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**Update on Developments in the Reporting of  
International Investment Position Statistics**

**Prepared by the Statistics Department  
International Monetary Fund**

## UPDATE ON DEVELOPMENTS IN THE REPORTING OF INTERNATIONAL INVESTMENT POSITION STATISTICS<sup>1</sup>

### A. Background

1. The purpose of this paper is to update the Committee on the progress made over the past year on developments in the reporting of international investment position (IIP) statistics and to follow-up on the implementation of decisions taken at the 2007 BOPCOM with regard to the paper *International Investment Position Statistics—Progress Made and Plans for Development* (BOPCOM-07/22).
2. Specifically, the paper sets out to: (i) review recent Fundwide recognition of the growing importance of IIP data, (ii) present STA progress in the development of IIP statistics, and (iii) provide an update on currency composition data.

### B. Fundwide Recognition

3. In May 2008 the paper *Review of Data Provision to the Fund for Surveillance Purposes (2008 Review)* was presented to Members of the Executive Board of the IMF. Evolving data needs, including the measurement of positions and exposures vis-à-vis the rest of the world, were discussed.
4. It was recognized that assessing developments in a country's IIP has become key for Fund surveillance and that developments in a country's net foreign assets are an important component of national and international stability. It was recommended that consideration be given to incorporating IIP data into the Table of Common Indicators Required for Surveillance (TCIRS) in Article IV consultation reports<sup>2</sup> as this would allow staff and the Board to track the provision of this key indicator more closely.
5. The Board supported giving a higher profile to IIP data and endorsed the proposal to add IIP data to the TCIRS, while also recognizing that some countries face capacity constraints in producing these data.
6. As a result of the growing international interest in the uses of IIP data for analysis and policy-making decisions, an IMF presentation on *Data Requirements From Users on the*

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<sup>1</sup> This paper was primarily drafted by Colleen Cardillo.

<sup>2</sup> Article IV consultations usually take place once a year. IMF economists visit the member country to gather information and hold discussions with government and central bank officials, and often private investors and labor representatives, members of parliament, and civil society organizations. The Table of Common Indicators Required for Surveillance (TCIRS) summarizes information on the periodicity and timeliness of most of the core indicators required by Article VIII, Section 5 and the 2004 Decision including; GDP, consumer price index, current account balance, IIP, etc.

*International Investment Position* will be made in Shanghai, China in October 2008 at the International Association of Official Statistics Conference on Reshaping Official Statistics. A copy of the paper is attached.

### C. STA Progress in Development of IIP Statistics

#### Expanding Country Coverage of IIP

7. One of the four data needs highlighted in the *2008 Review* was the need to expand country coverage of IIP data. At the 2007 meeting of BOPCOM, there was unanimous support of STA's strategy to increase the number of countries compiling and reporting IIP data. Although significant progress has been achieved in the last ten years—from under 40 economies reporting IIP data in 1998 to 114 economies in mid 2008—about 80 economies do not yet report IIP data to STA for publication in *BOPSY*.<sup>3</sup>

8. To address this data need, STA has launched an initiative to assist a subset of countries in compiling IIP statistics, notably those countries that STA considers could potentially develop such data in the near future. These countries have been identified on the basis of information that STA staff obtained from discussions at recent balance of payments courses or from recent technical assistance missions. Also, since IIP data are a prescribed element for joining the Fund's Special Data Dissemination Standard (SDDS), if an economy is considering SDDS subscription, this project could assist them in the development of this required dataset.

9. As a first step, a core group of ten countries were selected to be in the *pipeline* to compile IIP data. In June 2008 letters were sent from the Director of STA to the Governor of the Central Bank of each pipeline country inviting them to participate in the project, on a voluntary basis. To date, almost all countries invited to participate in the project have agreed to be in the pipeline.

10. Once a positive response was received from the country, the economist responsible for the country in the Balance of Payments Division got in touch with the designated contact person for the project to discuss the current status of IIP data as well as measures that would assist the country in moving its IIP compilation process forward. In general, advice is provided from IMF Headquarters rather than through technical assistance missions. A sample case study was prepared for one pipeline country to highlight existing source data that could be used in the compilation and verification of their IIP data and this approach can be used for other pipeline countries. We anticipate that pipeline countries that have agreed to participate in the Fund's Coordinated Direct Investment Survey (CDIS) will be able to strengthen their stock data for foreign direct investment for inclusion in the IIP.

11. The timeframe for the development of IIP statistics, including for publication in the *BOPSY* and the *International Financial Statistics (IFS)*, would be determined through discussion, taking into account data gaps and the availability of resources.

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<sup>3</sup> IIP data for the Euro Area are published in *BOPSY* and *IFS*, and the Euro Area is included in the count of "economies" reporting IIP data to STA.

