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International integration and statistical challenges: the intersection between policy and measurement needs¹

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¹ This presentation was prepared for the meeting. The views expressed are those of the authors and do not necessarily reflect the views of the BIS, IFC, BoP, ECB or the central banks and other institutions represented at the meeting.

International Integration and Statistical Challenges. The Intersection between Policy and Measurement Needs

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Abstract

At the core of the International Monetary Fund's (IMF) mandate is the stability of the international monetary system and promoting sustainable economic growth. This requires understanding and monitoring external—large current account and international investment position—imbalances. In this context, distinguishing between healthy and excessive imbalances is key to the IMF's surveillance operations and to its global and country policy advice on financial stability. Among the key challenges is how multinational enterprises (MNEs) impact measurement and interpretation of the international accounts. Growing international integration in trade and finance—with MNEs as key drivers—raise the challenges to the international accounts. In the past, the impact of MNEs on the international accounts was mainly through transfer pricing—impacting the allocation between trade in goods and services versus income (gross domestic product (GDP) versus gross national income (GNI)). Nowadays, the growth of MNEs has also increasingly impacted the financial account, including through the complexity of balance sheet structures, such as the use of special purpose entities (SPEs) and their significant role in foreign direct investment (FDI) positions, and the ease of shifting intangible capital across borders. What statistics are needed for effective policy analysis? This paper will revisit the statistics needed and will look into potential future directions for the next generation of international statistical standards.

Keywords: Globalization, Multinational Enterprises, Balance of Payments, International Investment Position, Measurement

JEL classification: F40, F60

¹ International Monetary Fund, Statistics Department. The views expressed are those of the authors and do not necessarily represent the views of the International Monetary Fund (IMF), its Executive Board, or IMF management.

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Introduction

Since its inception, the International Monetary Fund (IMF) has had a compelling interest in developing guidelines for the compilation of consistent and internationally comparable balance of payments statistics in support of its primary role of ensuring the stability of the international monetary system. This requires understanding and monitoring external—large current account and international investment position—imbalances. In this context, distinguishing between healthy and excessive imbalances is key to the IMF's surveillance operations and to its global and country policy advice on financial stability. While there has been substantial improvement in data availability, users of the data point to an increased disconnect between data and economic linkages. Among the key factors are globalization and the growing international integration of trade and finance—with multinational enterprises (MNEs) as key drivers—bringing new challenges in measuring and interpreting the international accounts.

Globalization usually refers to the increased economic integration of world economies. Over the last decades the trend in reducing trade barriers has led to an increase in cross-border trade. Production chains now span across countries allowing firms to organize their processes for opportunities to maximize production efficiency. Furthermore, there has been an increase in financial flows due to liberalization of domestic and foreign capital markets. All this is facilitated by advancement in science and technology allowing for reduction in the cost of communication and transport.

The update of the Balance of Payments and International Investment Position, 6th edition (BPM6), published in 2009, was made in the context of such progressive economic and financial integration. A decade after its publication, the underlying conceptual framework of BPM6 remains robust, but the continuous, fast-evolving economic and financial integration makes it advisable to review the framework. At the heart of the statistical challenges are activities of MNEs, profit shifting, the growing importance of intangible assets, innovative cross-border payments, intellectual property rights, and special purpose entities (SPEs).

This paper discusses what statistics are needed for effective policy analysis and what this means for the review of the next generation of international statistical standards. Section 1 briefly describes the activities of MNEs and how they impact the statistics. Section 2 focuses on the resulting policy needs of the IMF and its membership, and what types of response statistical methodology and compilation practises can provide. Section 3 discusses key areas in the international accounts—the balance of payments and international investment position—that would be reviewed. Section 4 concludes.

1. Activities of MNEs

MNEs are key drivers in the growing international integration in trade and finance. MNEs aim to maximize production efficiency across boundaries and their company-wide global after-tax profits, not necessarily their profits in each of the countries in which they operate. For these reasons, MNE groups often arrange for a wide variety of services to be shared within the group, or intra-group services. Such arrangements depend on the organizational structure of the group and the kind of

business but in general they may include services such as planning, coordination, budgetary control, financial services and advice, accounting, auditing, legal, computer services, research and development (R&D) centers, buying, distribution, marketing and human resources. Artificial transfer pricing (i.e., the non-market price at which related parties of the global MNE transact with each other) can result in a misalignment between the location where the firm records its financial transactions and the actual location of production. This has increased the complexity of compiling cross border economic statistics, not least because of the challenges of disaggregating production activities and consolidated balance sheets on a country-by-country basis.

Transfer pricing can cause measurement distortions in the international accounts. MNEs can manipulate transfer prices in order to shift profits to low tax regions. To remedy this, international tax guidelines have tried to enforce an arm's length principle (i.e., the amount charged by one related party to another for a given good or service must be the same as if the parties were not related, i.e. a market price must be charged). The use of the arm's length principle is an attempt to provide a consistent basis for determining the income and expenses– and therefore profit– of a company or permanent establishment that is part of an MNE group that should be taken into account within a tax jurisdiction. Such guidelines have been developed to help avoid the taxation of the same item of income by more than one tax jurisdiction. Such double or multiple taxation can create an impediment to cross-border transactions in goods and services and the movement of capital.² However, despite these guidelines, MNEs have leeway because intra-group transactions often consist of specialized components or intellectual property where it can be difficult to establish a market price.

Statisticians rely on data reported by MNEs that follow tax and legal requirements. To the extent that MNEs overstate or understate the economic value of a transaction through misleading transfer prices, there is a misallocation between statistics on trade in goods and services versus statistics on income. For example, if a parent company in a high-tax country sets an artificially low price on its exports of intermediate goods to an affiliate in a lower-tax country and an artificially high price on its overseas affiliate's exports of final goods back to the parent, it will artificially lower exports, raise imports and lower gross domestic product (GDP) in the higher-tax country (and artificially raise GDP in the low-tax country). However, because the earnings of MNEs reflect income from foreign (including reinvested earnings)³ as well as domestic operations, gross national income (gross national income (GNI), equal to GDP plus net receipts of income from the rest of the world) is less affected.

Prospects for addressing transfer pricing problems are likely to come from reforms to international tax rules. Initiatives such as base erosion and profit shifting (BEPS) emerged to put an end to tax avoidance strategies that exploit gaps and

² The United Nations Model Double Taxation between developed and developing countries https://www.un.org/esa/ffd/wp-content/uploads/2014/09/UN_Model_2011_Update.pdf and OECD Model Tax Convention on Income and Capital <https://www.oecd.org/tax/treaties/model-tax-convention-on-income-and-on-capital-condensed-version-20745419.htm>

³ In the example, the domestic investor's share in the added earnings (including reinvested earnings) attributed to the foreign affiliate in the low-tax country will be included in the GNI of the high tax country, offsetting the reduction in earnings attributable to the parent.

mismatches in tax rules to avoid paying tax.⁴ However, some criticize that the BEPS initiative, while helping to mitigate the worst practices, are not adequate, especially for high tech, digital economy firms. Arguably as cross-border trade increased, in particular trade in services and as intangible assets have grown in importance, MNEs have gotten better at exploiting the tax system. Critics point to a better alternative than arm's length principle called "formulary apportionment". This system considers an MNE to be a single entity and apportions profits geographically according to a formula intended to reflect economic activity which could be a mix of sales, employment and tangible assets (Shaxson 2019, Stiglitz 2019). Yet, international tax guidelines⁵ reject the use of a global formulary apportionment because of concerns such as using a predetermined formula that may disregard market conditions and produce an allocation of profits that may bear no sound relationship to the specific facts surrounding the transaction.⁶

More recently, the operations of MNEs have increasingly impacted the financial account. MNEs are driven to create more complex financing structures, consistent with management needs of global production networks but also due to the aim of minimizing tax and regulatory burdens in the context of mostly international capital markets. Toward the latter goal, they utilize the cross-border mobility of corporate assets, in particular intangible assets such as intellectual property, the ability to easily change the legal domicile of a firm to another country and other activities as part of a group-wide strategy to minimize corporate taxes. These strategies have direct impact on GDP, as well as GNI⁷ and countries' financial accounts. These complex structures often involve the use of SPEs to channel investments through several countries before reaching their final destinations.

