions				
3. Other (specify)				

III. Contingent short-term net drains on foreign currency assets (nominal value)

	Total	Maturity breakdown (residual maturity, where applicable)		
		Up to 1 month	More than 1 month and up to 3 months	More than 3 months and up to 1 year
1. Contingent liabilities in foreign currency				
(a) Collateral guarantees on debt falling due within 1 year				
(b) Other contingent liabilities				
2. Foreign currency securities issued with embedded options (puttable bonds) ⁸				
3. Undrawn, unconditional credit lines ⁹				
(a) with other central banks				
(b) with banks and other financial institutions headquartered in the reporting country				
(c) with banks and other financial institutions headquartered outside the reporting country				
4. Aggregate short and long positions of options in foreign currencies vis à-vis the domestic currency ¹⁰				
(a) Short positions				
(i) Bought puts				
(ii) Written calls				
(b) Long positions				
(i) Bought calls				
(ii) Written puts				
PRO MEMORIA: In-the-money options ¹¹				
(1) At current exchange rates				
(a) Short position				
(b) Long position				
(2) +5 % (depreciation of 5%)				
(a) Short position				
(b) Long position				
(3) - 5 % (appreciation of 5 %)				
(a) Short position				
(b) Long position				
(4) +10 % (depreciation of 10 %)				
(a) Short position				
(b) Long position				
(5) - 10 % (appreciation of 10 %)				
(a) Short position				
(b) Long position				
(6) Other (specify)				

IV. Memo items

- (1) To be reported with standard periodicity and timeliness:¹²
 - (a) short-term domestic currency debt indexed to the exchange rate
 - (b) financial instruments denominated in foreign currency and settled by other means (e.g., in domestic currency)¹³
 - (c) pledged assets¹⁴
 - (d) securities lent and on repo¹⁵
 - (e) financial derivative assets (net, marked to market)¹⁶
 - (f) derivatives (forward, futures, or options contracts) that have a residual maturity greater than one year, which are subject to margin calls.
- (2) To be disclosed less frequently (e.g., once a year):
 - (a) currency composition of reserves (by groups of currencies)

¹ In principle, only instruments denominated and settled in foreign currency (or those whose valuation is directly dependent on the exchange rate and that are settled in foreign currency) are to be included in categories I, II, and III of the template. Financial instruments denominated in foreign currency and settled in other ways (e.g., in domestic currency or commodities) are included as memo items under Section IV.

² Netting of positions is allowed only if they have the same maturity, are against the same counterparty, and a master netting agreement is in place. Positions on organized exchanges could also be netted.

³ Monetary authorities defined according to the IMF *Balance of Payments Manual*, Fifth Edition.

⁴ In cases of large positions vis-à-vis institutions headquartered in the reporting country, in instruments other than deposits or securities, they should be reported as separate items.

⁵ The valuation basis for gold assets should be disclosed; ideally this would be done by showing the volume and price.

⁶ Including interest payments due within the corresponding time horizons. Foreign currency deposits held by nonresidents with central banks should also be included here. Securities referred to are those issued by the monetary authorities and the central government (excluding social security).

⁷ In the event that there are forward or futures positions with a residual maturity greater than one year, which could be subject to margin calls, these should be reported separately under Section IV.

⁸ Only bonds with a residual maturity greater than one year should be reported under this item, as those with shorter maturities will already be included in Section II, above.

⁹ Reporters should distinguish potential inflows and potential outflows resulting from contingent lines of credit and report them separately, in the specified format.

¹⁰ In the event that there are options positions with a residual maturity greater than one year, which could be subject to margin calls, these should be reported separately under Section IV.

¹¹ These “stress-tests” are an encouraged, rather than a prescribed, category of information in the IMF’s Special Data Dissemination Standard (SDDS). Results of the stress-tests could be disclosed in the form of a graph. As a rule, notional value should be reported. However, in the case of cash-settled options, the estimated future inflow/outflow should be disclosed. Positions are “in the money” or would be, under the assumed values.

¹² Distinguish between assets and liabilities where applicable.

¹³ Identify types of instrument; the valuation principles should be the same as in Sections I-III. Where applicable, the notional value of nondeliverable forward positions should be shown in the same format as for the nominal value of deliverable forwards/futures in Section II.

¹⁴ Only assets included in Section I that are pledged should be reported here.

¹⁵ Assets that are lent or repoed should be reported here, whether or not they have been included in Section I of the template, along with any associated liabilities (in Section II). However, these should be reported in two separate categories, depending on whether or not they have been included in Section I. Similarly, securities that are borrowed or acquired under repo agreements should be reported as a separate item and treated symmetrically. Market values should be reported and the accounting treatment disclosed.

¹⁶ Identify types of instrument. The main characteristics of internal models used to calculate the market value should be disclosed.

2. Official Reserve Assets and Other Foreign Currency Assets (Approximate Market Value)

58. *This chapter provides guidelines to assist countries in reporting data on the authorities' foreign currency resources (comprising reserve assets and other foreign currency assets) in Section I of the template. Items I.A.(1) through I.A.(5) are used to report information on reserve assets and item I.B., on other foreign currency assets. All items in Section I refer to outstanding assets (stock) on the reference date. As noted in para. 42, to facilitate liquidity analysis, it is recommended that information on special features of the reporting country's reserves management policy and major sources of funds for reserve assets and other foreign currency assets be described in country notes accompanying the template data. To enhance data transparency, it is also important to indicate in country notes specific changes in the reporting country's exchange rate arrangements (for example, the implementation of dollarization) and their impact on the level of the country's reserve assets.*

Disclosing Reserve Assets and Other Foreign Currency Assets

59. *“Reserve assets” are those held by the monetary authorities for meeting balance of payments financing needs, for intervention in exchange markets, and for other purposes. “Other foreign currency assets” refer to foreign currency assets of the monetary authorities that are not included in reserve assets, as well as such assets held by the central government (excluding social security funds). For practical purposes, with respect to foreign currency assets of the central government (excluding social security funds), only assets that are materially significant (that is, of substantial positions) need to be included in item I.B. of the template.*

60. The fifth edition of the IMF *Balance of Payments Manual (BPM5)* provides the international guidelines for the compilation of reserve assets; the *BPM5*

defines reserve assets as the monetary authorities' claims on nonresidents. Reviews of data reported by selected member countries to the IMF¹⁷ indicate, however, that the coverage of countries' data on international reserves varies because (1) not all countries interpret the *BPM5* guidelines similarly; (2) some countries do not fully disclose their international reserves; and (3) countries may define reserve assets differently for operational purposes, for example, maintaining part of their reserve assets as deposits in resident¹⁸ financial institutions or as investment in securities issued by resident institutions and including such claims on residents in their reserve assets.

61. *As a tool for liquidity management, the template aims to enhance the transparency of existing dissemination practices of countries on reserve assets and facilitates the compilation of such data to meet reserves management and balance of payments reporting needs. To facilitate reporting countries' disclosure of the operational coverage of reserve assets, while maintaining the underlying concept of reserve assets as set forth in the *BPM5* for balance of payments reporting purposes, the template calls for the identification of the monetary authorities' foreign currency deposits in resident financial institutions and their holdings of foreign currency securities issued by the foreign branches and subsidiaries of institutions that have their headquarters in the reporting country. (See later in this chapter, “Identifying Institutions Headquartered in the Reporting Country and Institutions Headquartered Outside the Reporting Country.”)*

62. The *BPM5* does not allow the inclusion of the monetary authorities' foreign currency deposits in

¹⁷Countries' data on reserve assets are reported to the IMF for publication in the IMF's monthly *International Financial Statistics* and the annual *Balance of Payments Statistics Yearbook*.

¹⁸These resident institutions include ones “headquartered and located in the reporting country” or ones “headquartered abroad but located in the reporting country.” See Section D of this chapter for further detail.

resident entities in reserve assets except under certain restrictive conditions. Under the *BPM5*, foreign currency securities issued by entities “headquartered in the reporting country but located abroad” are external assets. They can be considered reserve assets if other criteria for reserve assets are met. Foreign currency securities issued by entities “headquartered and located in the reporting country” are not external assets and should not be included in official reserves. Foreign currency deposits and foreign currency securities that are reserve assets should be reported in Section I.A. of the template. Those that do not meet the criteria for reserve assets but are liquid should be included in Section I.B. (See later discussion on reporting “other foreign currency assets.”) In certain cases, for prudential reasons and because of creditworthiness considerations, the monetary authorities place foreign currency deposits with institutions located in the reporting country or hold foreign currency securities issued by institutions located in the reporting country, as part of their reserves management policy. Such assets should be reported in Section I.B. of the template under “other foreign currency assets.” Nevertheless, if such deposits and securities are reported among official reserve assets in Section I.A., such inclusion should be clearly stated in country notes accompanying the data in the template, with their values disclosed. Such disclosure is essential to enhance data transparency and facilitate reconciliation of the template data with those reported under the *BPM5* framework. (See also “Reconciling Template Data and the *BPM5* Concept of Reserves.”)

63. The rest of this chapter:

- examines key considerations in reporting reserve assets as set forth in the *BPM5*, clarifies certain *BPM5* concepts, and notes the need to promote comparable data reporting among countries on international reserves;
- considers the treatment of the different types of financial instruments in reserve assets;
- elaborates on the treatment of reserve assets held in resident financial institutions;
- discusses the concordance between the template data on reserves and the major components of reserve assets as set forth in the *BPM5*, with a view to facilitating the use of the template data for purposes both of balance of payments reporting and reserves management;
- identifies information that can be reported under the data category “other foreign currency assets”; and
- provides guidelines for the derivation of approximate market values for reserve assets and other foreign currency assets.

Defining Reserve Assets

64. Chapter 1 provided the definition of reserve assets as set forth in the *BPM5*. For easy reference, it is repeated here. Reserve assets are “external assets that are readily available to and controlled by monetary authorities for direct financing of payments imbalances, for indirectly regulating the magnitudes of such imbalances through intervention in exchange markets to affect the currency exchange rate, and/or for other purposes.” (*BPM5*, para. 424.) Countries have interpreted “readily available” and “controlled by” in varying ways when applying the concept in practice. Some guidelines for implementing the concept in reporting data on reserve assets in the template are provided below.

Guidelines for Implementing the *BPM5* Concept on Reserves

65. Underlying the *BPM5* concept of reserves are the notions of “effective control” by the monetary authorities of the assets and the “usability” of the assets to the monetary authorities. Accordingly, reserve assets are, first and foremost, liquid or marketable assets readily available to the monetary authorities.¹⁹

66. If the authorities are to use the assets for the financing of payments imbalances and to support the exchange rate, *the reserve assets must be foreign currency assets.*

67. Furthermore, to be liquid *such foreign currency assets must be in convertible foreign currencies*, that is, freely usable for settlements of international transactions. A corollary is that *assets redeemable only in nonconvertible foreign currencies cannot be reserve assets.*

68. In general, only external claims actually owned by the monetary authorities are regarded as reserve assets. Nonetheless, ownership is not the only condition that confers control. In cases where institutional units (other than the monetary authorities) in the reporting economy hold legal title to external foreign currency assets and are permitted to do so only on terms specified by the monetary authorities or only with their express approval, such assets can be considered

¹⁹Marketable assets refer to those that can be bought, sold, and liquidated with minimum cost and time and for which there are ready and willing sellers and buyers. “Readily available” assets are assets that are available with few constraints.

reserve assets. This is because such assets are under the direct and effective control of the monetary authorities. To be counted in reserves, such assets are to meet other criteria as set forth above, including availability to meet balance of payments needs.

69. In addition, in accordance with the residency concept in the *BPM5*, “external” assets refer to *claims of the monetary authorities on nonresidents*. Conversely, *the authorities’ claims on residents are not reserve assets*.²⁰ (See also para. 62.) As will be clarified later, foreign currency claims of the monetary authorities on residents are “other foreign currency assets” of the monetary authorities and should be reported as such on section I.B. of the template.

70. Loans to the IMF, which are readily repayable, are reserve assets (see below under “reserve position in the IMF”), but other *long-term loans provided by the monetary authorities to nonresidents*, which would not be readily available for use in times of need, *are not reserve assets*. *Short-term loans to nonresidents, however, qualify as reserve assets if available upon demand by the authorities*.

71. Transfers of foreign currency claims to the monetary authorities by other institutional units in the reporting economy just prior to certain accounting or reporting dates with accompanying reversals of such transfers soon after those dates (commonly known as “*window dressing*”) *should not be counted as reserve assets*. If such transfers are included in reserves, they should be disclosed in country notes accompanying the data.

72. *Assets pledged are typically not readily available*. *If clearly not readily available, pledged assets should be excluded from reserves*. An example of pledged assets that clearly would not be readily available are assets that are blocked when used as collateral for third-party loans and third-party payments. Other examples of pledged assets that are to be excluded from international reserves include assets pledged by the monetary authorities to investors as a condition for the investors to invest in securities issued by domestic entities (such as central government agencies). Also to be excluded from reserve assets are assets lent by the monetary authorities to a third party, which are not available until maturity, and

²⁰As will be explained later under the section on “Identifying Institutions Headquartered in the Reporting Country,” under certain circumstances, the monetary authorities’ deposits in domestic banks can be included in reserve assets.

prior to maturity, are not marketable. If pledged assets are included in reserves, their value should be reported in Section IV under “pledged assets.” Pledged assets are to be differentiated from reserve assets that are encumbered under securities lending arrangements and repurchase agreements (repos). The reporting of repos and related transactions is discussed in paras. 85–88. (Pledged assets are separately identified from securities lent or repoed and gold swapped in Section IV—memo items—of the template. See Chapter 5 for detail.)

73. *Reserve assets must actually exist*. Lines of credit that could be drawn on and foreign exchange resources that could be obtained under swap agreements are not reserve assets because they do not constitute existing claims. (Such lines of credit are, however, to be reported in Section III of the template and are discussed under contingent foreign exchange resources in Chapter 4.)

74. Real estate owned by the monetary authorities is not to be included in reserve assets because real estate is not considered a liquid asset.

Reporting Financial Instruments in Reserve Assets

75. *Reserve assets include only certain financial instruments*. The *BPM5* lists among reserve assets these instruments: foreign exchange, monetary gold, special drawing rights (SDRs), reserve position in the Fund, and other claims. *In the data template, foreign exchange, monetary gold, and other claims correspond closely to “foreign currency reserves,” “gold, including gold on loan,” and “other reserve assets.”*

76. Monetary gold, SDRs, and reserve positions in the Fund are considered reserve assets because they are owned assets readily available to the monetary authorities in unconditional form. Foreign exchange and other claims in many instances are equally available and therefore qualify as reserve assets. Below are guidelines for reporting data in the template on these instruments.

Foreign Currency Reserves—Item I.A.(I) of the Template

77. While the *BPM5* defines foreign exchange to consist of holdings of securities, currency and deposits,

and financial derivatives, *the template only explicitly lists securities and deposits under foreign currency reserves*. Currency is not identified as a separate component of the template. The rationale for this treatment is that currency often is not a major component of countries' reserve assets; in reporting data in the template, currency should be included in deposits with central banks in item I.A.(1)(b)(i). However, for financial derivatives, the template calls for the separate reporting of their net, marked-to-market values under items I.A.(5), I.B., and IV.(1)(e), as appropriate. (See later discussion in this chapter and Appendix III.)

78. A reconciliation of these presentational differences between the *BPM5* and the data template is discussed later in this chapter.

Securities—Item I.A.(1)(a) of the Template

79. *Securities should include highly liquid, marketable equity and debt securities;*²¹ liquid, marketable, long-term securities (such as 30-year U.S. Treasury bonds) are included. Nonissued securities (that is, securities not listed for public trading) are excluded; such securities are deemed not to be liquid enough to qualify as reserve assets.

80. *Only foreign currency securities issued by non-resident entities should be included in this item of the template.* It therefore follows that the category “of which issuer headquartered in reporting country” should be used to report only foreign currency securities that are issued by institutions “headquartered in the reporting country but located abroad.” As mentioned earlier, foreign currency securities issued by institutions “headquartered and located in the reporting country” are excluded; they are to be reported in Section I.B. of the template if they are liquid assets. (See the discussion on “other foreign currency assets” later in the chapter.) (See also para. 62.)

81. When securities reported in the template include both securities held directly and securities held under repurchase agreements (repos) and security lending agreements,²² this should be indicated in country

²¹Equity securities include stocks and shares and similar instruments such as American Depositary Receipts (ADRs). Also included are preferred shares and stocks, mutual funds and investment trusts. Debt securities cover (1) bonds and notes, debentures; and (2) money market instruments (such as treasury bills, commercial paper, bankers' acceptances, negotiable certificates of deposits with original maturity of one year or less) and short term notes issued under note issuance facilities.

²²Including sell/buybacks and other similar collateralized arrangements. Gold swaps are reported under item I.A.(4) of the template.

notes accompanying the data. *The template also calls for the reporting of securities lent and repoed in item IV(1)(d).*

82. The term “*repurchase agreements*” (repos) in the template refers to both repos and reverse repos. A repurchase agreement is one in which a party that owns securities acquires funds by selling the specified securities to another party under simultaneous agreement to repurchase the same securities at a specified price and date.²³ A reverse repo is one in which a party provides funds by purchasing specified securities pursuant to a simultaneous agreement to resell the same securities at a specified price and date.²⁴

83. *Securities lending* is considered to be similar to repos. Securities lending involves the lending of securities collateralized by highly liquid securities or in exchange for cash.

84. Accounting practices differ among countries for the treatment of securities under repos/reverse repos and security lending. Some countries, for example, record repos as transactions in securities, in which the securities are deducted from the balance sheet and the funds acquired are added to the balance sheet. Others, however, do not deduct the securities on the balance sheet; instead, they show the funds obtained from the repo transaction as an asset on the balance sheet, counterbalanced by a liability (a collateralized loan) shown on the balance sheet for the funds acquired that need to be repaid. *In light of the different treatments for repos, the template requires that countries provide information on the accounting treatment used. Such information is to be disclosed in country notes accompanying the data on repos.*

85. In reporting repos and related activities, it is important to avoid double-counting both the funds received and the securities repoed among reserve assets. It is also essential to characterize accurately the nature of repo transactions and to maintain data transparency. For these reasons, it is recommended that repo activities be reported in the template as follows:

(i) For a repo, the funds received should be shown as an increase in deposits among reserve assets, and the securities repoed should be removed from Section I.A. of the template and recorded in item IV.(1)(d) (Securities lent and on repo) under

²³Or on demand, for some contracts.

²⁴Or on demand, for some contracts.

- “lent or repoed but not included in Section I.” (See sample form in Appendix II.)
- (ii) For a reverse repo, the funds provided to the counterparty should be reflected as decreases in deposits among reserve assets, and the securities acquired shown under item IV.(1)(d) under “borrowed or acquired but not included in Section I.” (See sample form in Appendix II.) In addition, if the claim (i.e., a repo asset) arising from the funds provided is liquid and available upon demand to the monetary authorities, the decline in deposits should be counterbalanced by the recording of such a repo asset in reserves under item I.A.(5) “other reserve assets.” (For recording such claims that are not liquid, see (iv) below.)
 - (iii) Where countries leave securities repoed in reserve assets and at the same time record the cash received among deposits under item I.A.(1)(b) of the template (i.e., using the collateralized loan approach), a future predetermined foreign currency outflow associated with the return of the cash (plus interest payments) should be reported in item II.3 of the template. The securities repoed should also be shown in item IV(1)(d) under securities “lent or repoed and included in Section I.” (See also Chapter 3 on the reporting of foreign currency inflows and outflows related to repo activities.)
 - (iv) For a reverse repo, where the securities received are not included in reserve assets and the decrease in foreign currency is reflected in total deposits in item I.A.(1)(b), and the repo asset so acquired is not liquid and not available on demand to the monetary authorities, a future predetermined cash inflow associated with the return of the securities borrowed should be recorded in item II.3. The securities acquired under the reverse repo should be recorded in item IV.(1)(d) of the template under securities “borrowed or acquired but not included in Section I.” (See also Chapter 5 and Appendix III.)

86. Where the monetary authorities undertake a reverse repo and subsequently repo out the securities (obtained in the reverse repo) for cash, this should be reported in the following way: a reverse repo transaction is first reported, as illustrated in para. 85(ii) or (iv) above; this is followed by the recording of a repo transaction, as discussed in para. 85(i) or (iii) above; and the values of the securities involved are disclosed separately under reverse repos and repos in item IV(1)(d) of the template. (See also Appendix III.)

87. Where the monetary authorities undertake a reverse repo and subsequently sell the securities received, this should be reported as follows: a reverse repo transaction is first reported, as illustrated in para.85(ii) or (iv) above; this is followed by the recording of a transaction in securities in which the market value of the securities sold should be deducted from I.A.(1)(a) and funds received from the sale of securities should be added to total deposits.

88. The same treatments described above should be applied to securities lent/borrowed in exchange for cash. Where securities are lent/borrowed with other securities used as collateral and no cash is exchanged, the transaction should not be reported in Section I of the template but recorded in item IV(1)(d) under securities lent or on repos, with accompanying country notes indicating that securities are acquired as collateral in security lending activities. (See Appendix III, item (9).) The rationale for this approach is that collateral generally is not recognized on the balance sheet. In cases where securities are lent/borrowed with other securities used as collateral and such activity is accomplished through methods synonymous with first undertaking a repo and subsequently undertaking a reverse repo, such a transaction can be recorded in Section I.A. to show a decrease in “securities,” counterbalanced by an increase in repo assets to be shown in item I.A.(5) under “other reserve assets,” provided that the repo assets so acquired are liquid and that they meet the criteria of reserve assets. The recording of such securities lending activities in Section I.A. of the template is to be clearly stated in country notes accompanying the data.

89. The *BPM5* does not address the quality of reserve assets per se. In practice, however, in order to be readily available to the authorities to meet balance of payments financing and other needs under adverse circumstances, *reserve assets generally should be of high quality* (investment grade and above).²⁵ If reserve assets include securities below investment grade, this must be indicated in country notes accompanying the data.

90. For the recording of securities issued by entities headquartered in the reporting country, see the next section “Identifying Institutions Headquartered in the Reporting Country and Institutions Headquartered Outside the Reporting Country.”

²⁵Information available from rating agencies can be supplemented by other criteria (including the creditworthiness of the counterparty) to determine the quality of the securities.

