Chapter 19

Selected Issues in Balance of Payments and **Integrated** International Investment Position Analysis

> **Commented [A1]:** The title has been adjusted slightly to emphasize that the chapter focuses on the integrated IIP, including the other changes in financial assets and liabilities account.

A. Introduction

19.1 This chapter provides an introduction to the use of ~~balance of payments~~BOP and ~~international investment position~~integrated IIP data in economic analysis. Preceding chapters of this *Manual* present the concepts underlying the components used in the ~~international~~external accounts. The importance of this accounting and statistical reporting framework describing an economy's international transactions and positions derives primarily from their impact on the domestic economy. Although the ~~international~~external accounts are sometimes called the "external sector" or "rest of the world sector," they do not constitute a sector, in the sense of a group of institutional units with similar motivations. Rather, ~~international~~the external accounts show the relationship between domestic sectors and the rest of the world. This chapter discusses some of these major links.

19.2 This discussion directs particular emphasis to the factors influencing ~~international~~external transactions and positions and the extent to which such factors are sustainable. Finally, some of the implications of ~~balance of payments~~BOP adjustments for economic policy are considered. In this chapter, it is assumed, by and large, that international and domestic transactions are not constrained by formal or informal administrative controls and that market participants are free to respond to price signals and macroeconomic policies. It is also assumed that the economy does not affect global interest rates.

19.3 Owing to the introductory nature of this chapter, the discussion of ~~balance of payments~~BOP financing and adjustment in Sections ~~D~~E and ~~E~~F is not exhaustive, and focuses on an illustrative case that demonstrates fundamental mechanisms and macroeconomic interactions. More complex cases with volatile and highly mobile financial and balance sheet effects bring additional concerns and limitations. These issues are briefly discussed in Section ~~G~~H, but more complete analysis goes beyond the scope of the *Manual,* and the

reader is encouraged to refer to additional literature, for which some references are provided in Section ~~H~~I. The chapter does not discuss the special issues associated with a currency union.

B. General Framework

19.4 The relationships among the economic accounts in the *SNA* are described in Chapter 2, Overview of the <u>Integrated</u> Framework. The major accounts can be expressed as accounting identities. Because these are identities, no causation should be inferred. The *SNA* goods and services account shows the balance between supply and use:

$$\text{Supply} = \text{Output} + M \quad (1)$$

$$= \text{Use} = C + G + I + X + IC,$$

where

M = imports of goods and services

C = household consumption

G = government consumption

I = gross capital formation[1]

X = exports of goods and services

IC = intermediate consumption

Because GDP is equal to gross output less intermediate consumption, identity (1) can be rearranged as:

$$GDP = C + G + I + X - M, \quad (2)$$

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[1]Often called investment in economic analysis. The *SNA* uses the term "capital formation" to mean investment in <u>produced</u> nonfinancial assets so as to make a clear distinction from investment in <u>other assets, in particular</u> financial assets. Investment is used subsequently in this ~~chapter~~ <u>section</u> to mean capital formation in the *SNA* sense. Capital formation includes fixed capital, inventories, and valuables.

that is, the expenditure approach to GDP, where

GDP = gross domestic product.

The definition of gross national disposable income (GNDY) is GDP plus net ~~primary~~ earned and ~~secondary~~ transfer income from abroad, so

$$GNDY = C + G + I + X - M + B\text{\sout{P}}\underline{E}I + B\text{\sout{S}}\underline{T}I, \quad (3)$$

where

$B\text{\sout{PI}}\underline{BEI}$ = balance on ~~primary~~ earned income

$B\text{\sout{SI}}\underline{BTI}$ =
balance on ~~secondary~~ transfer income (net current transfers)

The current account balance is:

$$CAB = X - M + B\text{\sout{P}}\underline{E}I + B\text{\sout{S}}\underline{T}I \quad (4)$$

where

CAB = current account balance

From equations (3) and (4), the current account balance can also be seen equivalently as the gap between disposable income and expenditure:

$$CAB = GNDY - C - G - I. \quad (5)$$

Or equivalently:

$$GNDY = C + G + I + CAB. \quad (6)$$

As defined in the *SNA* use of income account:

$$S = GNDY - C - G, \quad (7)$$

where

S = gross saving.

Substituting identity (3) in (7),

$$S = I + CAB, \quad (8)$$

which can be rearranged as:

$$S - I = CAB. \quad (9)$$

That is, the current account balance is the gap between saving and investment.[2]

19.5 Thus, the current account balance mirrors the saving and investment behavior of the economy. In analyzing changes in the current account balance of an economy, it is therefore important to understand the manner in which these changes reflect movements in saving and investment. For example, an increase in investment ~~relative to saving~~ will have the same impact on the current account <u>in accounting terms</u> ~~at least in the short run~~ as a <u>similar</u> decline in saving ~~relative to investment~~. However, the longer-run implications for the external position of the economy may be quite different. More generally, identity (9) shows that any ~~change~~ <u>increase</u> in an economy's current account balance (e.g., a larger surplus or smaller deficit) is necessarily equivalent to an increase in saving relative to investment. This relationship highlights the importance of ascertaining the extent to which any policy measures designed to alter the current account balance directly (e.g., changes in tariffs, quotas, and exchange rates) will affect saving and investment behavior.

19.6 This link between domestic transactions and transactions with the rest of the world is shown in identity (5). The implication of this relationship for ~~balance of payments~~<u>BOP</u> analysis is that ~~improvement in~~<u>increasing</u> an economy's current account <u>balance</u> requires a reduction in expenditure relative to income. Alternatively, it may be possible to achieve an ~~improvement~~ <u>increase</u> in the current account balance by means of an increase in national income that is not matched by a commensurate rise in consumption or domestic investment.

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[2]These relationships have been shown for the gross values of production, income, capital formation, and saving, before <u>accounting for depreciation</u>~~deduction of consumption~~ of fixed capital <u>and depletion of natural resources</u>. The relationships also hold if production, income, capital formation, and saving are expressed net of ~~consumption~~<u>depreciation</u> of fixed capital <u>and depletion of natural resources</u>.

Implementation of structural measures that increase the efficiency of the economy would be one way to achieve this objective.

19.7 This last point highlights an important aspect of the identities shown previously; these are identities that define relationships among variables rather than describe the behavior of economic agents. By themselves, the identities cannot provide a full analysis of the factors determining developments in the current account. For example, total expenditure on goods and services by domestic residents ($C + G + I$) is likely to be influenced in part by their income (*GNDY*). Thus, it would be inappropriate to use identity (5) to analyze the impact of a change in *GNDY* on the current account balance without taking full account of the induced response in consumption and capital formation of such a change. This example illustrates the necessity for understanding the spending propensities of residents of the economy when analyzing the ~~balance of payments~~BOP.

19.8 The interrelationship of the current account balance with saving and investment can be seen in greater detail by distinguishing between the private and government sectors. Private saving and investment (S_p and I_p) and government saving and investment (S_g and I_g)[3] are identified as:

$$S - I = S_p + S_g - I_p - I_g. \qquad (10)$$

Use of the saving-investment gap identity for the current account in identity (9) then gives:

$$CAB = (S_p - I_p) + (S_g - I_g). \qquad (11)$$

This identity shows that, if a negative saving-investment gap in the government sector ~~dissaving~~ is not offset by a positive gap~~net saving~~ on the part of the private sector, the current account will be in deficit, and vice versa. More specifically, the identity shows that the budgetary balance of the government ($S_g - I_g$) may be an important factor influencing the current account balance. In particular, a sustained current account deficit

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[3]The scope of the "government sector" could be defined as general government or the public sector (definitions of both are given in Chapter 4), according to analytical needs; the private sector would be defined in a complementary way.

may reflect persistent government spending in excess of ~~receipts~~revenues, and such excess spending might sug-gest~~s~~ that fiscal tightening is the appropriate policy action.

19.9 To reiterate an important point, however, identity (11) cannot be used by itself to analyze develop-ments in the ~~balance of payments~~BOP in terms of investment and saving on the part of the private and govern-ment sectors because there are links between the variables on the right-hand side of identity (11). For example, an increase in taxes could be considered the appropriate policy measure both to raise government saving (or re-duce dissaving) and to contribute to an improvement in an economy's current account balance. In analyzing the impact of higher taxes, it is necessary to take account of the behavioral response of private saving and private investment. Private investment could be positively or negatively affected by higher taxes. The effect would de-pend, in part, on whether the taxes were levied on consumption, an action that would release domestic resources and thereby tend to "crowd in" domestic investment, or on returns to investment. In addition, private saving would tend to fall because of the decline in disposable income caused by taxes on consumption. Similarly, an increase in interest rates could tend to reduce private consumption and investment, but also tend to put upward pressure on the exchange rate with consequent effects on exports, imports, and differing effects on debt service for domestic currency and foreign currency liabilities.

19.10 Thus, identity (11) provides only a starting point for an analysis of the interaction between saving and investment decisions and the ~~balance of payments~~BOP; the identity must be supplemented by specific in-formation about the factors that determine the behavior of both the private sector and the government before the effect of policy measures on an economy's current account can be ascertained.

19.11 As noted in Box [2.1], the basic principle of double-entry bookkeeping used in constructing the ~~balance of payments~~BOP implies that the sum of all international transactions—current, capital, and financial—is in principle equal to zero.[4] Accordingly, the financial account shows how the sum of the current account and capital account balances is financed. For example, imports of goods may be financed by nonresident suppliers

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[4]In practice, they may not balance owing to ~~errors or omissions~~ statistical discrepancies.

so that an increase in imports can be matched by a financial inflow. At the expiration of the financing period, the payment to the nonresident supplier will involve either a drawdown of foreign assets (e.g., foreign deposits held by domestic banks) or the replacement of the liability to the nonresident supplier by another liability to nonresidents. There are also close connections between many financial account transactions. For example, the proceeds from the sale of bonds in foreign financial markets (a financial inflow) may be invested temporarily in short-term assets abroad (a financial outflow).