SPEs are playing roles beyond traditional investment or pass-through activities. SPEs are now being set up to manage intellectual property rights, research and development, trade, and other activities. The common denominator of these activities is again tax arbitrage among jurisdictions in the context of free capital movements. While SPEs are legal entities that are typically located in jurisdictions

⁴ <https://www.oecd.org/tax/beps/>

⁵ <https://www.oecd.org/tax/transfer-pricing/oecd-transfer-pricing-guidelines-for-multinational-enterprises-and-tax-administrations-20769717.htm>

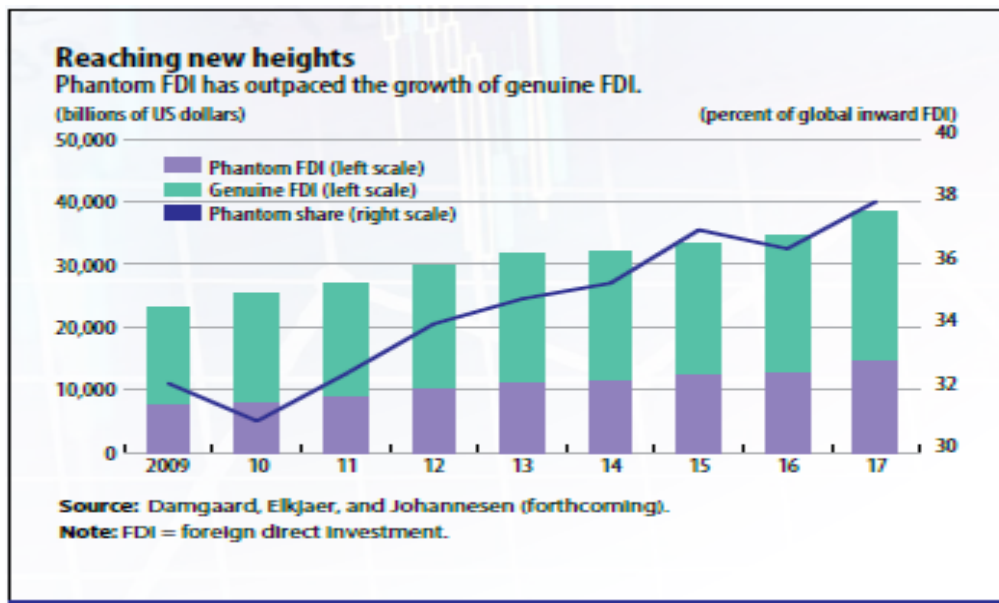
⁶ Global formulary apportionment would use a formula that is predetermined for all taxpayers to allocate profits. More specifically, a formula based on a combination of cost, assets, payroll, and sales implicitly imputes a fixed rate of profit per currency unit (e.g. dollar, euro, yen) of each component to every member of the group and in every tax jurisdiction, regardless of differences in functions, assets, risks, and efficiencies among members of the MNE group. The global formulary apportionment method is different from the transactional profit method which compares, on a case-by-case basis, the profits of one or more associated enterprises with the profit experience that comparable independent enterprises would have sought to achieve in comparable circumstances. Global formulary apportionment also should not be confused with the selected application of a formula developed by both tax administrations in cooperation with a specific taxpayer or MNE group after careful analysis of the particular facts and circumstances, such as might be used in a mutual agreement procedure, advance pricing agreement, or other bilateral or multilateral determination. Such a formula is derived from the particular facts and circumstances of the taxpayer and thus avoids the globally pre-determined and mechanistic nature of global formulary apportionment.

⁷ GNI can be affected by certain aspects of globalization namely the depreciation related to movable corporate assets (e.g. IP assets and aircraft). Irish Economic Statistics Review Group recommended a measure of GNI* which excludes the depreciation related to foreign-owned IP assets and aircraft. In addition, retained earnings of corporate inversions or redomiciled public limited companies (PLCs) headquartered in Ireland are also excluded.

other than where their parent enterprises are located, the economic relevance of SPEs in terms of their contribution to GDP in the country in which they are located tends to be small, although now there are more non-financial SPEs that may have production in the host country. SPEs tend to have large financial stocks and flows associated with large income flows.

For cross-border statistics there are a range of issues including the measurement of direct investment, SPEs, pass through funds, and the relationship between investment income and positions. One concern is the current measurement of direct investment is based on the first known counterpart rather than on the origin and final destination of investments. The scale of the issue was highlighted in a recent article by Damgaard, Elkjaer, and Johannesen (2019) which suggests that “nearly 40 percent of worldwide foreign direct investment (FDI) worth a total of \$15 trillion passes through empty corporate shells with no real business activities” (figure 1).

Figure 1. Phantom and Genuine FDI, 2009-2017



Source: Damgaard, J., T. Elkjaer, and N. Johannesen, September 2019, Finance and Development “The Rise of Phantom Investments”

Many branches of economic literature look at the activity of MNEs from different perspectives: international corporate taxation and transfer pricing; taxation of activity arising from intangibles; global allocation of production (supply chains); and macroeconomic statistics. The next section specifically looks at what statistics are particularly relevant in IMF policy analysis.

2. IMF Policy Needs

The IMF's primary purpose is to ensure global stability of the international monetary system which includes addressing macroeconomic and financial sector issues that bear on global stability and country specific external balances and positions. The IMF does this in three ways: economic surveillance, lending, and capacity development. The economic and financial information needed for surveillance is spelled out in the Articles of Agreement of which Article VIII, Section 5 is a central pillar. Statistics are an important component for ensuring sound policy analysis and appropriate evidence-based policy responses.

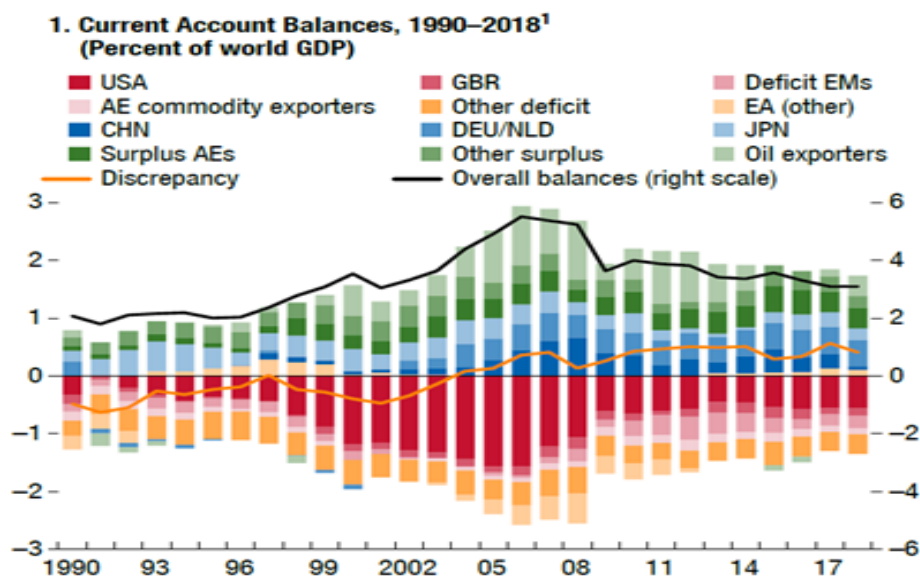
Accurate external sector statistics are important for policy analysis. From the multilateral surveillance standpoint, the dominant user interests related to the balance of payments and the international investment position (IIP) are those that affect the IMF's External Sector Report (ESR) and other multilateral surveillance needs. The ESR analyzes global external developments and provides multilaterally consistent assessments of external positions of the world's largest economies, representing over 90 percent of global GDP in the 2019 report.⁸ The ESR, produced annually since 2012, relies on estimates from the External Balance Assessment approach⁹ as well as country-specific evidence and judgment. Key statistical inputs in this analysis are accurate current account balances, especially income balance, as well as more granular data on the IIP [including breakdowns by currency composition], as well as reconcilable data on stocks and flows.

Globalization and the associated increase in global external imbalances observed since the early 2000s have triggered a body of analytical work seeking to explain their drivers, persistence and related developments in net foreign asset positions (e.g. Dooley et al (2004), Lane and Milesi-Ferretti (2007), Gourinchas and Rey (2007)). Global current account surpluses and deficits narrowed in the aftermath of the global financial crisis and have become increasingly concentrated in advanced economies (figure 2).

⁸ IMF External Sector Report available at <https://www.imf.org/en/Publications/SPROLLs/External-Sector-Reports#sort=%40imfdate%20descending>

⁹ External Balance Assessment methodology available at <https://www.imf.org/en/Publications/WP/Issues/2019/03/19/The-External-Balance-Assessment-Methodology-2018-Update-46643>

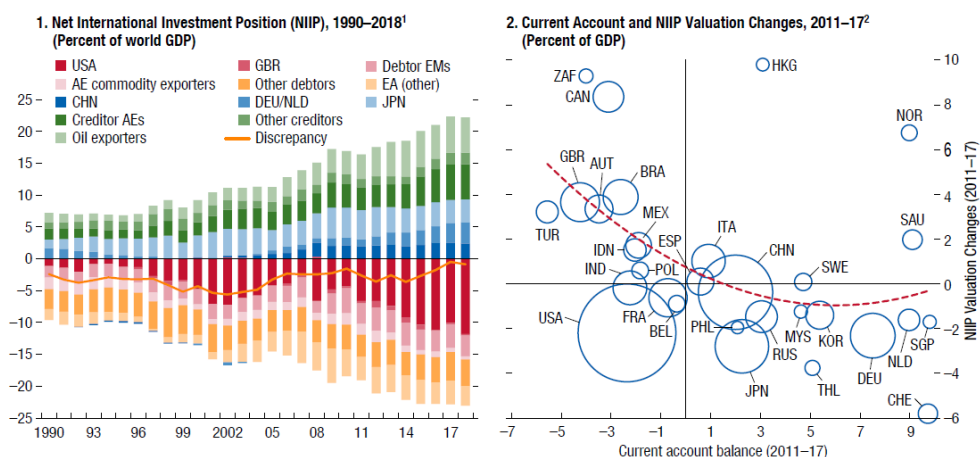
Figure 2. Evolution of Current Account Balances, 1990-2018



Source: IMF External Sector Report July 2019: The Dynamics of External Adjustment

While global current account imbalances have narrowed since the global financial crisis, in sharp contrast, stock imbalances have continued to widen to reach record levels. At 40 percent of world GDP, the world's net international investment position (NIIP)—defined as the sum of net creditor and net debtor positions—is now at a historical peak and four times larger than in the early 1990s (Figure 3, graph 1).