Total Deposits—Item I.A.(1)(b) of the Template

91. *Deposits refer to those available on demand; consistent with the liquidity concept, these generally refer to demand deposits.* Term deposits that are redeemable upon demand can also be included.

92. *Deposits included in reserve assets are those held in foreign central banks, the Bank for International Settlements (BIS), and other banks. The term “banks” generally refers to financial depository institutions²⁶ and encompasses such institutions as “commercial banks, savings banks, savings and loan associations, credit unions or cooperatives, building societies, and post office savings banks or other government-controlled savings banks (if such banks are institutional units separate from government)” (1993 SNA).*

93. Because short-term loans provided by the monetary authorities to other central banks, the BIS, the IMF (such as the ESAF Trust Loan Account), and depository institutions are much like deposits, it is difficult in practice to distinguish the two. For this reason, the reporting of *deposits in reserve assets should include short-term foreign currency loans, that are redeemable upon demand, made by the monetary authorities to these nonresident banking entities.* Short-term foreign currency loans, that are available upon demand, made by the monetary authorities to nonresident nonbank entities can be disclosed in “other reserve assets” under I.A.(5) in the template.

94. As discussed earlier, currency holdings are to be reported in total deposits under item I.A.(1)(b)(i). Currency consists of foreign currency notes and coins in circulation and commonly used to make payments. (Commemorative coins and uncirculated banknotes are excluded.)

95. For the recording of deposits with institutions headquartered in the reporting country, see the next section, “Identifying Institutions Headquartered in the Reporting Country and Institutions Headquartered Outside the Reporting Country.”

²⁶The *BPM5* (para. 516) defines banks as the “other (than the central bank) depository corporations” and, in the *1993 System of National Accounts (1993 SNA)*, banks are defined as the “other (than the central bank) depository institutions” in the financial corporate sector. Included are institutional units engaging in financial intermediation as a principal activity and having liabilities in the form of deposits or financial instruments (such as short-term certificates of deposits) that are close substitutes for deposits. Deposits include those payable on demand and transferable by check or otherwise usable for making payments and those that, while not readily transferable, may be viewed as substitutes for transferable deposits.

IMF Reserve Position—Item I.A.(2) of the Template

96. *Reserve position in the IMF* is the sum of (1) SDR and foreign currency amounts that a member country may draw from the IMF at short notice and without conditions from its “reserve tranche,”²⁷ and (2) indebtedness of the IMF (under a loan agreement) readily available to the member country including the reporting country’s lending to the IMF under the General Arrangements to Borrow (GAB) and the New Arrangements to Borrow (NAB).

Special Drawing Rights (SDRs)—Item I.A.(3) of the Template

97. *SDRs* are international reserve assets the IMF created to supplement the reserves of IMF member countries. SDRs are allocated in proportion to the countries’ respective quotas.

Gold (Including Gold on Loan)—Item I.A.(4) of the Template

98. Gold in the template refers to gold the authorities own. Gold held by monetary authorities as a reserve asset (i.e., monetary gold) is shown in this item.²⁸ All other gold held by the authorities (e.g., gold held for trading in financial markets) is not monetary gold and should be included under “other foreign currency assets” in Section I.B. of the template. In addition, holdings of silver bullion, diamonds, and other precious metals and stones²⁹ are not reserve assets and should not be recorded in the template. The term “gold on loan” used in the template refers to gold deposits (and gold swapped, if the swap is treated as a collateralized loan; see below).

99. *Gold deposits are to be included in gold and not in total deposits.* In reserves management, it is common for monetary authorities to have their bullion physically deposited with a bullion bank, which may use the gold for trading purposes in world gold markets. The ownership of the gold effectively remains with the monetary authorities, which earn interest on

²⁷Reserve-tranche positions in the IMF are liquid claims of members on the IMF that arise not only from the reserve asset payments for quota subscriptions but also, for members in strong external positions, from the sale by the IMF of their currencies to meet the demand for use of IMF resources by other members in need of balance of payments support.

²⁸Such gold is treated as a financial instrument because of its historical role in the international monetary system.

²⁹These precious metals and stones are considered goods and not financial assets.

the deposits, and the gold is returned to the monetary authorities on maturity of the deposits. The term maturity of the gold deposit is often short, up to six months. To qualify as reserve assets, gold deposits must be available upon demand to the monetary authorities. To minimize risks of default, monetary authorities can require adequate collateral (such as securities) from the bullion bank. *It is important that compilers not include such securities collateral in reserve assets, thereby preventing double counting.*³⁰

100. In reserves management, monetary authorities also may undertake gold swaps.³¹ In gold swaps, gold is exchanged for cash and a firm commitment is made by the monetary authorities to repurchase the quantity of gold exchanged at a future date. Accounting practices for gold swaps vary among countries. Some countries record gold swaps as transactions in gold, in which both the gold and the cash exchanged are reflected as offsetting asset entries on the balance sheet. Others treat gold swaps as collateralized loans, leaving the gold claim on the balance sheet³² and recording the cash exchanged as two offsetting asset and liability entries on the balance sheet.³³

101. For the purpose of the template, it is recommended that *gold swaps the monetary authorities*

³⁰If the securities received as collateral are repoed out for cash, a repo transaction should be reported, as discussed earlier under “securities.”

³¹Such gold swaps generally are undertaken between monetary authorities and with financial institutions.

³²This treatment is consistent with *BPM5* (para. 434) to the extent that the swap is between monetary authorities. The rationale is that in a gold swap, the monetary authorities swap gold for other assets (such as foreign exchange) and that this involves a change in ownership. The ownership of gold is retransferred to the original owner when the swap is unwound at a specific date and at a specific price.

³³This treatment applies only when an exchange of cash against gold occurs, the commitment to buy back the gold is legally binding, and the repurchase price is fixed at the time of the spot transaction. The logic is that in a gold swap the “economic ownership” of the gold remains with the monetary authorities, even though the authorities temporarily have handed over the “legal ownership.” The commitment to repurchase the quantity of gold exchanged is firm (the repurchase price is fixed in advance), and any movement in gold prices after the swap affects the wealth of the monetary authorities. Under this treatment, the gold swapped remains as a reserve asset and the cash received is a repo deposit. Gold swaps commonly permit central banks’ gold reserves to earn interest. Usually, the central banks receive cash for the gold. The counterparty generally sells the gold on the market but typically makes no delivery of the gold. The counterparty often is a bank that wants to take short positions in gold and bets that the price of gold will fall or is one that takes advantage of arbitrage possibilities offered by combining a gold swap with a gold sale and a purchase of a gold future. Gold producers sell gold futures and forwards to hedge their future gold production. Treating gold swaps as collateralized loans instead of sales also obviates the need to show frequent changes in the volume of gold in monetary authorities’ reserve assets, which, in turn, would affect world holdings of monetary gold as well as the net lending of central banks.

undertake be treated in the same ways as repos and reverse repos. (See para. 85 and Appendix III.)

Other Reserve Assets—Item I.A.(5) of the Template

102. “Other reserve assets” include assets that are liquid and readily available to the monetary authorities but not included in the other categories of reserve assets. These assets include the following:

- the net, marked-to-market value of financial derivatives positions (including, for instance, forwards, futures, swaps, and options) with nonresidents, if the derivative products pertain to the management of reserve assets, are integral to the valuation of such assets, and are under the effective control of the monetary authorities. Such assets must be highly liquid and denominated and settled in foreign currency. Forwards and options on gold are to be included in this item. “Net” refers to asset positions offset by liability positions.³⁴
- short-term foreign currency loans redeemable upon demand provided by the monetary authorities to nonbank nonresidents.
- repo assets that are liquid and available upon demand to the monetary authorities. (See also para. 85(ii).)

Identifying Institutions Headquartered in the Reporting Country and Institutions Headquartered Outside the Reporting Country

103. To enhance the comparability of data across countries and provide additional insight into factors that may affect the liquidity of reserve assets, *the template distinguishes between institutions headquartered and not headquartered in the reporting country.* In the template, “institutions headquartered in the reporting country” refer to domestically-controlled institutions, as opposed to foreign-controlled institutions. The latter are referred to as “institutions headquartered outside the reporting country.” One rationale for this distinction is that assets held in institutions headquartered in the reporting country may not be liquid or available to the authorities in times of a financial crisis. Another is that in crisis situations the monetary authorities could be constrained by concerns about the impact of their foreign exchange operations on the liquidity situation of

³⁴See also Chapter 5 for a discussion on reporting of marked-to-market values of financial derivatives in the template, including “netting by novation.”

domestically-controlled institutions. Yet another reason is that the authorities conceivably could influence the disposition of assets held in institutions headquartered in the reporting country.

104. The term “headquartered in the reporting country” refers to institutional units that consist of a headquarters unit in the reporting country together with its branches and subsidiaries³⁵ in the reporting country and abroad. The term “headquartered in the reporting country but located abroad” refers to the foreign branches and subsidiaries of the headquarters unit.

105. The term “headquartered outside the reporting country” refers to institutional units that consist of a headquarters unit outside the reporting country together with its branches and subsidiaries outside the reporting country and in the reporting country. The term “headquartered abroad but located in the reporting country” refers to resident branches and subsidiaries of such headquarters unit.

Guidelines for Compiling Items I.A.(1)(a), I.A.(b)(ii), and I.A.(b)(iii) of the Template

106. The headquartering distinction applies to reserve assets in the form of deposits in banks and, to a lesser extent, securities. For the sake of simplicity, such detail is not required for the data category on “other reserve assets” unless sizable assets are held in institutions headquartered in the reporting country, in which case they are to be reported in separate lines.

107. *Deposits in banks are to be separately reported under the headquartering distinction.* Under the residency concept set forth in the *BPM5*, monetary authorities’ deposits held in resident banks (including banks “headquartered and located in the reporting country” and banks “headquartered abroad but located in the reporting country”) do not constitute external claims on nonresidents and are not considered reserve assets. Nonetheless, the *BPM5* permits the authorities’ foreign currency deposits held in resident banks (banks located in the reporting country, whether they are domestically-controlled or foreign-controlled) to be included in reserves under certain restrictive circumstances. In particular, this may be permitted when the banks located in the reporting country have counterpart foreign currency claims

³⁵“Branches” refer to unincorporated entities wholly owned by the parent (headquarters) institution; and subsidiaries, to incorporated entities more than 50 percent owned by the parent institution.

upon nonresident entities and the counterpart claims are under the effective control of the monetary authorities and readily available to them to meet balance of payments financing and other needs.

108. Some countries include monetary authorities’ foreign currency deposits in resident banks as reserve assets, whether or not the above-mentioned condition of counterparty claims is met. (As noted in para. 62, under such circumstances, the inclusion of such deposits among official reserve assets should be clearly stated in country notes accompanying the template, with their values disclosed.) Others do not include any deposits in resident banks when calculating reserve assets. In view of the varying country practices, line I.A.(b) (ii), “banks headquartered in the reporting country,” should be used to report the monetary authorities’ deposits in domestically-controlled banks; the line “of which located abroad,” should be used to report the monetary authorities’ deposits in foreign branches and subsidiaries of domestically-controlled banks. Line I.A.(b)(iii), “banks headquartered outside the reporting country” should be used to disclose deposits in foreign-controlled banks; the line “of which located in the reporting country” should be used to report deposits in foreign-controlled banks’ branches and subsidiaries located in the reporting country. In cases where the monetary authorities have ownership stakes in institutions headquartered and located outside the reporting country, the monetary authorities’ deposits in such nonresident institutions should not be included in reserve assets. If they are included, the amounts should be clearly stated in country notes accompanying the data.

109. Under the *BPM5*, holdings of foreign currency securities issued by entities “headquartered and located in the reporting country” represent the authorities’ claims on residents; such assets, therefore, are not considered external assets; where such assets are liquid and readily available, they should be reported under Section I.B. of the template. (See also para. 62.) Holdings of securities issued by entities “headquartered in the reporting country but located abroad” can be included in reserve assets if they meet the relevant criteria; these securities should be reported under item I.A.(1)(a). (As noted in para. 62, in cases where foreign currency securities issued by institutions located in the reporting country are included in official reserve assets, such securities should be clearly stated in country notes accompanying the template, with their values disclosed.)

Reconciling Template Data and the BPM5 Concept of Reserves

110. In principle, official reserve assets specified in Section I.A. of the data template should correspond to the data on international reserves countries compile for balance of payments purposes under the guidelines of the BPM5. Where countries do not now adhere to the BPM5, the operational guidelines provided in this document are intended to promote countries' adherence to such an international standard and the full disclosure of their operational coverage of reserve assets. (See also para. 62.)

111. Official reserve assets shown in Section I.A. of the template and the BPM5 components of reserve assets can be reconciled through a concordance of the two presentations as discussed below.

112. The BPM5 lists types of reserve assets in this order: monetary gold, special drawing rights (SDRs), reserve position in the Fund, foreign exchange (viz., currency and deposits, securities, and financial derivatives), and other claims. In the data template, reserve assets are identified to include foreign currency reserves (viz., securities and deposits), IMF reserve position, SDRs, gold, and other reserve assets. The reordering of the components as shown in

the data template reflects the prominence of foreign exchange in reserves management in today's global financial environment. *As noted earlier, the components of foreign currency reserves and other reserve assets in the data template together correspond closely to the BPM5 coverage under foreign exchange and other claims.* (See Table 2.1.)

113. Since countries report currency in total deposits in the template, item I.A.(1)(b) corresponds to currency and deposits under foreign exchange reserve assets listed in the BPM5.

114. In deriving deposits in reserve assets under the BPM5 concept, one generally would include only these items shown in Section I.A. of the template: (1) deposits with other central banks, the BIS, and the IMF, (2) deposits held in foreign branches and subsidiaries of domestically-controlled banks, and (3) deposits in banks "headquartered and located outside the reporting country." The BPM5 allows deposits in resident banks to be included in reserve assets only under certain restrictive circumstances.

115. With respect to securities, holdings of foreign currency securities issued by nonresident entities to be included in I.A.(1)(a) and net, marked-to-market values of highly liquid financial derivatives positions with nonresidents to be included in I.A.(5) of

Table 2.1 Concordance Between Classifications of Reserve Assets in BPM5 and the Template

BPM5		Template
Reserve Assets	Corresponding to Template Item	Official Reserve Assets
Monetary gold	I.A.(4)	I. A. Official reserve assets
Special drawing rights	I.A.(3)	(1) Foreign currency reserves (in convertible foreign currencies)
Reserve position in the Fund	I.A.(2)	(a) Securities
Foreign exchange	I.A.(1), I.A.(5)	of which:
Currency and deposits*	I.A.(1)(b)	issuer headquartered in reporting country
With monetary authorities	I.A.(1)(b)(I)	(b) Total deposits with:
With banks	I.A.(1)(b)(ii), (iii)	(i) other central banks and BIS
Securities	I.A.(1)(a)	(ii) banks headquartered in the reporting country
Equities		of which:
Bonds and notes		located abroad
Money market instruments		(iii) banks headquartered outside the reporting country
Financial derivatives**	I.A.(5)	of which:
Other claims***	I.A.(5), I.A.(1), I.B.	located in the reporting country
		(2) IMF reserve position
		(3) SDRs
		(4) Gold (including gold on loan)
		(5) Other reserve assets (specify)

* Excludes deposits in banks located in the reporting country unless certain restrictive conditions are met (see text).

** Showing a separate line for financial derivatives is a provisional guideline in BPM5 and subject to review.

*** Only to the extent that working balances abroad of government nonmonetary agencies or assets that are held by banks and subject to the control of the monetary authorities are recorded under "other claims" in BPM5.

the template, taken together, broadly correspond to “securities” and financial derivatives listed in reserve assets in the *BPM5*. (See Table 2, footnote.)

116. Given the coverage of items I.A.(1) under “foreign currency reserves” and I.A.(5) under “other reserve assets” of the data template, these two items broadly correspond to “foreign exchange” in reserve assets shown in the *BPM5*.

117. Both the *BPM5* and the data template prescribe market valuation of reserve assets. There should be no difference in the value of reserve assets reported under the *BPM5* and that shown for official reserve assets under Section I.A. of the data template. Where countries apply inconsistent valuation methods for balance of payments reporting purposes and for compiling the template data, reconciliations will need to take account of the different methods used in the valuation of international reserves.

Defining Other Foreign Currency Assets

118. The foreign currency liquidity of a country is assessed by comparing its total foreign currency resources with its short-term predetermined and contingent drains on such resources. Foreign currency resources include reserve assets and other foreign currency assets of the authorities. Based on this liquidity concept, “*other foreign currency assets*,” like reserve assets, *must be liquid foreign currency assets* that meet the criteria of being available for use by the authorities in times of a crisis. Pledged assets that are clearly not readily available should be excluded.

Other Foreign Currency Assets—Item I.B. of the Template

119. Like reserve assets, *these assets must be in convertible currencies* so that they can be available on demand to meet foreign currency needs of the authorities.

120. Like reserve assets, *these assets must represent actual claims*; credit lines and swap lines are not to be included.

121. Like reserve assets, *these assets must be settled in foreign currencies*; foreign currency assets settled in domestic currencies should be disclosed in Section IV under memo items.

122. Unlike reserve assets, *these assets do not need to be external assets*; they can be claims on residents.

123. Liquid foreign currency claims on nonresidents not included in reserve assets should be included in “other foreign currency assets.”

124. *These assets should be reported both for the monetary authorities and for the central government (excluding social security funds).* As noted earlier, in view of the difficulties of collecting information from the *central government*, *only assets of these entities that are materially significant should be included.*

125. *Examples of “other foreign currency assets” include:*

- The authorities’ foreign currency deposits in banks “headquartered and located in the reporting country” not included in reserve assets.
- The authorities’ foreign currency deposits in banks “headquartered abroad but located in the reporting country.”
- The authorities’ investment in foreign currency securities issued by entities “headquartered and located in the reporting country.”
- Gold held by the authorities for trading in financial markets.
- Net marked-to-market values of highly liquid financial derivatives that represent (1) net claims of the monetary authorities on residents, and (2) net claims of the central government (excluding social security funds) on residents and nonresidents.
- Working balances abroad of government agencies available for immediate use. Nonetheless, if these balances are not large and reporting would entail a significant administrative burden, they could be omitted.

126. In reporting “other foreign currency assets” in the template, countries need to specify the major categories of such assets.

127. If assets are reclassified from reserve assets to other foreign currency assets, this should be explicitly stated in country notes accompanying the template.

Applying Approximate Market Values to Reserve Assets and Other Foreign Currency Assets

128. In principle, “reserve assets” are to be valued at market prices. For purposes of the template, “other

foreign currency assets” of the authorities should be valued on a similar basis. In practice, however, accounting systems may not generate actual market values on all reporting dates for all classes of instruments. In these cases, approximate market values may be substituted. In valuing reserve assets and other foreign currency assets, interest earnings, as accrued, on such foreign currency resources should be included.

Guidelines for Applying Market Valuation on Assets

129. *The market valuation should be applied to reserve assets and other foreign currency assets outstanding (that is, the stock of the assets) on the reference date (that is, at the end of the appropriate reporting period).* If necessary, the stock of assets on the reference date can be approximated by adding the net cumulating flows during the reference period to the stock at the beginning of the reference period.

130. Periodic revaluations of the different types of assets should be undertaken to establish benchmarks on which future approximations can be based. It is recommended that such benchmark revaluations be undertaken at least on a quarterly basis. For each reporting period, at a minimum, the value of foreign currency instruments should be adjusted using the market exchange rates applicable on the reference date to arrive at an approximate market value of the assets.

Securities

131. The stock of *equity securities* of companies listed on stock exchanges can be revalued based on transaction prices³⁶ on the revaluation date. If such transaction prices are not available, the midpoint of the quoted buy and sell prices of the shares on their main stock exchange on the reference date should provide a useful approximation.

132. For *debt securities*, the market price is the traded price on the reference date and includes accrued interest. If that value is not available, other methods of approximation include yield to maturity, discounted present value, face value less (plus) written value of discount (premium), and issue price plus amortization of discount (premium).

³⁶Usually, these are the quoted sales price at the close of trading on the revaluation date.

Currency and Deposits

133. The market value of *currency and deposits* generally is reflected in their nominal (face) value.

Financial Derivatives

134. *Financial derivatives* reported in Section I are to reflect their market values. For futures contracts, this involves marking to market, which usually precedes the daily settlement of gains and losses. The market value of swap and forward contracts is derived from the difference between the initially agreed contract price and the prevailing (or expected prevailing) market price of the underlying item. The market values of options depend on a number of factors including the contract (strike) price, the price and price volatility of the underlying instrument, the time remaining before expiration of the contract, and interest rates. (See also Chapter 5.)

Monetary Gold

135. *Monetary gold* is valued at the current market price of commodity gold. The basis of valuation (such as the volume and the price used in the computation) is to be disclosed. (The sample form in Appendix II provides the specific reporting of the volume of gold, with the expectation that the price could be deduced from the reported data.)

SDRs

136. *SDRs* are valued at an administrative rate determined by the IMF. The IMF determines the value of *SDRs* daily in U.S. dollars by summing the values, which are based on market exchange rates, of a weighted basket of currencies. The basket and weights are subject to revision from time to time.

Reserve Position in the IMF

137. *The reserve position in the IMF* is valued at a rate reflecting current exchange rates (of the SDR against the currency used to report the template data for the reserve tranche position, and of the currency in which loans are denominated in the case of outstanding loans to the IMF by the reporting country).

3. Predetermined Short-Term Net Drains on Foreign Currency Assets (Nominal Value)

138. *Section II* of the template is used to report the authorities' *predetermined short-term net drains on foreign currency assets*. "Predetermined" drains are the *known or scheduled* contractual obligations in foreign currencies. *Contractual obligations of the authorities* can arise from on-balance-sheet and off-balance-sheet activities. *On-balance-sheet obligations* include predetermined payments of principal and interest associated with loans and securities. (See also footnote 6 of the data template.) *Off-balance-sheet activities* that give rise to predetermined flows of foreign currency include commitments in forwards, swaps, and futures contracts.

Defining Predetermined Drains

139. *Short-term drains* refer to contractual foreign currency obligations scheduled to come due during the 12 months ahead. "*Net drains*" refer to outflows of foreign currency net of inflows. *Outflows are to be reported separately from inflows*.