12. Countries are expected to rotate out of the pipeline as they disseminate IIP data through STA with new countries added. To date, interest in participating in the project has been keen and a “pre-pipeline” list of countries is being maintained to fill spots in the pipeline as they become available. Discussions to assess the interest and readiness of countries to participate in the pipeline have taken place with participants at recent seminars, including *BPM6* and CDIS seminars, and have resulted in countries being added to the “pre-pipeline” list. Any expansion of the numbers of countries on the pipeline list beyond ten would require additional resources.

13. We are pleased with the progress being made by several countries in the pipeline since this project commenced in June 2008. One country (Honduras) has since become an IIP reporter, but this improvement cannot be attributed to this specific IMF initiative, because Honduras did not go through the “pipeline” process.<sup>4</sup>

14. In addition to expanding the number of new IIP reporters, STA is continuing to encourage late IIP reporters to submit their data in a more timely manner to STA. These efforts have resulted in a reduction in the number of countries reporting late IIP data<sup>5</sup> from seventeen last year to six this year.

15. In terms of frequency of reporting IIP data, most IIP reporters submit annual IIP data to STA, however, quarterly IIP data greatly facilitate timely analytical work. The number of economies reporting quarterly IIP data, which is an encouraged item under SDDS guidelines, remains low with 44 economies reporting quarterly IIP data to STA of the 114 reporters.

### **Introducing IIP World and Regional Tables**

16. At the 2007 meeting, BOPCOM members unanimously supported STA’s initiative to begin developing IIP world and regional tables. The first phase of the project, to produce IIP world tables from data *reported to STA by countries*, has been completed and a set of tables for the periods 1994-2000 and 2001-2007 has been produced. IIP data for 114<sup>6</sup> economies are included in the tables, although some countries have not reported their data for 2007. In phase one, no estimations have been made for nonreporters, late reporters, or International Organizations.

17. The twelve tables produced in phase one bring together world and regional IIP data for Net IIP, Total Assets and Total Liabilities, and Assets/Liabilities separately for major

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<sup>4</sup> As this paper is written, IIP data for Guinea are being reviewed for inclusion for the first time in the *November 2008 IFS* and *BOPSY*. As with Honduras, Guinea was not in the pipeline.

<sup>5</sup> Late reporting includes those economies reporting IIP data for end-periods prior to 2006.

<sup>6</sup> As noted earlier, IIP data for the *Euro Area* are published in *BOPSY* and the Euro Area is included in the count of 114 economies reporting IIP data to STA. The world aggregates include IIP data for individual Euro Area member countries, therefore data for the Euro Area itself are not included to avoid double counting. IIP data for *Taiwan*, *Province of China* are derived from published sources and included in the tables to complete the coverage of *Advanced Economies*.

functional categories—Direct Investment, Portfolio Investment, Financial Derivatives, Other Investment, and Reserves.<sup>7</sup>

18. In theory, if all assets and liabilities were recorded correctly in the IIP, one would expect the result to be a positive net foreign asset position since monetary gold has no corresponding liability. However, the net IIP reported shows that at the global level there is a negative net foreign asset position at least for 1994 through 2007. This result was expected as a number of countries and international organizations that are anticipated to have a positive net foreign asset position, for example some of the oil and gas producers in the Middle East, do not yet report IIP data to STA. In addition, in some economies the reporting of liabilities may be an established practice for external debt purposes while collecting stock data on assets, particularly on direct investment abroad and portfolio assets, may require the development of new data sources.

19. In looking at the global IIP data on foreign direct investment (FDI), total assets and liabilities are relatively close, but it should also be noted that differences in the valuation methods used by the reporting countries affect this comparison. When data are available from the CDIS, this should strengthen the comparability of FDI position data worldwide.

20. The following three tables examine the largest net creditors and debtors for 2007 as well as the top twelve economies reporting data for total assets and total liabilities for 1997 and 2007. Table 1 examines the five largest net creditors and net debtors in 2007. Japan is the largest net creditor, reporting more assets than liabilities, and the United States is the largest net debtor, reporting more liabilities than assets. Both Japan and the United States report twice as many assets/liabilities as the next largest net creditor/debtor. In terms of geographic representation, three of the five net creditors—Japan, China, P.R., and Hong Kong SAR—are from Asia, and two from Europe—Switzerland and Germany. The net debtors are more geographically diverse with one from Asia (Australia), two from the Western Hemisphere (United States and Brazil), and two from Europe (Spain and the United Kingdom).

21. As might be expected, all five net creditors report a surplus in their current account balance in 2007 and most of the net debtors report a current account deficit. Brazil, which reports a current account surplus, is the exception.