Figure 3. Net International Investment Position and valuation changes, 1990 -2018



Source: IMF External Sector Report July 2019: The Dynamics of External Adjustment

The ESR attributes the wider stock positions to the increased concentration of current account deficits (surpluses) in debtor (creditor) countries (with few exceptions, such as most euro area debtor countries), which has been partly mitigated by valuation effects in most cases, both in the form of exchange rate and asset price

movements (Figure 3, graph 2). This shows the importance of integrated international accounts and the need to understand stock and flow reconciliations.

Distinguishing between *excessive* and *healthy* imbalances is critical. Imbalances can be appropriate, even necessary, such as surpluses for countries whose populations are aging rapidly and need to accumulate funds that they can draw down when their workers retire. Yet, sometimes external imbalances can point to macroeconomic and financial stress if they are deemed excessive relative to the level implied by a country's fundamentals and desirable policies.¹⁰ To determine what constitutes excessive imbalances the IMF uses the aforementioned External Balance Assessment approach that relies on current account balances and IIP statistics. Distinguishing *excessive* from *healthy* imbalances is key but it is complicated by the fact that some of the literature has questioned whether current statistical measures of the current and financial accounts provide an accurate view of external imbalances (e.g. Adler et al. (2019)).

Certain statistical treatments may not be ideal for policy analysis. Adler et al. (2019) framework highlights two distinct types of measurement issues: measurement distortions and definitional measurement issues. The definitional issues relate to the exclusion of capital gains on investments from income in national accounting and are not considered distortions. In the conceptual framework of the accounts, income is generated by production or received from transactions that distribute the income generated by production. Therefore, capital gains (and losses) are excluded from income because they do not arise from production or transactions. Instead capital gains or losses are accounted for in the "other flows" (revaluation account). This means that returns to foreign investments driven by real exchange rates or asset price changes, while affecting the IIP are not recorded as investment income in the current account of the investor home country. When such returns are predictable they can be perceived by investors as income; however, it remains a broader and unsettled discussion on whether such definitional issues should be accounted for when conducting a comprehensive assessment of a country's external balances. On the other hand, the measurement distortions cited by Adler et al. (2019) formed the basis of measurement refinements of the IMF's External Balance Assessment in 2018 (Cubeddu et al. (2019)), which comprise accounting treatments that shift the recording of financial returns on foreign investment positions they say arbitrarily between the income balance and net IIP valuation changes. Included in this category is the treatment of retained earnings on portfolio equity and interest rate compensation for expected inflation and default.

Gross international financial flows and positions are also central to assessing financial stability risks. Obstfeld (2012) states that the balance sheet mismatches of leveraged entities provide the most direct indicators of potential instability. The 2007-2008 global financial crisis led to a renewed interest in balance sheet analysis and the IMF's 2014 Triennial Surveillance Review called for incorporating macro-financial analysis and the balance sheet approach into regular IMF surveillance.

Cross-border FDI positions have continued to expand since the global financial crisis. Lane and Milesi-Ferreti (2017) document how these have continued to expand since the financial crisis, unlike positions in portfolio instruments and other investment (Figure 4). This increase is primarily explained by FDI positions vis-à-vis

¹⁰ <https://www.imf.org/external/np/g20/pdf/2019/060519b.pdf>

financial centers, which include a prominent role for special purpose entities. They attribute this development to the increased complexity in cross-border corporate structures of large MNEs, as well as with their choices of domiciliation for headquarters. More generally, they state that the disproportionate role of international assets and liabilities intermediated by financial centers makes it extremely difficult to separate “genuine” financial integrations/cross-border diversification from positions reflecting MNE corporate structures or the domicile of investment fund vehicles.

Figure 4. Changes in External Assets and Liabilities, 2007 – 2015
(percent of world GDP)



Source: Lane and Milesi-Ferretti (2017) *International Financial Integration in the Aftermath of the Global Financial Crisis*

The size of cross-border claims implies a multiplication of apparent financial links and often involve “round-tripping”. Round-tripping occurs when investment that has been channeled abroad is returned to the domestic economy in

the form of direct investment (Borga, 2016). In this respect, a disproportionate importance is given to financial centers in international financial linkages. Fund economists point to the need for a link between external positions and domestic financial accounts; banking statistics on a consolidated basis; portfolio investment geographical “distortions” implied by investment fund holdings, and the need for FDI statistics to have (i) separate reporting of SPEs, (ii) statistics by ultimate source/destination, and (iii) how to allocate “consolidated data” geographically. The next section addresses how the international accounts can meet some of these emerging user needs keeping in mind the tension between user needs and statistical capacity of IMF member countries.

3. How can international accounts meet emerging policy analysis needs?

As reviewed in the previous section, assessing external sector imbalances places continuous demands on statistical methodologists and compilers. As the economic and financial systems evolve, information needs change. Avdjiev et al (2018) note that “as the global economy becomes more integrated, there is a growing tension between the nature of economic activity and the measurement system that attempts to keep up with it.” Moreover, as noted by Heath & Bese Goksu (2016), “looking back in history, crisis events have always acted as triggers to question the nature, quality, and availability of data needed for policy making.” All the issues mentioned form the backbone of a strategy for updating the BPM¹¹ and are primarily linked to the impact of globalization, digitalization, and the evolution of payments systems—with some dominant interconnected themes, including the treatment of SPEs, MNEs and global value chains (GVCs). Addressing these themes are viewed as critical for ensuring statistical measurement remains relevant.

Since the publication of BPM6 much guidance has been provided on the statistical challenges emerging from globalization to assist national statistical compilers.¹² However, some issues warrant further research to see if changes to the fundamentals of the framework—the “core”—are needed or if user demands could be met with more detailed data. The level of detail may be classified into three groups: (i) **granular**, meaning more disaggregated data consistent with the core framework; (ii) **supplemental**, meaning granular data that may for example, require a rearrangement of classifications to present alternative views; and (iii) **extensions**, which are data compiled outside the BPM6 conceptual framework and may be based on alternative concepts to facilitate deeper analysis. One overarching key issue is whether the impact of globalization can be addressed by more granular or supplemental data in the current framework or through extensions of the core framework.

¹¹ See Backbone Strategy for Updating the BPM6 <https://www.imf.org/external/pubs/ft/bop/2019/pdf/19-10.pdf>

¹² UNECE (2011) “The Impact of Globalization on National Accounts” http://www.unece.org/fileadmin/DAM/stats/groups/wggna/Guide_on_Impact_of_globalization_on_national_accounts_FINAL21122011.pdf; UNECE (2015) “Guide to Measuring Global Production” <http://www.unece.org/index.php?id=42106>

Many analytical needs could be met with more granular data, if feasible.

The most recent discussions at the IMF's Committee on Balance of Payments Statistics (BOPCOM) have focused on meeting user demands by providing more detailed data. Two groups, the Task Force on SPEs (TFSPE) and the Working Group on Balance of Payments Statistics relevant for GVCs (WG-GVC), have done much work in identifying what additional detailed is needed for policy analysis and is discussed in more detail in the sections below. Additionally, BOPCOM has recently established a Task Force on Intellectual Property Products (TFIPP) to work on reviewing cross-border related issues of intangible capital especially since attributing economic ownership to a particular unit of an MNE is a statistical challenge.

Special Purpose Entities

Identifying separately the activities of SPEs is essential for market analysts and policy makers to analyze cross-border interconnectedness and associated risks.

While certain international initiatives have advanced somewhat the availability of separate data on SPEs, the absence of an internationally agreed SPE definition to collect cross-country comparable data has in the past hindered progress. The TFSPE developed a definition for cross-border statistics to assist compilers in properly identifying SPEs and a data collection framework for reporting cross-country comparable data on resident SPEs.

In formulating the definition of SPEs, BOPCOM considered several key aspects: (i) whether it should focus on identifying certain (SPE) institutions or rather certain SPE-like or "pass-through" activities (i.e. that could be undertaken by any institution); (ii) whether it should encompass only financial or also nonfinancial entities; (iii) which kinds of identifying criteria should be used, e.g. employment, physical presence, production, residence of the direct or indirect controlling entity, balance sheet structure (i.e. only financial or also nonfinancial assets, only cross-border positions or also domestic), etc.

Considering all these factors, the definition endorsed by BOPCOM is as follows:

An SPE, resident in an economy, is a formally registered and/or incorporated legal entity recognized as an institutional unit; with no or little employment — up to maximum of five employees; no or little physical presence; and no or little physical production in the host economy.