140. Outflows consist of scheduled amortizations of foreign currency obligations and associated interest payments during the coming year and scheduled deliveries of foreign currencies under forwards, futures, and swap contracts. Inflows comprise obligations due to the authorities in the 12 month period ahead arising from on- and off-balance-activities. Note, however, *with respect to foreign currency inflows associated with assets of the authorities, only those pertaining to assets not covered in Section I of the template are to be included*. For example, foreign currency assets shown in Section I include accrued interest and thus interest on such assets should not be recorded in Section II. Similarly, proceeds from the sale of foreign currency assets (such as securities) are reflected in the positions shown in Section I as increases in foreign currency deposits and decreases in securities. In addition, only inflows that are expected to be received should be reported. (See also

later discussion in this chapter under "Reporting Other Foreign Currency Drains.")

141. *The predetermined foreign currency flows covered in Section II of the template can emanate from positions vis-à-vis residents and nonresidents. The predetermined foreign currency flows covered in Section II of the template refer to those that emanate from the authorities' balance-sheet and off-balance-sheet positions vis-à-vis residents and nonresidents.*

142. *Whether an obligation is short term is defined on the basis of its remaining maturity. "Short term" refers to a period up to and including one year. Thus, short-term obligations include those with an original maturity of one year or less and those with longer original maturities whose remaining maturity is one year or less. In the template, they also include any amortization and interest payments falling due during the coming year on obligations with an original maturity of more than one year.*

143. *Predetermined drains covered in Section II of the template are those of the monetary authorities and the central government, excluding social security funds. As stated in footnote 11 in para. 20, the operation of a currency board does not remove the requirement to report data on the central government in the template.*

Reporting Data on Predetermined Drains

144. In reporting data on predetermined drains, a number of considerations need to be taken into account. Unlike data in Section I of the template, which pertain to stock data showing foreign currency assets of the authorities on the reference date (the last day of the reference period), information required in *Section II concerns outflows and inflows of foreign currency during*

the 12 months following from the reference date. The time horizon is broken into the three subperiods: “up to one month,” “more than one month and up to three months,” and “more than three months and up to one year.” The finer breakdowns of the time horizon are intended to facilitate a more detailed assessment by policymakers and market participants of the authorities’ liquidity position. The “total” column in Section II of the template is to reflect the sum of the three subperiods.

145. Unlike foreign currency assets reported in Section I of the template, which are to be disclosed at approximate market values, *inflows and outflows of foreign currency in Section II of the template are to be recorded in nominal values*; that is, the cash-flow value when the flows take place. No discounting for such flows is needed.

146. When converting foreign currency loans, securities, and other on balance-sheet obligations to the currency used in the reporting of the data, the exchange rate to be used is the market rate applicable at the reference date. For forwards, futures, and swaps, the exchange rate specified in the contract (the strike price) should be used to determine the nominal value, which then can be converted to the reporting currency at the market exchange rate for the reference date.

147. In reporting domestic currency instruments that settle in foreign currency, the domestic currency flows should first be converted to foreign currency at the exchange rate specified in the instrument; they then should be converted to the reporting currency at the market exchange rate applicable at the reference date.

148. The computation of net drains (net flows) requires that *inflows and outflows be recorded with opposite signs*; plus signs (+) are used for inflows and minus signs (–), for outflows. Net drains (net flows) can have a (+) or a (–) sign.

149. *Obligations relating to loans and securities* (viz., debt service payments of principal and interest) involve foreign currency outflows; the minus sign (–) should accompany the data. Corresponding foreign currency obligations due to the authorities are to be recorded with a (+) sign. In addition, *interest payments should be reported separately from principal*. (See sample form in Appendix II.)

150. *In the case of predetermined currency flows related to financial derivatives contracts*, short posi-

tions (corresponding to outflows) and long positions (corresponding to inflows) should be distinguished by (–) and (+) signs, respectively. The aggregate (net) position may have either sign. The disclosure of gross positions is required in order to provide more complete information on the foreign currency flows of the authorities, *but netting is allowed* if offsetting positions are maintained with the same counterparty and at the same maturity and insofar as a legally enforceable master netting agreement exists allowing settlement in net terms. This procedure is generally referred to as *netting by novation*.³⁷ Netting by novation also is allowed for matched positions on organized exchanges.

151. Since *repos and reverse repos* are different in nature from traditional loans and securities, it is recommended that if the accounting practices noted in para. 85(iii) and (iv) are followed, foreign currency outflows and inflows associated with repos and reverse repos should be recorded in item II.3. of the template, with outflows separately identified from inflows and accompanied by appropriate signs. In particular, as explained in para. 85(iii), predetermined foreign currency outflows associated with repos should be reported in Section II.3 of the template if the securities provided as collateral remain in reserves. Predetermined foreign currency inflows relating to reverse repos should be recorded in Section II.3 when the repo asset is not liquid and not recorded in reserves (para. 85(iv)). This will facilitate the cross-checking of data reported in Sections I, II, and IV of the template on repos and related activities undertaken by the authorities. Foreign currency flows associated with repos and reverse repos should be separately identified from other short-term flows in item II.3.

152. *Amortization schedules are good data sources* for deriving information on gross foreign currency outflows and inflows related to repayments on short-term loans and installments on long-term loans and associated interest payments falling due within the three time horizons of a one-year period. Countries also can draw on the detailed public-sector external debt data that they compile, where appropriate. *Flow of funds accounts represent yet another good data*

³⁷Netting by novation should be distinguished from closure netting. The latter generally refers to cases of insolvency and bankruptcy, where netting ensures that financial market participants can terminate or close out and net financial market contracts; closure netting allows market participants to liquidate collateral pledged by the defaulting counterparty in connection with these contracts.

source for Section II of the template.

Foreign Currency Flows in Template not Identical to Data on External Liabilities

153. *Loans and securities* referred to in Section II of the template are similar to those defined as loans and securities in the *BPM5*. Nonetheless, there are a number of important differences.

154. Unlike data on external liabilities compiled for a country's *international investment position (IIP)*,³⁸ which are *based on the residency concept* with external liabilities referring to liabilities to nonresidents irrespective of currencies involved, *only loans and securities repayable in foreign currencies, irrespective of the residency of the holder, are to be included in Sections II and III of the template.*

155. Unlike data reported in countries' IIP, which reflect outstanding assets and liabilities at a point in time, the information called for in Section II concerns the *foreign currency inflows and outflows emanating from outstanding assets and liabilities* to be received or paid within the three periods of the forthcoming 12 months.

156. In addition, data on external liabilities compiled for IIP purposes are based on the original maturity of instruments. In the data template, *short term foreign currency flows are determined on the basis of the remaining maturities of instruments.*³⁹

157. The IIP calls for separate data for the monetary authorities and of the general government,⁴⁰ viewing them as two different sectors of the reporting economy. The data template requires information on total foreign currency flows associated with the monetary authorities and the central government (excluding social security funds) as a whole.

158. The IIP calls for external assets and liabilities to be measured at current market prices as of the refer-

ence date. Section II of the template calls for the recording of inflows and outflows at nominal (actual) values.

Reporting Foreign Currency Flows Associated with Loans and Securities

Loans and Securities—Item II.1 of the Template

159. *Loans* comprise liabilities resulting from the direct provision of funds from creditors, whereby creditors receive no security evidencing transactions or receive nonnegotiable documents or instruments. Included are loans incurred by the authorities and the central government to finance trade, other loans and advances (including mortgages), use of IMF credit and loans from the IMF, and financial leases. (See also *BPM5*, para. 415.) Loans under repo, reverse repo, and gold swap arrangements are excluded from here but recorded, as appropriate, in Section II.3.

160. *Short-term loans* repayable within the time horizon *are to be reported*. In the case of debt maturing in more than one year, interest payments and principal installments falling due within one year are to be reported. Long term loans with a remaining maturity of up to one year also are to be included.

161. Short-term foreign currency loans and deposits held among central banks and other banking institutions are difficult to distinguish in practice. For this reason, "*foreign currency loans*" *should include deposits* of foreign central banks and other foreign banking institutions⁴¹ with the monetary authorities of the reporting country. *Also to be included are foreign currency deposits held at the central bank of the reporting country by resident entities. These deposits are ones legally and in practice redeemable by depositors on short notice.* Among these, deposits "on call" are to be reported under the shortest maturity category.

162. *Debt securities* consist of (1) bonds and notes (including debentures, nonparticipating preference shares, and negotiable long-term certificates of deposits) and (2) money market or negotiable debt

³⁸A country's IIP is represented by its balance sheet of external assets and external liabilities.

³⁹Including amortized payments of instruments with remaining maturities of longer than one year.

⁴⁰The central government is a component of the general government, which also consists of local and state jurisdictions.

⁴¹Other types of nonresident entities should be included if they hold deposits with the authorities of the reporting country.

instruments. *Bonds and notes usually give the holder the unconditional right to a fixed money income or to a contractually determined variable money income;* that is, when payment of interest is not dependent on the earnings of the debtor. Bonds, notes, and debentures also provide the holder with the unconditional right to *a fixed sum as a repayment of principal on a specified date or dates.* Included are nonparticipating preferred stocks or shares and convertible bonds. Also so treated are negotiable certificates of deposit with maturities of more than one year, dual-currency bonds, zero-coupon bonds and other deeply discounted bonds, floating-rate bonds, indexed bonds, and asset-backed securities, such as collateralized mortgage obligations and participation certificates.⁴² (Mortgages are not bonds but are included under loans.)

163. *Money market instruments generally give the holder the unconditional right to receive a stated, fixed sum of money on a specified date.* These instruments usually are traded at a discount in organized markets. The discount is dependent on the interest rate and the time remaining to maturity. Included are instruments such as treasury bills, commercial paper and bankers' acceptances, and short-term negotiable certificates of deposit.

164. *Only securities issued by the monetary authorities and the central government (excluding social security funds) settled in foreign currencies should be considered in reporting on predetermined outflows of foreign currency resources in item II.1. of the template.*

165. *To derive information on foreign currency flows pertaining to public debt securities on a frequent and timely basis, an adequate and consistent statistical system is required.* Such a system might exist in the agency that publishes the template or in another government organization that provides the data to the publishing agency. Such a system should maintain detailed information on characteristics of each debt security such as: (1) the entity that issues the security, (2) the dates of issue and of maturity, (3) the currency of issue, (4) the amount raised, (5)

⁴²Brady bonds, which are dollar denominated and issued in euromarkets, should be treated as bonds and notes. The principal amount usually is collateralized by specially issued U.S. Treasury 30-year zero-coupon bonds purchased by the debtor country using a combination of IMF, World Bank, and its own reserve assets. Interest payments on Brady bonds in some cases are guaranteed by securities of at least double A-rated credit quality held with the New York Federal Reserve Bank.

⁴³See also Chapter 4 on securities with embedded put options.

the nominal or face value of the debt, (6) the interest rate, (7) the timing of payments of interest, and (8) where applicable, the embedded put options.⁴³ From such a system, information can be derived on the amount the issuer will pay the holder at the date of redemption of the security, which represents the nominal value of the security called for in the template.

166. Inflows of foreign currency to be reported in item II.1 of the template include those relating to scheduled foreign currency obligations due to the authorities on outstanding loans and securities owned by the authorities that are not covered in Section I of the template. Inflows the authorities do not expect to receive should not be included.

Foreign Currency Flows Relating to Forwards, Futures, and Swaps

Forwards, Futures, and Swaps—Item II.2 of the Template

167. In determining foreign currency flows, financial derivatives can be regarded as instruments that unbundle various contractual rights and obligations, allowing for the transfer or exchange of risks. *Settlement is in the form of specified cash flows, the size of which are determined by reference to, or derived from, values of underlying instruments (foreign currencies, securities, and commodities) or from particular financial indexes (such as interest rates, exchange rates, and stock indexes).*

168. *Item II.2 of the template is for reporting on forwards, futures, and swaps.* Options, which are more complex financial derivative instruments, are to be reported in Section III.

169. *Only financial derivatives in foreign currency, vis-à-vis domestic currency should be covered in item II.2. of the data template.*

170. *Forwards and futures* are agreements to buy or sell a fixed quantity of a particular asset (for example, currency) at a specified future date at a pre-agreed price. *Swaps* are agreements by two parties to exchange cash flows in the future according to a prearranged formula. Futures and swaps are no more than variations of forward contracts.

171. A *forward contract*, as distinguished from a futures contract, is an “*over-the-counter*” (*OTC instrument*). It is not traded on organized exchanges but by dealers (typically banks) trading directly with one another or with their counterparties over the telephone, by computer, or by facsimile. Examples are forward exchange agreements.

172. The essential difference between a forward contract and a *futures contract* is that the latter is *traded on organized exchanges* and settlement is with a central counterparty. Examples of futures contracts are interest rate futures, equity futures, currency futures, and commodity futures.

173. *Swaps can be considered as a series of forward contracts*. One type of swap, often referred to as a *foreign exchange swap*, involves the exchange of two currencies (principal amount only) on a specific date at a rate agreed at the time of inception of the contract (the short leg) and the reverse exchange of the same two currencies at a date further in the future at a rate (generally different from the rate applied to the short leg) agreed at the time of the contract (the long leg).⁴⁴ Another type of swap, often referred to as a *currency swap*, involves contracts that commit two counterparties to exchange streams of interest payments in different currencies for an agreed period of time and to exchange principal amounts in different currencies at a pre-agreed exchange rate at maturity.⁴⁵ Both types of swaps are to be covered in Section II.2. of the template.

174. The foreign currency flows that should be reported in Section II of the template are the foreign exchange commitments (nominal value) that need to be met at settlement of all outstanding forward, futures, and swap contracts.⁴⁶

175. Where future contracts are subject to daily settlement and predetermined cash flows for such futures contracts are negligible, they are not to be

⁴⁴For example, an initial sum in U.S. dollars is exchanged for its equivalent in pounds sterling (a spot transaction) and a reverse exchange taking place at the maturity of the swap. Both spot/forward and forward/forward swaps are included. Short-term swaps carried out as “tomorrow/next day” transactions also are included in this category.

⁴⁵For example, a “cross-currency swap” is a multicurrency interest rate swap.

⁴⁶The notional value of other financial derivative instruments (such as structured notes) should be included in Section II.2. and their marked-to-market values in IV.(1)(e) if they are in the authorities’ portfolio. Structured notes normally take the form of customized instruments with a bullet redemption and with either the redemption value or the coupon linked to movements in one or more economic variables: typically a currency, an interest rate, an asset or commodity price, or a combination thereof.

reported in Section II of the template.

176. For countries that use nondeliverable forwards (NDFs) that are settled in foreign currency, the notional value of such contracts should be included in Section II.2. of the template and clearly identified in country notes accompanying the data. This treatment is to take account of the fact that, like forwards, NDFs can have a significant impact on a country’s exchange rate. (The reporting of the notional value of NDFs that are settled in domestic currency are discussed in Chapter 5.)

177. In the template, *short and long positions refer to those corresponding to future outflows and inflows of foreign currency, respectively*.

Reporting Other Foreign Currency Drains

Other Predetermined Foreign Currency Flows— Item II.3 of the Template

178. *Item II.3.—“other”*—should be used to report on the flows not included in items II.1. and II.2 of the template. These include:

- Predetermined foreign currency outflows and inflows relating to repos, reverse repos, and gold swaps (as well as those associated with securities lending with cash collateral), accompanied by appropriate signs, if, for repos, the collateralized securities remain in reserves, and for reverse repos (and securities lending with cash collateral) when the repo asset is not recorded in reserve assets.
- Accounts payable that are materially significant, including scheduled payments for goods and services previously purchased on credit by the authorities, payments of interest in arrears, payments of loans in arrears, and wages and salaries outstanding (outflows of foreign currency).

179. Item II.3. should only be used to report materially significant accounts receivable from creditworthy entities (*inflows* of foreign currency); when they are included in II.3., they *should be reported separately from outflows*. Inflows not expected to be received by the authorities (such as accounts that are delinquent) within the specified time horizon should be excluded.

4. Contingent Short-Term Net Drains on Foreign Currency Assets (Nominal Value)

Defining Contingent Net Drains

180. *Section III of the template covers contingent short-term net drains on foreign currency resources. As discussed in Chapter 3, net drains refer to outflows net of inflows. Contingent inflows and outflows simply refer to contractual obligations that give rise to potential or possible future additions or depletions of foreign currency assets. Contingent drains are by definition off-balance-sheet activities, since only actual assets and liabilities are to be reflected on balance sheets. Section III of the template differs from Section II because foreign currency flows to be reported in Section III are contingent upon exogenous events. As with predetermined foreign currency flows covered in Section II of the template, contingent flows can arise from positions with residents and nonresidents.*

181. *Section III covers two different types of contingent flows: (1) those that emanate from potential assets and liabilities (for example, undrawn and unconditional credit lines, contingent liabilities in the form of foreign exchange guarantees, and securities with embedded options); and (2) those that reflect possible future inflows and outflows of foreign currency arising from the authorities' positions in options contracts, if and when the options are exercised.*

182. *Data on options required in Section III of the template are more detailed than those disclosed on forwards, futures, and swaps in Section II, which emphasizes short and long positions. In Section III, in addition to long and short positions, call and put options are distinguished, as are written and bought options. The additional information is needed in view of the nonlinear nature of the payoffs from options to determine which contracts will result in foreign currency outflows when the options are exercised and which ones will result in inflows. The information also may reveal whether the authorities*

play an active (for example, as writers of options) or passive (as purchasers of options) role in the execution of the contracts, which may reflect their risk exposures.

183. *Section III also calls for stress testing of the exposure (in terms of foreign exchange liquidity) arising from the options positions to different exchange rate scenarios. The stress testing is an encouraged but not a prescribed item of the SDDS.*

184. *Notwithstanding these differences between Sections II and III, most of the general guidelines on reporting data for Section II of the template also apply to Section III. For example, appropriate signs must accompany the data; the plus (+) sign for inflows, and the minus (-) sign, outflows.*

185. *Short-term inflows and outflows of foreign currency are determined by the residual (remaining) maturities of the financial instruments, which cover three periods of the time horizon of one year. As in Section II of the template, the "total" column shown in Section III should reflect the sum of the three subperiods.*

186. *For financial derivatives, the distinction between short and long positions, which reflect future outflows and inflows, respectively, is maintained.*

187. *The institutional units covered are those of the monetary authorities and the central government, excluding social security funds. As stated in footnote 11 in para. 20, the operation of a currency board does not remove the requirement of reporting data pertaining to the central government in the template.*

188. *Except for options, which are to be based on notional values, all other contingent inflows and outflows of foreign currency are to be presented in nominal values.*

189. *Market values of options are to be reported in Section IV of the template under memo items.*

190. The rest of this chapter focuses on the identification of (1) contingent liabilities of the authorities, (2) potential outflows associated with securities with embedded options (puttable bonds), (3) potential inflows and outflows pertaining to undrawn and unconditional credit lines, and (4) possible foreign currency flows arising from the authorities' positions in options contracts.

Contingent Liabilities

Contingent Liabilities in Foreign Currency—Item III.1 of the Template

191. Item III.1 of the template is used to report the authorities' *contingent liabilities in foreign currency*, including collateral guarantees and other contingent liabilities. In principle, only contractual obligations of the authorities are included here. In practice, financial instruments issued with public mandates may also be covered, even though no explicit financial backing is provided by the authorities.⁴⁷ Nonetheless, when such instruments are reported in the template, they should be separately identified in country notes accompanying the data.

192. The reporting of guarantees is confined to those of foreign currency obligations falling due within one year. Such obligations include debt service and other payments that are triggered by specific events as set forth in the guarantees.

Collateral Guarantees—Item III.1(a) of the Template

193. *Collateral guarantees in the template refer to guarantees provided by the authorities backed by collateral; that is, in exchange for incurring the obligations, the authorities (the guarantors) would gain a claim on the collateral or other assets of the defaulting entity. The guarantees referred to in the template are pledges of repayment by the authorities in the event of default by another entity or other guarantee triggering events.*

194. Data to be reported under this item of the template are foreign currency flows associated with the guarantees when they are exercised, and not the value of the collateral backing the guarantees. When the value reported for the guarantees is net of the disposal value of the collateral, this should be made fully transparent in country notes accompanying the data.

195. Examples of collateral guarantees on debt falling due within one year, with the monetary authorities and other central government entities as the guarantors, include (1) *guarantees on loans and securities with remaining maturities of one year*, (2) *deposit insurance* covering foreign currency deposits with a remaining maturity of up to one year in banks that offer such insurance coverage, and (3) *foreign exchange guarantees* the authorities provide to fix the domestic currency costs to resident entities of international commercial transactions, whereby the authorities bear the risk of loss (or stand to gain) due to exchange rate changes. Because of the differing nature of collateral guarantees, additional information should be provided in country notes accompanying the data to *specify clearly the types of collateral guarantees covered by the reported data.*

Other Contingent Liabilities—Item III.1.(b) of the Template

196. *Other contingent liabilities* refer to other legal or *constructive obligations* of the authorities. The recognition criterion for such liabilities is that the authorities be “demonstrably committed” to meet the obligations. Contingent liabilities are to be disclosed when they are recognized, that is, when the legal and contractual obligations take force.

197. Examples of other contingent liabilities are letters of credit, securities underwriting agreements, and foreign currency loan commitments the authorities provide to other domestic entities. Other examples are term deposits with remaining maturity of more than one year held at the monetary authorities by resident and non-resident depositors, which are redeemable, subject to payments of penalties, and which are not covered in item II.(1) of the template. Also included are foreign currency deposits held at the monetary authorities by commercial banks of the reporting country in respect of the regulatory reserves/liquidity requirements, and which are not covered in item II(1) of the template.

⁴⁷ Examples include global bond issues of the Federal National Mortgage Association (Fannie Mae) in the United States.

198. Contingent liabilities are to be disclosed in their nominal values to reflect the amount of the foreign currency flows when they occur.

Securities with Embedded Options (Puttable Bonds)

Securities with Embedded Options—Item III.2. of the Template

199. *Item III.2. of the template calls for the disclosure of information on puttable bonds.* The latter generally refer to publicly traded debt instruments with embedded put options that allow creditors to demand early repayment of loan principal under specified conditions.⁴⁸ To assess contingent demands on foreign currency resources, the template requires the disclosure of data on bonds with put options (“puttable bonds”): this is the case because, when creditors exercise the put options, the authorities immediately have to repay their medium- and long-term debt in advance of the original maturity of the instrument.

200. Only bonds (with embedded put options) with a residual maturity of greater than one year should be reported in item III.2, as bonds with shorter maturities already are covered in Section II of the template.

