4 Collection Methods

Organizing a portfolio investment survey requires informed choices by data compilers on the relative merits and demerits of a collection system. To ensure both consistency and quality of reporting across the participating economies in the Coordinated Portfolio Investment Survey, this chapter covers certain practical issues that go beyond those covered in the International Monetary Fund's BPM6 Compilation Guide.

This chapter provides guidance for compilers on the following issues: choosing a collection system (preliminary investigations, coverage, and degree of detail required), security databases, thresholds, and third-party holdings.

Data Considerations

4.1 Although it is essential that Coordinated Portfolio Investment Survey (CPIS) data are comparable across economies (for the data exchange as much as for international comparability), it is **not** necessary that all economies use the same data collection systems. Instead, national compilers should tailor their collection systems to the circumstances of their economies.

4.2 Past experience indicates that the national data collection system for collecting CPIS source data can target primarily any of the following groups: (i) end-investors, (ii) custodians (financial corporations that administer or manage securities issued by nonresidents on behalf of domestic residents), (iii) a combination of both end-investors and custodians, and (iv) investment managers in combination with either custodians or both end-investors and custodians. However, because of the special and challenging nature of surveying investment managers, targeting this group is not recommended for economies that have not conducted a portfolio investment survey before. A discussion of the advantages and disadvantages in conducting a survey using investment managers is discussed later in this chapter.

4.3 Data can be collected either on a *security-by-security* (SBS) or an *aggregated* basis. To guide national compilers, this chapter provides arguments to consider when deciding which type of collection system should be used for the CPIS. It also discusses the difficulties inherent in collecting this information for the household sector.

Choosing a Collection System

4.4 Choosing an appropriate data collection system is central to the quality of CPIS source data. This decision may be the most important one that national compilers will need to make. Potential errors, such as the possibility of double or under counting, need to be considered regardless of which system is chosen. Consequently, before deciding on the type of data collection system to use, national compilers should undertake some preliminary investigations, particularly among financial corporations/custodians, considering both the objectives for the CPIS and their own information requirements.

Preliminary Investigations

General issues

4.5 As a starting point, issues that need to be explored both within the compiling agency and with market participants should include the following:

- What objectives are being established for the survey at the national level? For instance, what type of information is being sought? How important are frequency of the survey and timeliness of results?
- What, if any, is the legal authority that governs the collection of the information?
- Which residents invest in and/or own securities issued by nonresidents? In a broad sense, who are the largest investors? What, if any, legal restrictions exist on the investments of resident sectors in securities issued by nonresidents?
- How do residents arrange for the custody of their holdings of securities issued by nonresidents:

with domestic custodians, directly with nonresidents, in their own custody, or some combination of these?

- How are data currently collected on securities issued by nonresidents, for both transactions and positions? Is it possible to adapt an existing survey and/or administrative source data, or is there a need to develop a new approach?
- What are the record-keeping and internal arrangements of potential survey respondents? What type of survey would most easily and efficiently fit these arrangements?
- Should the data be collected SBS or in aggregate? Would one type of collection system be more efficient in terms of producing good-quality data at lower cost than the other? What is the view and the reporting costs of market participants? What budget and resource constraints does the compiler face?

4.6 The answers to the above questions will assist compilers in making an informed decision about the type of collection system to adopt.

What objectives are being established for the survey at the national level? For instance, what type of information is being sought? How important are frequency of the survey and timeliness of results?

4.7 The objectives of the survey may be dependent on the resources available for conducting the CPIS. In principle, the survey is aimed at collecting data on all resident holdings of securities issued by unrelated nonresidents[1] (equities and long- and short-term debt securities), by economy of issuer. However, it is not always practical to cover all holdings of all sectors, not least when the survey is conducted for the first time. Further, in setting objectives, compilers would need to consider which of the CPIS encouraged items would be collected in the short-term and which can be part of a medium-term work plan. The decision of whom and what to cover may well be based on two critical criteria: financial resources for conducting the survey and identification of relevant institutional sectors. That is, what can realistically be surveyed with the resources available and which are the most important sectors/respondents to cover with those resources to maximize the benefit from the available resources, while minimizing the costs to the respondents? At the same time, the issue of frequency and timeliness of data collection must be addressed as part of this process. Data that are unavailable to the compiler until well after the reference date may not be very timely for CPIS reporting purposes.[2] Also, the desired frequency of the data needs to be carefully evaluated (i.e., can the respondents and the compiling agency produce CPIS data more regularly?).