SPEs are directly or indirectly controlled by nonresidents.

SPEs are established to obtain specific advantages provided by the host jurisdiction with an objective to (i) grant its owner(s) access to capital markets or sophisticated financial services; and/or (ii) isolate owner(s) from financial risks; and/or (iii) reduce regulatory and tax burden; and/or (iv) safeguard confidentiality of their transactions and owner(s).

SPEs transact almost entirely with nonresidents and a large part of their financial balance sheet typically consists of cross-border claims and liabilities.

Identifying also nonresident SPEs (e.g., domestic parents that own SPEs in foreign countries) in cross-border statistics is important in some economies. In countries such as Brazil, Russia, the United Kingdom, and the United States concern

for non-resident SPEs is prominent. For example, many U.S. MNEs have direct investment relationships with SPEs abroad. Such SPEs cover holding companies (including intellectual property holding companies), offshore entities associated with investment funds or insurance companies, and the foreign owners of domestic firms that have moved their legal domicile abroad (corporate inversions). Noonan (2019) uses the TFSPE definition of SPEs and data from the U.S. Bureau of Economic Analysis (BEA) to understand the prevalence of SPEs and their use of pass-through equity in U.S. FDI statistics. Noonan finds that in 2016, around 20% of the 78,413 majority-owned foreign affiliates (MOFAs) of U.S. MNEs met the SPE criteria and accounted for 39.7 percent (10 trillion USD) of total affiliates (SPE and non-SPE) assets (25.3 trillion USD), of which the majority of those MOFAs (85%) were classified under the holding company category. While recognizing the benefits and the rationale of collecting separate data on non-resident SPEs, the TFSPE recommended giving priority to initiating international data collection only for resident SPEs at this stage; once data collection is more widespread the possibility of international data collection on non-resident SPEs may be revisited.

The IMF's data collection on SPEs will go beyond direct investment. Since SPEs have evolved to include nonfinancial specialized entities established by MNEs, the proposed reporting template will single out selected balance of payments and IIP components of resident SPEs, including information on components beyond direct investment activities. As transactions in goods would be relevant for merchanting SPEs, a separate line for net merchanting by SPEs is included. Regarding services, four distinct components of services have been included in the reporting list where SPEs can be of relevance: transport, financial services, charges for the use of intellectual property, and other business services. In addition to the more detailed service components the template also encourages direct investment data to be further disaggregated to distinguish income by the residency of the ultimate controlling parent. Such additional information can assist in compiling the supplemental statistics on who ultimately receives the income, although this template does not collect any geographical breakdown.¹³ The data collection targets the release of 2020 annual data by end of 2021. To assist with compilation, the IMF is working closely with other international agencies, including the European Central Bank (ECB) to advance data accessibility and the IMF will also release operational guidelines for implementing national data collection frameworks during 2020.

While recognizing that separate identification of SPEs would facilitate a clearer view of pass-through funds, BOPCOM acknowledged that not all pass-through capital can be captured through identifying and separating SPEs. In several countries, the phenomenon of pass-through capital also occurs outside SPEs, either captured through near SPEs or in other entities. The possibility of separately identifying pass-through activities not related to domestic activities, regardless of the statistical status of the entities (SPE, near SPE, or non-SPE), also emerged. One approach for such identification would lie in a further disaggregation of institutional sectors into foreign-controlled and non-foreign controlled entities (domestic MNEs and other domestic enterprises). This option may be worth exploring in the process of updating the BPM6. This would allow for certain financial flows within foreign

¹³ The TFSPE reflected on the feasibility of enhancing the Coordinated Direct Investment Survey (CDIS) to collect data on SPEs but it did not recommend doing this in the short term. There was concern on data confidentiality by reporting countries because of the individual country details of the CDIS pointing to the impracticality of such a collection at this stage.

controlled entities to be interpreted as pass-through activities. This option also aligns with recommendation 8 on institutional sector accounts of the G20 Data Gaps Initiative (DGI) that disaggregates the financial corporations and non-financial corporations' institutional sectors along the same recommended breakdowns (domestic MNEs, foreign controlled corporations, and other domestic enterprises) for both financial stocks and flows and non-financial transactions. Such consistent breakdowns between the national, including the domestic financial accounts, and international accounts would bolster analysis of how MNEs impact domestic activity (e.g., value-added of foreign controlled non-financial corporations) as well as cross-border activity.

MNEs and GVCs

Beyond matters directly related to the financial account, policy demand for more statistical information on GVCs has also grown significantly in recent years. As GVCs continue to develop, the IMF's World Economic Outlook (April 2019)

¹⁴ points to the increased importance of differentiating between gross (i.e., exports minus imports from the same country) and value-added (i.e., the value each country adds in the production of goods and services that are consumed worldwide) bilateral trade balances. BPM6 provides a useful framework for additional information that would be helpful in bridging detailed trade statistics and accounting frameworks to improve the quality of inter country input-output (ICIO) tables that are the basis for GVC analysis. The availability of detailed information (such as geographical or product) required at the data source level, the quality of the output data, compilation cost, confidentiality, and reporters' burden are strong impediments to produce relevant GVC data. Nevertheless, BOPCOM supported the final recommendations of the WG-GVC that the IMF and Organization for Economic Co-operation and Development (OECD) should develop a GVC data collection template. Acknowledging compilation challenges and considering difficulties for the implementation in countries with low statistical capacity, the proposal will identify two reporting levels with (i) core or minimum set of items and (ii) encouraged data that more statistically developed economies are able to report.

Identifying MNEs in the current account can also address the treatment of income. Value-added consists of the return to capital (i.e., operating surplus) and labor (i.e., compensation of employees).¹⁵ While the return to labor is expected to largely remain in the host economy, the profits (i.e., return to capital) of the direct invest enterprise ultimately accrue to the foreign parent. In addition, domestic MNEs will benefit from the profits they receive from their foreign affiliates.

A deeper and wider review of MNE activity should be sought in the next update to the international standards. The further breakdown of the current account to better highlight MNE activity should be considered in the next update to the international standards. Furthermore, investigation on whether other components useful for highlighting MNEs activities—such as retained earnings of MNE portfolio investors, intragroup transfers of IPPs and intragroup trade—prompted calls for exploring the possibility of introducing a sub-sectorization distinguishing between domestic MNEs that have affiliates abroad, foreign controlled enterprises and other

¹⁴ <https://www.imf.org/en/Publications/WEO/Issues/2019/03/28/world-economic-outlook-april-2019>

¹⁵ It also includes taxes and subsidies on production.

domestic enterprises, which re-joins the idea of adding sub-sectors in the current framework discussed by the TFSPE.

Other statistical considerations

Augmenting residency-based cross border investment statistics could draw on the experiences of the Bank of International Settlements (BIS) international banking statistics (IBS).¹⁶ As risks to financial stability may come from the activities of domestically-owned individual institutions in foreign markets, cross-border consolidated statistics of domestically-owned individual institutions (incorporating foreign branches and subsidiaries) located in an economy are relevant for assessing financial stability. In this context, as noted by Heath and Bese Goksu (2017) “there has been the longstanding use of BIS IBS data on a cross-border consolidated basis that captures the nationality of international banking activities, and so can help identify potential risks and vulnerabilities to the domestic economy arising from the foreign activities of domestically headquartered international banks where the ultimate risk lies”. Tissot (2016) posits that because the consolidated IBS build on measures used by banks in their internal risk management systems and are broadly consistent with the consolidation scope followed by banking supervisors the data yield a comprehensive picture of the national lenders’ risk exposures.

There is also policy demand for more integrated international accounts to facilitate a better understanding of stock and flow reconciliations. As figure 3 underscores, it is important to have an integrated and consistent balance of payments and IIP. The next manual would aim to give more attention to stock-flow reconciliation by strengthening guidance on (i) IIP valuation changes; and (ii) the nexus between returns on financial assets and liabilities and their corresponding positions.

Currency composition. Analysis of risks related to movements among major currencies, including possible sectoral imbalances, and balance sheet risks is an intrinsic part of the continuous effort to develop a deeper understanding of the implications of growing financial integration. The need to better inform this analysis by addressing data gaps involving foreign currency exposures is included in the current phase of the G-20 DGI. A detailed currency breakdown of the IIP is already encouraged in BPM6. To this end, the IMF has expanded its online database to facilitate the re-dissemination of such data. However, compilation of currency composition data remains challenging for many countries; and as of September 2019, only 13 countries have reported such data for re-dissemination at the IMF’s website.

4. Final comments

Policy relevance should drive what should be considered when updating the next generation of statistical standards. To address what data are needed for policy, the issues highlighted in this paper have thus far pointed to providing more

¹⁶ The data collected by BIS covers both residency- based (locational banking statistics) and nationality-based (consolidated banking statistics). The consolidated banking statistics measure international banking activity focusing on the country where the banking group’s parent is headquartered. https://www.bis.org/statistics/about_banking_stats.htm

granular, supplementary or extended measures, allowing the flexibility needed for countries of varying statistical capacity.