19.12 This balance between financial and other entries can be expressed as:

$$NLB = CAB + KAB = \overline{N}FA\underline{B}, \quad (12)$$

where

NLB = net lending/net borrowing

KAB = ~~the~~ capital account balance

$\overline{N}FA\underline{B}$ = ~~net~~ financial account balance~~entries~~

In other words, this identity shows that net lending/net borrowing (from the sum of the current account balance and capital account balance) is conceptually equal to net lending/net borrowing from the financial account. Alternatively, it could be said that the current account balance is equal to the financial account balance, including reserve asset transactions, less the capital account balance. ~~sum of balances on the capital and financial accounts (with signs reversed, if necessary, depending on the presentation used)[5] including reserve assets~~.

$$CAB = \overline{NKF}\ \underline{FKB} + \underline{B}RT, \quad (13)$$

where

NKF FKB = *(FAB - BRT) - CAB* (i.e., financial account balance~~net capital and financial account transactions~~, excluding balance on reserve asset transactions~~s~~, less the capital account balance)

BRT = ~~net~~ balance on reserve asset transactions

19.13 Thus, the net provision of resources to or from the rest of the world, as measured by the current and capital account balances, must—by definition—be matched by a change in net claims on the rest of the world. For example, a surplus on the current and capital accounts is reflected in an increase in net claims, which may be in the form of acquisition of reserve assets on the part of the monetary authorities or other official or private claims on nonresidents (i.e., a positive financial account balance). Alternatively, a deficit on the current and capital accounts implies that the net acquisition of resources from the rest of the world must be paid for by either liquidating foreign assets or increasing liabilities to nonresidents (i.e., a negative financial account balance).

C. Nexus Between the Current Account and Integrated International Investment Position

> **Commented [A2]:** New section based on GN B.4 pages 12-14. Body text inserted without track changes (only adjustments to the GN text are shown with track changes).

19.13a The accounting identity between the current account and capital account balances in relation to the IIP can be derived by taking the accumulation accounts of the integrated IIP statement as a starting point. According to paragraphs [2.10] and [9.5] as well as Table [7.1], the change in the net IIP (ΔIIP) between two points in time can be expressed as:

$$\Delta IIP = NFA\underline{B} + VAL + OC\underline{V}, \qquad (\underline{13}\underline{14})$$

where

NFA FAB = ~~net~~ financial account balance~~entries~~

VAL = net revaluation

$OC\underline{V}$ = net other changes in volume

Substituting identity (12) in (~~13~~14),

$$\Delta IIP = CAB + KAB + VAL + OC\underline{V} \qquad\qquad (~~14~~15)$$

That is, the change in the net IIP equals the current account and capital account balances plus revaluation effects and other changes in volume, each of which might take a positive or negative value.[6]

19.13b Explicitly linking net IIP changes to the current account balances offers better insights into the dynamics driving IIP developments. It highlights that the size of an economy's net IIP should not be interpreted as an independent investment decision to prefer financial assets abroad over domestic ones. In the long run, the development in an economy's net IIP typically hinges on the economy's current account balance. ~~Due to the accounting identities (14), the change in an economy's net IIP ultimately hinges on the country's current account balance. This is all the more true since the current account balance usually has the highest volume and does not fluctuate as much as valuation and other changes in volume tend to do.~~ However, an economy might experience periods in which revaluations and other changes in volume dominate changes in the net IPP ~~the current account balance~~. This is particularly the case for economies with large external asset and liability positions and those highly exposed to foreign financial markets and currencies. For example, the net IIP might fall ~~in spite of~~despite a positive current and capital account balance if negative revaluation effects and other changes are ~~higher~~larger.

19.13c If an IIP is deemed not to be sustainable ~~out of balance with economic fundamentals~~,[7] a persistent increase in the current account balance could bring it back on a sustainable path~~an adjustment requires a change in the current account balance~~. Therefore, policy measures must aim at the corresponding current account imbalance as an intermediate target. As discussed in Section ~~E~~F, paragraph [19.43], an economy

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[6]To balance this account in practice, ~~errors and omissions (EO) of the balance of payments have to~~the statistical discrepancy of the BOP must enter equation (12) and consequently equation (~~14~~15) as an additional term. Equation (~~14~~15) would thus change into $\Delta IIP = CAB + KAB + VAL + OC + \underline{~~EO~~SD}$.

[7]One approach to identify an IIP that is not sustainable can be based on the ~~current version of the~~ IMF External Balance Assessment ~~method~~ Methodology (~~Cubeddu~~ Allen et al. (~~2019~~2023)~~, pages 29-31~~), which includes an external sustainability approach.

~~country~~'s response in the face of an unsustainable current account deficit and looming substantially negative net IIP might be a depreciation of the exchange rate of the domestic currency. Such a depreciation may help to lift the balance on the trade in goods and services by encouraging exports and making imports relatively more expensive, thereby ~~and through this~~ increas~~ing~~e the current account balance.[8] ~~Improvement in~~A higher current account balance will result in ~~a higher~~positive adjustments in the net IIP over time. However, the revaluation effects on the change in~~of~~ the net IIP position ~~have to~~must be taken into account as well. Revaluations may support the adjustment or may have adverse effects, depending on the currency composition of the ~~country~~economy's balance sheet. From the domestic economy's perspective, financial assets and liabilities denominated in foreign currency in the IIP gain value after an exchange rate depreciation. If foreign-currency-denominated assets have a larger volume than foreign-currency-denominated~~their counterparts on the~~ liabilities~~side of the balance sheet~~, the net IIP will register a positive revaluation ~~change~~, or vice versa.

19.13d On the other hand, the current account balance itself depends partly on the ~~existing~~ IIP ~~stock~~. This feedback loop exists because investment income—being part of the current account—is determined by the size and structure of the existing IIP ~~stock~~. The same applies to revaluations and other changes in volume. Their net effect likewise depends on the volume and composition of external assets ~~of~~and liabilities. Thus, equation (~~14~~15) can be rewritten to differentiate between IIP changes dependent on the current IIP ~~stock~~ on the one hand, and those independent thereof on the other~~.~~:

$$\Delta IIP = (CAB - II + KAB) + (II + VAL) + OCV, \qquad (\text{~~15~~}16)$$

where~~,~~

II = investment income balance

The first term might be labelled external primary balance,[9] encompassing the capital account balance and the current account balance less investment income. The second term represents the net total return on an economy's ~~country's~~ net external position. The total rate of return is the sum of the income rate of return and the revaluation rate of return. The income rate of return is the ratio of investment income to the corresponding average asset or liability position in the IIP. The revaluation rate of return is the ratio of revaluations, which are holding gains and losses, to the corresponding average asset or liability position. The nexus between the current account and the IIP is the pivotal point for assessing external sustainability and for calculating rates of return on IIP positions treated in paragraphs [19.~~XX~~35] and [19.XX].

19.13e The change in the net IIP in a given period can be visualized in a three-dimensional accounting system. Each of the three different dimensions captures a specific aspect. The first dimension shows the nexus between the current account and the integrated IIP and breaks down the sources of the change in the net IIP by the components from identity (16). The second dimension, the functional account, shows how the change in the net IIP is reflected in the various functional categories. As the third dimension, the sector account allocates the change to the domestic sectors involved. An example is provided in Figure 19.1. ~~The three-dimensional account system presenting changes in the net IIP visualizes the nexus between the current account and the IIP in its first pillar, which breaks down the total net IIP change into components according to (15). The two other accounts simply reuse data from the standard IIP presentation. The instrument account shows how changes in the net IIP are reflected in the various functional categories. The sector account allocates these to the domestic sectors involved. Thus, each of the three different accounts captures a specific aspect of the change in the net IIP in a given period. The first pillar shows the origin/source of the change in the IIP, while the second and third illustrate the allocation of the change to functional categories and sectors. For example, the net IIP in Figure 19.1 has increased in any given period—which might be a quarter, a year, or even a three- or ten-year period—by 40 billion units. The generation account documents that approx. 45 billion units originate from the current account balance, whereas valuation effects and other changes have a negative impact. The instruments account identifies~~

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[9] 5 In reference to public finances, where the term "primary balance" is defined as government's net borrowing/lending excluding interest payments.

that the functional category that profits most is portfolio investment, with an increase of approx. 30 billion units. The sector account, meanwhile, visualizes the marked switch in positions across sectors. On the one hand, it can be seen that the external positions of the government sector and the non-financial corporations, households and NPISHs sector in particular deteriorate, while on the other hand, the other financial corporations sector record a strong increase in net IIP.

Figure 19.1. Three-Dimensional Account System Presenting Changes in the net IIP
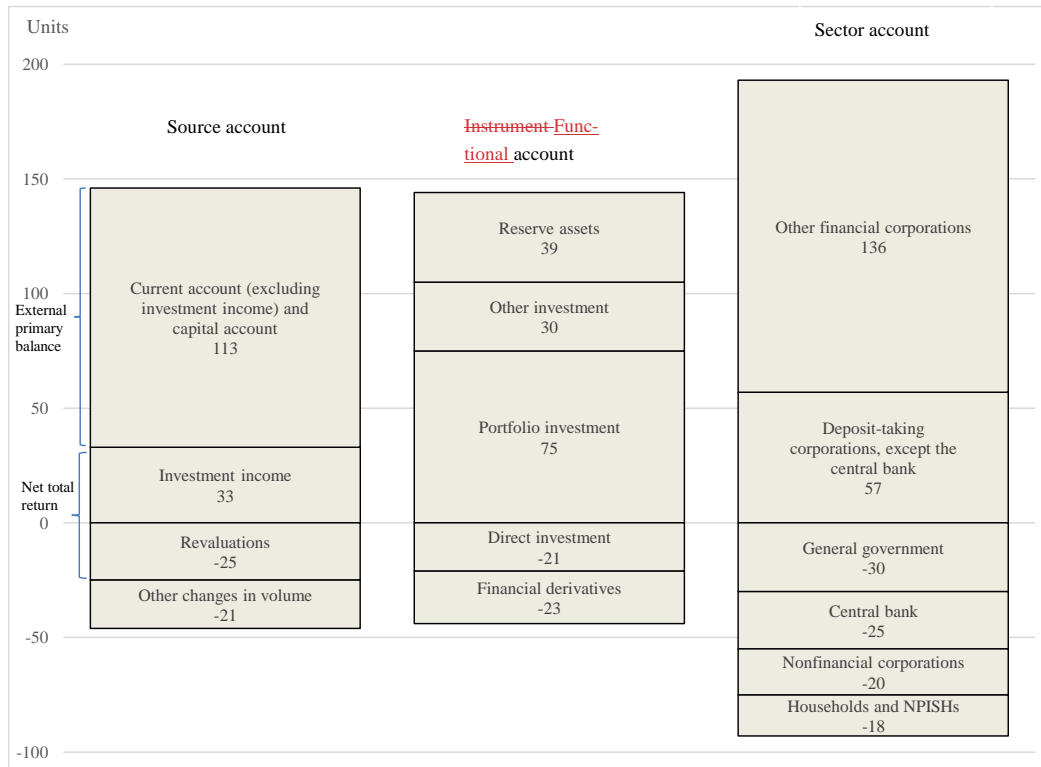
Note: In this example, the change in the net IIP is 100 as illustrated for all three accounts.