**Table 1: IIP Reporters - 2007**

<b>Largest Net Creditors</b>		<b>Largest Net Debtors</b>	
<i>Economy</i>	<i>Billions of USD</i>	<i>Economy</i>	<i>Billions of USD</i>
Japan	2,195	United States	2,442
China, P.R.	1,022	Spain	1,081
Germany	952	United Kingdom	702
Switzerland	639	Australia	650
Hong Kong, SAR	522	Brazil	569

<sup>7</sup> Some countries may not report some major components for some years.

22. Table 2 presents the top twelve economies reporting assets for 1997 and for 2007. Eight of the economies were in the top twelve in both years. It is important to note that none of the four economies that moved into the top twelve in 2007 reported IIP data for 1997 (Luxembourg, Ireland, China, P.R., and Hong Kong SAR). With the exception of these four economies that do not provide 1997 data, there is substantial consistency between the top twelve lists for 1997 and 2007, although the relevant ranks changed somewhat. In particular, Japan moved down the list (from third in 1997 to sixth in 2007) and France moved up (from fifth in 1997 to third in 2007). In 2007, the top twelve economies held approximately 86% of the world's assets, down from the share accounted for by the top twelve economies reporting 1997 data (93%).

**Table 2: Top Twelve Economies - IIP Assets <sup>8</sup>**

1997			2007		
	<i>Economy</i>	<i>Billions of USD</i>		<i>Economy</i>	<i>Billions of USD</i>
1	United States	4,568	1	United States	17,640
2	United Kingdom	3,269	2	United Kingdom	12,995
3	Japan	2,737	3	France	7,758
4	Germany	1,749	4	Germany	7,230
5	France	1,698	5	Luxembourg*	6,014
6	Switzerland	1,009	6	Japan	5,355
7	Italy	810	7	Netherlands	3,672
8	Netherlands	747	8	Switzerland	3,168
9	Belgium	608	9	Italy	2,829
10	Canada	419	10	Hong Kong SAR*	2,730
11	Spain	311	11	Ireland (2006)*	2,638
12	Sweden	242	12	China, P. R.*	2,288
	<i>Sub total</i>	<i>18,167</i>		<i>Sub total</i>	<i>74,317</i>
	<b><i>World total</i></b>	<b><i>19,551</i></b>		<b><i>World total</i></b>	<b><i>86,866</i></b>

\*Did not report 1997 IIP data

Totals include 2006 data for Ireland

23. Table 3 presents the top twelve economies reporting liabilities in 2007. In most cases the same economies appear in Tables 2 and 3. In 2007, the top twelve economies reported approximately 83% of the world's liabilities, which was less than the world share of the top twelve economies reporting 1997 data (89%).

<sup>8</sup> At the time the tables were produced, 60 economies had reported data for 1997 and 81 of the 114 economies had reported data for 2007. Additional countries are providing data on an ongoing basis, and so the percentages in paragraphs 22 and 23 may be revised.

**Table 3: Top Twelve Economies - IIP Liabilities**

1997		2007	
	<i>Economy</i>	<i>Billions of USD</i>	
1	United States	5,347	1 United States
2	United Kingdom	3,359	2 United Kingdom
3	Japan	1,779	3 France
4	Germany	1,664	4 Germany
5	France	1,543	5 Luxembourg*
6	Italy	807	6 Netherlands
7	Switzerland	734	7 Spain
8	Netherlands	721	8 Japan
9	Canada	623	9 Italy
10	Belgium	528	10 Ireland* (2006)
11	Spain	411	11 Switzerland
12	Australia	360	12 Hong Kong SAR*
	<i>Sub total</i>	17,876	<i>Sub total</i>
	<b><i>World total</i></b>	<b>20,139</b>	<b><i>World total</i></b>

\*Did not report 1997 IIP data

Totals include 2006 data for Ireland

24. The second phase of the project will include *estimations* for nonreporters and late reporters to produce world and regional aggregates, similar to the coverage in the balance of payments world and regional tables (*BOPSY, Part 2*). This is a more complex and resource-intensive phase of the project. Since the World Economic Outlook's (WEO) database used for the balance of payments world tables does not include IIP data, another source for deriving estimates needs to be used.

25. A review of possible IIP source data for estimations is underway in STA. One possibility being considered is the Wealth of Nations database<sup>9</sup> maintained principally by the Research Department at the Fund. A review of the database and its suitability for making the estimates is underway and an internal STA working paper has been drafted. This phase of the project would also include system development work and additional resources from the Statistical Information Management Division (SIMD) and the Technology and General Services Department (TGS).

26. Looking forward, STA intends to publish the IIP tables of global aggregates when *BOPSY* switches to *BPM6*. These tables should support analysis of the data and highlight those areas of the IIP where there are global weaknesses and imbalances.

<sup>9</sup> Methodology used in this database is described in the IMF Working Paper (WP/06/69): *The External Wealth of Nations Mark II: Revised and Extended Estimates of Foreign Assets and Liabilities, 1970-2004*, by Philip R. Lane and Gian Maria Milesi-Ferretti <http://www.imf.org/external/pubs/ft/wp/2006/wp0669.pdf>. Also published in the *Journal of International Economics* vol. 73 (November 2007), 223-250.