In strengthening its member countries' statistical capabilities, the IMF provides guidance to a wide range of countries with very different economic structures and statistical systems. This requires a pragmatic approach to developing and implementing methodological standards, not least because the aspiration of one-statistical-standard-fits-all is difficult to implement.

The international standards should be a roadmap for what can be practically done. There is a tension between being able to meet the various user needs and not stretching the framework too thin. For issues that may touch the core principles, a wider view on the benefits versus the costs of the potential changes as well as considering extensions to the core accounts would be required. The latter would avoid the risk of stretching too much the core accounting framework by trying to serve competing requests and possibly putting at risk fundamental principles. Thus, any proposed solutions should be tested by several critical restrictions. Among the most important are: (i) statistical compilation feasibility; (ii) data source availability and accessibility; (iii) objectivity; (iv) and flexibility to implement second-best solutions, due to differences across countries related to their economic structure and statistical capacity. As such, the conceptual guidance should provide a roadmap for what can be done by central banks and national statistical offices, considering existing as well as new and innovative good statistical compilation practices.

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STATISTICS

International Integration and Statistical Challenges

**The Intersection between Policy and
Measurement Needs**

**Joint European Central Bank, Irving Fisher
Committee and Banco de Portugal Conference
Lisbon, Portugal
17 – 18 February 2020**

**Paul Austin, Gabriel Quirós-Romero and Jennifer Ribarsky
Statistics Department, International Monetary Fund**

* The views expressed are those of the authors and should not be attributed to the IMF, its management or its Executive Directors.

Content

- **International integration**
- **Multinationals and distortions to well-established statistics**
- **Assessment of external balances: policy analysis needs**
- **Challenges to the international accounts**
- **Statistical priorities. Next review of international standards**
- **Concluding comments**

International Integration: key features



Reduction in trade barriers: Growing scale of cross-border trade



Production chains spanning to developing countries: opportunities to maximize production efficiency



Removal of restrictions on movement of capital: increased flows of capital

❖ **FACILITATED BY ADVANCES IN SCIENCE AND TECHNOLOGY; REDUCED COST OF COMMUNICATION AND TRANSPORT**

Key vehicle: Multinational Enterprises (MNEs)



- MNEs are key vehicles in the growing non-financial and financial international integration.
- Economic, financial, tax and regulatory drivers.

Challenges for external sector statistics:

CURRENT ACCOUNT and increasingly the FINANCIAL ACCOUNT

- Treatment of *intra-MNE flows*:
 - *Transfer pricing*
 - Increasing role of *intangible assets*— ease of relocation
 - *Complex accounting and financial structures*
- *Global Value Chains (GVCs)* – fragmentation of production across borders (international integration)
- *Ease of changing legal domicile* – tax and regulatory

Some well established statistics become less useful...criticism

- “...Net DI inflows and outflows are highly correlated, suggesting that “measured” DI gross flows may reflect flows through rather than to the country...” Blanchard and Acalin, 2016
- “...Better data on real size of international production and its geographic and sectoral distribution are needed to obtain an accurate picture of DI...” Sauvant 2017
- “Phantom investment calls for an exorcism....Statistics on foreign direct investment are no longer fit for purpose...More than third of foreign investment is multinationals dodging tax....” FT September 2019

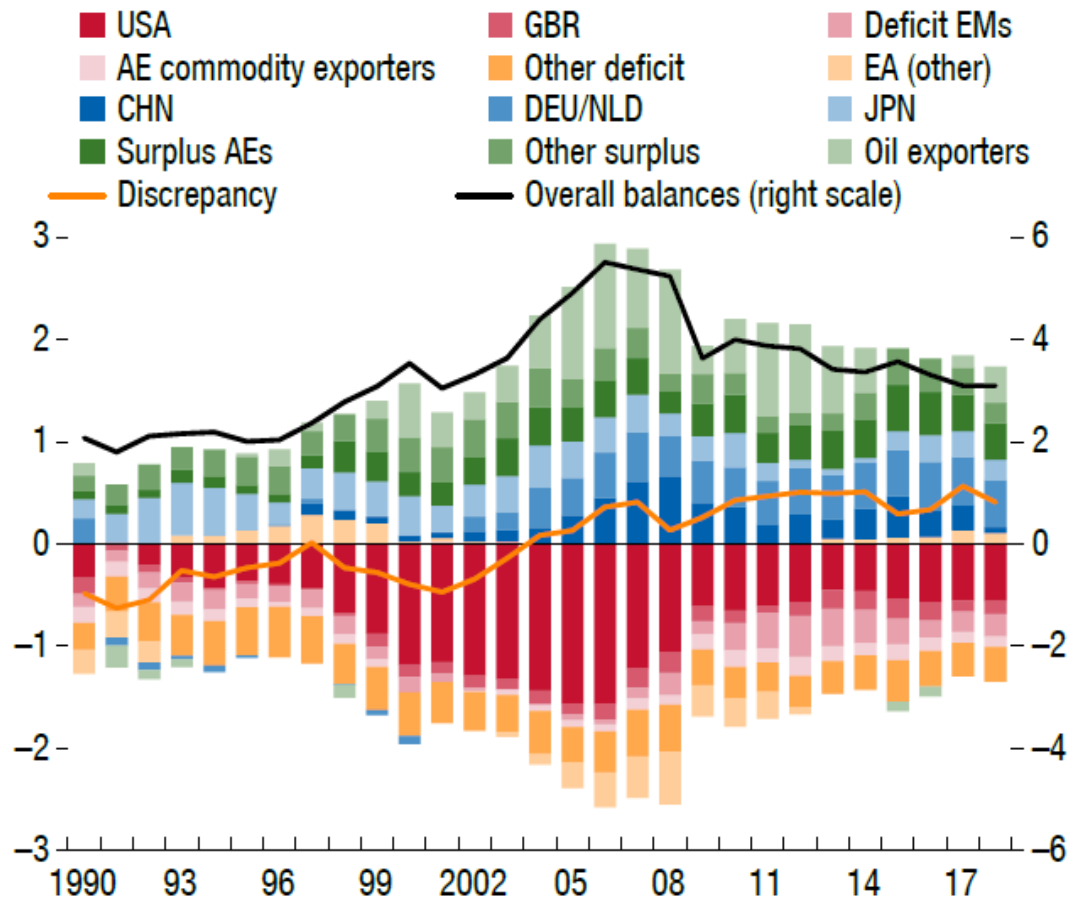
IMF's External Sector Policy Analysis

- **IMF's mandate to promote the stability of the global international economy and monetary system**
 - ▶ Central: monitoring and assessment of external imbalances
 - ▶ Not all external imbalances are risky, some even necessary
 - ▶ **Challenge is to distinguish *excessive* from *healthy* imbalances**

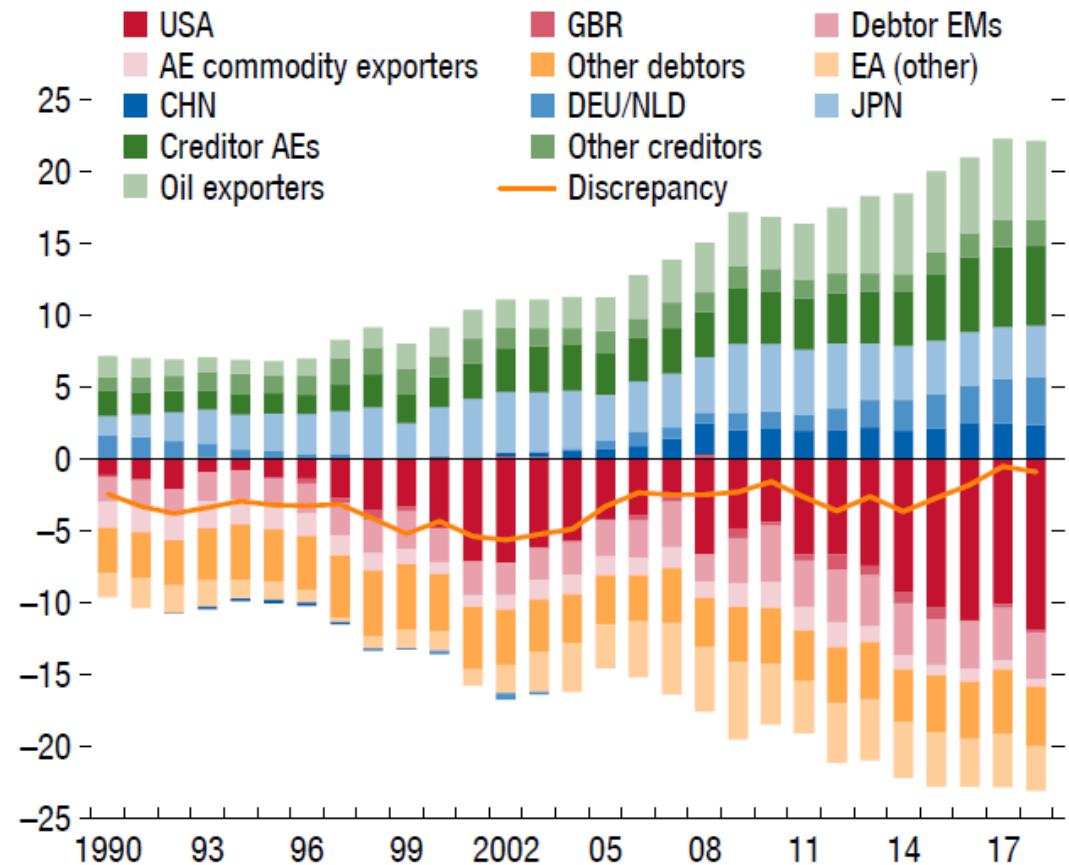
Focus beyond the current account balance: increasing role of the financial account and IIP

External sector surveillance has become central in the last decade, amid large current account and NIIP imbalances...