201. A bond recorded as a two-year bullet,⁴⁹ with a put after one year, for example, should be included in the total column under III.2., since creditors see such an instrument as a one-year bond with the option of a one-year extension.

202. Creditors are likely to elect to exercise the put option, once the contractual conditions are satisfied, if it is advantageous to them to do so.⁵⁰ When creditors

⁴⁸From the perspective of creditors, put options shorten the contractual minimum maturity of the debt while giving creditors the right to extend the maturity on the original interest rate basis. This affords creditors the opportunity to withdraw early and benefit from any increase in yields by exercising the put and relending the resources at a higher spread, as well as the ability to lock in a favorable yield if interest rates decline. Debtors write put options as a means to achieve lower spreads. Recent financial crises have shown that debtors accepting put options may not have fully anticipated the difficulties they would face if options were exercised at the time they experienced a substantial loss of market access. This practice has exacerbated financial crises.

⁴⁹A bullet loan or bond is a loan or bond whose principal repayments all take place at maturity.

⁵⁰This allows creditors seeking to maintain their exposure to relend the resources and to benefit from the higher spread and permits creditors wanting to unwind their exposure to do so at an attractive price.

exercise put options, foreign currency outflows will occur. Some puts can only be exercised following specified “credit events,” such as a borrower’s credit rating falling below a prespecified threshold. Discrete puts are puts that may be exercised only on specified days.⁵¹

203. *Only “hard puts” such as those discussed above are to be reported in the template.* “Hard puts” refer to put options embedded in securities under contractual provisions. “Soft puts” refer to the covenants that allow acceleration of repayment of the debt if the covenants are breached. “Soft puts” are not to be reported because they are general in nature and are difficult to identify.⁵²

204. *Data on puttable bonds are to reflect the nominal values of principal and relevant interest payments due.*

205. Because cash flows of puttable bonds are intrinsically uncertain, no breakdown of data by the three time periods under the one-year time horizon is required.

Undrawn, Unconditional Credit Lines

Undrawn, Unconditional Credit Lines—Item III.3. of the Template

206. Item III.3. is used for reporting undrawn, unconditional credit lines. Credit lines are contingent mechanisms that provide a country liquidity; they represent potential sources of additional reserve assets and foreign currency assets of the authorities. Consistent with the nature of reserve assets and other foreign currency assets covered in Section I of the template, *unconditional credit lines* refer to those *readily available to the authorities* (that is, ones that are highly liquid and do not have material conditionalities attached). In addition, *only such credit lines that are undrawn should be reported.*

207. The amounts to be entered over the three periods of the time horizon should reflect the *credit committed* for the respective time frames.

208. *Two different sets of data are to be differentiated under III.3. in the template: (1) credit lines provided by*

⁵¹Most puttable instruments include one or two put dates, although a few instruments are puttable semiannually. (Few instruments are puttable on a continuous basis.)

⁵²Full payment under a hard put brings closure to the issue, while a default resulting from a breach of a loan covenant may trigger cross default/cross acceleration clauses in other external debts, at least until the default has been covered by a full payment on the debt in question.

the authorities; and (2) credit lines provided to the authorities. Countries are to report either (1) or (2) depending on whether they are the creditors or the debtors. In cases where both (1) and (2) are applicable, they should be separately reported in the template.

209. *Only credit lines in foreign currencies are to be recorded in Section III of the template.* A creditor should not include in Section III of the template credit lines it provides in its domestic currency. A debtor only should report credit facilities committed in foreign currency.

210. *While undrawn credit lines are to be reported in Section III of the template, actual assets and liabilities (principal and interest) are incurred when the credit lines are drawn.* Thus, credit lines that have been drawn should be reported in Sections I and II of the template accordingly: increases in foreign currency resources in Section I are counterbalanced by predetermined future loans and securities obligations in Section II of the template. In cases where countries treat swap drawings as repurchase agreements (see the discussion below of reciprocal currency arrangements), such information also should be disclosed in Section IV of the template under securities lending and repurchase agreements. *Credit lines the authorities provide are to be treated symmetrically.*

211. Credit lines covered in the template include *reciprocal currency arrangements* among central banks and with the Bank for International Settlements, *financing agreements* between central banks and consortia of private financial institutions that allow the central banks to acquire new funding under specified circumstances, and certain elements of *credit arrangements between countries and the IMF.*

212. *Reciprocal currency arrangements* are short-term arrangements among central banks and with the BIS that afford the central banks temporary access to the foreign currencies they need for intervention operations to support their currencies. When such a credit line is drawn, a swap transaction takes place. This involves a spot (immediate delivery) transaction, in which one central bank transfers securities (sometimes its domestic currency) to another central bank in exchange for foreign currency. It also entails a simultaneous forward (future delivery) transaction, in which the two central banks agree to reverse the transactions, typically three months in the future. The central bank that initiates the swap transaction pays its counterpart interest on the foreign currency

drawn. In view of the reversible nature of these transactions, it is recommended that, when the credit line are drawn, they be treated as collateralized loans in the template with appropriate entries recorded in Sections I, II, and IV of the template. Reciprocal currency arrangements should only be included if they are unconditional. Both counterparties should report the credit line: one under “credit lines provided by,” and the other under “credit lines provided to.” Swap credit lines that require foreign currency assets as collateral should not be included.

213. *Credit lines between central banks and private financial institutions can take different forms and generally involve the payment of a regular commitment fee by a debtor to a creditor in exchange for opening and maintaining a credit line, with provisions allowing for renewals.* Some credit lines are in the form of *swap facilities*: at the time a credit line is drawn upon, domestic currency securities owned by the authorities are swapped for foreign currency. Others are *pure credit facilities*.⁵³

214. *Commitments by countries to the IMF under the GAB and the NAB⁵⁴ are not to be included in Section III of the data template.* This is because lending to the IMF under the GAB and the NAB results in an increase in the country’s reserve position at the IMF (which is part of official reserve assets), and thus does not result in a reduction in the level of official reserve assets.⁵⁵

215. *Similarly, countries’ commitments to the IMF’s ESAF Trust Loan Account are not to be reported in Section III of the template.* Lending to this account is considered part of a member’s reserve assets and thus does not result in a reduction in the level of reserve assets.

⁵³Other contingent financial arrangements are in the form of private market-based insurance: the debtor pays an insurance premium to compensate the writers of the option (the creditor) for the risks undertaken. The insurance is against adverse liquidity risks.

⁵⁴The GAB and the NAB are standing borrowing arrangements between the IMF and a number of lenders. They comprise a series of individual credit arrangements between lenders and the IMF. Calls under these credit lines can be made only under certain circumstances and for specific amounts. Once calls have been approved, the IMF is authorized to draw under these arrangements up to the agreed amount.

⁵⁵Drawings take place under the GAB in domestic currency; they also occur under the NAB in domestic currency unless the lender is an institution of a nonmember. In such cases, foreign currency (i.e., the currency of another IMF member) is used. For IMF members, although lending under the GAB and the NAB is in domestic currency, such lending increases the country’s reserve position in the IMF. A country’s claims on the IMF under the GAB and the NAB are reserve assets because the country can obtain an equivalent amount of convertible foreign currency from the IMF if it represents that it has a balance of payments need.

216. In general, IMF arrangements are conditional lines of credit and thus should not be included in Section III of the template. However, where a country has not drawn amounts that have become available (for instance, because it treats an arrangement as precautionary), these amounts can be shown in Section III as available over the period up to the next “test date.”^{56 57} It should be noted that inclusion, in precautionary arrangements, of amounts available only up to the point of the next test date will cause the amount of unconditional lines of credit to fluctuate over time.⁵⁸ In addition, countries are encouraged to indicate in some form outside or attached to the template (e.g., country notes) the amounts of Fund arrangements that are scheduled to become available, subject to observance of the relevant conditions, over the next one, three, and twelve months.

217. When the authorities provide the credit lines, the data should be accompanied by a minus (–) sign, indicating potential outflows of foreign currencies. Where the authorities receive the credit lines, the data should be preceded by a plus (+) sign, showing potential inflows of foreign currencies.

218. Credit facilities and commitments associated with the BIS, the IMF, and central banks can be separately identified under item III.3(a), with appropriate signs.

219. The coverage of banks is the same as that defined in Chapter 2. Banks are defined as financial depository institutions and include commercial banks, savings banks, savings and loan associations, credit unions or cooperatives, building societies, and post office savings banks or other government controlled savings banks if such banks are institutional units separate from government. The term “other financial institutions” refers to nonbank financial institutions.

⁵⁶A “test date” is a date at which end-of-period “performance criteria” (e.g., a floor on net international reserves or a ceiling on the fiscal deficit) have to be observed if any drawings are to be made thereafter without a waiver.

⁵⁷Although Fund drawings generally also depend on “continuous” performance criteria, these performance criteria are generally of a form that requires the authorities to *refrain from* taking certain actions, and these criteria are thus not taken to be material conditionalities (see para. 206). The usual continuous performance criteria include, for instance, absence of introduction of multiple currency practices and nonincurrence of official external payment arrears.

⁵⁸For instance, amounts may be available as of end-January under the “up to one month” heading (based on observance of performance criteria for end December) that will not be available as of end-March (as continued availability will depend on observance of performance criteria for end-March, which will not be ascertained for several days or weeks).

220. The distinction between banks and other financial institutions “headquartered in the reporting country” and those “headquartered outside the reporting country” is the same as that defined in Chapter 2.

221. Data are to reflect nominal values of the credit lines.

Options

Short and Long positions in Options—Item III.4. of the Template

222. *Item III.4. of the template discloses information on the authorities’ options positions.* An option agreement is a contract giving the holder the right, but not the obligation, to buy (i.e., call) or sell (i.e., put) a specified underlying asset at a pre-agreed price (the strike price), either at a fixed point in time (*the European option*) or at a time chosen by the holder until maturity (*the American option*).⁵⁹ In the case of foreign currency options, the amount of foreign exchange that can be purchased or sold by the exercise of the option is *the notional value of the option contract*.

223. The template calls for information in notional values on short positions covering (1) bought puts and (2) written calls. It also includes information on long positions covering (1) bought calls and (2) written puts. (See Box 4.1 for definitions of these terms.)

224. For a conservative measure of the possible drain arising from an option position, *where there is more than one exercise date for an option, the earliest date should be used to determine its maturity.* (This treatment, for example, applies to American-style options with a maturity of longer than one year and without margin calls.)

225. To estimate the possible future inflows and outflows in foreign exchange arising from the position in options, *information to be disclosed includes (1) the notional value of all the options* with maturities up to one month, more than one month and up to three months, and more than three months and up to a year; and (2) *the notional value of options* (short and long positions) *in the money* for each maturity category, under several exchange rate scenarios (depreciation

⁵⁹There are also other types, such as option contracts, giving the holder the right, but not the obligation, to buy (i.e., call) or sell (i.e., put) a specified underlying asset at a pre-agreed price (the strike price) at a number of specified times in the future (Bermudan options).

Box 4.1. Definitions of Puts and Calls

“Bought puts”: Foreign currency put options give buyers the right (but not the obligation) to sell foreign currency at agreed prices on or before specified dates. Data on “bought puts” refer to the amounts of foreign currency that the central bank and the central government (as buyers of the put options) will have to part with if they exercise the option (i.e., sell the foreign currency).

“Written calls”: Foreign currency call options give buyers the right (but not the obligation) to buy foreign currency at agreed prices on or before specified dates. Data on “written calls” refer to amounts of foreign currency that the central bank and the central government (as writers of the call options) will have to part with if the buyers exercise the options (i.e., buy the foreign currency).

The notional value of “*bought calls*” refer to amounts of foreign currency that the central bank and the central government (as buyers of the call options) will receive if they decide to exercise the call options (i.e., buy the foreign currency).

The notional value of “*written puts*” refer to amounts of foreign currency that the central bank and the central government (as writers of the put options) will receive if the buyers of options exercise the put options (i.e., sell foreign currency).

Bought puts and written calls, therefore, reflect potential foreign currency outflows, hence, *short positions*. *Bought calls and written puts* reflect potential inflows, hence, *long positions*.

of domestic currency by 5 and 10 percent and appreciation of domestic currency by 5 and 10 percent).

226. *“In-the-money” options* are ones that would produce a profit for the holder if the options were exercised.

227. *The notional value* of the overall position indicates the maximum exposure resulting from the options positions.

228. To facilitate the reporting of data on options, selected terms and basic characteristics of option contracts are summarized in Box 4.2.

229. In completing items III.4.(a) and III.4.(b) of the template, *note that holding an option that gives one the right to buy a given amount of foreign exchange at a specified local currency price is equivalent to holding an option that gives one the right to sell a given amount of local currency in exchange for foreign currency at the same price.*

230. *All options should, if necessary, first be converted into puts and calls in foreign currency, instead of local currency. (See Appendix IV for detail.)*

Pro Memoria: In-the-Money Options

231. The notional value of all options in the portfolio provides an approximate measure of possible additions or subtractions to foreign exchange resources that might arise from the options portfolio. It is not an exact measure because in many circumstances only a fraction of the options will be exercised and because it gives no sense of conditions under which the options will be exercised. To describe all possible scenarios in which the options position would affect foreign exchange resources, however, would require a much more elaborate template. The Pro Memoria section conveys a sense of when the options would be exercised without engaging in elaborate stress testing. The idea is to look at five simple scenarios for the local currency exchange rate and to gauge the impact of the options on foreign exchange resources for each scenario. In all scenarios, it is assumed that the cross rates among foreign currencies remain unchanged from the current rates.

232. The first scenario assumes the local currency exchange rate remains unchanged relative to all foreign currencies. The template asks for the notional value of the options in the money at current exchange rates. This gives a sense of the options that would be exercised and hence the drain and additions to foreign exchange resources if there were no further change in exchange rates.

233. The second scenario assumes a 5-percent depreciation of the local currency relative to all foreign currencies and no further change in exchange rates thereafter. The template asks for the notional value of the options that would be in the money under such a scenario. The third scenario posits a 5-percent appreciation of the local currency against all foreign currencies and no further change in exchange rates. The fourth and fifth scenarios are similar but examine a 10-percent depreciation and appreciation, respectively.

234. A put option is “in the money” if the market price is below the strike price. A call option is “in the money” if the market price is above the strike price. Where long positions are held, calls are exercised if the market price is above the strike price; and puts are exercised when the market price is below strike price. When these options are exercised, they will add to foreign currency resources.

235. An example of these stress-testing scenarios is shown in Appendix IV.

Box 4.2. Definitions of Selected Terms on Options

Call option: A call option gives its holder the right, but not the obligation, to purchase a fixed amount of foreign currency (the notional value) at a pre-specified local currency price (the strike price) at one or more dates in the future (the exercise date).

Put option: A put option gives its holder the right, but not the obligation, to sell a fixed amount of foreign currency (the notional value) at a pre-specified local currency price (the strike price) at one or more dates in the future (the exercise date(s)).

Strike price (or exercise price): The strike price of the option is the pre-specified price at which the option holder may exchange local currency for foreign currency. Throughout this discussion, this will be expressed in terms of the local currency price of foreign exchange.

Notional value: The notional value of the contract is the amount of foreign exchange that can be purchased or sold by the exercise of the option. Throughout this discussion, this will be expressed in terms of units of foreign currency.

Exercise date(s): These are the dates on which the option holder may exercise the option. The last, and perhaps only, date at which the option can be exercised is the expiration date of the option.

European-style option: A European-style option has only one exercise date and that is the expiration date of the option.

American-style option: An American-style option can be exercised at any date up to and including its expiration date.

In the money: A foreign currency option is in the money if the current market price for foreign exchange is different from the option's strike price and the price differential makes it advantageous for the holder of the option to exercise it. A call option is in the money if the market price is above the strike price. The holder of the option could make a profit by exercising the option—and thus acquire foreign exchange at the strike price—and immediately sell the foreign exchange at the higher market price. Similarly, a put option is in the money if the market price is below the strike price.

Out of the money: An option is out of the money when the market price differs from the strike price and the price differential makes it disadvantageous to exercise the option. A call option is out-of-the-money when the market price is below the exercise price. A put option is out-of-the-money when the market price is above the strike price.

Short position: For purposes of the template, the short position is the notional value of the call options that the central authorities have written and of the put options that they have bought. That is, these are the contracts that, if exercised, would result in a drain on foreign currency resources.

Long position: For purposes of this template, it is the notional value of the call options that the central authorities have purchased and the put options that they have written. That is, these are the contracts that, if exercised, would result in an addition to the authorities' foreign exchange resources.

5. Memo Items

Coverage of Memo Items

236. *Section IV of the template provides supplementary information covering (1) positions and flows not disclosed in Sections I–III but deemed relevant for assessing the authorities’ reserves and foreign currency liquidity positions and risk exposure in foreign exchange; (2) additional details on positions and flows disclosed in Sections I–III; and (3) positions and flows according to a breakdown or valuation criteria different from those found in Sections I–III.*

237. Information on seven different items is to be disclosed in Section IV of the template. They are as follows:

- *Short-term domestic currency debt indexed to foreign exchange rates.*
- *Financial instruments denominated in foreign currency and settled by other means (e.g. in domestic currency).*
- *Pledged assets.*
- *Securities lent and on repos (as well as gold swapped).*
- *Financial derivatives assets (net, marked to market).*
- *Derivatives that have residual maturities longer than one year and that are subject to margin calls.*
- *Currency composition of reserve assets.*

238. In reporting data on the memo items, data pertaining to assets should be separately recorded from those on liabilities, wherever applicable. An exception is financial derivative asset items, for which the “net” basis means that the liabilities are netted from the assets (see discussion on financial derivatives later in this chapter).

239. Types of instruments are to be identified, where applicable.

240. Where instruments are marked to market in a currency other than the reporting currency, end-

period market prices and exchange rates should be used to convert the values to the reporting currency.

241. After presenting some brief comments on the recording of selected memo items as shown below, the rest of this chapter discusses in greater detail the reporting of (1) financial instruments denominated in foreign currency and settled by other means, (2) securities lent and repos, and (3) financial derivatives assets.

Short-Term Domestic Currency Debt—Item IV.(1)(a) of the Template

242. With respect to *short-term domestic currency debt indexed to foreign exchange rates*, consistent with the rest of the data template, “short term” is determined by the residual maturity of the instruments as defined in Chapter 1. Accordingly, the data to be reported should cover such short term debt with (1) original maturity of up to one year, (2) longer original maturity where remaining maturity is one year or less, and (3) principal and interest payments falling due within the 12 months ahead of debt with remaining maturity of longer than one year. Only the total figure, in nominal value, is to be reported. Detail for the three subperiods within the one-year horizon is not required. Domestic currency debt refers to debt issued by the monetary authorities and the central government, excluding social security funds. Only such short-term debt indexed to foreign exchange rates and settled in the domestic currency is to be included in item IV.(1)(a) of the template. Domestic currency debt settled in foreign currencies is to be covered in Sections II and III of the template, as appropriate.

Pledged Assets—Item IV.(1)(c) of the Template

243. *Pledged assets* refer only to reserve assets and other foreign currency assets listed in Section I

that are pledged. As mentioned in Chapter 2, pledged assets that are clearly not readily available should not be included in reserves or in foreign currency assets. However, if certain pledged assets remain in reserves and other foreign currency assets their values should be reported in item IV.(1)(c) of the template. Pledged assets do not include assets encumbered under repos, securities lending, and similar arrangements. The latter arrangements are to be separately reported under item IV.(1)(d) of the template.

Financial Derivatives with Residual Maturity of Greater than One Year—Item IV.(1)(f) of the Template

244. Financial derivatives with a residual maturity of greater than one year and subject to margin calls are to be reported in item IV.(1)(f) of the template. To ensure that the authorities' exposure in financial derivatives is not underreported, it is required that derivatives instruments with a maturity of longer than one year but not subject to margin calls also be reported in this item of the template but separately identified from those subject to margin calls.

245. Financial derivatives to be reported in this item of the template are similar to those called for in items II.2 and III.4 of the template. That is, they refer to foreign currency commitments in the various types of financial derivative contracts. Such contracts are in foreign currency vis-à-vis domestic currency. The data to be reported are the nominal/notional values of the contracts.

Currency Composition of Reserves—Item IV.(2) of the Template

246. Regarding the currency composition of reserve assets, the template does not require listing of individual currencies; only groups of currencies are to be identified. At a minimum, data on currency composition are to be disseminated under two major categories: currencies in the SDR basket and currencies outside of the SDR basket. Currencies in the SDR basket now include the U.S. dollar, the euro, the Japanese yen, and the pound sterling. Countries can provide detailed information in country notes accompanying the data on the currency composition of their reserve assets if they choose to.

Financial Instruments Denominated in Foreign Currency and Settled by Other Means

Financial Instruments Denominated in Foreign Currency and Settled by Other Means—Item IV.(1)(b) of the Template

247. The rationale for including information on these financial instruments is that they resemble instruments that are settled in foreign currency. These instruments are separately reported in Section IV of the template because they are often issued in the domestic market and held by residents, thus are actually or potentially subject to different legal or regulatory restrictions. Information on this memo item should be broken down by type of instrument.

248. Financial instruments denominated in foreign currency and settled in domestic currency (and other means) may include, for instance, indexed securities and nondeliverable forward [or futures] (NDF) contracts and NDF options.

249. An NDF is an over-the-counter instrument that differs from a normal foreign currency forward contract in that there is no physical settlement of the two currencies at maturity. The financial institution that sold the NDF contract will mark the notional value of the contract to market, using an index (or formula) agreed upon at the time the contract is entered into by the two counterparties. One party will make a cash payment to the other based on the contract's intrinsic (net) value.

250. The net amount can be settled in local currency or foreign currency (usually U.S. dollars). Whereas, onshore banks trade in NDFs that settle in foreign or local currencies, typically, offshore banks deal in NDFs that settle in hard currencies.

251. In an NDF option, the option buyer pays a premium to protect the foreign currency value of an amount in local currency. If the option expires "in the money," the writer pays the intrinsic value to the purchaser. There is no exercise of the option; the payment is automatic. If the option expires "out of the money," no payment is due to either party.

252. NDFs are commonly used to hedge local currency risks in emerging markets where local currencies are not freely convertible, where capital markets are small and undeveloped, and where there are restrictions on capital movements. Under these conditions, the normal forward foreign exchange contracts generally do not work well; they may not be enforceable and they may not be liquid.