#### **D. Currency Composition of IIP**

27. Another of the data needs highlighted in the *2008 Review* was the need to improve the understanding of exchange rate-related valuation changes in countries' IIP, particularly through the introduction of currency breakdowns in the IIP. At the 2007 BOPCOM meeting, the Committee supported the idea of using Tables I-1 and I-2 of *BPM6* on currency composition as a basis for the *BOPSY* report form. Following the consultation with the Committee, Tables I-1 and I-2 on currency composition in Appendix 9 are now memorandum items.

28. Given the increasing interest in data on financial corporations, and consistent with the sectorization in the standard components of the IIP in *BPM6*, last year the Committee supported identifying the nonbank financial sector in Tables I-1 and I-2 on currency composition, and this change has been now incorporated into the tables.

#### **E. Questions for Committee Members**

1. Do Committee members have comments on the work being done by STA to increase the number of IIP reporters?
2. Do Committee members have comments on the development of IIP world and regional tables?
3. Do Committee members have views/ideas on the feasibility of, and approaches for, increasing the number of quarterly IIP reporters?



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**Data Requirements From Users on the International Investment Position**

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### DATA REQUIREMENTS FROM USERS ON THE INTERNATIONAL INVESTMENT POSITION<sup>12</sup>

1. In the balance of payments framework the traditional focus of users has been on transactions and the sustainability of the current account balance. However, recent years have witnessed a growing demand for position data, reflecting the huge growth in financial flows over the past two decades. In 1993, the IMF's *Balance of Payments Manual, fifth edition (BPM5)* introduced a chapter on the International Investment Position (IIP); in 2008 its successor, the *Balance of Payments and International Investment Position Manual, sixth edition (BPM6)* gives the IIP a central role. This paper sets out the background to, and provides explanations for, the IIP's new found prominence among users.

#### A. Background

2. The current account has traditionally played a central role in external sector analysis, as financing a current account position was seen as a constraint on an economy's economic development—the so-called “living beyond its means.” In contrast, the IIP has played a less significant role. Indeed, in the early 1990s only a relatively few number of countries compiled these data. This role was confirmed in the Special Data Dissemination Standard (SDDS) launched by the IMF in 1996, in which the IIP was “only” an encouraged item, not a required item to participate in the SDDS.

3. However, as capital markets have become more open, following relaxation of exchange controls by many countries, and the financing constraints of the current account lifted, the importance of the IIP has risen. The financial turbulence in Asia in the late 1990s was a particular catalyst, with policymakers becoming more aware of the relevance of external position data for economic policy making. In consequence, the IMF Executive Board, in 1999, decided to include the IIP as a required item of the SDDS, along with the reserves template and external debt statistics.

4. More recently in 2007, the IMF Executive Board adopted a new Decision on Bilateral Surveillance in which the central focus, external stability, is viewed as encompassing both the current account and net external asset position: the latter analyzed both in terms of its evolution and its structure.

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<sup>1</sup> The author would like to thank colleagues in the IMF including Colleen Cardillo, Ralph Kozlow, Lucie Laliberté, Gian Maria Milesi-Ferretti, Pedro Rodriguez, and Tessa van der Willigen, for their invaluable comments. The views expressed in this paper are those of the author and should not be attributed to the IMF, its Executive Board, or its management.

5. The consequence of this interest of policymakers, and other users, has been a sharp increase in the number of countries compiling IIP data, from under 40 in 1998 to over 110 in 2008. The Statistics Department of the IMF is now working to increase the number further by launching a voluntary initiative in 2008 to further help non-reporting countries compile IIP data.

### **B. What is the International Investment Position (IIP)?**

6. The IIP framework provides the potential for a rich database of information as some users are discovering and others have known about for sometime.<sup>3</sup> It is a statistical statement that shows at a point in time the value and composition of:

- (a) financial assets of residents of an economy that are claims on nonresidents and gold bullion held as reserve assets; and
- (b) liabilities of residents of an economy to nonresidents.

7. The difference between an economy's external financial assets and liabilities is the economy's net IIP, which may be positive or negative. The IIP is also a subset of the national balance sheet. The net IIP plus the value of nonfinancial assets equals the net worth of the economy, which is the balancing item of the national balance sheet.

8. Changes in the IIP between end-periods are made up of four elements (or flows, as they are known in *BPM6*). The first element is transactions in the financial account. In concept, net financial account transactions equals the sum of the current account and the capital account balances (the latter covering items such as debt forgiveness). The second element is valuation changes caused by exchange rate movements; third, valuation changes caused by market price changes, such as in bonds and equities; and the fourth element is so-called other changes in volume such as arising from write-offs and reclassification of assets when, for example, investment switches from portfolio to direct investment. This framework allows for consistency checks between balance of payments data and IIP data to be undertaken.