What, if any, is the legal authority that governs the collection of the information?

4.8 In many countries, a statistics act or the legislation under which the central bank or national statistical office operates will provide the legal authority for the collection of the information. Ideally, the legal authority should state that reporting of statistical information is mandatory, that it should be provided accurately and within a reasonable time of the request, and that there can be sanctions/fines for failure to comply. The legislation should also indicate that the individual data are confidential to the compiling agency and that there should be no means through which any individual respondent's data can be identified (without the express approval of that respondent).

4.9 In countries where the legislation is insufficiently clear or where non-reporting penalties are missing, the authorities may wish to seek improvements to the law. Other countries may lack legal authority; in these cases, the survey might be conducted on a voluntary basis, and a good working relationship between the compiling agency and the potential respondents is essential for the success of the exercise. Even when there is adequate legal authority to collect the data on a mandatory basis, involving industry associations is often a useful step and a valuable public

[1] Foreign direct investment positions are excluded from the CPIS except for the case of debt instruments of financial intermediaries under a direct investment relationship. Under the international statistical standards including the sixth edition of the *Balance of Payments and International Investment Position Manual (BPM6)* and the fourth edition of the *OECD Benchmark Definition of Foreign Direct Investment* (Paris: OECD, 2008), debt positions between financial intermediaries (other than captive financial institutions and money lenders, insurance corporations, pension funds, and financial auxiliaries) that are in a direct investment relationship are excluded from direct investment and classified instead in portfolio or other investment. See paragraph 6.28 of *BPM6* for details. In the circumstance where the data are classified in portfolio investment, the data would be in-scope of the CPIS.

[2] The timelines for reporting CPIS data to the IMF are discussed in Chapter 1.

relations exercise—it may help relations with individual respondents if the association is seen to be actively involved and can see the benefits of the undertaking.

Which residents invest in or own securities issued by nonresidents? In a broad sense, who are the largest investors? What, if any, legal restrictions exist on the investments of resident sectors in securities issued by nonresidents?

4.10 A useful starting point may be to review existing data sources for portfolio investment that are provided for the balance of payments or the international investment position (IIP) to find out which investors are the most important and what existing data can be built on for the CPIS. In addition, discussions with market participants may provide a useful additional source of information—since the compiler may not be aware of some avenues of investment or some players in international investment activity. In some countries, there may be restrictions on investments of residents in some types of securities issued by nonresidents and some instances on the amount of funds they can invest. It would be useful to gather such information at the preparatory stage of the survey.

How do residents arrange for the custody of their holdings of securities issued by nonresidents: with domestic custodians, directly with nonresidents, in their own custody, or some combination of these?

4.11 This issue should also be explored with institutional investors and others with knowledge of local market conditions and investment conduits. See the discussion later in this chapter (paragraphs 4.27–4.41) on the pros and cons of using an end-investor survey, a survey of custodians, or a combination of both approaches.

How are data currently collected on securities issued by a nonresident, for both transactions and positions? Is it possible to adapt an existing survey and/or administrative source data, or is there a need to develop a new approach?

4.12 If data for either portfolio investment in the financial account of the balance of payments or in the IIP are presently collected from resident sources, a review of what information is available, how it is collected, and the bases of valuation will give an indication of the types of institutions that could be approached (the periodicity with which revaluation of the portfolio is undertaken is also important information).