253. Item IV.(1)(b) of the template requires disclosure of NDFs settled in local currency only.⁶⁰ Such information is useful because NDFs can exert substantial indirect pressure on reserves. If market participants anticipate that a local currency will decline, they can buy options that let them purchase foreign currency at a set price at a future date; such widespread buying can, in turn, further depress the value of the local currency.

254. The template prescribes, where applicable, that the notional value of nondeliverable forward positions be shown in the same format as that for the notional value of deliverable forwards/futures in Section II of the template.

Securities Lent and Repurchase Agreements

Securities Lent and on Repos—Item IV.(1)(d) of the Template

255. This memo item is to provide additional information on the repo and securities lending activities that are covered by the template. It concerns such activities of the monetary authorities and the central government that are settled in foreign currency. Thus, whether or not the repo and securities lending activities have been included in Section I of the template along with associated liabilities in Section II, the template requires that securities lent and repoed be recorded in item IV.(1)(d) of the template. The template also requires that the securities lent and repoed be reported in two separate categories, depending on whether or not the repo and related activities have been included in Sections I and II. Such reporting is necessary in order to differentiate repos from traditional loans and from traditional securities transactions. The identification of repo activities would

⁶⁰The notional value of NDFs settled in foreign currency are to be included in item II.2 of the template and their market value, in financial derivative assets under item IV(1)(e) of the template, preferably in a separate line.

facilitate the assessment of the level of reserve assets before the repo activities and the extent of leverage the authorities have undertaken.

256. In addition, the template calls for the *separate reporting* of securities provided as collateral under repo transactions and the securities collateral taken in reverse repos. The data to be reported are the values of the securities. Institutions normally use market values (bid side), including the amount of any accrued interest, to determine the price of securities sold under repos and in security lending transactions.

257. *Securities lent/acquired with no cash involved should be noted in Section IV of the template.* Similarly, foreign currency flows associated with repos and securities lending that fall due beyond the one-year time horizon are not reflected in Section II of the template; nonetheless, such securities lent or repoed should be reported in Section IV of the template. That is, *the value of securities provided (or lent) in repos and the value of securities received (or borrowed) in reverse repos, irrespective of the time horizon of the related cash flows, are to be separately reported under item IV.(1)(d).*

258. As discussed in Chapter 2, gold swaps are to be treated similarly to repos. The gold that is swapped should be included, as appropriately, among securities lent or repoed in item IV.(1)(d) of the template. (See also Appendix III.)

259. Note that under repos or securities lending, either initial or variation margins (or both) are usually paid. As a result, the purchaser of the securities normally pays less than the market value of the securities, including the amount of any accrued interest, with the difference representing a predetermined margin. Also, there are cases where the borrower of securities has a need for a specific security, the lender of the securities may receive cash collateral in excess of the value of the securities lent, with the difference representing the margin. That is, due to margining, the value of securities lent or repoed reported in Section IV of the template may not be equivalent to the cash exchanged; the same applies for reverse repos. The level of the margin is usually determined by the size and maturity of the repos, the type and maturity of the underlying securities, and the creditworthiness of the counterparty. Margin requirements allow for the anticipated price volatility of the security until the repos mature. Less marketable

securities often require an additional margin to compensate for less liquid market conditions.⁶¹

260. The template calls for comprehensive information on repos and security lending because of the increasing importance of these instruments in global financial markets. Repos can be a useful asset management tool for the authorities, but repos can expose the authorities to serious risks if they are not managed appropriately. In particular, the authorities can face credit risks if they do not have effective control over the securities collateralizing the transaction and the counterparty defaults. Such credit risk can be considerable if the authorities engage in repo transactions in volume and in large amounts of foreign currency and if the creditworthiness of the counterparty is uncertain. Similarly, the authorities can use repos to acquire funds, which is a useful tool for managing liabilities. In these circumstances, the authorities would not want to provide the counterparty with excessive margins.

261. As with repos, experience has shown that the collateral securities in security lending may not serve as protection if the counterparty becomes insolvent or fails and the purchasing institution does not have control over the securities. If control of the underlying securities is not established, the authorities may be regarded as an unsecured general creditor of an insolvent counterparty. Under these circumstances, substantial losses are possible.

Financial Derivatives Assets (Net, Marked to Market)

Financial Derivatives Assets—Item IV.(1)(e) of the Template

262. The market values of the authorities' financial derivatives are to be reported in Section IV of the template under the memo items. Item IV.(1)(e) of the template mentions only "financial derivatives assets," but data on financial derivatives liabilities also are to be included; the positive (+) sign should accompany the asset data, and the minus (–) sign should precede the liability data.

⁶¹Written repo contracts normally require that repo securities be marked to-market and the gains and losses be settled daily. Margin calculations also usually consider accrued interest on underlying securities and the anticipated amount of accrued interest over the term of the repos, the date of interest payment, and which party is entitled to receive the payment.

263. The "net, marked-to-market" designation refers to the following: the difference between asset and liability positions yields the "net"⁶² asset position. Financial derivatives are to be shown at their market values on a marked-to-market basis. "Marking to market" refers to revaluing the value of the financial derivative using the prevailing market price.

264. This memo item relates to all financial derivative positions of the monetary authorities and the central government that are settled in foreign currency, irrespective of whether the positions are vis-à-vis residents or nonresidents.

265. Financial derivatives are to be disclosed by types of instruments (viz., forwards, futures, swaps, options, and others). All financial derivatives settled in foreign currency are to be disclosed, regardless of whether they have been reported in other sections of the template.

266. Netting by novation is allowed if offsetting positions are maintained with the same counterparty and at the same maturity, and insofar as there is a legally enforceable netting agreement in place allowing settlement in net terms. Netting by novation also is allowed for matched positions on organized exchanges. Netting refers to the right to set off, or net, claims between two or more parties to arrive at a single obligation between the parties.⁶³

267. As alluded to in previous chapters, the market value of a financial derivative generally can be derived from the difference between the agreed contract price(s) and the prevailing, or expected prevailing, market price(s) of the underlying instrument, appropriately discounted. If the prevailing market price differs from the contract price, the financial derivative contract has a market value, which can be positive or negative, depending on which side of the contract a party is on. In addition, the market value of a derivative contract can be positive, negative, or zero at various points in the life of the contract. Financial derivatives can be recorded as assets if their market values are positive; they can be shown as liabilities if their market values are

⁶²This is different in this context from the term "netting by novation."

⁶³In financial market transactions, netting can serve to reduce the credit exposure of counterparties to a failed debtor and thereby to limit "domino failures" and systemic risks. As concerns limiting credit exposure, the ability to net contributes to market liquidity by permitting more activity between counterparties within prudent credit limits. This liquidity can be important in minimizing market disruptions due to failure of a market participant.

negative. Note that options usually have a market value but do not change from asset to liability, or vice versa.

268. Prevailing market prices of an underlying instrument ideally should be observable prices on financial markets. Where they are not, as in some over-the-counter contracts, estimates of the prevailing market price can be derived from information available.

269. Key characteristics of internal models used to calculate the market values of financial derivatives are to be disclosed in country notes accompanying the data reported in the template. (See also footnote 16 of the template.)

270. For purposes of the template, the reference date for the market valuation should be the last day of the reporting period.

271. The market value of a forward or a swap can be derived from the difference between the agreed contract price and the prevailing market price or the expected market price discounted accordingly, but the market valuation of options can be complex.

272. Four factors influence the market value of options: the difference between the contract (strike) price and the value of the underlying item; the price volatility of the underlying item; the time remaining to expiration; and interest rates. In the absence of an observable price, market value can be approximated using a financial formula, such as the Black-Scholes formula, which incorporates the four factors.⁶⁴ An option contract at its inception has a market value equal to the premium paid. Its market value, however, is adjusted as the reference price changes and the settlement date approaches. During the life of an option, the writer of the contract can have a financial derivative liability and the purchaser of the option can have a financial derivative asset. An option contract can expire without value to the holder, that is, it is not advantageous for the purchaser to exercise the option.

273. Unlike forward contracts, futures contracts are marked to market at the end of each trading day and the resulting gains or losses are settled on that day.⁶⁵ This means that at the end of each trading day the value of outstanding futures contracts is zero. This is in contrast to forwards, for which variation margin payments are not usually made and contracts can build up considerable marked-to-market positions.

⁶⁴Institutions that undertake significant options operations often use more complex variants of the Black-Scholes formula.

⁶⁵The price of a futures contract is set in such a way that no cash changes hands when a contract is entered into. The payments associated with the contract occur as daily price movements are reflected in cash flows into and out of margin accounts of the contract parties. To ensure that market participants pay for their losses, the exchanges require futures contract users to pay an initial margin (a collateral). If the daily settlement process results in a loss, which, in turn, reduces the initial margin below a specified amount, the user is required to restore the initial margin by paying additional sums of money. The level of margin called is set by the exchanges and is usually a function of the volatility of the cash market of the underlying asset.

Appendix I: The Special Data Dissemination Standard and the Data Template on International Reserves/Foreign Currency Liquidity

The IMF's Special Data Dissemination Standard (SDDS) was established by the Fund's Executive Board in March 1996, with the aim of enhancing the availability of timely, reliable, and comprehensive economic and financial statistics. The SDDS was intended to guide member countries that have, or might seek, access to international capital markets in their provision of economic and financial data to the public. It was anticipated that the SDDS would contribute to the pursuit of sound macroeconomic policies and aid the functioning of financial markets.

Subscription to the SDDS is voluntary, and subscribing members agree to provide information on data categories that cover the four sectors of the economy (national income and prices, the fiscal sector, the financial sector and the external sector). Within these sectors the SDDS prescribes the coverage, periodicity (or frequency), and timeliness with which the data are to be disseminated. The SDDS coverage also prescribes the advance dissemination of release calendars for the data categories and that the data be simultaneously released to all interested parties. More information on the SDDS can be found on the IMF's website at dsbb.imf.org.

The original specification of the SDDS included, as a prescribed category, the presentation of information on gross international reserves (reserve assets) with a periodicity of one month and a lag of no more than one week. The provision of these data with a periodicity of one week was encouraged. The SDDS also encouraged, but did not prescribe, the provision of information on reserve related liabilities.

At the time of the Executive Board's first review of the SDDS in December 1997, events in international financial markets had underscored the importance of the timely provision of information on a country's reserves and reserve related liabilities. It became clear that monthly information on gross international

reserves alone did not allow for a sufficiently comprehensive assessment of a country's official foreign currency exposure, and hence its vulnerability to pressures on its foreign currency reserves. At this time the Executive Board asked the staff to consult with SDDS subscribing countries and with users of the SDDS to determine what might be done to strengthen the coverage of reserves and reserve related liabilities in the SDDS. The results of this consultation were initially considered by the Executive Board in early September 1998 and were further discussed, including review of an initial proposal for a disclosure template on international reserves and related items, in December 1998, at the time of the second review of the SDDS. The Executive Board reached a decision on the means of strengthening the provision of information on international reserves and foreign currency liquidity within the SDDS in March 1999.

The Executive Board's decision is embodied in the template on international reserves and foreign currency liquidity that is contained in the main text of this document. In addition to providing for more explicit specification of the constituents of official reserve assets, the template provides for the inclusion of details on other official foreign currency assets, and on predetermined and contingent short-term net drains on foreign currency assets. It is thus much broader in conception than the original SDDS specification of gross reserves assets and establishes a new standard for the provision of information to the public on the amount and composition of reserve assets, other foreign exchange assets held by the central bank and the government, short-term foreign liabilities, and related activities that can lead to demands on reserves (such as financial derivatives positions and guarantees extended by the government for private borrowing).

In reaching its decision on the data template the Executive Board took account of the widespread interest in increasing the transparency of information on international reserves and related information. It was also conscious of the concerns expressed by member countries about the resource costs of compiling and disseminating more detailed, frequent and timely data and the possibility that this would reduce the effectiveness of exchange market intervention. The final decision reflected a balancing of these objectives and concerns. The template was

finalized in cooperation with a working group of the Committee on the Global Financial System of the G-10 Central Banks.

The SDDS prescription for completion of the data template calls for the full dissemination of data on a monthly basis, with a lag of no more than one month, although data on gross international reserves are still prescribed for dissemination on a monthly basis with a lag of no more than one week. The dissemination of the full template on a weekly basis, with a one week lag, is encouraged.

Appendix II: Sample Form for Presenting Data in the Template on International Reserves and Foreign Currency Liquidity

Information to be disclosed by the monetary authorities and other central government, excluding social security^{1, 2, 3}

I. Official reserve assets and other foreign currency assets (approximate market value)⁴

A. Official reserve assets	
(1) Foreign currency reserves (in convertible foreign currencies)	
(a) Securities	
<i>of which:</i> issuer headquartered in reporting country but located abroad	
(b) total currency and deposits with:	
(i) other national central banks, BIS and IMF	
(ii) banks headquartered in the reporting country	
<i>of which:</i> located abroad	
(iii) banks headquartered outside the reporting country	
<i>of which:</i> located in the reporting country	
(2) IMF reserve position	
(3) SDRs	
(4) gold (including gold deposits and, if appropriate, gold swapped) ⁵	
— volume in fine troy ounces	
(5) other reserve assets (specify)	
— financial derivatives	
— loans to nonbank nonresidents	
— other	
B. Other foreign currency assets (specify)	
— securities not included in official reserve assets	
— deposits not included in official reserve assets	
— loans not included in official reserve assets	
— financial derivatives not included in official reserve assets	
— gold not included in official reserve assets	
— other	

¹ In principle, only instruments denominated and settled in foreign currency (or those whose valuation is directly dependent on the exchange rate and that are settled in foreign currency) are to be included in categories I, II, and III of the template. Financial instruments denominated in foreign currency and settled in other ways (e.g., in domestic currency or commodities) are included as memo items under Section IV.

² Netting of positions is allowed only if they have the same maturity, are against the same counterparty, and a master netting agreement is in place. Positions on organized exchanges could also be netted.

³ Monetary authorities defined according to the IMF *Balance of Payments Manual*, Fifth Edition.

⁴ In cases of large positions vis-à-vis institutions headquartered in the reporting country, in instruments other than deposits or securities, they should be reported as separate items.

⁵ The valuation basis for gold assets should be disclosed; ideally this would be done by showing the volume and price.

II. Predetermined short-term net drains on foreign currency assets (nominal value)

	Total	Maturity breakdown (residual maturity)		
		Up to 1 month	More than 1 month and up to 3 months	More than 3 months and up to 1 year
I. Foreign currency loans, securities, and deposits ⁶				
—outflows (-)				
Principal				
Interest				
—inflows (+)				
Principal				
Interest				
2. Aggregate short and long positions in forwards and futures in foreign currencies vis-à-vis the domestic currency (including the forward leg of currency swaps) ⁷				
(a) Short positions (-)				
(b) Long positions (+)				
3. Other (specify)				
—outflows related to repos (-)				
—inflows related to reverse repos (+)				
—trade credit (-)				
—trade credit (+)				
—other accounts payable (-)				
—other accounts receivable (+)				

⁶Including interest payments due within the corresponding time horizons. Foreign currency deposits held by nonresidents with central banks should also be included here. Securities referred to are those issued by the monetary authorities and the central government (excluding social security).

⁷In the event that there are forward or futures positions with a residual maturity greater than one year, which could be subject to margin calls, these should be reported separately under Section IV.

III. Contingent short-term net drains on foreign currency assets (nominal value)

	Total	Maturity breakdown (residual maturity)		
		Up to 1 month	More than 1 month and up to 3 months	More than 3 months and up to 1 year
I. Contingent liabilities in foreign currency				
(a) Collateral guarantees on debt falling due within 1 year				
(b) Other contingent liabilities				
2. Foreign currency securities issued with embedded options (puttable bonds) ⁸				
3. Undrawn, unconditional credit lines ⁹ provided by:				
(a) other national monetary authorities, BIS, IMF, and other international organizations				
— other national monetary authorities (+)				
— BIS (+)				
— IMF (+)				
(b) banks and other financial institutions headquartered in the reporting country (+)				
(c) banks and other financial institutions headquartered outside the reporting country (+)				
Undrawn, unconditional credit lines provided to:				
(a) other national monetary authorities, BIS, IMF, and other international organizations				
— other national monetary authorities (-)				
— BIS (-)				
— IMF (-)				
(b) banks and other financial institutions headquartered in reporting country (-)				
(c) banks and other financial institutions headquartered outside the reporting country (-)				
4. Aggregate short and long positions of options in foreign currencies vis-à-vis the domestic currency ¹⁰				
(a) Short positions				
(i) Bought puts				
(ii) Written calls				
(b) Long positions				
(i) Bought calls				
(ii) Written puts				
PRO MEMORIA: In-the-money options ¹¹				
(1) At current exchange rates				
(a) Short position				
(b) Long position				
(2) + 5 % (depreciation of 5%)				
(a) Short position				
(b) Long position				
(3) - 5 % (appreciation of 5%)				
(a) Short position				
(b) Long position				
(4) + 10 % (depreciation of 10%)				
(a) Short position				
(b) Long position				
(5) - 10 % (appreciation of 10%)				
(a) Short position				
(b) Long position				
(6) Other (specify)				

⁸ Only bonds with a residual maturity greater than one year should be reported under this item, as those with shorter maturities will already be included in Section II, above.

⁹ Reporters should distinguish potential inflows and potential outflows resulting from contingent lines of credit and report them separately, in the specified format.

¹⁰ In the event that there are options positions with a residual maturity greater than one year, which could be subject to margin calls, these should be reported separately under Section IV.

¹¹ These “stress-tests” are an encouraged, rather than a prescribed, category of information in the IMF’s Special Data Dissemination Standard (SDDS). Results of the stress-tests could be disclosed in the form of a graph. As a rule, notional value should be reported. However, in the case of cash-settled options, the estimated future inflow/outflow should be disclosed. Positions are “in the money” or would be, under the assumed values.

IV. Memo items

(1) To be reported with standard periodicity and timeliness: ¹²	
(a) short-term domestic currency debt indexed to the exchange rate	
(b) financial instruments denominated in foreign currency and settled by other means (e.g., in domestic currency) ¹³	
— nondeliverable forwards	
— short positions	
— long positions	
— other instruments	
(c) pledged assets ¹⁴	
— included in reserve assets	
— included in other foreign currency assets	
(d) securities lent and on repo ¹⁵	
— lent or repoed and included in Section I	
— lent or repoed but not included in Section I	
— borrowed or acquired and included in Section I	
— borrowed or acquired but not included in Section I	
(e) financial derivative assets (net, marked to market) ¹⁶	
— forwards	
— futures	
— swaps	
— options	
— other	
(f) derivatives (forward, futures, or options contracts) that have a residual maturity greater than one year, which are subject to margin calls.	
— aggregate short and long positions in forwards and futures in foreign currencies vis-à-vis the domestic currency (including the forward leg of currency swaps)	
(a) short positions (–)	
(b) long positions (+)	
— aggregate short and long positions of options in foreign currencies vis-à-vis the domestic currency	
(a) short positions	
(i) bought puts	
(ii) written calls	
(b) long positions	
(i) bought calls	
(ii) written puts	
(2) To be disclosed less frequently:	
(a) currency composition of reserves (by groups of currencies)	
— currencies in SDR basket	
— currencies not in SDR basket	
— by individual currencies (optional)	

¹² Distinguish between assets and liabilities where applicable.

¹³ Identify types of instrument; the valuation principles should be the same as in Sections I-III. Where applicable, the notional value of nondeliverable forward positions should be shown in the same format as for the nominal value of deliverable forwards/futures in Section II.

¹⁴ Only assets included in Section I that are pledged should be reported here.

¹⁵ Assets that are lent or repoed should be reported here, whether or not they have been included in Section I of the template, along with any associated liabilities (in Section II). However, these should be reported in two separate categories, depending on whether or not they have been included in Section I. Similarly, securities that are borrowed or acquired under repo agreements should be reported as a separate item and treated symmetrically. Market values should be reported and the accounting treatment disclosed.

¹⁶ Identify types of instrument. The main characteristics of internal models used to calculate the market value should be disclosed.