9. While it is generally understood by users that developments in the current account are a major influence on the change in the net IIP between end-periods—persistent current account surpluses tend to be associated with a net asset position, the impact of changes arising from valuation changes tends to be less understood.<sup>4</sup> Yet the valuation component of the IIP can be large and volatile, and, over short periods, outweigh the changes in net foreign assets driven by current account balances.

10. As in the balance of payments, five functional categories of investment—direct investment, portfolio investment, financial derivatives, other investment, and reserve assets—are

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<sup>3</sup> See for instance, Lane and Milesi-Ferretti (2007)

<sup>4</sup> For instance, see Devereux and Sutherland (2008)

distinguished to facilitate analysis by distinguishing categories that exhibit different economic motivations and patterns of behavior. For most of the functional categories, the IIP also provides a breakdown by maturity (short and long), by type of financial instrument (primarily equity, loans, currency and deposits, securities, and trade credit and advances), and sector (general government, central bank, other deposit-takers, other financial sector, and other sectors). The IIP statement in *BPM6* is attached as an Appendix.

### **C. Analysis of the IIP**

#### **Overview**

11. The IIP permits users to make important analytical assessments. These include:

#### ***Structure of the economy***

- An assessment of economic relations with the rest of the world: To what extent has the economy attracted direct or portfolio investment, or has invested abroad; and changes over time such as a country moving from a net inward direct investor to a net outward direct investor. For instance, the stock of inward direct investment is often of considerable interest to policymakers because it might say something about the attractiveness of the economy to foreign investors.
- A measure of the degree of financial openness: What is the size of the gross stocks of investment relative to measures such as the GDP or the current account flows; indirectly, the extent of home bias—the tendency to hold securities issued in their home markets; and how the percentages have changed over time, such as after the relaxation or imposition of restrictions.
- Financial structure: An indication of financial structure and its changes over time: for instance, a significant portion of government debt could be foreign-held with other sectors holding assets abroad; the build-up of loans and deposits of the banking sector may be of particular interest if the economy hosts international banking business; and the size, both absolute and relative to other sectors, of foreign assets of pension funds, insurance and mutual funds might be of growing relevance.
- An indicator of future interest and dividend flows: Also, the income data in the current account can be combined with the stock data to provide estimates of rates of return on assets and liabilities.

#### ***Exposures***

- An indicator of financial stability: The IIP allows for the calculation of ratios such as external debt to GDP, short-term debt to reserves; trade credit to imports of goods and services, etc.

- An indication of the exposure to valuation changes in assets: The exposure depends on the type of instruments owned and can also be analyzed, if the additional information is available, by the currency and country disposition.

### *Vulnerabilities*

- The capital structure: Whether there is a reliance on debt or equity financing—the former could leave a nonfinancial corporation or deposit-taker less able to weather revenue shocks; and debt instruments to reserves ratios.<sup>5</sup>
- An indicator of external debt sustainability: The IIP presents not only debt liabilities but also assets, and their composition.

12. In addition to the type of assessments described above, the IIP is increasingly being seen as an important tool for analyzing exposures and vulnerabilities both at economy-wide and sectoral levels. The backdrop to this analysis is the growing user interest in the analytical framework known as the Balance Sheet Approach (BSA).<sup>6</sup> The paper takes a small “diversion” to discuss the BSA before coming back to the IIP.

### **Balance Sheet Approach**

13. Unlike traditional analysis based on the examination of flow variables, the BSA focuses on the examination of stock variables in an economy’s sectoral balance sheets, paying particular attention to the balance sheets of key sectors of the economy, and the maturity, currency, and instrument attribution of assets and liabilities. The BSA is a tool to explore how weaknesses in one sector can cascade through the economy. It is built on the harmonized classifications and definitions in different types of economic statistics that allow data to be aggregated and compared. For IIP compilation, the BSA requires that the institutional sector classifications and the level of detail are consistent with those used for monetary, financial, and government finance statistics. The BSA is beginning to be used in Fund surveillance, as for example in the case of Croatia.<sup>7</sup>

14. In essence, the BSA analysis recognizes that some of the potential sources of vulnerability discussed ahead, such as currency and maturity mismatches, can create conditions that make an economy vulnerable to an external crisis. Further, the BSA and IIP could be combined to study the transmission of shocks across countries. This type of analysis takes into account financial instruments and sectors—for example, a given amount of foreign losses on

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<sup>5</sup> Lane and Milesi-Ferretti (2007)

<sup>6</sup> Further information on the BSA is available in Mathisen and Pelecchio (2006).