D~C~. Alternative Presentations of Balance of Payments Data

19.14 The different presentations discussed below can be used to highlight different aspects of ~~balance of payments~~BOP financing and its effect on the economy. These presentations involve reorganization of the items to emphasize particular aspects.

1. Standard presentation

19.15 The tables presented in Chapters 2 and 7 ~~13~~ 14 use a standard presentation that groups economic processes and phenomena, consistent with the *SNA* and other macroeconomic statistics. It features two major lines for balances:

(a)   between current account credits/revenues and debits/expenditures~~entries and accumulation entries~~—the balancing item is the current account balance, and

> **Commented [A4]:** In *BPM7*, "accumulation accounts" will cover BOP transactions, revaluations, and other changes in volume.

(b)   between financial and nonfinancial entries—the balancing item is net lending/net borrowing.

In addition, there are a range of other balancing items shown in Table [2.1] and Chapters 7 ~~13~~ 14 that highlight different components.

2. "Analytic" presentation

19.16 The analytic presentation is a reorganization of the standard presentation of balance of payments statistics to facilitate a basic distinction between (a) reserves and closely related items and (b) other transactions. The analytic presentation is an example of a ~~satellite account~~thematic table and is designed to focus on management of reserves and closely related items, but the term "analytic" should not be taken to suggest that this presentation is suitable for all analytical purposes or that other presentations are not useful for other kinds of analysis. Table 19.1 illustrates this presentation. It draws the line between the ways monetary authorities finance transactions (below the line) and other items (above the line).

19.17 This presentation shows how reserves, along with the related items of IMF credit and loans, and exceptional financing (such as accumulation of arrears, debt forgiveness, intergovernmental grants, and debt restructuring) are used to finance other "autonomous" international transactions. Exceptional financing is discussed in detail in ~~Appendix~~ Annex 1. The presentation is useful for monetary authorities that use intervention, including managed exchange rate regimes, with various degrees of flexibility. Arrears related to exceptional financing are recorded below the line as transactions in the analytical presentation with the corresponding entry in the relevant instrument. (This treatment is because, although the accumulation of arrears is not a transaction, it results from the actions of the monetary authorities.) Categories of the ~~balance of the payments~~BOP above-the-line from which transactions could be taken to below-the-line are marked as "(n.i.e.)."

Table 19.1. "Analytic" Presentation of the Balance of Payments[1]

	Credits	Debits
Current account n.i.e.		
Goods		
Services		
~~Primary~~ Earned income		
~~Secondary~~ Transfer income n.i.e.		
Balance on current account n.i.e.		
Capital account n.i.e.		
Balance on capital account n.i.e.		
Financial account n.i.e.		
Direct investment n.i.e.		
Portfolio investment n.i.e.		
Financial derivatives and ESOs n.i.e.		

Other investment n.i.e.		
Balance on financial account n.i.e.		
Balance on current, capital, and financial accounts n.i.e.		
Reserves and related items		
Reserve assets		
IMF credit and loans		
Exceptional financing		
Total reserves and related items		

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[1] Exceptional financing items are moved from the current, capital, and financial accounts to the reserves and related items heading. for this reason, other items are stated as being n.i.e. (exceptional financing is discussed in ~~Appendix~~ Annex 1.) Since the table covers a mix of transactions in the current, capital, and financial accounts, the column headings reflect the underlying double-entry basis of BOP statistics (credit/debit) as explained in Box 2.1 rather than the *Manual* standard headings credit/revenue, debit/expenditure, net acquisition of financial assets, and net incurrence of liabilities.

3. Sectoral analysis

19.18 Another analytical presentation groups items in the financial account by the type of resident recipient of external financing—for example, central bank, deposit-taking corporations except the central bank, general government. To support this approach, sectoral splits are required for ~~most~~ all financial account items.

> **Commented [A5]:** Direct investment will also be broken down by sector in BPM7 (see GN D.7).

19.19 Sectoral presentations provide a convenient way to analyze the net foreign lending or borrowing of each domestic sector. These data help identify issues of sustainability and vulnerability. Sectoral analysis is

developed in conjunction with the balance sheets (see paragraphs [19.57–19.66]) and in the presentation of external debt statistics (see *External Debt Statistics: Guide for Compilers and Users*).

4. Monetary presentation

Reference:

Aguilar, Carmen Picón, Rodrigo Oliveira Soares, and Ramón Adalid, *Revisiting the Monetary Presentation of the Euro Area Balance of Payments*, European Central Bank Occasional Paper No. 238 (February 2020). ~~Louis Bê Duc, Frank Mayerlen, and Pierre Sola, *The Monetary Presentation of the Euro Area Balance of Payments*, European Central Bank Occasional Paper No. 96 (September 2008).[10]~~

19.20 The monetary presentation explicitly shows the link between the ~~balance of payments~~BOP and monetary and financial statistics (as mentioned in paragraph [2.8]). It identifies the transactions of the deposit-taking corporations (plus money market funds, if their liabilities are included in the definition of broad money), which are equal to the foreign assets and liabilities of the same entities, as recorded in monetary and financial statistics.

19.21 This presentation highlights the effects of international transactions on monetary developments. This may be summarized by the following equations:

(a) The transactions derived from the balance sheet of deposit-taking corporations (and money market funds, where relevant) can be expressed as follows:

$$NFA + \mathrm{D}DC - \mathrm{D}M + OTR = 0, \qquad (\text{14}17)$$

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where

NFA =

net transactions in foreign assets and liabilities of the deposit-taking corporations

DC = domestic credit

M = broad money (liabilities)

OTR = other (net) transactions vis-à-vis residents

D = transactions derived from corresponding positions (i.e., excluding any changes due to revaluation or other changes in volume)

(b) The identification of transactions by deposit-taking corporations in the ~~balance of payments~~BOP leads to the following equation:

$NFA + ETN = 0$, (~~15~~18)

where

ETN = nonfinancial ~~balance of payments~~BOP transactions and transactions in foreign assets and liabilities by sectors other than deposit-taking corporations[11]

(c) Combining these equations makes explicit the link between developments in broad money and the ~~balance of payments~~BOP transactions of the sectors other than deposit-taking corporations:

$DM = -ETN + DDC + OTR$. (~~16~~19)

19.22 This presentation highlights the effect of international transactions on domestic liquidity. It emphasizes the links between ~~balance of payments~~BOP and monetary statistics.

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[11]Under this type of analysis, if deposit-taking corporations transact in foreign assets with other resident sectors, for the identities to hold, transactions in both NFA and ETN need to be recorded, even those that are resident-to-resident, and therefore not ~~balance of payments~~BOP, transactions. As noted in paragraph [3.8], in practice ~~balance of payments~~BOP transactions in financial assets may be derived from data that do not distinguish whether the counterparty is a resident or a nonresident.

5. Partner analysis

19.23 Data by partner economy can assist in the conduct of international trade negotiations. They are also useful in identifying potential vulnerability from excessive reliance on another economy, and in forecasting and analyzing contagion effects. They can be used to monitor data quality, through the study of comparison of bilateral data as reported by each of the partner economies (see, for example, the Bureau of Economic Analysis and Eurostat's study of asymmetries in US-EU current account data, cited at the end of this chapter). Such analysis reflects developments such as the need to monitor large payments imbalances between and among certain individual economies and groups of economies, and the analytical interest in the source of balance of paymentsBOP flows and positions for economies.

19.24 For analysis of IIP by partner, assets are shown according to the residence of the debtor (or issuers of nondebt instruments), and liabilities according to the residence of the creditor (or holders of nondebt instruments). For analysis of balance of paymentsBOP transactions by partner, data both on a debtor-creditor and a transactor basis may be of interest. [12] The debtor-creditor basis facilitates analyses concerned with such issues as whose securities are being purchased and sold. The transactor basis allows for analysis of where residents engage in financial asset transactions with nonresidents, changes in relative importance and growth of international financial centers, and so forth.

ED. Financing a Current Account Deficit

19.25 This section examines the financing of a current account deficit by means of net financial inflows, including and changes in reserve asset transactions, and some of the economic policy issues involved. For such an analysis, it would be helpful to use identity (12), and to assume that initially $S = I$ (i.e., that the current account is in balance and that net capital and financial account balances, includingand reserve asset transactions, are also zero). From this initial situation, it is instructive to trace the effects, on the current account and

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[12]The debtor/creditor and the transactor bases differ in the case of secondary market transactions and are discussed in paragraph [4.154].

the financial account, of an autonomous increase in investment (capital formation), which is generated by a rise in the productivity of capital. If this additional investment is not matched by a corresponding rise in saving, interest rates will tend to rise as long as the monetary authorities do not "control" the rates. The excess of investment over saving will be reflected in a current account deficit, which may be financed by a net financial inflow.