1. Current Account Balances, 1990–2018¹
(Percent of world GDP)



1. Net International Investment Position (NIIP), 1990–2018¹
(Percent of world GDP)



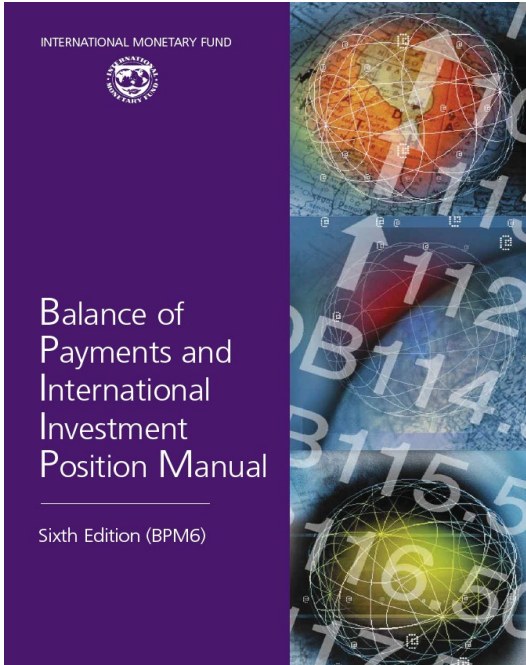
Source: IMF External Sector Report July 2019: The Dynamics of External Adjustment



What is needed?

- Core elements and challenges of external imbalance assessments
 - **Accurate measure of current account balance, especially income balance.**
 - Real accumulation of external wealth by domestic residents
 - Treatment of retained earnings on portfolio equity not recorded as income.
 - **Accurate measure of international investment position (IIP) and its composition.**
 - Ultimate owner basis, consistent valuations, currency composition
 - Limited information on stock-flow reconciliation (i.e., statistics to reconcile flow information from BOP with stock information from IIP)
- Banking statistics on a consolidated basis ← BIS International Banking Statistics
- FDI statistics: (i) Separate reporting of SPEs; (ii) Statistics by ultimate source/destination

Statistical Challenges



- A decade since *BPM6* was released.
- Three broad major themes have emerged since *BPM6*:
 - Globalization
 - Balance sheet analysis
 - Digitalization and financial innovation
- All three dimensions are strongly interlinked and overlap through..
 - MNEs, GVCs
 - Profit shifting, tax and regulatory drivers
 - Increasing role of intangible assets, intellectual property rights
 - Special purpose entities (SPEs)
 - Increasing financial integration
 - Balance sheet vulnerabilities
 -

...Advising enhancing the reliability of the Current and Financial Accounts related to....

- SPEs, profit shifting, transfer pricing
- Global value chains, and the role of foreign intermediate goods and services in exports/imports
- Foreign direct investment and portfolio investment
- Nationality-based presentation as complement to the standard residence-based international accounts
- Enhanced consistency between stocks and flows



Key role and challenges from SPEs

- **Originally, SPEs were mostly set-up by financial institutions**
- **Now, include nonfinancial entities established to manage**
 - Intellectual property rights, R&D
 - Trade and other activities
 - Part of group-wide profit maximization strategy
- **Dissemination of separately identified data on SPEs**
 - ▶ IMF BOPCOM Task Force devised international definition and typology to support data collection to begin by end of 2021
- **Beyond current standards (for consideration in BPM7):**
 - ▶ Further disaggregation of institutional sectors into foreign controlled and non-foreign controlled entities?
 - ▶ Should SPEs be considered separate institutional units from their parent?
 - ▶ How to determine the economic ownership of intellectual property (e.g. R&D)?

FDI and SPEs

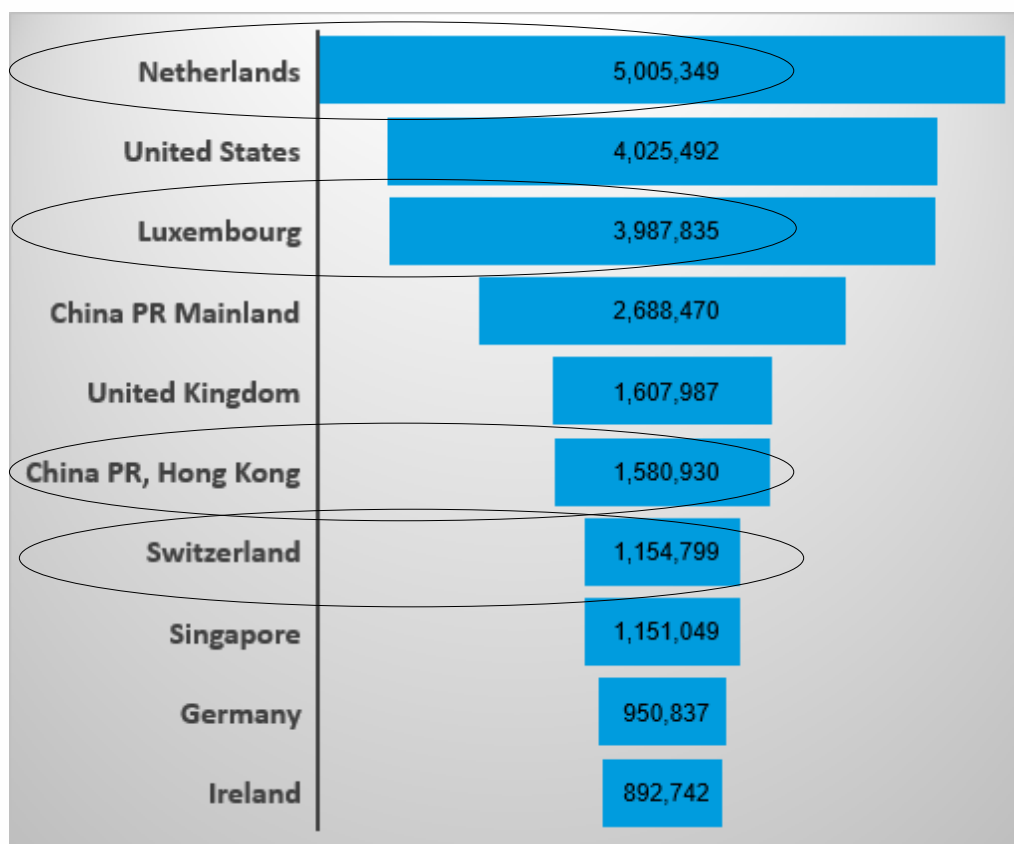
Gross international financial flows and positions are central to assessing financial stability risks.

- FDI positions have continued to expand since the global financial crisis.
 - Increase primarily explained by FDI positions vis-à-vis financial centers.
 - Prominent role of Special Purpose Entities.
 - Attributed to increased complexity in cross-border corporate structures of MNEs.
 - Choice of domiciliation for headquarters.

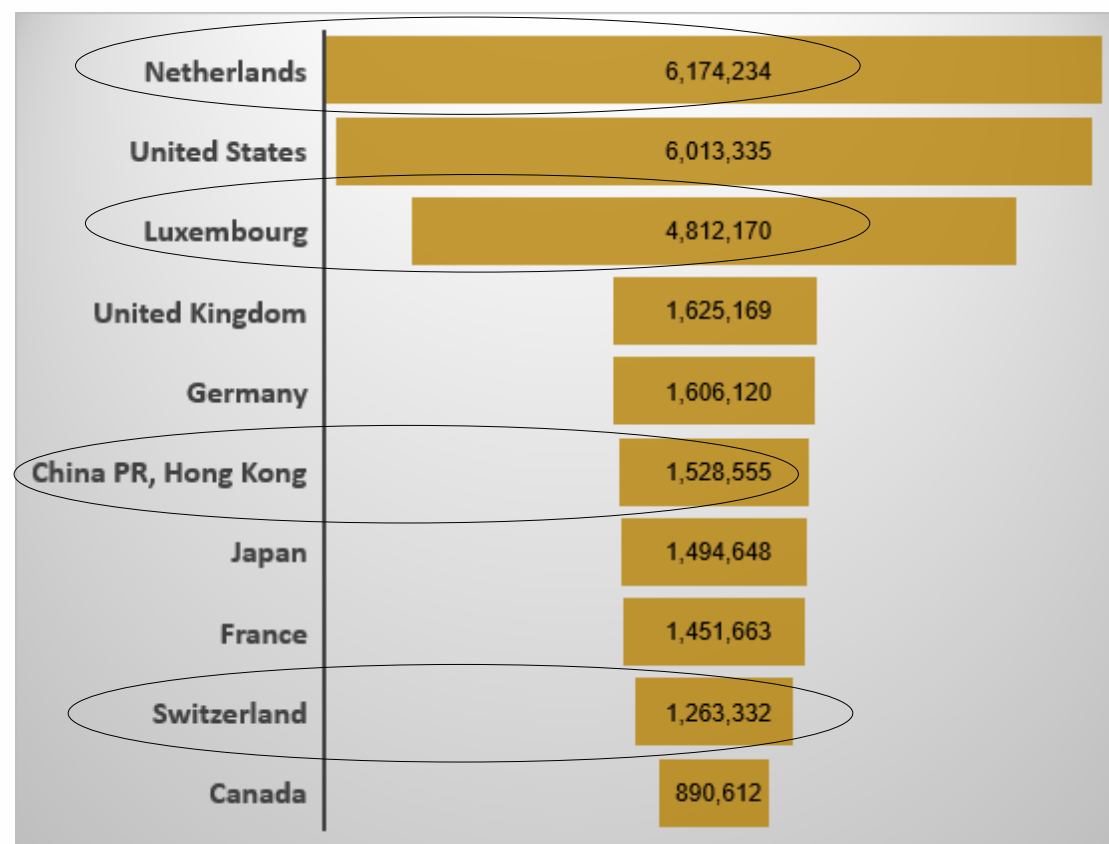
FDI may be distorted, making the assessment of external imbalances challenging