<sup>7</sup> See for instance, IMF (2007, Selected Issues Paper) for an application of the methodology to the case of Croatia.

foreign assets can be compounded by whether the holders of those assets are highly leveraged institutions—high debt to equity ratio, such as deposit-takers, or not.

15. Against this back drop, the paper examines various structural aspects of the IIP that, with some additional information, can provide users with a richer analysis of the external position of the economy.

### **IIP by partner economy**

16. There is growing attention by users to IIP by partner economy. This type of analysis is the to-whom-from-whom approach to IIP by partner economy to help identify any over exposure on another economy (the common creditor/debtor), and hence potential vulnerability and contagion concerns. In short, and further developing the point in paragraph 14 above, with deepening financial globalization, it becomes increasingly important to identify the potential cross-border transmission of shocks by identifying the largest partner countries by broad types of investment (direct investment, portfolio investment, reserve assets, and other investment).<sup>8</sup>

17. In this context, the IMF has been developing and promoting these datasets through its coordinated exercises. In 2001, the annual Coordinated Portfolio Investment Survey (CPIS) began. This survey of major portfolio investing economies provides information on portfolio assets by economy of counterpart liability. Last year, the IMF launched the Coordinated Direct Investment Survey (CDIS), with a reference date of end-2009. This will provide counterpart economy information on inward and outward direct investment. Over 130 economies have agreed to participate. Along with the BIS's International Banking Statistics (IBS), once the CDIS is conducted a comprehensive picture of bilateral positions in portfolio, direct, and deposit and loan data in other investment will be available on a to-whom-from-whom basis.

18. The information on the CPIS and BIS's IBS is available on the Joint External Debt Hub (JEDH) of the BIS, IMF, OECD, and World Bank.<sup>9</sup>

### **Currency composition**

19. In a world of increasingly flexible exchange rates, information on the currency composition is increasingly relevant for analyzing the potential impact of exchange rate movements on economic activity and financial stability.

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<sup>8</sup> See Laliberté and Motala (2008).

<sup>9</sup> CPIS data are available at <http://www.imf.org/external/np/sta/pi/datarsl.htm>; information on the CDIS is available at <http://www.imf.org/external/np/sta/cdis/>; information on the BIS's IBS data are available at <http://www.bis.org/statistics/index.htm>; and the JEDH is available at <http://www.jedh.org/>

20. From the viewpoint of economic activity, if assets are largely denominated in foreign currency, and liabilities in domestic currency, a depreciation (an appreciation) of the domestic currency will have positive (negative) wealth effects, perhaps dampening any contractionary (expansionary) impact on domestic consumption of the depreciation (appreciation). On the other hand, when assets are denominated in the domestic currency and liabilities in a foreign currency the wealth effect associated with a currency change will reinforce the impact of a depreciation (appreciation) on domestic consumption.<sup>10</sup>

21. From the viewpoint of financial stability, a depreciation in the exchange rate coupled with a large build-up of foreign currency debt can leave an economy (or sector) exposed to a loss of confidence; the transmission mechanism is often through the domestic banking system.<sup>11</sup> This sequence of events has occurred in circumstances where the exchange rate is pegged, borrowing costs are lower in a foreign currency, and residents have confidence that the exchange rate will remain pegged. Indeed, experience has shown that underlying weaknesses in balance sheets can linger for years without triggering a crisis—for example, currency mismatches can be masked so long as continued financial inflows support the exchange rate.

### **Market price changes**

22. Market price changes (other than arising from exchange rates) arise not just from interest rate changes on fixed interest debt, but also from other factors such as credit risk and market liquidity of debt instruments, and in equity instruments. The importance of these market price effects has been less explored than the valuation effects through exchange rate changes. However, the recent credit crisis has given a focus to just how important these other price effects are for economic activity and financial stability, and might stimulate further academic and other user attention. The introduction in *BPM6* of a memorandum item<sup>12</sup> for creditors to identify the fair value of loans (loans are valued at nominal value in the IIP) might also prove of considerable analytical interest if reported.

23. Any analysis of market price changes raises the issue of risk sharing: in a more integrated world nonresidents bear part of domestic risk and, of course, benefit from favorable domestic shocks. So a shock that increases (decreases) a country's wealth may well worsen (improve) its IIP because nonresidents hold part of those domestic assets that have increased in value. In contrast, valuation effects arising from exchange rate changes are redistributive (the wealth of one country increases, the wealth of the other decreases).

24. One area in which valuation issues have proved to be particularly important and little understood is in the measurement of foreign direct investment (FDI) equity positions, as has

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<sup>10</sup> IMF (2007)

<sup>11</sup> Currency and financial crises can often occur simultaneously, see Kaminsky and Reinhart (1996).

<sup>12</sup> A memorandum item to the IIP is part of the reporting framework.



been recently highlighted by the debate on global imbalances. The case of the United States has been at the center of the debate, as different valuation methods may yield different pictures regarding the evolution of the US's net foreign asset position.