4.13 However, these sources of data are usually insufficient without additional information being collected. Given that one of the objectives of the CPIS is to gain information on a geographic basis, if information for an IIP is presently collected, obtaining the geographical breakdown for the CPIS may not involve much additional burden on respondents, depending on how the respondents maintain their records. This should be undertaken with recognition of the materiality of the data. If holdings are small, an appropriate threshold may be established if by so doing a significant reduction in respondent burden results. However, determining a threshold (if any) should be done following discussions with investors to identify what might represent a reasonable cut-off point while still maintaining substantial coverage and geographical detail (see paragraphs 4.62–4.65, below).

What are the record-keeping and internal arrangements of potential survey respondents? What type of survey would most easily and efficiently fit these arrangements?

4.14 Discussions with respondents about their internal record-keeping are important to determine the best and easiest way to obtain the information on the bases required. In some economies, information that is central for the CPIS may be available, in one form or another, in many large financial institutions. Other investors in securities issued by unrelated nonresidents may need more assistance. Some investors classify their exposure to various investment markets based on several variables, such as economy of parent, currency, region, industry, credit rating, and economy of issue (which may not necessarily be the economy of residence of the *issuer*). The concept of residence that is central to the balance of payments, the IIP, and the CPIS is not necessarily always used. This concept should be clarified (see the discussion on residence in Chapter 2) and its importance reinforced. In some cases, if the respondents prefer, it may be easier for them to provide the complete file of their holdings to the compiler, if adequate safeguards can be provided.

Should the data be collected SBS or in aggregate? Would one type of collection

system be more efficient in terms of producing good-quality data at lower cost than the other? What is the view and the reporting costs of market participants? What budget and resource constraints does the compiler face?

4.15 In deciding the best method to obtain the data, factors that should be considered include what resources are available to the compiler and what is the easiest and cheapest way for the respondents to provide the data. If resources are limited, using the aggregate approach may be the better choice, but the drawback is that the respondents may be required to do a considerable amount of reordering and reaggregating of their data that they might not otherwise have to do (depending on their internal management and accounting information systems). In addition, the quality of the reported data cannot usually be assessed readily by the compiler. On the other hand, providing data on an SBS basis may reduce respondent workload (depending on the existing means through which data are collected) but increase the workload of the compiler—although data-processing technologies have largely addressed this. Conversely, under an SBS data collection approach, the compiler has far wider flexibility to serve new user demands by reclassifying the data, providing new breakdowns, and/or delivering more detailed data for particular categories of securities. Additionally, the compiler can recalculate time series without having to collect additional data from respondents. The ultimate choice will depend on an assessment of the costs and benefits of the alternative approaches for both the compiler and the respondents.

4.16 In addition, choosing an end-investor approach, a custodian approach, or a combination of the two will depend on the extent to which the compiler can determine the best coverage while minimizing overlap. Clear instructions and discussions with respondents will result in better data. A more extended discussion on the merits and disadvantages of an aggregate versus an SBS approach is presented later in this chapter (see paragraphs 4.48–4.53).

Sectors to consider in the survey

4.17 In undertaking the preliminary investigations (as discussed in the preceding section), compilers should also consider the institutional sector dimension, not only for analytical and data-reporting purposes but also to ensure maximum coverage without double counting. A description of the sectors is given in Chapter 3 (Annex 1).

4.18 National compilers are advised to examine domestic sources of information to establish, in a broad sense, the saving pattern of major sectors of their respective economy: financial corporations (including the central bank, deposit-taking corporations except the central bank, and other financial corporations), general government, nonfinancial corporations (NFCs), households, and nonprofit institutions serving households (NPISHs), provided such data are available for different sectors. This examination might provide some indication of which sectors are likely to be the largest holders of securities issued by nonresidents. In this regard, it may be particularly important to gauge the extent to which the household sector acquires securities issued by nonresidents, and where these securities are held.

4.19 *Financial corporations* are usually major investors either on their own account or as agents on behalf of other sectors (such as the households) through collective investment schemes, insurance corporations, or pension funds. Monetary authorities hold securities as part of reserve assets; these should be kept separate from portfolio investment and reported through a separate collection vehicle—Securities Held as Foreign Exchange Reserves (SEFER; see the discussion on SEFER in Chapters 1 and 2).