19.26 Whether there is spontaneous financing of a current account deficit—that is, whether the gap between saving and investment is met from autonomous flows—depends on a number of considerations. The functional categories of the ~~international~~ external accounts, as well as additional breakdowns (e.g., domestic sector, partner economy, currency of denomination), can be crucial to assess the determinants of such financing, and therefore the appropriate policy measures to foster the most appropriate and sustainable financing sources. In particular, direct investment is frequently characterized by stable and long-lasting economic links, as well as the provision of technology and management. The financial inflow may be directly related to increased capital formation as a result of direct investment, loans obtained from foreign banks, or bonds issued in international financial markets. The foreign financing can be for the purchase of imported goods and services required for an investment project and for the purchase of domestic inputs. Alternatively, additional investment may be financed domestically by means of bank loans or issues of equities and bonds. In this case, there is no direct link between increased domestic expenditures and foreign financing. However, the tendency for domestic interest rates to rise (in comparison with rates abroad) because of the increased investment will provide an incentive for funds to flow into the economy. Whether or not funds do so depends largely on how investors view the economic prospects of the economy. The prevalence of stable economic and political conditions—particularly if it is not likely that the higher interest rate will be offset by a continuing depreciation of the exchange rate of the economy—will increase the spontaneous movement of funds into the economy.

19.27 The financial inflow associated with the excess of investment over saving involves a reduction in the net foreign asset position of the economy and the reduction, in turn, will change the net investment income flow of the economy. The key analytical issue is whether the economy will be able to service the change in the net foreign investment position without undertaking significant modifications in economic policies or without incurring undesirable changes in interest rates or exchange rates. Servicing is likely to occur without changes if

the investment makes a significant contribution to the productivity of the economy. Such a contribution can be manifested in two ways: first, the firm or government enterprise undertaking the investment must be sufficiently profitable to pay the rate of return that will attract the funds to finance the investment; second, the additional investment must enhance the debt-servicing capacity of the economy. As long as funds from abroad are invested productively, external financing for a current account deficit is likely to be forthcoming for a considerable period of time. In this situation, the finance-receiving economy's current account deficit manifests an efficient allocation of resources.

19.28 Alternatively, it is useful to consider a case in which investment is unchanged but saving declines—for example, because of an increase in government spending not matched by a rise in tax and other revenue or because of an increase in private consumption not matched by an offsetting change in government saving. In this situation, domestic interest rates would also tend to rise. However, unlike the previous case, the shift to a current account deficit is not paralleled by an increase in productivity in the economy. Under these conditions, there may not be a sustained spontaneous inflow of funds if investors view the ~~deterioration~~ decline in the current account as reflecting inappropriate and unsustainable government policies. For example, the decline in saving may reflect an enlarged public sector deficit that is not associated with increased investment. Alternatively, the rise in absorption may be due to higher private spending generated by an expansionary monetary policy. Under these circumstances, investors may not wish to increase their net claims on the economy.

19.29 In the absence of a spontaneous financial inflow, some combination of the following will be necessary: policy actions to attract private funds, the use of reserve assets for ~~balance of payments~~BOP financing, and the implementation of ~~balance of payments~~BOP adjustment measures. From identity (12), it can be seen that, if the current account shifts into deficit, financing must take place either by drawing down the economy's reserve assets or by increasing incentives for attracting private funds. The latter can be achieved by enhancing the domestic economic environment for long-term investment. The adoption of monetary and fiscal policies that support stable economic conditions and encourage direct and other investment would tend to induce financial inflows on a sustained basis. Funds may also be induced to flow in from abroad—and to provide ~~balance of payments~~BOP financing—by the raising of domestic interest rates. Such a policy may well

be appropriate if the current account deficit is caused by aggregate demand pressures; a restrictive monetary policy would have the effect of dampening excess demand and providing short-term financing. However, such financing may not be dependable from a long-term perspective as, for example, changes in foreign monetary conditions may make investment of liquid assets in the domestic economy appear unattractive. Therefore, it is necessary to look at the underlying causes of a current account deficit.

19.30 The appropriateness of using reserve assets to finance a gap between domestic expenditure and ~~income~~revenue, rather than undertaking adjustment measures to reduce or eliminate this gap, depends on the extent to which the gap is temporary or reversible. As an economy's stock of reserve assets (as well as the resources it can borrow to supplement its reserve assets) is limited, the use of reserve assets to finance a current account deficit is confined within these limits. However, by mitigating the necessity for ~~balance of payments~~BOP adjustment, official financing can perform a useful buffer function. For example, temporary shocks, such as poor harvests or other temporary supply disruptions, to domestic output do not necessarily require comparable changes in the domestic absorption of goods and services. Thus, the financing, through the use of reserve assets, of a temporary excess of consumption and investment over national income can provide a desirable smoothing of the path of expenditures by residents. The reserve assets can also be used to finance seasonal swings in foreign payments and receipts. While the financing of temporary shocks is appropriate, recourse ~~— although it can make the adjustment path smoother and more gradual —~~ to owned or borrowed reserve assets does not obviate the necessity for adjustment if ~~deterioration~~ the decline in the current account persists—although it can make the adjustment path smoother and more gradual.

19.31 There are limits to the extent to which private funds and official resources can finance a current account deficit. The willingness of the private sector to invest in the economy may be directly influenced by ongoing changes in reserve assets. If the existing stock of reserve assets is relatively low in comparison with the current account deficit and the monetary authorities are expected to exhaust the economy's reserve assets within the investment horizon of the investors, then the probability of a depreciation of the exchange rate or the introduction of other policy measures adversely affecting the rate of return expected by investors would tend to increase significantly. Under these circumstances, any private funds from abroad that are financing all

or part of a current account deficit could quickly switch from a net inflow to a net outflow. As can be seen from identity (13~~2~~), unless adjustment measures are implemented to reverse both the current account deficit and the financial account outflow, reserve assets would be required to finance both an excess of domestic investment over saving and a net increase in liabilities to nonresidents. Such a situation would probably result in a loss of confidence in the currency, exacerbation of the financial outflow, and a rapid exhaustion of reserve assets.

19.32 More generally, in a world of high financial mobility, external and domestic private sector willingness to provide financing are influenced by a complex set of expectations about future economic, political, and other developments in the recipient economy and in the rest of the world. Changes in these expectations may result in rapid rebalancing of the composition of balance sheets and cause high volatility in financial flows with significant current account and other macroeconomic implications. Section ~~F~~ G provides more extended discussion.

19.33 The previously described framework for analysis of the ~~balance of payments~~BOP is applicable, irrespective of the exchange rate regime adopted by an economy. For example, if the exchange rate is pegged, then transactions in reserve assets will be determined by the net demand or supply of foreign exchange at that exchange rate (i.e., from identity (13), $BRT = CAB - FKB$~~NKF~~). At the other extreme, if the exchange rate arrangement involves a pure float so that no exchange market intervention takes place, then $CAB = $~~NKF~~$FKB$. In the intermediate case of a managed float, purchases and sales of reserve assets are typically undertaken to achieve a desired exchange rate path for the domestic currency in terms of one or more foreign currencies.

19.34 Financial account transactions, as included in the ~~NKF~~ FKB term in identity (13), can be analyzed in terms of their composition. Direct investment, portfolio investment, financial derivatives, and other investment can have different implications for the economy, in terms of factors such as volatility, future returns, and effect on capital formation. More detailed data on instruments and maturity are also relevant to understanding the nature of the financing and its future effects.

19.35 There is another connection between the financial account and the current account as described in paragraph [19.13d]. Financial flows generate changes in foreign claims and liabilities. In nearly all cases, these financial stocks earn returns (interest, dividends, or reinvested earnings) that appear in the current account as investment income. The rate of these returns can differ between assets and liabilities and between different types of investment. This link between the accounts is particularly relevant in the case of an economy running a current account deficit because there is an important dynamic relationship between an existing deficit and the future current account balance. A deficit in the current account must be financed by some combination of an increase in liabilities to nonresidents and a reduction in claims on nonresidents so that the net result is a decline in net foreign assets. As a consequence, there will be a reduction in net investment income (unless rates of return adjust in an offsetting manner), and this reduction will increase the current account deficit. This interaction between the current account and the financial account can lead to a destabilizing situation in which the current account balance progressively worsens unless changes in economic policies or adjustments in certain variables (e.g., exchange rates) are made to arrest the deterioration.

19.36 In analyzing the balance of paymentsBOP and, in particular, the sustainability of any specific current account situation, it is important to consider the determinants of financial flows. These relate mainly to factors affecting the rate of return and risk on foreign and domestic assets. Such factors include interest rates, the profitability of direct and other investments, expected changes in exchange rates, and tax considerations. These factors are embodied in the expected real (i.e., adjusted for exchange rates and inflation) after-tax rate of return on the stock of foreign assets held by residents and on the stock of claims held by nonresidents. Residents and nonresidents are subject to different legal and tax considerations, which affect the rates of return on asset holdings. However, both are similarly affected by economic conditions external to the countries economies in which they are resident. Moreover, these external conditions are exogenous to an individual economy.

19.37 Indeed, whereas in circumstances of low financial mobility and mostly official financing it could be reasonable to focus mostly on domestic conditions, in a world of high financial mobility, external conditions—such as changing world interest rates—are important factors in influencing financial flows.

19.38 ~~Balance of payments~~BOP statistics use the accrual principle, which reflects underlying resource flows. However, a payments crisis is usually driven by cash flows. It may therefore be useful to consider cash flow dimensions when there are significant timing differences between payments and resource flows, for example, in the cases of accrual of interest, reinvested earnings, and nonperforming loans.

F~~E~~. Balance of Payments Adjustment in Response to a Current Account Deficit

19.39 There are many situations in which it may not be feasible to rely on private and official resources to finance a current account deficit on a sustained basis. If a deficit is unsustainable, the adjustment will necessarily happen through change in the willingness of market participants to provide financing or depletion of reserves and other financial assets, or a combination of both. Such adjustments may be abrupt and painful (up to the possibility of a ~~balance of payments~~BOP crisis that involves a shortage of reserves to cover BOP needs). Therefore, policy measures aimed at mitigating the adjustment path may need to be considered.