Direct Investment Positions: Top 10 Reporting Economies as at end-December 2017 (US\$ million)

Inward Direct Investment Position



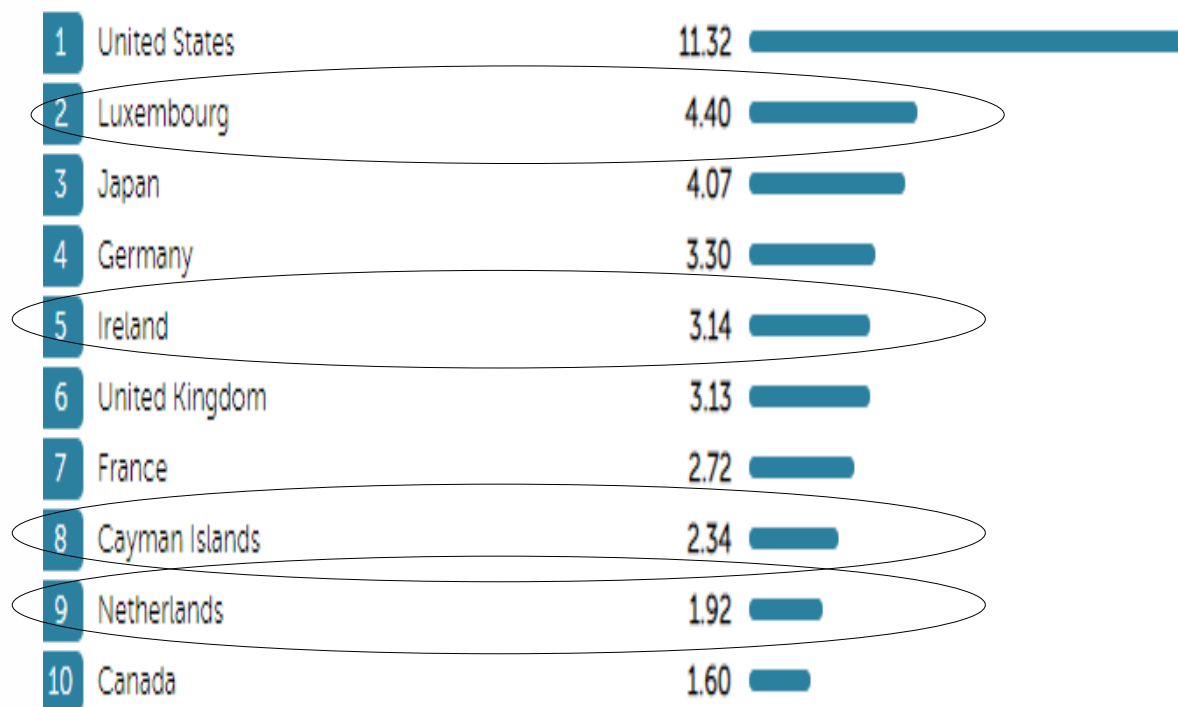
Outward Direct Investment Position



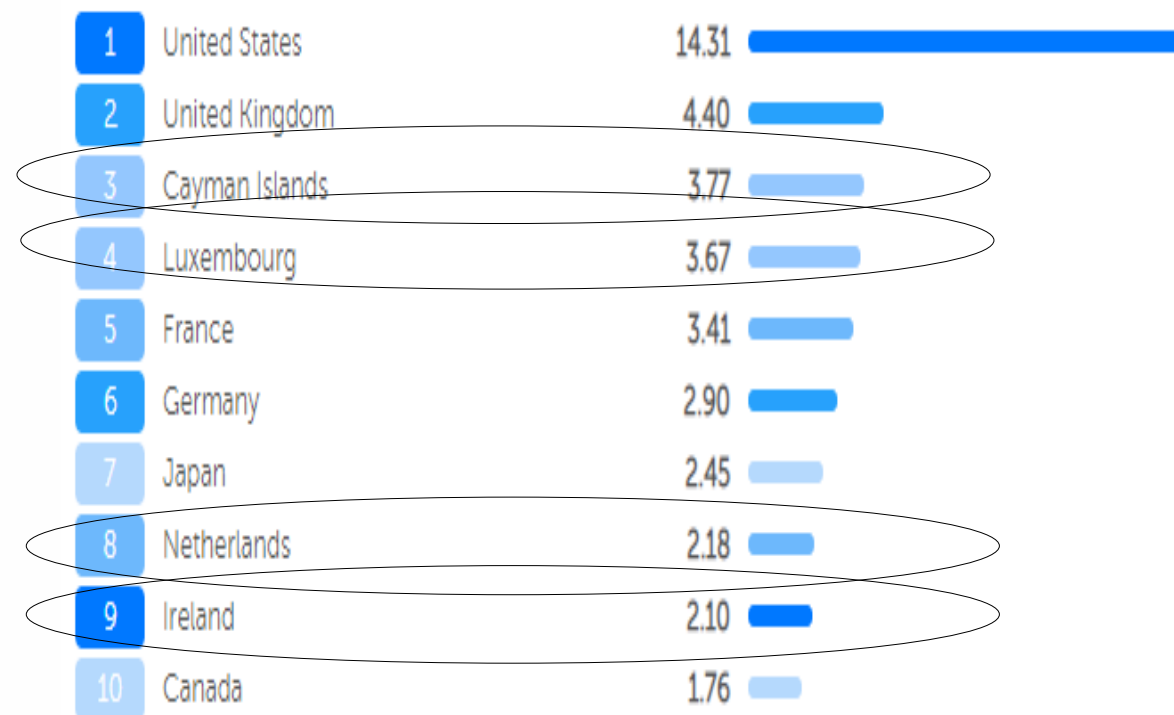


Portfolio Investment Positions: Top 10 Economies as at end-June 2018 (US\$ trillion)

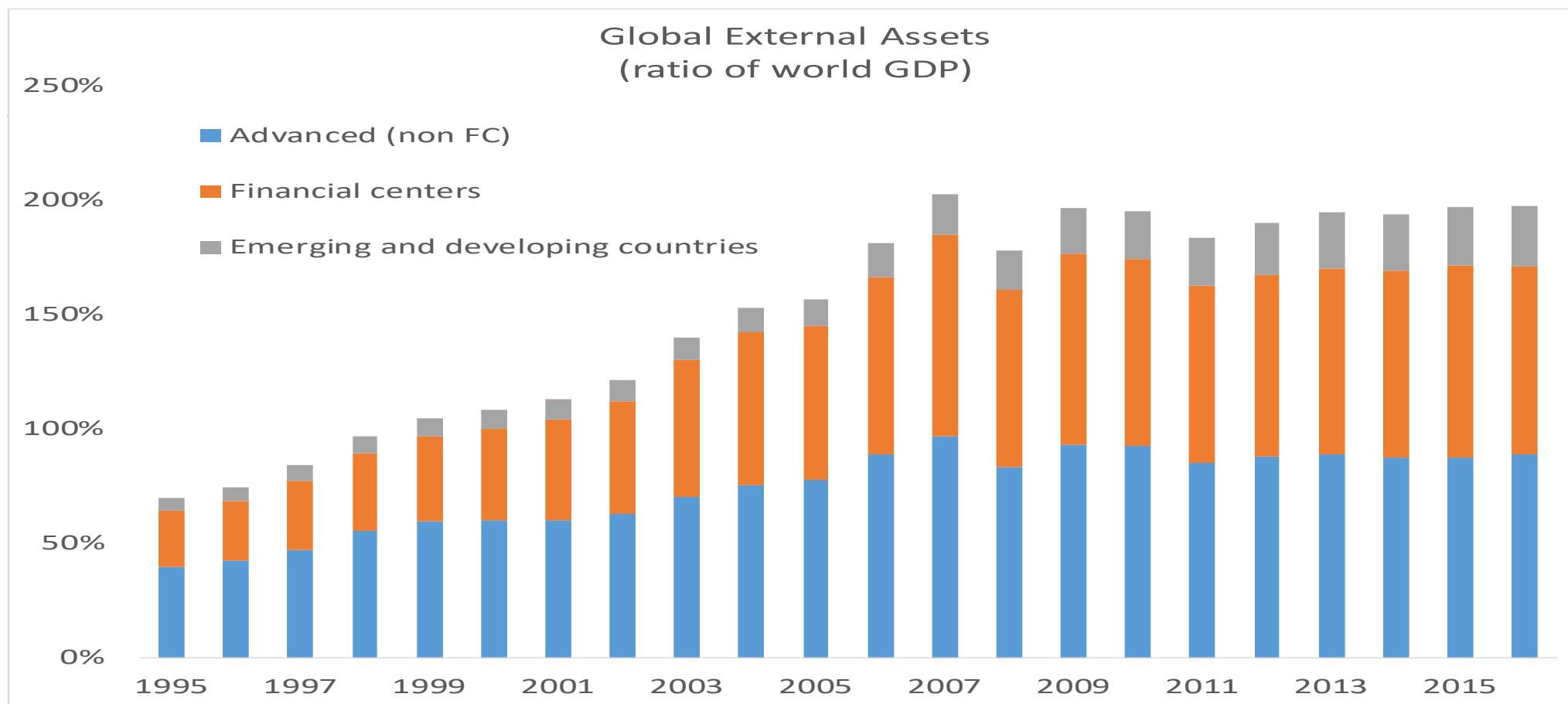
Total Portfolio Investment Assets
Top 10 Reporting Economies
(Trillions USD), December 2018