25. Given the link between the trajectory of countries' net foreign asset positions and their external stability, it is clear that data differences arising from such different valuation methods have importance for the analysis of national and international stability. Given FDI flows' relatively fast pace of growth, issues of valuation of FDI are expected to be increasingly important in the future for a broad set of countries. At present there is a lack of consensus over the best method for valuing direct investment, but *BPM6* sets out some possible methods and we look forward to countries using these with the hope that a consensus may emerge in the coming years. The work on the forthcoming CDIS could also help in this consensus searching process.

### **Impact of derivatives**

26. In the IIP, derivative claims and liabilities are included at market value. However, because of the risk transfer features of these instruments, it has been questioned whether such information is sufficient for analytical purposes. Indeed, trading in derivatives over recent years has grown significantly, as illustrated by the BIS's *Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity*.

27. There is probably a need for the analysis to take into account the hedging strategy, for example currency or interest rate exposure may be hedged, or unhedged financial derivatives exposure may imply much greater vulnerability to changes than the market value of the derivatives suggest. Looking forward, there might also be growing interest in data on credit derivatives exposures.

28. In recent times, Australia and New Zealand have led the way in this work with regard to foreign currency hedging: see for instance the paper "*Measuring Australia's Foreign Currency Exposure*" discussed by IMF Committee on Balance of Payments Statistics (BOPCOM) at its 2002 meeting, and the New Zealand case study in the *External Debt Guide (2003)*. This work emerged as policy makers grew increasingly interested in the question of the extent to which the foreign currency liabilities of the non-financial sector were hedged. As illustrated by the paper on Australia's foreign currency exposure, notional values can provide valuable information regarding the exposure to foreign exchange that has been covered through derivative positions.

### **Maturity mismatches**

29. Mismatches between short-term liabilities and longer term assets can expose an economy to liquidity and interest rate risk. The IIP provides information on an original maturity basis for debt instruments, indicating whether countries are borrowing short and lending long, or vice versa. Information on duration is not available in the IIP.

30. But also important is information on debt coming due in the near term, as a large short-term financing need can expose a sector or the economy to liquidity risk. In *BPM6*, a supplementary (voluntary) item is included for the position in debt on a remaining maturity basis.

### **Interest-rate composition**

31. Debt instruments may be classified as either variable-rate or fixed-rate. This breakdown may be useful for some analysis, in that variable-rate instruments are subject to fluctuation in income flows in response to changes in market conditions, while fixed-rate securities are more subject to changes in prices. So economies with large amounts of variable rate debt are vulnerable to a sharp increase in interest costs, and hence adverse developments in the current account, while those holding fixed-rate securities are more open to holding gains and losses, directly affecting the net IIP position. In *BPM6*, the definitions of variable and fixed rate interest are discussed, so allowing countries to compile a variable/fixed-rate split of debt instruments.

32. Another type of interest-rate vulnerability is that loans become nonperforming. In the *BPM6*, as in other international statistical manuals, nonperforming loans (NPLs) are not recognized until forgiven, reorganized, or written off. But *BPM6* introduces a supplementary item for creditors to report the nominal value of NPLs, so providing some identification of the extent to which recorded interest accruals may not be paid.

### **D. How is the IIP presented in *BPM6*?**

33. *BPM6* draws on the framework developed in *BPM5*. *BPM6* provides a statistical explanation of balance sheet changes, describing flows that arise outside of transactions—such as from exchange rate and other valuation changes, and write-offs—in more detail than *BPM5*. Further, debt instruments are separately identified, and additional breakdowns of debt instruments by remaining maturity and particularly currency (with the notional value of derivatives) are emphasized. Indeed, the reporting to the IMF for the *Balance of Payments Statistics Yearbook* (BOPSY) is to include a breakdown by currency for debt instruments (assets and liabilities) in the IIP when the BOPSY switches to *BPM6*. Also, a memorandum item on reserves-related liabilities is included to help analysis of reserve assets and, as noted above, an additional item on the fair value of loans is included. The analytical chapter in *BPM6* includes a discussion of the BSA.

34. *BPM6* also gives emphasis to economic sectors. In particular, unlike *BPM5*, it separately identifies the other financial corporations (other than deposit-takers). Given that these financial corporations have been increasing in size and importance, and given that they are less regulated than deposit-takers, considerable exposures can build up in this sector.

35. It remains important that in compiling the IIP coverage of assets and liabilities of residents is as comprehensive as possible. This puts attention on suppliers and compilers of data.

For instance, ensuring that flows and stocks of official and quasi-official assets, as well as assets of the private sector, are appropriately recorded and presented in the IIP (and balance of payments) is essential to understanding the IIP of an economy.