19.40 For ~~balance of payments~~BOP analysis, it is therefore important to consider the possible introduction of adjustment measures to achieve a viable external payments position (i.e., conditions under which a deficit on goods, services, and income can be financed by private and official transfers, private financial inflows, and some recourse to reserve and other financial assets). The subsequent discussion illustrates some possible measures, but it is not exhaustive. It examines briefly the roles of exchange rate changes, fiscal measures, and monetary policy in achieving ~~balance of payments~~BOP adjustment.

19.41 In this analysis, it may be useful to rewrite identity (9) as:

$$S - I = CAB$$
$$= BTG + BTS + B\underline{E}\underline{\sim{P}}I + BT\underline{S}\sim{S}I$$
$$= \sim{NKF}\ \underline{FKB} + \underline{B}RT \quad (17)$$

where

BTG = balance on trade in goods

BTS = balance on trade in services

$B\underline{E}\cancel{P}I$ = balance on ~~primary~~ earned income

$B\underline{T}\cancel{S}I$ = balance on ~~secondary~~ transfer income

The magnitude of the necessary adjustment in the ~~balance of payments~~BOP depends, to some extent, on the nature of the components of the current account balance. For example, an economy may have been running a persistent deficit on trade in goods that was financed, in part, by borrowing from private and official sources. In this situation, the economy is also likely to be running a deficit on the balance of ~~primary~~ earned income that reflects the servicing of this debt. A deficit for goods, services, and ~~primary~~ earned income may, however, be offset by a surplus on ~~secondary~~ transfer income, which could reflect both official and private current transfers. If such inward transfers are expected to be of a long-term nature and can confidently be relied upon to finance all or part of the deficit in other components of the current account, then the extent of the necessary balance of payments adjustment may be rather small.

19.42 However, even in the case of a small adjustment, it is nonetheless important to be fully cognizant of the fact that foreign debt must be repaid. Thus, the amortization schedule of the economy is an important factor for judging the sustainability of a particular ~~balance of payments~~BOP situation. If large amortization payments are due in the near future and expected financial inflows are not sufficient to cover payments falling due, it may be necessary to undertake adjustment measures beforehand to avoid more drastic measures required for dealing with a subsequent ~~balance of payments~~BOP crisis.

19.43 In the face of an unsustainable current account deficit in an economy with a fixed or managed exchange rate, one adjustment measure that could be considered is a depreciation of the exchange rate of the domestic currency.[13] Such a depreciation may be necessary to offset a domestic price rise (relative to prices

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[13]The application of such a depreciation may be complicated by significant currency balance sheet mismatches, which need to be taken into account. These mismatches

abroad) that—by penalizing exports and encouraging imports—worsens the balance on trade in goods. To the extent that the depreciation raises the prices of traded goods and services (i.e., exports and imports) in comparison with the prices of nontraded goods and services, depreciation will promote the substitution of domestic for imported products and stimulate foreign demand for domestic products. However, because the depreciation will be accompanied by a rise in domestic prices in response to the increase in the cost of imported goods and services and the rise in demand for exports and domestically produced import substitutes, the improvement in international competitiveness generated by the exchange rate change will be partially or fully eroded. Such a development underscores the importance of supplementing the exchange rate adjustment with restrictive monetary and fiscal policies to facilitate the shift in resources signaled by the change (caused by the depreciation) in relative prices. Thus, an expenditure-switching policy in the form of exchange rate depreciation must generally be supported by expenditure-reducing measures; indeed, such measures are essential if there is no excess capacity in the economy.

19.44 The effects of such action can be seen from identity (9), which shows that any improvement in the current account must be matched by a corresponding positive change in the difference between saving and investment. An exchange rate depreciation by itself may generate such a change in the desired direction. In particular, if there is no change in the stance of monetary policy, the increase in demand generated by the depreciation will raise the demand for money. With an unchanged money supply, the greater demand for money will tend to increase nominal and real domestic interest rates. As a result, interest-sensitive expenditures will be dampened, and there could be a positive impact on saving. However, it is unlikely that this induced effect on the gap between saving and investment will itself be sufficient, particularly if the economy is at full employment, to achieve the desired improvement in the current account. Therefore, in all likelihood, it will be necessary to accompany the adjustment in the exchange rate with measures to reduce the level of domestic expenditure through tighter monetary and fiscal policies that release resources to expand output in the exporting and import-substitution industries.

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are discussed in Section GH.

19.45 The discussion of identity (11) pointed to fiscal deficits as one potential cause of external imbalances. Changes in government spending and taxation may therefore be necessary to achieve the required reduction in the saving-investment gap—to the extent that an exchange rate depreciation does not induce a sufficient response in the difference between total saving and investment. However, it is important that fiscal policy measures be designed to achieve the desired objective and not exacerbate the adjustment problem. For example, cuts in infrastructure investment may have the desired short-run ~~balance of payments~~BOP effect, but such cuts could have, particularly if the spending reductions are in such areas as transport or electricity, a long-run adverse impact on the supply potential of the economy and the generation and supply of energy designed to relieve bottlenecks. Moreover, tax measures that result in very high marginal tax rates or that are aimed particularly at investment income could have the undesired side effect of inducing offsetting reductions in private saving and reducing incentives to invest in the economy. Such disincentive effects can be avoided by implementing fiscal action aimed at reducing or eliminating subsidies and by cutting back on government activity that can be performed better by the private sector.

19.46 The stance of monetary policy plays an important role in ~~balance of payments~~BOP adjustment. The existing external imbalance may reflect an excess of domestic investment over saving (or what is the same thing—an excess of domestic spending over income) that results from an excessively expansionary monetary policy. It is, first of all, important to adjust the stance of monetary policy so that interest rates are generally positive in real terms and provide an incentive to savers and so that domestic economic conditions are sufficiently stable to encourage investment. From the perspective of aggregate supply and demand, it can be seen from identity (5) that monetary policy should ensure that the level of domestic expenditure is in line with the productive capacity of the economy. Thus, from the point of view of ~~balance of payments~~BOP analysis, the objective of monetary and fiscal policies is to limit domestic spending to what is available from domestic resources and foreign financing.

19.47 One important aspect of monetary policy in ~~balance of payments~~BOP adjustment is the link between reserve asset transactions and domestic monetary conditions. A decline in reserve assets may be associated with a current account deficit or a net financial outflow caused by an expansionary monetary policy or

both. The reserve asset decline can lead to a reduction in the monetary base and therefore to a tightening in the stance of monetary policy. A more restrictive monetary policy tends to correct the payments imbalance through higher interest rates that dampen domestic demand and make domestic assets more attractive to investors. However, this built-in adjustment mechanism can be short-circuited if the monetary authorities offset the effect of the loss of reserve assets on the monetary base by increasing the domestic component of the base (e.g., through open-market purchases of securities held by the banking system). Such offsetting action tends to prevent domestic interest rates from rising and thereby contributes to the persistence of the balance of payments deficit.

G~~F~~. Implications of a Current Account Surplus

19.48 The foregoing discussion focuses entirely on an economy that faces an actual or incipient ~~balance of payments~~BOP problem in the form of a persistent current account deficit. Of course, for the world as a whole, the current account deficits of economies in deficit are exactly offset by the surpluses of other economies.[14] Although surpluses typically do not lead to crises in the ~~countries~~ economies that run them, an analysis of some aspects of a surplus ~~balance of payments~~BOP situation is useful as surpluses may raise important issues associated with domestic monetary management and vulnerabilities and the speed of adjustment toward more balanced external accounts. As can be seen from identity (13), a surplus in the current account is reflected in an increase in net claims held by the private sector or government (~~NKFF~~FKB) on nonresidents or an increase in official reserve assets (~~BN~~RT), or both.[15] The change in the net foreign asset position may be due to a reduction in liabilities to nonresidents rather than to an increase in gross claims. Such a reduction may well be a desirable development if a previous large buildup of liabilities has imposed a severe debt

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[14]In practice, owing to measurement problems, the sum of the balances of all economies deviate from zero~~was negative in many years because of measurement problems. For discussion of this issue, see IMF, *Report on the World Current Account Discrepancy*, September 1987, and Jean Godeaux, *Report on the Measurement of International Capital Flows*, September 1992. More recent data are available in m.~~ Most issues of the *Annual Report* of the IMF Committee on Balance of Payments Statistics focus on the latest developments in terms of global imbalances.

[15]Assuming that the transactions are not offset by revaluations or other changes in the volume of financial assets and liabilities.

service burden on the economy. In this case, a current account surplus can be an appropriate step toward achieving a viable ~~balance of payments~~BOP.

19.49 The case of an economy with no recent current account deficits and an increase in its gross private claims on the rest of the world reflects an excess of aggregate saving over domestic investment. If the government's fiscal balance is in deficit, private sector saving will exceed domestic investment. The allocation of part of saving to foreign assets presumably reflects the fact that investors find the rate of return on these assets more attractive, at the margin, than investment opportunities in the domestic economy. The provision of resources to the rest of the world in the form of a buildup of net claims on nonresidents will, by and large, result in an efficient allocation of the domestic economy's saving as long as the buildup of net claims reflects the operation of market forces rather than government policies designed directly or indirectly to increase such claims.

19.50 Thus, for analyzing the ~~balance of payments~~BOP of an economy in persistent surplus, one key consideration is whether government policies distort saving and investment decisions and thereby bias an economy toward a current account surplus. Such distortions can take many forms. First, there are measures that directly influence the current account. Examples are tariffs and quotas that limit imports, restrictions on payments abroad, and export subsidies and government procurement policies that give preference to domestic producers. Moreover, an exchange market intervention policy may bias the value of the currency downward. Finally, there may be measures that limit foreign acquisition of domestic assets—a limitation that would tend to bias the financial account toward a net outflow and thereby shift the current account in the direction of a surplus.

19.51 These measures may, in fact, not lead to a larger current account surplus. Policy actions aimed at particular components of the ~~balance of payments~~BOP will, over time, lead to offsetting movements in other components in the absence of changes in the underlying determinants of saving and investment. In any event, if a large and persistent current account surplus appears to arise from such distortionary measures, the appropriate policy action is the reduction and eventual removal of these distortions. If a persistent surplus remains after such measures are eliminated, then the accumulation of net claims on the rest of the world would appear to manifest the saving and investment propensities of the economy. If, in this case, one were to identify the surplus as a problem,

it would generally be necessary to establish that private saving or government saving was excessively high or that domestic investment was too low. It is considerably more difficult to arrive at such a conclusion than to identify the previously enumerated distortions that relate directly to international transactions.