Appendix III: Summary of Guidelines for Reporting Specific Data on the Template

Type of Transaction	Template			Remarks	
	Section I	Section II	Section III		
<p>Securities</p> <p>(1) Repurchase agreements (repos)—securities provided to counterparty for cash received from counterparty. (See also (3) below for alternative treatment.)</p>	<p>*Deduct securities collateral from IA(1)(a).</p> <p>Record market value of securities collateral in IV(1)(d) as securities on repos not included in Section I of the template.</p>	◆		<p>▲ Record cash received as an increase in total deposits in IA(1)(b).</p>	<p>Market value of securities may differ from cash exchanged due to margining</p>
<p>(2) Reverse repos—securities received from counterparty for cash provided to counterparty. (See also (4) below.)</p>	<p>**DO NOT add securities collateral in IA(1)(a).</p> <p>Record cash provided as a decrease in total deposits in IA(1)(b).</p> <p>Record a repo asset in IA.(5), if such claim is liquid and available upon demand to the monetary authorities.</p>	◆◆		<p>▲▲ Record market value of securities collateral in IV(1)(d) as securities acquired not included in Section I of the template.</p>	
<p>(3) Alternative treatment to (1) above: Repurchase agreements (repos)—securities provided to counterparty for cash received from counterparty.</p>	<p>**Leave securities collateral in IA(1)(a).</p> <p>Record cash received as an increase in total deposits in IA(1)(b).</p>	◆◆◆	<p>Enter loan repayable related to repos as predetermined cash outflows in II.3 of the template.</p>	<p>▲▲▲ Record market value of securities collateral in IV(1)(d) as securities on repos included in Section I of the template.</p>	
<p>(4) Reverse repos—securities received from counterparty for cash provided to counterparty, where the repo asset is not liquid and not available on demand to the monetary authorities.</p>	<p>***DO NOT add securities collateral in IA(1)(a).</p> <p>Record cash provided as a decrease in total deposits in IA(1)(b).</p>	◆◆◆◆	<p>Enter loan receivable related to reverse repos as predetermined cash inflows in II.3 of the template.</p>	<p>▲▲▲▲ Record market value of securities collateral in IV(1)(d) as securities acquired not included in Section I of the template.</p>	
<p>(5) Reverse repos followed by a repo.</p>	<p>Record transactions in two steps: Step 1: as shown in ** or *** above; Step 2: as shown in * or ** above.</p>	<p>Record transaction in two steps: Step 1: as shown in ◆◆◆◆ above, if appropriate; Step 2: as shown in ◆◆◆ above, if appropriate.</p>		<p>Record transaction in two steps: Step 1: as shown in ▲▲ or ▲▲▲ above; Step 2: as shown in ▲ or ▲▲▲ above.</p>	
<p>(6) Reverse repo followed by a sale of securities received.</p>	<p>Record transaction in two steps: Step 1: as shown in ** or *** above; Step 2: deduct market value of securities from IA(1)(a); add cash received from sale of securities to total deposits</p>	<p>Record the repo leg as shown in ◆◆◆◆ above, if appropriate.</p>		<p>Record market value of securities received in IV(1)(d) as securities acquired not included in Section I of the template.</p>	

Type of Transaction	Template			Remarks
	Section I	Section II	Section III	
(7) Securities lent accompanied by cash received as collateral.	Record transaction as a repo, as shown in * or ** above, as appropriate.	Enter loan payable, as shown in ♦♦♦ above, if appropriate.		Record market value of securities, as shown in ▲ or ▲▲▲ above, as appropriate.
(8) Securities acquired accompanied by cash paid.	Record transaction as a reverse repo, as shown in ** or *** above, as appropriate.	Record loan receivable, as shown in ♦♦♦♦ above, if appropriate.		Record market value of securities, as shown in ▲▲ or ▲▲▲▲ above, as appropriate.
(9) Securities lent, securities collateral received (no cash exchanged).	Do not deduct securities lent from I.A.(1)(a) of the template. Do not add securities collateral received in I.A.(1)(a) of the template.			Record market value of securities in IV(1)(d) of the template as securities lent, included in Section I of the template. Record market value of securities collateral received not included in Section I of the template.
(10) Securities acquired with securities as collateral (no cash paid).	Do not add securities acquired in I.A.(1)(a) of the template. Do not deduct securities collateral provided from I.A.(1)(a) of the template.			Record market value of securities acquired in IV(1)(d) of the template as securities borrowed not included in Section I of the template; record market value of securities collateral as securities lent included in Section I of the template.
Gold				
(11) Gold deposits	Leave gold on deposit with bullion bank on reserve assets. (DO NOT record securities collateral on reserve assets).			
(12) Gold swaps (treat as repos or reverse repos, as appropriate).	Record transaction as shown in * or ** above for repos, and ** or *** above for reverse repos, except that where securities are mentioned, gold in I.A.(4) is implied.	Record predetermined cashflows as shown above in ♦♦♦ and ♦♦♦♦, if appropriate.		Record market value of gold collateral in IV(1)(d) of the template, as shown in ▲, ▲▲, ▲▲▲ or ▲▲▲▲ above, as appropriate.
Financial Derivatives				
(13) Net, marked-to-market values of forwards, futures, swaps, options, and other instruments.	Monetary authorities' net, marked to market values of highly liquid financial derivatives used in reserves management, vis-à-vis non-residents and settled in foreign currencies, should be recorded in item I.A.(5); those of the monetary authorities and the rest of the central govt vis-à-vis residents, in item I.B.			Net, marked to market values of all financial derivatives vis-à-vis residents and nonresidents and settled in foreign currencies should be recorded in IV(1)(e) of the template by instrument.
(14) Nominal value of forwards, futures, and swap contracts maturing within one year's time.			Record long and short positions separately in II.2 of the template under three subperiods of the one-year time horizon.	
(15) Notional value of options contracts maturing within one year's time.				Record long and short positions, and options bought and written, separately in III.4 of the template, under three subperiods of the one-year time horizon.
(16) Nondeliverable forwards, futures, and options contracts.	Record notional value of contracts settled in foreign currencies, long and short positions, in II.2 and identify them separately from the nominal values of other financial derivatives recorded in II.2.			Record notional values of contracts settled in domestic currency, long and short positions, in IV(1)(b) of the template.
(17) Financial derivative contracts maturing beyond one year's time and subject to margin calls.				Record nominal value of such forwards, swaps, and futures contracts in I.(1)(f) of the template.

Market value of securities may differ from cash exchanged due to margining

Appendix IV: Stress-Testing of “In-the-Money” Options Under the Five Scenarios Shown in the Data Template¹

All options should, if necessary, first be converted into puts and calls in foreign currency. For this conversion, the strike price is used. For example, the central bank has written a call option whereby the purchaser of the option has the right to buy LC100 million at a strike price of $LC90 = \$1.00$.² As it is written, this is a local currency call option. In converting it into a foreign currency option, the right to buy LC100 million at a price of $LC90 = \$1.00$ is equivalent to the right to sell \$1.11 million (100 million/90) at the same strike price of $LC90 = \$1.00$. In terms of the template, this will be treated as a put option that the central authorities have written with a notional value of \$1.11 million. Similarly, if the central bank has purchased a put option with a notional value of LC200 million and a strike price of $LC110 = \$1.00$, this will be treated as a purchased call option with a notional value of \$1.818 million (200 million/110).

To aggregate the notional values, the options need to be expressed in a common currency. For purposes of this template, that common currency is recommended to be one in which the template data are reported. For example, if the reporting currency is the U.S. dollar, to convert the notional values to U.S. dollar, the current market exchange rates are used, not the strike prices. Suppose, for example, that the central authorities wrote a call option to sell JY1.0 million with a strike price of $JY1.4 = LC1.00$. Assuming the exchange rate of $JY1.25 = \$1.00$, this would translate into an \$8,000 call option ($JY1,000,000 \times 1/125$). The strike price should not

be used when converting from one foreign currency to another.

To sum up, in computing the notional value of the options, neither the current nor the future local currency market exchange rate is used. When options written in terms of a given amount of local currency received or delivered in exchange for foreign currency are converted into foreign currency options, the strike prices are used. When options written in terms of a foreign currency other than the foreign currency used in reporting the template data, the market rate between the reporting currency and the foreign currency of the contract should be used to convert the notional value of the options written to the reporting currency.³

After all options have been converted to puts and calls in the reporting currency (say, U.S. dollars) and maturities have been determined, filling in the template requires entering the relevant data.

In the PRO MEMORIA section of the template, five simple scenarios for the local currency exchange rate are used for stress testing of “in-the-money” options to gauge the impact of the options on foreign exchange resources. This appendix illustrates the foreign currency flows under the five scenarios.

The first scenario assumes the local currency exchange rate remains unchanged relative to all foreign currencies. The second scenario assumes a 5 percent depreciation of the local currency relative to all foreign currencies and no further change in exchange rates thereafter. The third scenario posits an immediate 5 percent appreciation of the local currency against all foreign currencies and no further change in exchange rates. The fourth and fifth scenarios examine 10 percent depreciation and appreciation, respectively.

¹The example shown in this appendix was provided by Charles Thomas of the U.S. Federal Reserve Board of Governors.

²In the examples that follow, we denote the local currency as LC and assume the following for the current market exchange rates: $LC100 = \$1.00$; $JY125 = \$1.00$; $\$1.10 = EUR1.00$. If market exchange rates are not readily available, the rates used should be indicated in the notes accompanying the data in the template.

³In other words, the dollar notional value of all options is independent of the local currency exchange rate.

As noted in Chapter 4 of this document, generally, a put option is “in the money” if the market price is below the strike price. A call option is “in the money” if the market price is above the strike price. Where long positions are held, calls are exercised if market price is above strike price; and puts are exercised when market price is below strike price. When these options are exercised, they will add to foreign currency resources.

In this example, the convention of expressing exchange rate as local currency (LC) per unit of foreign currency (viz., LC/\$) is applied. That is, appreciation of the local currency is associated with a decline in LC/\$; and vice versa, for a depreciation of the local currency. In Table A, these are shown as +5% (depreciation); -5% (appreciation); +10% (depreciation), and -10% (appreciation), respectively, under pro memoria items (2), (3), (4), and (5). Table A shows the notional value of the options that are in the money at current exchange rates, and

under the four additional scenarios of currency depreciation and appreciation.

In the example, the sign (+) is used to indicate inflow of foreign currency; and the (-) sign, outflows of foreign currency.

The results shown for pro memoria items (1)(a) short position (viz., -300, -50, 0) and (1)(b) long position (viz., +200, +300, +300) at current exchange rates correspond to short and long positions under exchange rates of LC/\$ = 100, as depicted by figures that are in italics in supporting Tables B, C, and D.

Results shown in Table A for pro memoria items (2)(a) (viz., -1200, -700, -400, -100) and (2)(b) (viz., +1300, +400, +400, +500) correspond to figures that are in bold in supporting Tables B, C, and D.

The “total” in Table A represents the sum of each row.

Figures 1–5 present graphically the results shown in Table A under long and short positions for the three periods under the one-year horizon.

Table A. Results of An Illustration of In-the-Money Options and Related Stress-Testing Under Specific Assumptions of Exchange Rate Changes (Nominal Value)

	Total	Maturity breakdown (residual maturity, where applicable)		
		Up to 1 month	More than 1 month and up to 3 months	More than 3 months and up to 1 year
4. Aggregate short and long positions of options in foreign currencies vis-à-vis the domestic currency				
(a) Short positions	-2,850	-1,000	-1,250	-600
(i) Bought puts	-1,050	-300	-350	-400
(ii) Written calls	-1,800	-700	-900	-200
(b) Long positions	+2,500	+1,000	+700	+800
(i) Bought calls	+1,800	+800	+400	+600
(ii) Written puts	+700	+200	+300	+200
PRO MEMORIA: In-the-money options				
(1) At current exchange rates				
(a) Short position	-350	-300	-50	0
(b) Long position	+800	+200	+300	+300
(2) + 5 % (depreciation of 5%)				
(a) Short position	-1,200	-700	-400	-100
(b) Long position	+1,300	+400	+400	+500
(3) - 5 % (appreciation of 5%)				
(a) Short position	-650	-100	-350	-200
(b) Long position	+900	+300	+300	+300
(4) +10 % (depreciation of 10%)				
(a) Short position	-1,800	-700	-900	-200
(b) Long position	+1,800	+800	+300	+700
(5) -10 % (appreciation of 10%)				
(a) Short position	-1,050	-300	-350	-400
(b) Long position	+700	+200	+300	+200
(6) Other (specify)				

Table B. Foreign Currency Flows Resulting from Options Position with Possible Exercise Date Less Than One Month Hence

	Options Positions		Exchange Rates (LC/\$)								
	Strike Price (LC/\$)	Position Size (\$-million)	90	95	100	102.5	105	107.5	110	112.5	
			Currency Flows (\$-million)								
Short position		1000	-300	-100	-300	-300	-700	-700	-700	-700	
Total bought puts		300	-300	-100	0	0	0	0	0	0	
Bought put	93	200	-200	0	0	0	0	0	0	0	
Bought put	97	100	-100	-100	0	0	0	0	0	0	
Total written calls		700	0	0	-300	-300	-700	-700	-700	-700	
Written call	98	300	0	0	-300	-300	-300	-300	-300	-300	
Written call	104	400	0	0	0	0	-400	-400	-400	-400	
Long position		1000	200	300	200	400	400	600	800	800	
Total bought calls		800	0	100	100	300	300	600	800	800	
Bought call	93	100	0	100	100	100	100	100	100	100	
Bought call	102	200	0	0	0	200	200	200	200	200	
Bought call	106	300	0	0	0	0	0	300	300	300	
Bought call	109	200	0	0	0	0	0	0	200	200	
Total written puts		200	200	200	100	100	100	0	0	0	
Written put	96	100	100	100	0	0	0	0	0	0	
Written put	106	100	100	100	100	100	100	0	0	0	
			-10	-5	0	2.5	5	7.5	10	12.5	

Table C. Foreign Currency Flows Resulting from Options Position with Possible Exercise Date One to Three Months Hence

	Options Positions		Exchange Rates (LC/\$)								
	Strike Price (LC/\$)	Position Size (\$-million)	90	95	100	102.5	105	107.5	110	112.5	
			Currency Flows (\$-million)								
Short position		1250	-350	-350	-50	-400	-400	-900	-900	-900	
Total bought puts		350	-350	-350	-50	0	0	0	0	0	
Bought put	96	300	-300	-300	0	0	0	0	0	0	
Bought put	102	50	-50	-50	-50	0	0	0	0	0	
Total written calls		900	0	0	0	-400	-400	-900	-900	-900	
Written call	101	400	0	0	0	-400	-400	-400	-400	-400	
Written call	105	500	0	0	0	0	0	-500	-500	-500	
Long position		700	300	300	300	300	400	300	300	400	
Total bought calls		400	0	0	100	100	200	300	300	400	
Bought call	97	100	0	0	100	100	100	100	100	100	
Bought call	103	100	0	0	0	0	100	100	100	100	
Bought call	106	100	0	0	0	0	0	100	100	100	
Bought call	111	100	0	0	0	0	0	0	0	100	
Total written puts		300	300	300	200	200	200	0	0	0	
Written put	96	100	100	100	0	0	0	0	0	0	
Written put	106	200	200	200	200	200	200	0	0	0	
			-10	-5	0	2.5	5	7.5	10	12.5	

Table D. Foreign Currency Flows Resulting from Options Position with Possible Exercise Date Three Months to One Year Hence

	Options Positions		Exchange Rates (LC/\$)							
	Strike Price (LC/\$)	Position Size (\$-million)	90	95	100	102.5	105	107.5	110	112.5
			Currency Flows (\$-million)							
Short position		600	-400	-200	0	-100	-100	-200	-200	-200
Total bought puts		400	-400	-200	0	0	0	0	0	0
Bought put	93	200	-200	0	0	0	0	0	0	0
Bought put	97	200	-200	-200	0	0	0	0	0	0
Total written calls		200	0	0	0	-100	-100	-200	-200	-200
Written call	102	100	0	0	0	-100	-100	-100	-100	-100
Written call	106	100	0	0	0	0	0	-100	-100	-100
Long position		800	200	300	300	300	500	500	700	600
Total bought calls		600	0	100	100	200	400	400	600	600
Bought call	93	100	0	100	100	100	100	100	100	100
Bought call	102	100	0	0	0	100	100	100	100	100
Bought call	104	200	0	0	0	0	200	200	200	200
Bought call	109	200	0	0	0	0	0	0	200	200
Total written puts		200	200	200	200	100	100	100	100	0
Written put	101	100	100	100	100	0	0	0	0	0
Written put	111	100	100	100	100	100	100	100	100	0
			-10.00	-5.00	0.00	2.50	5.00	7.50	10.00	12.50

Figure I. Foreign Currency Flows from Options Positions (up to 1 month)

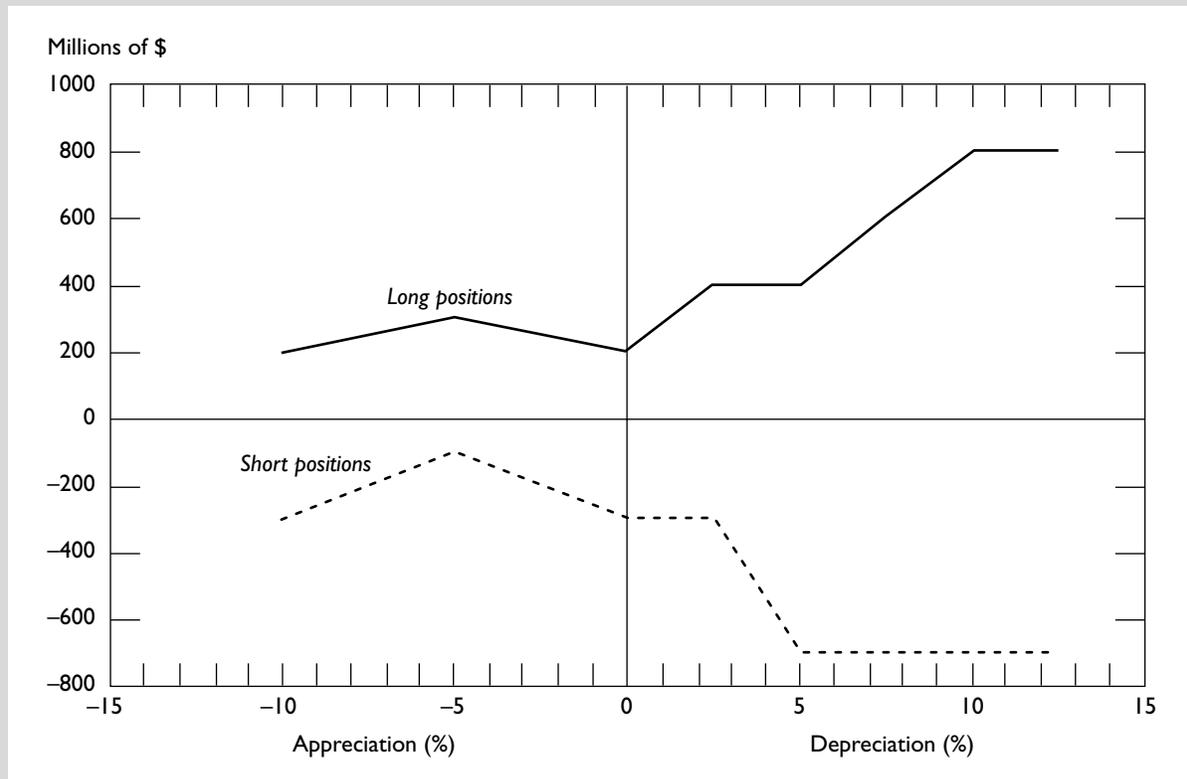


Figure 2. Foreign Currency Flows from Options Positions (1 to 3 months)

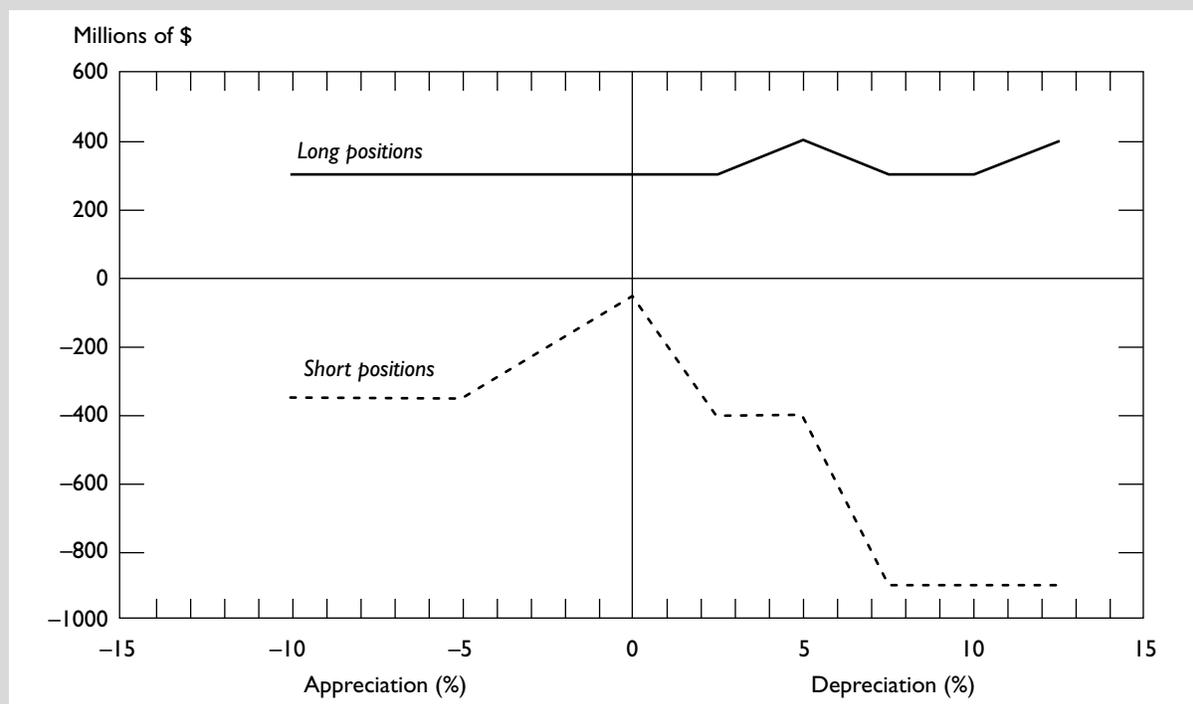


Figure 3. Foreign Currency Flows from Options Positions (3 months to 1 year)