Derived Total Portfolio Investment Liabilities
Top 10 Economies (Derived from Creditor Data)
(Trillions USD), December 2018

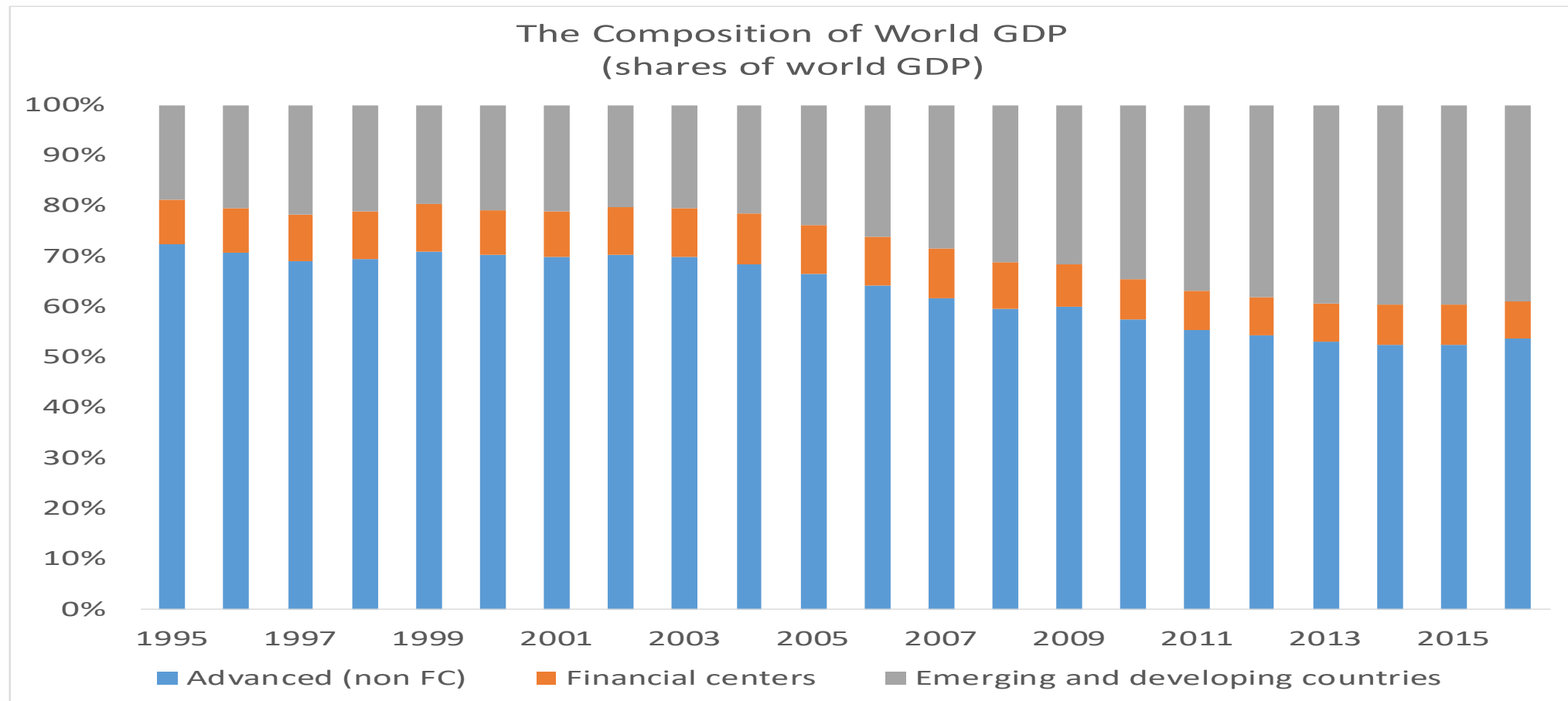


The critical share of financial centers...



Source: Lane and Milesi-Ferretti (2017) *International Financial Integration in the Aftermath of the Global Financial Crisis*

...in contrast to their share of GDP...



Source: Lane and Milesi-Ferretti (2017) *International Financial Integration in the Aftermath of the Global Financial Crisis*




Treatment of retained earnings on portfolio equity

- ▶ Retained earnings rerouted to owner only in the case of foreign direct investment
- ▶ Same treatment not applicable to portfolio equity (nor to domestic-to-domestic relations)
- ▶ Many users consider that retained earnings on portfolio equity are perceived by investors as income and thus impact their savings investment decisions (e.g. Adler et al 2019 “[The Measurement of External Accounts](#)”)
- **Should treatment be changed?** Needs careful consideration (e.g. on conceptual grounds, but also in terms of data availability)
- Should a similar treatment be considered in national accounts (as proposed by Reinsdorf et al 2017 “[Improving the Treatment of Holding Gains and Default Losses in National Accounts](#)”)?
- Implication → if all retained earnings of corporations are re-routed to shareholders, corporate saving ratios would become zero by definition



Multinational Enterprises & Global Value Chains

- Fragmentation of production has created challenges in interpreting current trade related statistics. For example, **gross exports often contain significant foreign intermediate goods and services.**
 - ▶ Potentially distorting who really trades with whom, current measures of bilateral trade balances may need supplemental measures for optimal policy analysis.
- Made progress on certain issues that can be addressed ***within the current framework*** by providing ***more supplemental or granular statistics.***
- IMF BOPCOM Working Group on Balance of Payments Statistics on GVCs.
 - ▶ Identified components in the current balance of payments framework that are relevant for developing GVC indicators:  **Developing a data collection template.**
 - ▶ **Further breakdown of MNEs in current account transactions: BP/IIP7**



Nationality versus residence based, ultimate source and host economy, stocks and flows,...

- **More granularity**, whenever possible (recommended by TFSPE):
 - Nationality-based presentation of ESS as complement to the standard residence-based ESS
 - Supplementary data on direct investment positions according to ultimate source and host economy
- **More integrated** international accounts by strengthening guidance on
 - IIP valuation changes
 - Nexus between returns on financial assets & liabilities and their corresponding positions.
- **IIP currency breakdown** (recommendation 10 of G-20 Data Gaps Initiative)
 - Compilation remains challenging for many countries; as of Dec. 2019 only 13 countries reported data for re-dissemination to the IMF.

Concluding comments (1)

- Policy relevance should drive what issues should be given priority when updating the next generation of statistical standards:
 - IMF developing a strategy of high priority issues for updating BPM6.
- Tension between user needs and the existing framework:
 - What issues would change the fundamentals of the system? Do benefits outweigh costs?
 - What issues can be addressed through granular, supplementary, or extended measures?
- International standards and very diverse statistical capacity:
 - Are priorities common/ relevant for most countries? Could the potential solutions be implemented by national statistical compilers?

Concluding comments (2)

- IMF provides guidance and TA to **countries with very different economic structures and statistical systems, including resources, data sources and statistical capacity**. The next ISS should as inclusive as possible.
- A **number of current statistical challenges may be met with more granular, supplementary, or extended measures** => allows flexibility in implementation, without breaking the framework: too costly, unnecessary (?)...
- **Next revision of standards more driven by some critical restrictions:**
 - Statistical compilation feasibility
 - Policy needs of both countries with high and low statistical capacity
 - Data source availability and accessibility
 - Flexibility to implement second-best solutions, due to differences across countries related to economic structure and statistical capacity.