19.52 A current account surplus, while reflecting entirely a response to market forces, may cause economic difficulties for an economy. For example, an economy with a "resource curse" experiences either a natural resource discovery or a substantial improvement in the terms of trade for the natural resources sector. The expanding sector or terms of trade gains lead to an improvement in the current account and an appreciation of the exchange rate. This development tends to make other sectors of the economy contract and be less competitive internationally. If the newly discovered resources are expected to be depleted fairly rapidly and the gains in terms of trade to be transitory, it may be appropriate to protect the sectors adversely affected. One way to achieve this objective is through exchange market intervention to prevent or moderate the exchange rate appreciation. The accumulation of reserve assets or special funds tends to insulate the real economy from having to adjust to the short-run disturbance.

19.52a The accumulation of net external assets through sustained current account surpluses may create vulnerabilities for creditor nations. When debtors suffer external stress or a crisis, their creditors experience losses in the form of adverse exchange rate movements, lower asset and bond prices, and debt write-offs. This effect was particularly pronounced in the years following the global financial crisis and highlights additional costs to maintaining excessive current account surpluses (see, for instance, the 2020 IMF External Sector Report). It may be particularly relevant to track debt write-offs because such losses will not be recovered whereas stock prices, for instance, may recover relatively quickly from large shocks.

19.53 Current account surpluses may also create other difficulties in the domestic economy, such as difficulties in monetary management and increases in vulnerabilities associated with large and rapid monetary expansions. When a current account surplus causes an increase in reserve assets, the economy's monetary aggregates expand and a credit expansion will tend to take place. If this credit expansion is too large and rapid, the economy may overheat (leading to inflationary pressures) or vulnerabilities in the financial sector may emerge, particularly if there are weaknesses in financial sector supervision. Sterilization of the buildup in

reserves—that is, offsetting its monetary impact through, typically, sales of domestic securities—can help mitigate this effect, but not forever, and often at significant cost. These costs typically arise because the domestic securities will carry a higher interest rate than the (usually low) rate received by the monetary authorities for their reserves. Moreover, if the currency were to appreciate in the future, the monetary authority would experience a decline in net worth, because the value of the reserves would fall relative to the value of the domestic securities used for the sterilization operations.

19.54 ~~A conclusion of the preceding analysis is that, w~~When a current account surplus is not the result of government policy actions, it may be difficult to establish that an economy is investing too much of its saving abroad and whether, therefore, specific policy changes are needed when an economy ~~country~~ is facing a current account surplus. Some guidance may be obtained, however, from the behavior of reserve assets. When a current account surplus is reflected in a buildup of foreign reserve assets rather than in a rise in net foreign assets held by the private sector, the buildup represents specific government policy action in the form of foreign exchange market intervention. Intervention, which involves the sale of domestic currency in exchange for foreign currency, has the tendency to keep the foreign exchange value of the domestic currency lower than it otherwise would be. The accumulation of reserve assets may therefore limit the extent to which the currency appreciates and—particularly when accompanied by sterilization—prevent the operation of the self-correcting mechanism that would tend to reduce the current account surplus.

19.55 Thus, one aspect of ~~balance of payments~~BOP analysis for an economy with a persistent current account surplus involves an appraisal of the level of reserve assets held by monetary authorities. The accumulation of such assets is excessive if the assets exceed, by a wide margin, the amount required to finance possible future short-run deficits. In such a situation, the economy's resources may well be more efficiently used if devoted to domestic consumption or capital formation rather than ~~exports~~financing demand in other economies. If the private and government sectors are unlikely to increase domestic capital formation, cessation of reserve asset accumulation would lead to an increase in domestic absorption or to a rise in net foreign investment by

residents or both.[16] In either case, allocation of the economy's resources would tend to be more efficient as the allocation would be responding to market forces.

19.56 As in the case of an economy exhibiting a current account deficit, monetary, fiscal, and exchange rate policies have an important role in the adjustment of an economy with a current account surplus. In principle, the surplus could be reduced through expenditure-expanding policies (e.g., expansionary fiscal and monetary policies) or through expenditure-switching policies that would drive consumption toward foreign goods and away from domestic goods (e.g., a currency appreciation). Nevertheless, expansionary fiscal and monetary policies could have the unwanted implication of fueling the credit boom, which would cause increased inflationary pressures and possibly heighten credit-related vulnerabilities. A currency appreciation would, on the contrary, moderate the credit expansion by increasing consumers' purchasing power in terms of foreign goods (which would drive demand toward the consumption of foreign goods), and by limiting the creation of new base money (because the monetary authority would be limiting its intervention in the foreign exchange market). Given that the currency appreciation would also make domestic goods less attractive abroad, a gradual appreciation process may be needed in order to achieve a smooth adjustment of the external accounts.

H~~G~~. The Balance Sheet Approach

References:

M. Allen, C. Rosenberg, C. Keller, B. Setser, and N. Roubini, *A Balance Sheet Approach to Financial Crisis*, IMF Working Paper (WP/02/210).

J. Mathisen and A. Pellechio, *Using the Balance Sheet Approach in Surveillance: Framework, Data Sources, and Data Availability*, IMF Working Paper (WP/06/100).

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[16]Economies that are large exporters of nonrenewable resources, such as oil, may have limited domestic investment opportunities. In such cases, the buildup of foreign assets can be viewed not so much as an accumulation of reserve assets for ~~balance of payments~~BOP financing purposes but rather as a diversification of the economy's stock of wealth. Also, there may be a case for the accumulation of reserve assets in the instance of an economy subject to resource curse if the effects are expected to be transitory.

IMF and others, *External Debt Statistics: Guide for Compilers and Users*; Part III, Use of External Debt Statistics.

19.57 As financial markets in many economies have become increasingly integrated with global markets, foreign borrowing has helped finance higher levels of investment than would be possible with saving by residents alone and contributed to sustained periods of growth. But the opening of financial markets has revealed that private financial flows are sensitive to market conditions, perceived policy weaknesses, and negative shocks. Flows of private finance have been volatile with some economies experiencing financial crises.

19.58 The financial structure of economies—the composition and size of the liabilities and assets on the economy's financial balance sheet—has been an important source of vulnerability to crises. Financial weaknesses, such as a high level of short-term debt, can be a trigger for domestic and external investors to reassess their willingness to finance an economy. The composition of the IIP also helps indicate the vulnerability of the economy to changes in external market conditions. The implications for vulnerability differ among different functional categories and instruments. In the case of direct investment liabilities and portfolio investment equity, the return to the creditor depends on the performance of the issuer. In contrast, in the case of debt liabilities other than for direct investment, the return to the creditor is usually not dependent on the performance of the debtor, so the economy of the debtor has a greater risk exposure, in that payments are required to be made even if the debtor faces difficult circumstances.

19.59 The balance sheet approach provides a systematic analytical framework for exploring how balance sheet weaknesses contribute to macrofinancial vulnerabilities, including the origin and propagation of modern-day financial crises. It draws on the growing body of academic work that emphasizes the importance of balance sheets. It pays particular attention to the balance sheets of key sectors of the economy and explores how weaknesses in one sector can cascade and ultimately generate a broader crisis. It is built on the use of harmonized classifications and definitions in different types of economic statistics, so that data can be aggregated and compared. For international external accounts compilation, the balance sheet

approach requires that institutional sector classifications and the level of detail should match those used for monetary, financial, and government finance statistics.

19.60 Unlike traditional analysis, which is based on the examination of flow variables (such as current account and fiscal balance), the balance sheet approach focuses on the examination of stock variables in an economy's sectoral balance sheets. The economy's aggregate external balance sheet—the external assets and liabilities of all sectors of the economy—is vital. The net IIP at the end of a specific period reflects not only financial flows but also valuation changes and other adjustments during the period, all of which affect the current value of an economy's country's total claims on nonresidents and total liabilities to nonresidents.

19.61 Indeed, as the financial assets and liabilities of domestic sectors cancel each other out, an economy country's consolidated balance sheet consists of its stock of domestic nonfinancial assets plus its net IIP. But the balance sheet approach emphasizes that it is often equally important to look inside an economy and to examine the balance sheet of an economy's key sectors, such as general government, the financial sector, and the nonfinancial corporations sector. The balance sheet of the national accounts includes data for all sectors.

19.62 The sources of financial vulnerability are varied: creditors may lose confidence in an economy's ability to earn foreign exchange to service the external debt; in the government's ability to service its debt; in the banking system's ability to meet deposit outflows; or in corporations' ability to repay bank loans and other debt. An entire sector may be unable to attract new financing or roll over existing short-term liabilities. It must then either find the resources to pay off its debts or seek a restructuring.

19.63 To support this analysis, the framework for assessing balance sheet risks focuses on five types of balance sheet mismatches, all of which help to determine an economy's ability to service debt in the face of shocks:

(a)   Maturity mismatches, where a gap between liabilities due in the short term and liquid assets leaves an institutional sector unable to honor its contractual commitments if creditors decline to roll over debt. They also expose the sector to the risk that interest rates will rise;

(b)   Currency mismatches, where, if unhedged, a change in the exchange rate leads to a holding loss;

(c)   Financial structure problems, where a heavy reliance on debt rather than equity financing leaves a firm or bank less able to weather revenue shocks;

(d)   Solvency problems, where assets—including the present value of future revenue streams—are insufficient to cover <u>nonequity</u> liabilities, including contingent liabilities;[17] and

(e)   Dependency problems. IIP by partner economy (and also ~~balance of payments~~<u>BOP</u> by partner) can help identify overreliance on another economy, and hence potential vulnerability and contagion concerns.

Additional items on the currency composition and residual maturity of debt liabilities are designed to support analysis of these issues. Analysis should also take into account 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 value of the derivatives suggests. Maturity mismatches, currency mismatches, and a poor financial structure all can contribute to solvency risk, but solvency risk can also arise from simply borrowing too much or from investing in low-yielding assets.