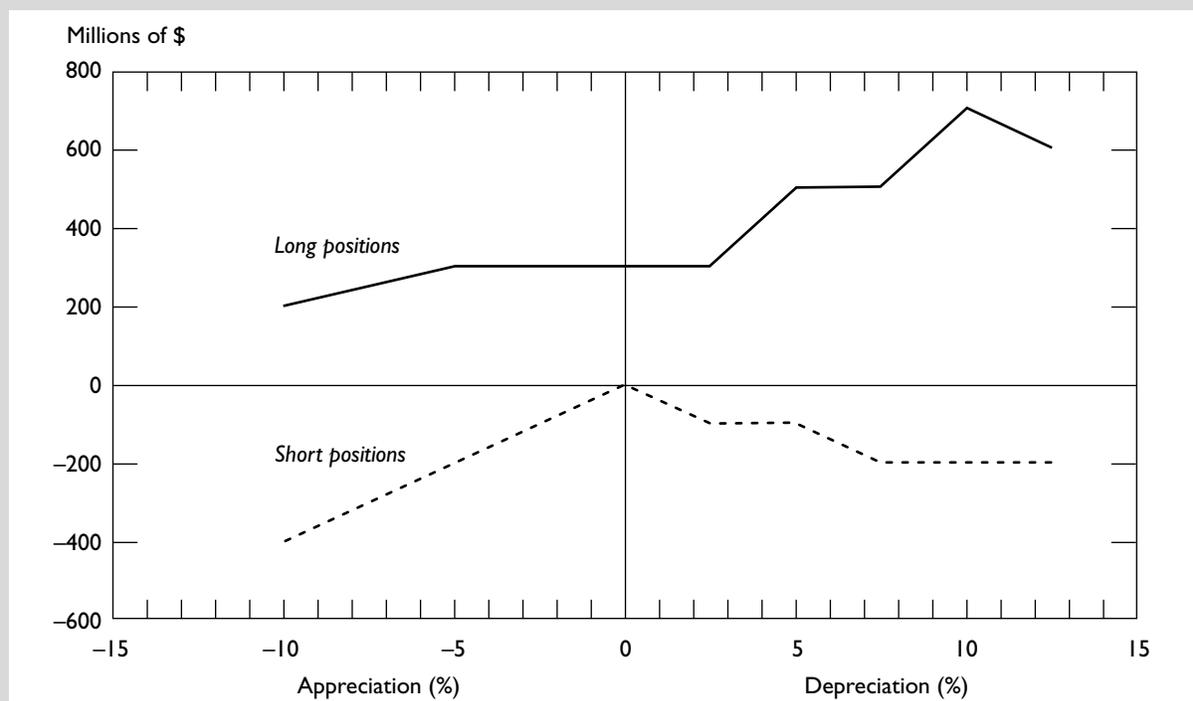


Figure 4. Foreign Currency Flows from Short Options Positions

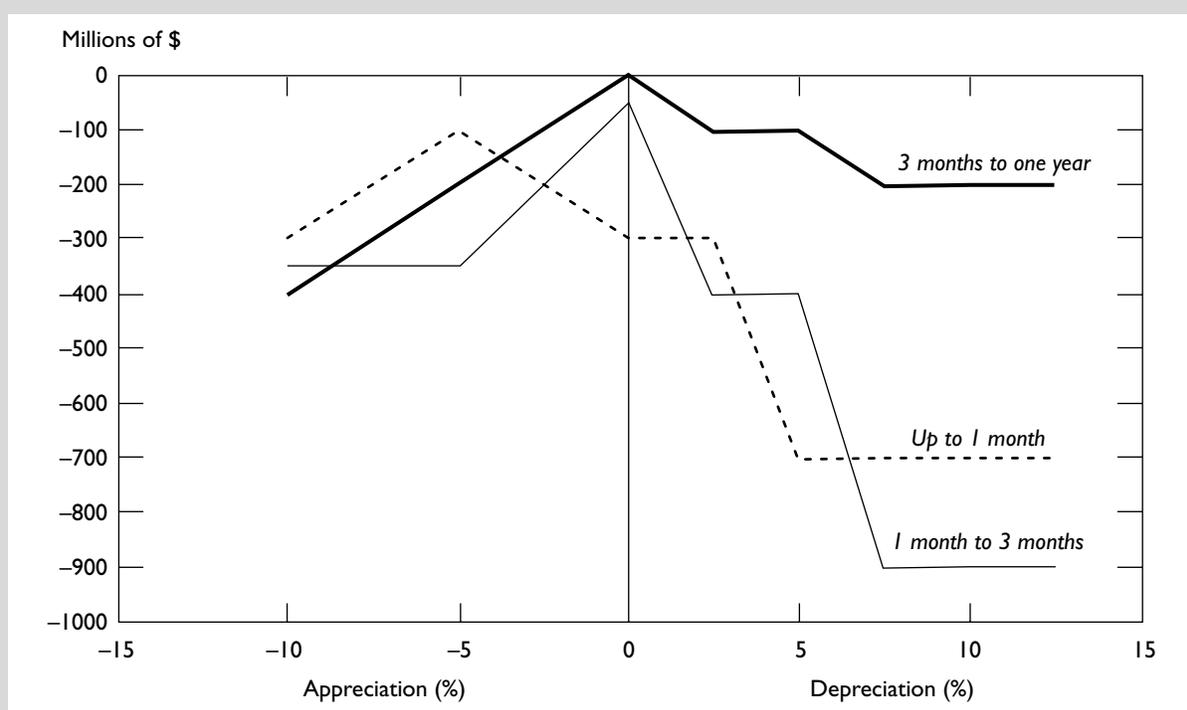
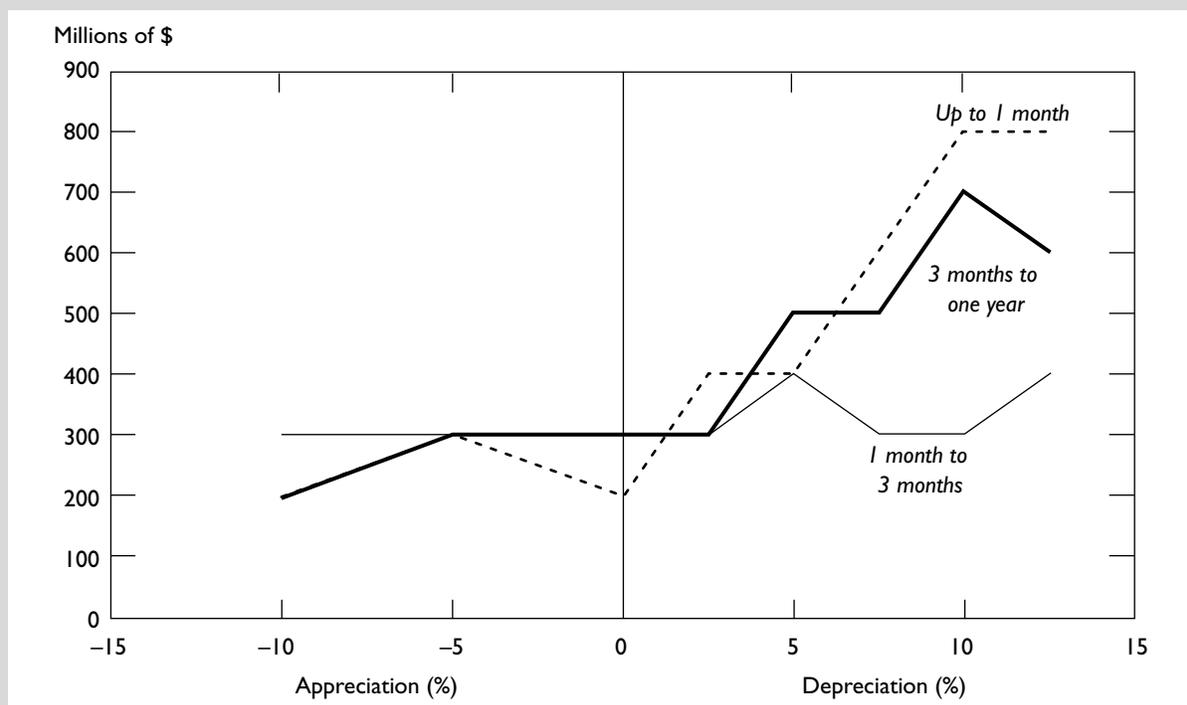


Figure 5. Foreign Currency Flows from Long Options Positions



Appendix V: Reporting Data to the IMF for Redissemination on the IMF's Website

The IMF's Executive Board in March 2000 approved the establishment of a database showing countries' template data on international reserves and foreign currency liquidity on the IMF's website. The data are presented in a common format and in a common currency, thereby enhancing the comparability of the template data among countries, facilitating access by market participants and other users, and fostering greater transparency. The common format is that developed by the IMF as shown in Appendix II of this document. The common currency is the U.S. dollar. Countries participating in this endeavor do so on a voluntary basis.

The IMF database has been operational since October, 2000 and is accessible at <http://www.imf.org/external/np/sta/ir/index.htm>.

In addition to current data, the IMF database presents historical (time series) information and offers time series data by country on official reserve assets and other foreign currency assets of the monetary authorities and the central government. To facilitate users' viewing, printing, and downloading of the information, the template data available on the IMF website are presented in several ways. For example, countries' current data are accessible in html (hypertext markup language), and time series data are shown in both pdf (portable document format) and in csv (common separated values, spreadsheet compatible) files.

Development of the IMF database was possible because many countries began disseminating the template data in the first half of 2000. As noted in Appendix I, as part of efforts to strengthen the Special Data Dissemination Standards (SDDS), the IMF Executive Board in March 1999 made the data template part of the SDDS, with a transition period to run through March 31, 2000. Following the end of the transition period, SDDS-subscribing countries were to begin disseminating the template data

on a monthly basis, with up to one-month lag. Thus, the first set of template data for end-April 2000 were disseminated by most countries at the end of May 2000. Countries participating in the redissemination initiative provide their data to the IMF soon after they disseminate the data on their national media. Non-SDDS countries also are encouraged to report their template data to the IMF for redissemination.

To facilitate processing of the data for the redissemination on the IMF's website, the IMF requests that countries transmit their data in specific reporting forms and follow certain accounting conventions. The notes below provide some guidance on such data reporting.

1. Countries are encouraged to submit their template data by e-mail. The e-mail address for this purpose is RESERVESTEMPLATE@IMF.ORG.
2. The IMF will process template data sent either in an Excel spreadsheet or in an EDIFACT message. In either case, the specified IMF reporting forms are to be used. Form R1.xls is for reporting consolidated data pertaining to the monetary authorities and the central government, as called for in the data template. In cases where for legal and institutional reasons countries present separate data for the monetary authorities and the central government in the template, Form R1a.xls is to be used.
3. To facilitate automated processing of the data transmitted, the structure of the reporting forms is protected and not to be altered by reporting countries.
4. Reporting forms can be requested by sending an e-mail to RESERVESTEMPLATE@IMF.ORG.
5. For each of the items shown in the Excel reporting forms, the figure "0" is to be used to indicate a value of zero or near zero. Cells in the reporting forms are to be left blank for items not applicable.

6. For data submitted on the Excel reporting forms, the dropdown menus are to be used to select the country name, the month and year for which data are shown, and the currency and scale in which data are reported. Select a “Day of the Month” only if submitting weekly data.
7. To enhance analytical usefulness of the data, positive and negative values are to be differentiated. A minus (“-”) sign is to be used to indicate a negative value. In the case of a positive value, a plus (“+”) sign is optional.
8. Countries are encouraged to provide additional information to enhance the analytical usefulness of the template data. Such information is to include country-specific exchange rate arrangements (for example, the operation of a currency board or the implementation of dollarization), major sources of funding of reserve assets shown in Section I.A. of the template, and accounting treatment of certain financial transactions, as indicated throughout this document. The information is to be provided in a text (ASCII) file with the extension “.txt” and marked “Country Notes.” The country notes are to be sent with the data submission. (See also paragraph 42 of this document.)
9. Item I.(4) of the data template (volume of gold) is to be reported in millions of fine troy ounces. A standardized unit of reporting is needed to facilitate automated processing of the data.
10. With respect to item IV.(2) of the data template (currency composition of reserves), the value (and not the percentage) of reserve assets that are held in currencies in the SDR basket and that of reserve assets held in non-SDR basket currencies are to be disclosed. For this purpose, the value of gold is to be included among the SDR-basket currency assets. The total value of reserve assets held in SDR- and non-SDR basket currencies shown in item IV.(2) of the data template should equal the amount shown in item 1.A. of the template. Countries that want to disclose the composition by individual currencies can do so by providing the information in the country notes, as referred to in (8) above.
11. To enhance data transparency, paragraph 84 shown in Chapter 2 of this document, calls for the disclosure of the accounting treatment adopted by countries in the reporting of repos, securities lending, and related transactions. Detailed information of such accounting treatment is to be provided in country notes accompanying the data. In addition, to ensure data consistency across countries and to enhance the analytical usefulness of the information, item IV.(1)(d) “securities lent or on repo” is to be reported with the following sign conventions: minus (“-”) signs for securities “lent or repoed and included in Section I” and “lent or repoed but not included in Section I,” and plus (“+”) signs for “borrowed or acquired and included in Section I” and “borrowed or acquired but not included in Section I.”
12. As noted in paragraph 258, shown in Chapter 5 of this document, gold swaps are to be treated similarly to repos. The gold that is swapped should be included, as appropriately, among securities lent or repoed in item IV.(1)(d) of the template.

Select country name and reporting month	Country <No Country Selected>	Month January	Year 2000
Select reporting day ONLY when submitting weekly data	Day of the Month None		
Select reporting currency and scale	Currency <No Currency Selected>	Scale Millions	

Reporting Form for Presenting Data in the Template on International Reserves/Foreign Currency Liquidity (Reporting Form R1.xls)

(Information to be disclosed by the monetary authorities and other central government, excluding social security)^{1 2 3}

I. Official reserve assets and other foreign currency assets (approximate market value)⁴

January 2000

A. Official reserve assets	
(1) Foreign currency reserves (in convertible foreign currencies)	
(a) Securities	
<i>of which:</i> issuer headquartered in reporting country but located abroad	
(b) total currency and deposits with:	
(i) other national central banks, BIS and IMF	
(ii) banks headquartered in the reporting country	
<i>of which:</i> located abroad	
(iii) banks headquartered outside the reporting country	
<i>of which:</i> located in the reporting country	
(2) IMF reserve position	
(3) SDRs	
(4) gold (including gold deposits and, if appropriate, gold swapped) ⁵	
—volume in millions of fine troy ounces	
(5) other reserve assets (specify)	
—financial derivatives	
—loans to nonbank nonresidents	
—other	
B. Other foreign currency assets (specify)	
—securities not included in official reserve assets	
—deposits not included in official reserve assets	
—loans not included in official reserve assets	
—financial derivatives not included in official reserve assets	
—gold not included in official reserve assets	
—other	

II. Predetermined short-term net drains on foreign currency assets (nominal value)

		Maturity breakdown (residual maturity)			
		Total	Up to 1 month	More than 1 and up to 3 months	More than 3 months and up to 1 year
1. Foreign currency loans, securities, and deposits ⁶					
—outflows (-)	Principal				
	Interest				
—inflows (+)	Principal				
	Interest				
2. Aggregate short and long positions in forwards and futures in foreign currencies vis-à-vis the domestic currency (including the forward leg of currency swaps) ⁷					
(a) Short positions (-)					
(b) Long positions (+)					
3. Other (specify)					
—outflows related to repos (-)					
—inflows related to reverse repos (+)					
—trade credit (-)					
—trade credit (+)					
—other accounts payable (-)					
—other accounts receivable (+)					

III. Contingent short-term net drains on foreign currency assets (nominal value)

	Total	Maturity breakdown (residual maturity, where applicable)		
		Up to 1 month	More than 1 and up to 3 months	More than 3 months and up to 1 year
1. Contingent liabilities in foreign currency				
(a) Collateral guarantees on debt falling due within 1				
(b) Other contingent liabilities				
2. Foreign currency securities issued with embedded options (puttable bonds) ⁸				
3. Undrawn, unconditional credit lines ⁹ provided by:				
(a) other national monetary authorities, BIS, IMF, and other international organizations				
—other national monetary authorities (+)				
—BIS (+)				
—IMF (+)				
(b) with banks and other financial institutions headquartered in the reporting country (+)				
(c) with banks and other financial institutions headquartered outside the reporting country (+)				
Undrawn, unconditional credit lines provided to:				
(a) other national monetary authorities, BIS, IMF, and other international organizations				
—other national monetary authorities (-)				
—BIS (-)				
—IMF (-)				
(b) banks and other financial institutions headquartered in reporting country (-)				
(c) banks and other financial institutions headquartered outside the reporting country (-)				
4. Aggregate short and long positions of options in foreign currencies vis-à-vis the domestic currency ¹⁰				
(a) Short positions				
(i) Bought puts				
(ii) Written calls				
(b) Long positions				
(i) Bought calls				
(ii) Written puts				
PRO MEMORIA: In-the-money options ¹¹				
(1) At current exchange rate				
(a) Short position				
(b) Long position				
(2) + 5 % (depreciation of 5%)				
(a) Short position				
(b) Long position				
(3) - 5 % (appreciation of 5%)				
(a) Short position				
(b) Long position				
(4) + 10 % (depreciation of 10%)				
(a) Short position				
(b) Long position				
(5) - 10 % (appreciation of 10%)				
(a) Short position				
(b) Long position				
(6) Other (specify)				
(a) Short position				
(b) Long position				

IV. Memo items

(1) To be reported with standard periodicity and timeliness: ¹²	
(a) short-term domestic currency debt indexed to the exchange rate	
(b) financial instruments denominated in foreign currency and settled by other means (e.g., in domestic currency) ¹³	
—nondeliverable forwards	
—short positions	
—long positions	
—other instruments	
(c) pledged assets ¹⁴	
—included in reserve assets	
—included in other foreign currency assets	
(d) securities lent and on repo ¹⁵	
—lent or repoed and included in Section I	
—lent or repoed but not included in Section I	
—borrowed or acquired and included in Section I	
—borrowed or acquired but not included in Section I	
(e) financial derivative assets (net, marked to market) ¹⁶	
—forwards	
—futures	
—swaps	
—options	
—other	
(f) derivatives (forward, futures, or options contracts) that have a residual maturity greater than one year, which are subject to margin	
—aggregate short and long positions in forwards and futures in foreign currencies vis-à-vis the domestic currency (including the forward leg of currency swaps)	
(a) short positions (-)	
(b) long positions (+)	
—aggregate short and long positions of options in foreign currencies vis-à-vis the domestic currency	
(a) short positions	
(i) bought puts	
(ii) written calls	
(b) long positions	
(i) bought calls	
(ii) written puts	
(2) To be disclosed less frequently:	
(a) currency composition of reserves (by groups of currencies)	
—currencies in SDR basket	
—currencies not in SDR basket	
—by individual currencies (optional)	This data should be supplied in country notes.

Footnotes:

1. In principle, only instruments denominated and settled in foreign currency (or those whose valuation is directly dependent on the exchange rate and that are settled in foreign currency) are to be included in categories I, II, and III of the template. Financial instruments denominated in foreign currency and settled in other ways (e.g., in domestic currency or commodities) are included as memo items under Section IV.
2. Netting of positions is allowed only if they have the same maturity, are against the same counterparty, and a master netting agreement is in place. Positions on organized exchanges could also be netted.
3. Monetary authorities defined according to the IMF *Balance of Payments Manual*, Fifth Edition.
4. In cases of large positions vis-à-vis institutions headquartered in the reporting country, in instruments other than deposits or securities, they should be reported as separate items.
5. The valuation basis for gold assets should be disclosed; ideally this would be done by showing the volume and price.
6. Including interest payments due within the corresponding time horizons. Foreign currency deposits held by nonresidents with central banks should also be included here. Securities referred to are those issued by the monetary authorities and the central government (excluding social security).
7. In the event that there are forward or futures positions with a residual maturity greater than one year, which could be subject to margin calls, these should be reported separately under Section IV.
8. Only bonds with a residual maturity greater than one year should be reported under this item, as those with shorter maturities will already be included in Section II, above.
9. Reporters should distinguish potential inflows and potential outflows resulting from contingent lines of credit and report them separately, in the specified format.
10. In the event that there are options positions with a residual maturity greater than one year, which could be subject to margin calls, these should be reported separately under Section IV.
11. These "stress-tests" are an encouraged, rather than a prescribed, category of information in the IMF's Special Data Dissemination Standard (SDDS). Could be disclosed in the form of a graph. As a rule, notional value should be reported. However, in the case of cash-settled options, the estimated future inflow/outflow should be disclosed. Positions are "in the money" or would be, under the assumed values.
12. Distinguish between assets and liabilities where applicable.
13. Identify types of instrument; the valuation principles should be the same as in Sections I-III. Where applicable, the notional value of nondeliverable forward positions should be shown in the same format as for the nominal value of deliverable forwards/futures in Section II.
14. Only assets included in Section I that are pledged should be reported here.
15. Assets that are lent or repoed should be reported here, whether or not they have been included in Section I of the template, along with any associated liabilities (in Section II). However, these should be reported in two separate categories, depending on whether or not they have been included in Section I. Similarly, securities that are borrowed or acquired under repo agreements should be reported as a separate item and treated symmetrically. Market values should be reported and the accounting treatment disclosed.
16. Identify types of instrument. The main characteristics of internal models used to calculate the market value should be disclosed.

Select country name and reporting month	Country <No Country Selected>	Month January	Year 2000
Select reporting day ONLY when submitting weekly data	Day of the Month None		
Select reporting currency and scale	Currency <No Currency Selected>	Scale Millions	
Select institutional coverage (if reporting monetary authorities and central government separately)	<No Reporter Selected>		

Separate Reporting Form for Presenting Data in the Template on International Reserves/Foreign Currency Liquidity (Reporting Form R1a.xls)

(Information to be disclosed by the monetary authorities and other central government, excluding social security)^{1 2 3}

I. Official reserve assets and other foreign currency assets (approximate market value)⁴

January 2000

A. Official reserve assets	
(1) Foreign currency reserves (in convertible foreign currencies)	
(a) Securities	
<i>of which:</i> issuer headquartered in reporting country but located abroad	
(b) total currency and deposits with:	
(i) other national central banks, BIS and IMF	
(ii) banks headquartered in the reporting country	
<i>of which:</i> located abroad	
(iii) banks headquartered outside the reporting country	
<i>of which:</i> located in the reporting country	
(2) IMF reserve position	
(3) SDRs	
(4) gold (including gold deposits and, if appropriate, gold swapped) ⁵	
—volume in millions of fine troy ounces	
(5) other reserve assets (specify)	
—financial derivatives	
—loans to nonbank nonresidents	
—other	
B. Other foreign currency assets (specify)	
—securities not included in official reserve assets	
—deposits not included in official reserve assets	
—loans not included in official reserve assets	
—financial derivatives not included in official reserve assets	
—gold not included in official reserve assets	
—other	

II. Predetermined short-term net drains on foreign currency assets (nominal value)

		Maturity breakdown (residual maturity)			
		Total	Up to 1 month	More than 1 and up to 3 months	More than 3 months and up to 1 year
1. Foreign currency loans, securities, and deposits ⁶					
—outflows (-)	Principal				
	Interest				
—inflows (+)	Principal				
	Interest				
2. Aggregate short and long positions in forwards and futures in foreign currencies vis-à-vis the domestic currency (including the forward leg of currency swaps) ⁷					
(a) Short positions (-)					
(b) Long positions (+)					
3. Other (specify)					
—outflows related to repos (-)					
—inflows related to reverse repos (+)					
—trade credit (-)					
—trade credit (+)					
—other accounts payable (-)					
—other accounts receivable (+)					

III. Contingent short-term net drains on foreign currency assets (nominal value)

	Total	Maturity breakdown (residual maturity, where applicable)		
		Up to 1 month	More than 1 and up to 3 months	More than 3 months and up to 1 year
1. Contingent liabilities in foreign currency				
(a) Collateral guarantees on debt falling due within 1				
(b) Other contingent liabilities				
2. Foreign currency securities issued with embedded options (puttable bonds) ⁸				
3. Undrawn, unconditional credit lines ⁹ provided by:				
(a) other national monetary authorities, BIS, IMF, and other international organizations				
—other national monetary authorities (+)				
—BIS (+)				
—IMF (+)				
(b) with banks and other financial institutions headquartered in the reporting country (+)				
(c) with banks and other financial institutions headquartered outside the reporting country (+)				
Undrawn, unconditional credit lines provided to:				
(a) other national monetary authorities, BIS, IMF, and other international organizations				
—other national monetary authorities (-)				
—BIS (-)				
—IMF (-)				
(b) banks and other financial institutions headquartered in reporting country (-)				
(c) banks and other financial institutions headquartered outside the reporting country (-)				
4. Aggregate short and long positions of options in foreign currencies vis-à-vis the domestic currency ¹⁰				
(a) Short positions				
(i) Bought puts				
(ii) Written calls				
(b) Long positions				
(i) Bought calls				
(ii) Written puts				
PRO MEMORIA: In-the-money options ¹¹				
(1) At current exchange rate				
(a) Short position				
(b) Long position				
(2) + 5 % (depreciation of 5%)				
(a) Short position				
(b) Long position				
(3) - 5 % (appreciation of 5%)				
(a) Short position				
(b) Long position				
(4) +10 % (depreciation of 10%)				
(a) Short position				
(b) Long position				
(5) - 10 % (appreciation of 10%)				
(a) Short position				
(b) Long position				
(6) Other (specify)				
(a) Short position				
(b) Long position				

IV. Memo items

(1) To be reported with standard periodicity and timeliness: ¹²	
(a) short-term domestic currency debt indexed to the exchange rate	
(b) financial instruments denominated in foreign currency and settled by other means (e.g., in domestic currency) ¹³	
—nondeliverable forwards	
—short positions	
—long positions	
—other instruments	
(c) pledged assets ¹⁴	
—included in reserve assets	
—included in other foreign currency assets	
(d) securities lent and on repo ¹⁵	
—lent or repoed and included in Section I	
—lent or repoed but not included in Section I	
—borrowed or acquired and included in Section I	
—borrowed or acquired but not included in Section I	
(e) financial derivative assets (net, marked to market) ¹⁶	
—forwards	
—futures	
—swaps	
—options	
—other	
(f) derivatives (forward, futures, or options contracts) that have a residual maturity greater than one year, which are subject to margin	
—aggregate short and long positions in forwards and futures in foreign currencies vis-à-vis the domestic currency (including the forward leg of currency swaps)	
(a) short positions (-)	
(b) long positions (+)	
—aggregate short and long positions of options in foreign currencies vis-à-vis the domestic currency	
(a) short positions	
(i) bought puts	
(ii) written calls	
(b) long positions	
(i) bought calls	
(ii) written puts	
(2) To be disclosed less frequently:	
(a) currency composition of reserves (by groups of currencies)	
—currencies in SDR basket	
—currencies not in SDR basket	
—by individual currencies (optional)	This data should be supplied in country notes.