### **E. Summary**

36. Developments over the past decade have highlighted the importance of the IIP in assessing the external stability of an economy. This has been reflected in growing user interest and, as a consequence, in the numbers of economies that compile these data. This paper has examined some of the types of analysis that can be undertaken with a comprehensive set of IIP data. Nonetheless, the development and analysis of the IIP remains a work in progress.

37. Looking forward, it is hoped that the introduction of *BPM6* will give further impetus to work on the IIP. Within the IMF, when BOPSY switches to *BPM6* the IMF Statistics Department intends to publish tables of global aggregates of IIP data. Such tables should support analysis of the data and highlight those areas of the IIP where there are global weaknesses.

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## Appendix: The International Investment Position Statement in *BPM6*

International Investment Position	Assets	Liabilities
<hr/>		
Net International Investment Position		
<hr/>		
Direct investment		
Equity and investment fund shares		
Direct investor in direct investment enterprises		
Direct investment enterprises in direct investor (reverse investment)		
Between fellow enterprises		
Debt instruments		
Direct investor in direct investment enterprises		
Direct investment enterprises in direct investor (reverse investment)		
Between fellow enterprises		
Portfolio investment		
Equity and investment fund shares		
Central bank		n.a.
Deposit-taking corporations, except the central bank		
General government		n.a.
Other sectors		
Other financial corporations		
Nonfinancial corporations, households, and NPISHs		
Debt securities		
Central bank		
Short-term		
Long-term		
Deposit-taking corporations, except the central bank		
Short-term		
Long-term		
General government		
Short-term		
Long-term		
Other sectors		
Short-term		
Long-term		
Other financial corporations		
Short-term		
Long-term		
Nonfinancial corporations, households, and NPISHs		
Short-term		
Long-term		
Financial derivatives (other than reserves) and employee stock options		
Central bank		
Deposit-taking corporations, except the central bank		

International Investment Position	Assets	Liabilities
General government		
Other sectors		
Other financial corporations		
Nonfinancial corporations, households, and NPISHs		
Other investment		
Other equity		
Currency and deposits		
Central bank		
Short-term		
Long-term		
Deposit-taking corporations, except the central bank		
Short-term		
Long-term		
General government		
Short-term		
Long-term		
Other sectors		
Short-term		
Long-term		
Other financial corporations		
Short-term		
Long-term		
Nonfinancial corporations, households, and NPISHs		n.a.
Short-term		n.a.
Long-term		n.a.
Loans		
Central bank		
Credit and loans from the IMF	n.a.	
Other short-term		
Other long-term		
Deposit-taking corporations, except the central bank		
Short-term		
Long-term		
General government		
Short-term		
Long-term		
Other sectors		
Short-term		
Long-term		
Other financial corporations		
Short-term		
Long-term		
Nonfinancial corporations, households, and NPISHs		
Short-term		
Long-term		
Insurance, pension, and standardized guarantee schemes		
Central bank		
Deposit-taking corporations, except the central bank		

International Investment Position	Assets	Liabilities
General government		
Other sectors		
Other financial corporations		
Nonfinancial corporations, households, and NPISHs		
Trade credit and advances		
Central bank		
Short-term		
Long-term		
General government		
Short-term		
Long-term		
Deposit-taking corporations		
Short-term		
Long-term		
Other sectors		
Short-term		
Long-term		
Other financial corporations		
Short-term		
Long-term		
Nonfinancial corporations, households, and NPISHs		
Short-term		
Long-term		
Other accounts receivable/payable—other		
Central bank		
Short-term		
Long-term		
Deposit-taking corporations, except the central bank		
Short-term		
Long-term		
General government		
Short-term		
Long-term		
Other sectors		
Short-term		
Long-term		
Other financial corporations		
Short-term		
Long-term		
Nonfinancial corporations, households, and NPISHs		
Short-term		
Long-term		
Special drawing rights	n.a.	
Reserve assets		n.a.
Monetary gold		n.a.
Gold bullion		n.a.
Unallocated gold accounts		n.a.
Of which: Monetary gold under swap for cash collateral		n.a.

International Investment Position	Assets	Liabilities
Special drawing rights		n.a.
Reserve position in the IMF		n.a.
Other reserve assets		n.a.
Currency and deposits		n.a.
Claims on monetary authorities		n.a.
Claims on other entities		n.a.
Securities		n.a.
Debt securities		n.a.
Short-term		n.a.
Long-term		n.a.
Equity and investment fund shares		n.a.
Of which: Securities under repo for cash collateral		n.a.
Financial derivatives		n.a.
Other claims		n.a.
 Total assets/liabilities		
<hr/>		
<b>Memorandum items</b>		
<hr/>		
Reserve-related liabilities		
Loans-fair value		
Currency split of debt instruments by asset and liability type and institutional sector		

n.a. not applicable—no entries in this cell