19.64 Composition of the IIP sheds light on the dynamics. For example, if assets are largely denominated in foreign currency and liabilities are largely denominated in domestic currency, a depreciation (an appreciation) of the domestic currency will have positive (negative) wealth effects. Currency depreciations (appreciations) usually have expansionary (contractionary) impact on production via the improvement of net exports and a contractionary (expansionary) impact on domestic consumption. The wealth effect associated with the currency composition of foreign assets and liabilities may dampen the impact of a depreciation (appreciation) on domestic consumption. On the contrary, 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.

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[17]The interpretation of loan asset values is enhanced by taking into account additional information on fair values and nonperforming loans.

19.65 Further, debts among residents that create internal balance sheet mismatches also generate vulnerability to an external ~~balance of payments~~BOP crisis. The transmission mechanism often works through the domestic banking system. For instance, broad concerns about the government's ability to service its debt, whether denominated in domestic or foreign currency, will quickly destabilize confidence in the banks holding this debt and may lead to a deposit run. Alternatively, a change in the exchange rate coupled with unhedged foreign exchange exposure in the nonfinancial corporations sector can undermine confidence in the banks that have lent to that sector. The run on the banking system can take the form of a withdrawal of cross-border lending by nonresident creditors, or the withdrawal of deposits by domestic residents. Indeed, if the latter results in an increased demand for foreign currency or other foreign assets by domestic residents, this could lead to financial outflows, loss of reserves, or a combination of both.

19.66 Many of the characteristics of a financial account crisis derive from the adjustment in portfolios that follows from an initial shock. Underlying weaknesses in balance sheets can linger for years without triggering a crisis. For example, a currency mismatch can be masked so long as continued financial inflows support the exchange rate. Consequently, the exact timing of a crisis is difficult to predict. However, should a shock undermine confidence, it can trigger a large and disorderly adjustment, as the initial shock reveals additional weaknesses and a broad range of investors, including local residents, seek to reduce their exposure to the economy. If these flows cannot be financed out of reserves, the relative price of foreign and domestic assets has to adjust.

I. International Investment Position and Risk Measurement

> **Commented [A6]:** New section based on GN B.4 pages 15-17. Body text inserted without track changes (only adjustments to the GN text are shown with track changes). This section has been included as a separate section as suggested in GN B.4 rather than a part of the section on the Balance Sheet Approach as suggested in the Annotated Outline.

19.67 ~~Balance of payments~~The BOP was developed as a statistical tool to measure ~~countries'~~ economies' external imbalances ~~(backward looking)~~ by providing a detailed overview of the economic transactions of residents vis-à-vis the rest ~~-~~of ~~-~~the ~~-~~world. It was only with the fifth edition of the *~~Balance of Payments~~ Manual (BPM5)* that the ~~international investment position (~~IIP~~)~~ was added to the overall framework and ~~the~~ a broader analysis of vulnerabilities ~~(forward looking)~~ became possible. The sixth ~~last~~ edition of the ~~IMF Balance of Payments~~ *Manual (BPM6)* developed ~~further~~ the IIP further and made ~~making~~ it a truly

analytical tool, particularly by providing an integrated view of flows and ~~stocks~~positions. The seventh edition of the *Manual (BPM7)* builds on these developments and ~~current review~~ focuses on the link between ~~transactions~~ flows and positions and in understanding the analytical power of revaluations and other changes in volume. The next paragraphs complement Section H on the balance sheet approach and provide some considerations on how to develop the IIP ~~and the revaluation account~~ to increase its analytical value for risk analysis.

1. Liquidity and Interest Rate Risk

19.68 Liquidity is one of the dimensions used in the ~~international~~ macroeconomic statistical standards to ~~cluster~~ group financial ~~instruments/~~assets. This is, for example, visible in the distinction between listed and unlisted equity or in the breakdown of deposits between ~~overnight~~ short-term and long-term~~other~~ deposits. Moreover, the breakdown by original maturity for debt instruments (e.g., loans and debt securities) provides an additional liquidity dimension but does not completely capture the liquidity needs by maturity. This can only be comprehensively captured when ~~residual/~~remaining maturity information is collected to show ~~the full~~a more comprehensive picture of financing needs due (e.g., within the year). A classification by remaining maturity is already encouraged in the current macroeconomic statistical standards for debt liabilities and data~~a request~~ for short-term remaining maturity of debt liabilities by sector is requested in Table [A9-IV]. ~~of *BPM6*.~~

19.69 ~~Yet a~~Another complementary approach to liquidity risk is to collect information about the "duration" of assets and liabilities. Duration is defined as the weighted average term to maturity of a financial instrument and can be used as a measure of the sensitivity of the value of the instrument to changes in interest rates.[18] Therefore, ~~price~~ revaluations (i.e., holding gains and losses) are intrinsically related to the duration of the portfolio—~~;~~ the sign of this relationship depends on the slope of the yield curve. However,

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[18]For fixed-rate instruments, the ~~time~~ period until the receipt/payment of each cash flow, such as six months, is weighted by the present value of that cash flow as a proportion of the present value of total cash flows over the life of the instrument. So, the more cash flows are concentrated toward the early part of an instrument's life, the shorter the duration relative to maturity. Duration equals remaining maturity only for zero coupon instruments.

the longer the duration of a portfolio, the greater the gains (or losses) for any given change in interest rates. ThereforeThus, despite the matching of the maturities of financial assets and liabilities, if the timing of the cash flows on assets and liabilities is not perfectly matched—that is, the duration of assets and liabilities differs— corporations investors can be open to gains (or losses) as interest rates change.

2. Currency Risk

19.70 Currency mismatches (i.e., differences in the currency composition of financial assets and liabilities vis-à-vis the rest -of -the -world) are frequently a source of macroeconomic risk, particularly for emerging market and developing economies with less sophisticated and deep financial systems. The build-up of large positions in foreign-currency-denominated debt denominated in foreign currency may pose substantial risks in case foreign currency inflows diminish and fixed debt payments schedules are come due. This may exacerbate ongoing currency pressures, and hence an in-depth knowledge of currency risk is a crucial critical macroeconomic policy tool. Obtaining information on the currency -breakdown of debt liabilities is also crucial for financial investors, since it increases transparency and improves the risk -assessment of the creditor. On the other asset side, detail on the currency composition of financial portfolios would support a sound macroprudential analysis and the identification of potential sources of risk arising from over-exposure to idiosyncratic shocks to certain currencies.

19.71 The IMF Ffinancial Ssoundness Iindicators (FSI) encompass several currency related indicators for deposit -taking corporations, namely foreign-currency-denominated loans and liabilities, respectively, to total loans and total liabilities. Also, the risk dashboard of the European Systemic Risk Board's (ESRB) reports on currency risk by looking into the percentage of total loans denominated in foreign currency. In the context of the second phase of the G-20 Data Gaps Initiative, also the IMF, the Financial Stability Board (/FSB), and the Bank for International Settlement (/BIS) are have been looking into the availability of a comprehensive data set on foreign currency exposures by sponsoring the collection of the data defined in Table [A9-I] of BPM6. Table [A9-I] requests data for assets and liabilities broken down by sector and original maturitycurrency. It also requests information on foreign currency derivatives (notional

amounts) to "adjust" for those exposures being hedged. This is a rough proxy as information broken down by the underlying purpose (hedging or speculation) of the derivative contract is not available.

19.72 While the IIP broken down by currency of denomination, in combination with information on foreign currency derivatives, provides a good picture of the structural currency exposures of an economy. it does not provide sufficient information for ~~an immediate~~a comprehensive assessment of the impact of foreign currency movements to the net IIP of an economy~~these exposures to changes to net external position of a country~~. This analysis is supported by looking into ~~price~~ revaluations of foreign currency derivatives and the net impact of revaluations due to exchange rate changes for other instruments. The net impact of currency-driven revaluations is in general negative for economies characterized by a net liability position in foreign currency and relative inflationary processes contributing to the depreciation of the domestic currency. For other economies, the expectation is not as clear and depends ~~very much~~ on ~~the~~ whether the ~~country~~economy has a net asset or liability position in foreign currency and on the stability of domestic currency.

3. Credit Risk

19.73 Credit risk is, defined as the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation~~possibility of loss resulting from a borrower's failure to meet a debt obligation~~. It, arises from several dimensions, including liquidity and currency considerations as discussed~~, already dissected~~ in the previous paragraphs. IIP statistics by counterpart area or geographical detail are frequently available and can provide useful information to assess counterparty ~~country~~economy risk. The so-called "*country*" *risk* encompasses information on aspects such as political and social stability, rule of law, corruption, etc. It is historically one of the dimensions better covered in national ~~balance of payments~~BOP/IIP statistics and is, particularly relevant in the context of monetary or currency unions or vis-à-vis main trading partners.

19.74 Data broken down by counterpart sector are also gaining importance, particularly sponsored by the IMF Coordinated Portfolio Investment Survey (CPIS). Indeed, for the time being, counterpart sector

Commented [A7]: This is the definition of credit risk that is included in the Glossary of terms and definitions in macroeconomic statistics.

information is generally available only for portfolio investment. In some jurisdictions, it may also be available for direct investment (SPEs versus non-SPEs) and other investment. The cross-classification of IIP data by instrument, counterpart economy, and counterpart~~country and~~ sector is a rather powerful tool to assess portfolio or credit risk.

19.75 However, there are other aspects of relevance to make a comprehensive credit risk assessment. In particular, the existence of credit derivatives (e.g., credit default swaps) or guarantees may change the risk level of a portfolio. For derivatives, information on notional amounts would be necessary, preferably broken down by counterpart area and sector. As to guarantees, depending on their nature, they may be captured by the ~~balance of payments~~BOP/IIP framework (standardized guarantees) or not. In any case, for credit risk analysis, the relevant piece of information is not the market value of these guarantees, but instead the underlying (notional) value of the debt being guaranteed. ~~Additionally, r~~Rating information would also have strong analytical value. In this context, a breakdown of portfolio investment by rating grade would better qualify the creditworthiness of the portfolio—:this information is in general missing in IIP statistics.