Footnotes:

1. In principle, only instruments denominated and settled in foreign currency (or those whose valuation is directly dependent on the exchange rate and that are settled in foreign currency) are to be included in categories I, II, and III of the template. Financial instruments denominated in foreign currency and settled in other ways (e.g., in domestic currency or commodities) are included as memo items under Section IV.
2. Netting of positions is allowed only if they have the same maturity, are against the same counterparty, and a master netting agreement is in place. Positions on organized exchanges could also be netted.
3. Monetary authorities defined according to the IMF *Balance of Payments Manual*, Fifth Edition.
4. In cases of large positions vis-à-vis institutions headquartered in the reporting country, in instruments other than deposits or securities, they should be reported as separate items.
5. The valuation basis for gold assets should be disclosed; ideally this would be done by showing the volume and price.
6. Including interest payments due within the corresponding time horizons. Foreign currency deposits held by nonresidents with central banks should also be included here. Securities referred to are those issued by the monetary authorities and the central government (excluding social security).
7. In the event that there are forward or futures positions with a residual maturity greater than one year, which could be subject to margin calls, these should be reported separately under Section IV.
8. Only bonds with a residual maturity greater than one year should be reported under this item, as those with shorter maturities will already be included in Section II, above.
9. Reporters should distinguish potential inflows and potential outflows resulting from contingent lines of credit and report them separately, in the specified format.
10. In the event that there are options positions with a residual maturity greater than one year, which could be subject to margin calls, these should be reported separately under Section IV.
11. These "stress-tests" are an encouraged, rather than a prescribed, category of information in the IMF's Special Data Dissemination Standard (SDDS). Could be disclosed in the form of a graph. As a rule, notional value should be reported. However, in the case of cash-settled options, the estimated future inflow/outflow should be disclosed. Positions are "in the money" or would be, under the assumed values.
12. Distinguish between assets and liabilities where applicable.
13. Identify types of instrument; the valuation principles should be the same as in Sections I-III. Where applicable, the notional value of nondeliverable forward positions should be shown in the same format as for the nominal value of deliverable forwards/futures in Section II.
14. Only assets included in Section I that are pledged should be reported here.
15. Assets that are lent or repoed should be reported here, whether or not they have been included in Section I of the template, along with any associated liabilities (in Section II). However, these should be reported in two separate categories, depending on whether or not they have been included in Section I. Similarly, securities that are borrowed or acquired under repo agreements should be reported as a separate item and treated symmetrically. Market values should be reported and the accounting treatment disclosed.
16. Identify types of instrument. The main characteristics of internal models used to calculate the market value should be disclosed.

Index

Entries refer to corresponding paragraph numbers within the text.

- American Depository Receipts (ADRs), 79
- American-style options, 222, 228
- Amortization schedules, 152
- Asset-backed securities
 - predetermined drains, 162
- Authorities. *See* Monetary authorities
- Balance of Payments Manual*
 - concept of international reserves, 9, 65
 - foreign exchange defined, 77
 - monetary authorities defined, 21
 - reconciling concept of reserves and template data, 110–117
 - reserve assets defined, 60
- Bank for International Settlements
 - credit lines, 211–212
 - deposits held in, 92
 - short-term loans to, 93
- Bankers' acceptances
 - predetermined drains, 163
- Banks. *See also* Financial institutions
 - defined, 92
 - deposits held in, 92
- Benchmark revaluations, 130
- BIS. *See* Bank for International Settlements
- Black-Scholes formula, 272
- Bonds
 - predetermined drains, 162
 - puttable, 199–205
- Bought calls, 223
- Bought options, 182
- Bought puts, 223
- BPM5*. *See* *Balance of Payments Manual*
- Brady bonds, 162
- Branches of financial institutions, 104–105, 108
- Building societies
 - deposits held in, 92
- Bullion banks, 99
- Buybacks
 - reporting securities in data template, 81
- Call options, 182, 228, 234
- Central Banks
- Group of Ten, 3, 279
- Central banks
 - credit lines, 211–213
- Central government
 - coverage in data template, 20
 - defined, 22
- Certificates of deposit
 - predetermined drains, 162–163
- CGFS. *See* Committee on the Global Financial System
- Closure netting, 150
- Collateral guarantees, 193–195
- Collateralized loans, 84, 85
- Collateralized mortgage obligations
 - predetermined drains, 162
- Commercial banks
 - deposits held in, 92
- Commercial paper
 - predetermined drains, 163
- Committee on the Global Financial System
 - Operational Guidelines* template
 - development, 3, 279
- Contingent liabilities, 191–198
- Contingent net drains, 48, 180–190
- Contractual obligations, 180
- Convertible bonds
 - predetermined drains, 162
- Cooperatives
 - deposits held in, 92
- Counterparty claims, 107–108
- Country notes, 42, 58
- Credit events, 202
- Credit lines, 206–221
- Credit unions
 - deposits held in, 92
- Cross-currency swaps, 173

- Cross default/cross acceleration clauses, 203
- Currencies
 - market valuation, 133
 - reporting in data template, 37, 77, 94, 113
- Currency liquidity. *See* Foreign currency liquidity
- Currency swaps, 173
- Currency unions
 - reporting reserve assets, 23
- Data template
 - country notes, 42, 58
 - currencies reported, 37
 - data for institutions headquartered in and outside of the reporting country, 103–109
 - disclosing reserve assets and other foreign currency assets, 58–63
 - dissemination of data, 43
 - features of, 20–44
 - financial activities covered, 24–25
 - financial derivatives activities, 26–31
 - framework of, 4–8
 - gold reporting, 98–101
 - IMF reserve position, 96
 - institutions covered, 20–23
 - items not applicable, 40
 - other reserve assets reporting, 102
 - Pro Memoria section, 231–235
 - reconciling BPM5 concept of reserves, 110–117
 - reference date, 38
 - reporting data, 37–44
 - reporting foreign currency reserves, 77–78
 - securities reporting, 79–90
 - special drawing rights reporting, 97
 - structure of, 45–50
 - time horizon, 35–36
 - total deposits reporting, 91–95
 - transaction dates, 39
 - types of data reported, 46
 - valuation principles, 32–34
- Debentures
 - predetermined drains, 162
- Debt securities
 - market valuation, 132
 - predetermined drains, 162, 165
 - reporting on data template, 79
- Demand deposits, 91
- Deposit insurance, 195
- Deposits
 - in banks headquartered in and outside of the reporting country, 107
 - foreign currency reserves, 77
 - market valuation, 133
- “on call,” 161
- reconciling *BPM5* concept of reserves and template data, 114
- reporting in data template, 91–95
- Diamonds, 98
- Discounted bonds
 - predetermined drains, 162
- Discrete puts, 202
- Domestic currency debt
 - short-term, 242
- Dual-currency bonds
 - predetermined drains, 162
- Equity securities
 - market valuation, 131
 - reporting on data template, 79
- ESAF Trust Loan Account, 93, 215
- European-style options, 222, 228
- Exchange rates, 146
- Exercise dates, 228
- Exercise price. *See* Strike price
- External assets, 62, 69
- External liabilities, 153–158
- Federal National Mortgage Association (Fannie Mae), 191
- Financial derivatives assets
 - activities, 26–31
 - market valuation, 134, 267–272
 - net, marked-to-market values, 262–273
 - with residual maturity of greater than one year, 244–245
- Financial institutions
 - branches and subsidiaries, 104–105, 108
 - credit lines, 211–213
 - deposits held in, 92
 - headquartered abroad but located in the reporting country, 105
 - headquartered in the reporting country, 103–104
 - headquartered in the reporting country but located abroad, 104
 - headquartered outside the reporting country, 103, 105
 - reserve assets in resident financial institutions, 60
- Financial instruments
 - denominated in foreign currency and settled by other means, 247–254
- Financing agreements, 211
- Floating-rate bonds
 - predetermined drains, 162

- Flow data, 38
- Flow of funds accounts, 152
- Flows
 - data template section reported in, 46, 49
- Foreign currency assets. *See also* Official reserve assets; Other foreign currency assets
 - contingent liabilities, 191–198
 - contingent net drains, 180–190
 - convertible, 67
 - defined, 59
 - defining predetermined drains, 138–143
 - deposits in resident banks, 108
 - disclosing, 58–63
 - external assets, 62
 - options, 222–235
 - ownership, 68
 - predetermined drains, 138–152
 - reserve assets, 66–67
 - securities with embedded options, 199–205
 - undrawn, unconditional credit lines, 206–221
- Foreign currency deposits, 197
- Foreign currency flows
 - associated with loans and securities, 159–166
 - other predetermined drains, 178–179
 - relating to forwards, futures, and swaps, 167–177
 - unlike data on external liabilities, 153–158
- Foreign currency liquidity
 - concepts for data template, 15–19
 - data deficiencies, 1
 - data template for, 4–8
 - importance of timely disclosure, 2
 - instruments included in resources and drains, 24
 - linkages with international reserves concepts, 19
 - off-balance-sheet activities, 5
- Foreign currency loans, 161, 197
- Foreign currency reserves
 - deposits, 77
 - reconciling *BPM5* concept of reserves and template data, 116
 - reporting in data template, 77–78
 - securities, 77, 109
 - as type of reserve asset, 75
- Foreign exchange assets
 - defined, 77
 - reconciling *BPM5* concept of reserves and template data, 112
 - swap agreements, 73
 - as type of reserve asset, 12, 75
- Foreign exchange guarantees, 195
- Foreign exchange swaps, 173
- Forward contracts, 171–173, 273
- Forward transactions, 212
- Forwards, 102, 167–177
- Future delivery transactions, 212
- Futures, 102, 167–177
- Futures contracts, 171–172, 273
- GAB. *See* General Arrangements to Borrow
- General Arrangements to Borrow
 - commitments to the IMF, 214
 - reserve position, 96
- Gold
 - market valuation, 135
 - reconciling *BPM5* concept of reserves and template data, 112
 - reporting in data template, 98–101
 - as type of “other foreign currency asset,” 125
 - as type of reserve asset, 12, 75–76
- Gold deposits
 - reporting in data template, 98–99
- Gold on loan, 98
- Gold swaps, 98, 100–101, 178, 258
- Group of Ten
 - Committee on the Global Financial System, 3, 279
- Guarantees, 193–195
- Hard puts, 203
- IIP. *See* International investment position
- IMF. *See* International Monetary Fund
- Immediate delivery transactions, 212
- In-the-money options, 31, 226, 228, 231–235, 251
- Indexed bonds
 - predetermined drains, 162
- Indexed securities, 248
- Inflows
 - data template section reported in, 46, 50
 - predetermined drains, 139–140, 145, 148, 150–151, 166, 179
- Institutions. *See* Financial institutions
- International financial architecture
 - data deficiencies, 1
 - development of framework, 3
 - financial activities covered by data template, 24–25
 - financial derivatives activities, 26–31
 - foreign currency liquidity concepts, 15–19
 - importance of timely disclosure, 2
 - institutions covered by data template, 20–23
 - international reserves concepts, 9–14
 - reporting and dissemination considerations, 37–44
 - structure of data template, 45–50

- structure of *Operational Guidelines*, 51–57
 - template for, 4–8
 - time horizon, 35–36
 - valuation principles, 32–34
- International investment position, 154–158
- International Monetary Fund
 - Balance of Payments Manual*, 9
 - loans to, 70
 - Operational Guidelines* template
 - development, 3
 - reserve position, 96
 - short-term loans to, 93
- International reserves
 - concepts for data template, 9–14
 - “controlled by” concept, 11, 13
 - data deficiencies, 1
 - data template for, 4–8
 - defined, 9
 - importance of timely disclosure, 2
 - linkages with foreign currency liquidity
 - concepts, 19
 - “readily available” concept, 11, 13
 - residency concept, 10
 - types of, 12
- Internet
 - dissemination of data, 43
- Letters of credit, 197
- Lines of credit, 73
- Loans
 - guarantees, 195
 - pledged assets, 72
 - predetermined drains, 149, 153–154, 159–161
 - reserve assets, 70
 - short-term, 93, 102, 160–161
- Local governments
 - exclusion from central government definition, 22
- Long legs, 173
- Long positions, 28, 150, 177, 182, 222–230
- Long-term loans, 160
- Long-term securities, 79
- Margining, 259
- Marked-to-market values. *See* Net, marked-to-market values
- Market valuation
 - of currency, 133
 - of deposits, 133
 - of financial derivatives, 134, 267–272
 - of monetary gold, 135
 - of reserve assets, 117, 128–130
 - of reserve position in the IMF, 137
 - of securities, 131–132
 - of special drawing rights, 136
- Marketable assets, 65
- Marking to market, 263
- Memo items. *See* Memorandum items
- Memorandum items
 - coverage of, 236–246
 - currency composition of reserves, 246
 - financial derivatives assets, 262–273
 - financial derivatives with residual maturity of greater than one year, 244–245
 - financial instruments denominated in foreign currency and settled by other means, 247–254
 - pledged assets, 243
 - reporting of, 25
 - repurchase agreements, 255–261
 - securities lent, 255–261
 - short-term domestic currency debt, 242
 - Special Data Dissemination Standard, 274–280
- Monetary authorities
 - claims on nonresidents, 69
 - coverage in data template, 20
 - defined, 21
 - loans provided by, 70
 - ownership of reserve assets, 68
 - pledged assets, 72
 - real estate ownership, 74
 - reverse repos, 86–87
 - transfers of foreign currency claims, 71
- Monetary gold. *See* Gold
- Money market instruments
 - predetermined drains, 163
- NAB. *See* New Arrangements to Borrow
- NDFs. *See* Nondeliverable forwards
- Negotiable certificates of deposit
 - predetermined drains, 163
- Net, marked-to-market values
 - financial derivatives activities, 29, 262–273
 - reporting in data template, 50, 102
 - as type of “other foreign currency asset,” 125
- Net drains, 15, 139, 180–190
- Net international reserves, 17
- Netting by novation, 150, 266
- New Arrangements to Borrow
 - commitments to the IMF, 214
 - reserve position, 96
- Nondeliverable forwards, 176, 248–250, 252–254
- Nondeliverable options, 248, 251
- Nonissued securities, 79
- Nonparticipating preferred stocks

- predetermined drains, 162
- Nonresidents
 - claims of the monetary authorities, 69
 - foreign currency securities issued by, 79
 - loans to, 70
 - reconciling *BPM5* concept of reserves and template data, 116
- Notes
 - predetermined drains, 162
- Notional values, 34, 50, 222–223, 225, 227–228
- Off-balance-sheet activities, 5, 138
- Official reserve assets. *See also* Other reserve assets
 - currency composition of, 246
 - defined, 59, 64
 - deposits, 92
 - disclosing, 58–63
 - exclusion of pledged assets, 72
 - external assets, 62, 69
 - financial instruments, 75
 - foreign currency assets, 66–67
 - loans, 70
 - market valuation, 117, 128–130
 - marketable assets, 65
 - ownership, 68
 - quality of, 89
 - “readily available” assets, 65
 - reconciling *BPM5* concept of reserves and template data, 110–117
 - reserve assets as, 14
 - residency concept, 69
- On-balance-sheet obligations, 138
- Option agreements, 222
- Options
 - definitions of terms, 228
 - in-the-money options, 231–235
 - long positions, 222–230
 - market valuation, 272
 - notional values, 222–223, 225, 227
 - short positions, 222–230
 - as type of “other reserve asset,” 102
- OTC instruments. *See* Over-the-counter instruments
- Other foreign currency assets
 - defined, 59
 - defining, 118–127
 - gold, 98
 - market valuation, 128–129
 - reporting of assets, 62
- Other reserve assets
 - reporting in data template, 102
 - short-term foreign currency loans, 93
- Out-of-the-money options, 228, 251
- Outflows
 - data template section reported in, 46, 50
 - predetermined drains, 139–140, 145, 148–151, 179
- Over-the-counter instruments, 171
- Participation certificates
 - predetermined drains, 162
- Pledged assets, 72, 243
- Position data, 38
 - data template section reported in, 46
- Positions
 - data template section reported in, 46, 49
- Post office savings banks
 - deposits held in, 92
- Precious metals and stones, 98
- Predetermined drains
 - associated with loans and securities, 159–166
 - defining, 138–143
 - examples, 48
 - other predetermined foreign currency flows, 178–179
 - relating to forwards, futures, and swaps, 167–177
 - reporting data, 144–152
 - unlike data on external liabilities, 153–158
- Prevailing market price, 267–268
- Pro Memoria section, 231–235
- Public debt securities
 - predetermined drains, 165
- Pure credit facilities, 213
- Put options, 182, 199, 228, 234
- Puttable bonds, 199–205
- Real estate
 - owned by monetary authorities, 74
- Reciprocal currency arrangements, 211–212
- Reference dates, 38, 129, 144
- Remaining maturity. *See* Residual maturity
- Repos. *See* Repurchase agreements
- Repurchase agreements
 - defined, 82
 - differentiating from reserve assets, 72
 - predetermined drains, 151, 178
 - reporting securities in data template, 81, 84–86, 102, 255–261
- Reserve assets. *See* International reserves; Official reserve assets; Other reserve assets
- Reserve position in the IMF
 - defined, 96
 - market valuation, 137
 - reconciling *BPM5* concept of reserves and template data, 112
 - as type of reserve asset, 12, 75–76

- Reserve tranche, 96
- Resident financial institutions
 - reserve assets in, 60
- Residual maturity
 - for contingent net drains, 185
 - defined, 36
- Revaluation dates, 131
- Reverse repos
 - defined, 82
 - predetermined drains, 151, 178
 - reporting securities in data template, 84–87, 256
- Savings and loan associations
 - deposits held in, 92
- Savings banks
 - deposits held in, 92
- SDDS. *See* Special Data Dissemination Standard
- SDRs. *See* Special drawing rights
- Securities
 - with embedded options, 199–205
 - foreign currency reserves, 77, 109, 115
 - guarantees, 195
 - indexed, 248
 - market valuation, 131–132
 - predetermined drains, 149, 153–154, 162–166
 - quality of, 89
 - reconciling BPM5 concept of reserves and template data, 115
 - reporting in data template, 79–90
 - underwriting agreements, 197
- Securities lending
 - defined, 83
 - differentiating from reserve assets, 72
 - predetermined drains, 178
 - reporting in data template, 81, 84, 255–261
- Securities lent/borrowed
 - reporting in data template, 88
- Sellbacks
 - reporting securities in data template, 81
- Settlement dates, 39
- Short legs, 173
- Short positions, 28, 150, 177, 182, 222–230
- “Short-term”
 - defined, 35
- Short-term domestic currency debt, 242
- Short-term drains, 139, 142
- Short-term loans, 93, 102, 160–161
- Silver bullion, 98
- Social security funds
 - defined, 22
- Soft puts, 203
- Special Data Dissemination Standard, 183, 274–280
- Special drawing rights
 - currency composition of reserves, 246
 - market valuation, 136
 - reconciling BPM5 concept of reserves and template data, 112
 - reporting in data template, 97
 - as type of reserve asset, 12, 75–76
- Spot transactions, 212
- State governments
 - exclusion from central government definition, 22
- Stock data
 - data template section reported in, 46
- Stress testing, 30–31, 183, 235
- Strike price, 146, 222, 228
- Subsidiaries of financial institutions, 104–105, 108
- Swap agreements
 - for foreign exchange assets, 73
- Swap facilities, 213
- Swap transactions, 212
- Swaps, 102, 167–177. *See also* Gold swaps
- Term deposits, 91, 197
- Test dates, 216
- Time horizon
 - in data template, 35–36
- Transaction dates, 39
- Transaction prices, 131
- Treasury bills
 - predetermined drains, 163
- Two-year bullets, 201
- Unconditional credit lines, 206–221
- Underwriting agreements, 197
- Undrawn credit lines, 206–221
- U.S. Treasury bonds, 79
- Valuation principles
 - in data template, 32–34
 - market valuation of reserve assets, 117
- Window dressing, 71
- Written calls, 223
- Written options, 182
- Written puts, 223
- Zero-coupon bonds
 - predetermined drains, 162