19.76 Another analytical presentation groups items in the financial account and the IIP by the type of resident recipient of external financing—for example, central bank, deposit-taking corporations except the central bank, general government. To support this approach, sectoral splits are required for ~~most~~financial account and IIP items.

J. Valuation Paradox in the International Investment Position

19.77 As a rule, revaluation effects should be interpreted with a degree of caution when used as a measure for an economy's or sector's gains and losses. Valuations are adjusted to comply with the accounting convention requiring ~~IIP stocks~~financial positions to be reported at market values in most cases~~, wherever possible~~. Thus, the values recorded in the IIP do not necessarily reflect ~~actual~~realized gains or losses. It should also be noted, especially from a sectoral perspective, that the IIP captures only the external part of a

sector's financial balance sheet. Losses recorded here might, therefore, be offset by gains on domestic positions. In addition, hedging operations, which investors may have used to fully or partially eliminate valuation risks, ~~which have the effect of transferring open positions to other domestic or foreign sectors~~, are likewise not always taken into account.

19.78 Certain issues may arise as a result of marking bonds to market (see paragraphs [7.X-7.X]).[19] The valuation paradox refers to the fact that an economy ~~country~~'s net IIP might improve, even though it is on the verge of insolvency. Given that prices for government bonds at risk of default fall, the corresponding liabilities in the IIP are assigned a lower valuation, notwithstanding the fact that the crisis ~~country's~~ economy's payment obligations remain unchanged. Box 19.1 provides a numerical example. The situation might be more pronounced in countries within a currency union, which restricts the extent to which exchange rate changes can reflect the relative creditworthiness of a country. On the other hand, a currency union might dampen bond price responses for a member country facing solvency problems if market participants expect the currency union's other members to bail out the distressed country. Even though the focus is on government bonds, the same mechanism is at play for other bond liabilities. The valuation paradox works in the opposite direction as well when rising bond prices—for example, due to a better rating—translate into higher liabilities, thus showing a lower net IIP, even though the payment obligations have not changed.

Box 19.1. Valuation Paradox: Numerical Example

Let us assume for the sake of simplicity that the ~~countries'~~ economies' IIPs contain only two positions and that asset values are constant.[20] Liabilities exist in the form of a government bond which responds in Example 1 by falling in market price due to mounting solvency problems, and in Example 2 by increasing in market price due to a rating upgrade.

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[19]Reference to results of FITT GN F.8 "Valuation of debt securities at both market and nominal value. FITT GN F.8 proposes to adopt a presentation table (could be a supplementary table that will be added to Appendix 9C) that provides a framework for reconciling nominal and market valuation of debt securities liabilities, similar to that in the 2013 External Debt Statistics: Guide for Compilers and Users. Such a table could help understanding the paradox.

[20]The examples presented in this box are *ceteris paribus* analyses. For instance, if an economy is facing mounting solvency problems, it is likely that it may have to draw on its external assets.

Example 1: ~~Country~~ **Economy** A faces mounting solvency problems

~~Country~~ Economy A's IIP

	Assets	Liabilities	Net IIP
End of period t-1	~~250~~25	100	~~150~~ 75
End of period t	~~250~~25	50	~~200~~ 25

Bond price at the end of period t-1=100

Bond price at the end of period t=50

> **Commented [A10]:** The example has been adjusted a bit. Although the assets could belong to another sector than the government, it may seem strange to talk about Economy A facing mounting solvency problems when the net IIP is positive.

Example 2: ~~Country~~ **Economy** B's rating is upgraded, driving interest rates downs and bond prices up

~~Country~~Economy B's IIP

	Assets	Liabilities	Net IIP
End of period t-1	~~250~~25	100	~~150~~ 75
End of period t	~~250~~25	110	~~140~~ 85

Bond price at the end of period t-1=100

Bond price at the end of period t=110

K. Calculating and Using Rates of Return

> **Commented [A11]:** New section based on GN B.4 pages 19-21. Body text inserted without track changes (only adjustments to the GN text are shown with track changes).

19.79 Rates of return are important for understanding the allocation of capital between economies, differences in the sustainability of current account deficits, and the ~~behavior~~ development over time of the

current account, the financial account, and the IIP. Current-account investment income transactions, financial-account transactions, and other changes in ~~volume of~~ financial assets and liabilities are all interrelated with important consequences for national economies. Because of their potential to influence investment and income, rates of return also influence economic outcomes. Suggestions for presenting the integrated IIP, investment income, and rates of return are shown in Table 19.2.[21]

Table 19.2. Integrated International Investment Position Statement, Investment Income, and Rates of Return

	Integrated international investment position statement								Rates of return		
		Accumulation accounts									
		Financial account	Other changes in financial assets and liabilities account					Current account investment income on financial assets and liabilities[1]			
			Other changes in volume	Revaluations							
	Beginning of period position	Transactions in financial assets and liabilities		Exchange rate changes	Other price changes	End of period position			Income rate of return	Revaluation rate of return	Total rate of return
Assets (excluding financial derivatives)											
Direct investment											
Equity and investment fund shares											
Debt instruments											
Portfolio investment											
Equity and investment fund shares											
Debt securities											
Short term											
Long term											
Other investment											
Other equity											
Currency and deposits											
Loans											

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[21]For additional practical guidance, refer to the ~~[updated]~~ *BPM Compilation Guide*.

Insurance, pension, and standard-ized guarantee schemes										
Trade credit and advances										
Other accounts receivable—other										
Reserve assets										
Monetary gold										
Special drawing rights										
Reserve position in the IMF										
Other reserve assets										
Liabilities (excluding financial derivatives)										
Direct investment										
Equity and investment fund shares										
Debt instruments										
Portfolio investment										
Equity and investment fund shares										
Debt securities										
Short term										
Long term										
Other investment										
Other equity										
Currency and deposits										
Loans										
Insurance, pension, and standard-ized guarantee schemes										
Trade credit and advances										
Other accounts payable—other										
Special drawing rights										
Memoranda										
Other investment assets and interest income before deduction of implicit financial services on loans and deposits FISIM (actual interest)										
Other investment liabilities and interest income before deduction of										

implicit financial services on loans and deposits~~FISIM~~ (actual interest)										

[1]Includes pure interest on other investment loans and deposits after deduction of implicit financial services on loans and deposits ~~removal of financial intermediation services indirectly measured (FISIM) from actual interest~~.

> **Commented [A12]:** The term "implicit financial services on loans and deposits" will replace "FISIM" in *BPM7* as decided by BOPCOM and the AEG.

19.80 The income rate of return is the ratio of investment income to the corresponding average asset or liability position in the IIP. Table [5.2] ~~in *BPM6*~~ shows the link between financial instruments and their corresponding income. The revaluation rate of return is the ratio of revaluations to the corresponding average asset or liability position.[22] Revaluations are holding gains and losses arising from changes in financial instrument prices, including exchange rates (see also paragraph [9.25]). The total rate of return is the sum of the income rate of return and the revaluation rate of return. Rates of return can be computed for assets (excluding financial derivatives) and for liabilities (excluding financial derivatives).

19.81 The estimation of pure interest on loans and deposits, i.e., after deduction of implicit financial services on loans and deposits, ~~when financial intermediation services indirectly measured (FISIM) are excluded from investment income~~ will cause rates of return on loans and deposits to differ from rates of return estimated from actual interest. The estimation of rates of return using both pure interest and actual interest (interest before deduction of implicit financial services on loans and deposits~~FISIM~~) would provide a more complete picture for analysis.

19.82 The systematic estimation of rates of return across the IIP can shed light on how the characteristics of investment across functional categories can differ. Functional categories reflect the differences in economic motivations and patterns of behavior exhibited by investors in these categories. Consequently, instruments such as equity and debt that are included in portfolio investment and direct investment can have different rates of return when compared across functional categories. It is worth noting that the different treatment

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[22]Because financial derivatives do not pay interest income and the ~~capital gains~~revaluations are difficult to relate to an original princip~~alle~~al investment, rates of return on financial derivatives would not be reliable if computed using the framework suggested here for estimating rates of return for other types of assets. Therefore, ~~so~~ they are omitted from Table 19.2~~X~~. Revaluation rates of return on financial derivatives could be a topic of additional research.

of retained earnings for portfolio investment equity and direct investment equity does not affect the total rate of return, but it will impact the mix between the income rate of return and the revaluation rate of return.

19.83 While *BPM6* focused primarily on income rates of return, *BPM7* also pays attention to revaluation rates of return, both of which are important tools for many different types of analysis.Income and revaluation rates of return are important tools for many different types of analyses. *BPM6* focused primarily on income rates of return. However, revaluation rates of return are also important for many analyses. For example, proposed new paragraphs [19.XX14 19.17 and 19.XX] on the valuation paradox in this guidance note rely heavily on the effect of revaluations on positions that are marked to market in the IIP. Another example is the effect of revaluations on direct investment positions. Direct investment positions that are marked to market in the IIP (using various market capitalization methods) potentially generate much larger revaluations than positions that are recorded at own funds book value (or current cost).

19.84 Rate of return differentials can be computed by subtracting the rate of return on liabilities from the corresponding rate of return on assets. The income rate of return differential is relevant to a possibly destabilizing feedback loop between the current account and the financial account as described in *BPM6,* paragraph [19.35]. A current account deficit must be financed by a decrease in net foreign assets, and the decrease in net foreign assets has the potential to increase the current account deficit through a reduction in net investment income, inducing a destabilizing feedback loop. The impact of a decrease in net foreign assets on net investment income depends on the income rate of return differential. A positive differential will reduce the impact on net investment income, a neutral differential of zero means the change in net investment income will be proportional to the change in net foreign assets, and a negative differential will increase the impact on net investment income. Thus, the income rate of return differential can moderate or exacerbate this potential source of instability.

19.85 Rates of return and their impact on financial flows are an important factor in a comprehensive analysis of the sustainability of a current account deficit as described in *BPM6,* paragraph [19.36]. Income and revaluation rates of return along with factors such as tax rates and expected future changes in prices play a role determining the expected real after-tax total rates of return on foreign assets and liabilities.

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