4.20 The *general government* sector is not usually a major investor in international portfolio markets, although governments are frequently major issuers of debt instruments acquired by international investors.[3] Holdings of international reserves are not

[3]Some governments create special purpose government funds, usually called sovereign wealth funds (SWFs). Created and owned by the general government for macroeconomic purposes, SWFs hold, manage, or administer assets—including securities—to achieve financial objectives and to employ a set of investment strategies which include investing in foreign financial assets. The funds are commonly generated out of balance of payments surpluses, official foreign currency operations, the proceeds of privatizations, fiscal surpluses, and/or receipts resulting from major commodity exports. The issue of whether the external assets held in the fund should be included in reserve assets is discussed in paragraphs 6.93–6.98 of *BPM6*. The classification of a "special purpose government fund" controlled by government in the general government or financial corporations sectors is discussed in paragraph 4.92 of *BPM6*.

attributed to the general government sector. These holdings are included with monetary authorities and should be reported on SEFER.

4.21 *NFCs* typically do not have large holdings of portfolio investment assets (although, like governments, they may well have substantial portfolio liabilities). International investment by NFCs are more likely to take the form of direct investment, which is not covered in the CPIS (direct investment positions are covered in the IMF's Coordinated Direct Investment Survey; see the discussion on separating direct investment from portfolio investment in Chapter 3 and on experiences of some countries in Chapter 6).

4.22 The *household* sector is a major source of saving in many economies, but it is often difficult to survey directly, given the size of the potential reporting population and the inherent problems in building a representative sample. Thus, national compilers are encouraged to investigate the channels through which this sector invests in and holds securities issued by nonresidents.

Does the household sector own securities issued by nonresidents through domestic pension funds and investment funds? Do custodians and fund managers manage securities issued by nonresidents directly for the household sector? Does the household sector directly transact with, or directly deposit securities with, nonresident financial entities, such as for tax minimization reasons?

4.23 National compilers may take various approaches for covering private household sector holdings of securities issued by nonresidents. One approach is to survey collective investment funds (e.g., mutual funds and investment trusts) used by households to invest in securities issued by nonresidents. In these cases, the households' interests are indirect: that is, they are represented by claims on resident funds that directly hold nonresident security assets. A second approach is to survey financial entities, such as custodians who keep in custody securities issued by nonresidents for their household customers or fund managers who manage holdings on behalf of households. The next section places these various options in context.

4.24 The problem remains, however, of covering household holdings in securities issued by a nonresident held directly with nonresident custodians (financial entities). In some economies, this is an insignificant issue; in others, it is very significant. For the latter group of countries, there is no simple solution.

4.25 One approach would be to try to estimate the extent of investment made by domestic households that is held directly abroad based on domestically available statistical information. To this end, comparisons could be made between (i) the net savings of households measured by the production, income, and use of income accounts as the difference between income and spending and (ii) household saving as measured by financial accounts. Such comparisons could, together with an analysis of net errors and omissions of the balance of payments, indicate whether household saving held directly abroad is significant. At best, it could give some indication of the amount of this kind of saving. It is unlikely, however, that comparisons of this kind could contribute to the CPIS, which requires details regarding country breakdown of portfolio investment assets.

4.26 Another approach would be to seek international cooperation and the exchange of information between economies. Through this approach, countries in which financial institutions provide custodian services to nonresident households would collect information on these so-called third-party holdings (TPH) and share that information with partner countries. The partner country could, in turn, add this information to its portfolio assets. Given the lack of experience in collecting TPH data for this purpose (except among European Union countries), the complexity and potential for double counting,[4] and the possible lack of legal authority to collect information that is unrelated directly to domestic policy needs, economies considering this approach are advised to make careful investigations and preparations. Some of the practical and methodological problems connected

[4]For example, both a local and a global custodian could report the same holdings when the latter has placed securities in the custody of the former, or an end-investor could report the same holdings as a custodian in a third country.

with undertaking a TPH survey are described in paragraphs 4.66–4.91 of this chapter.[5]

Coverage (End-Investors, Custodians, or Both)

4.27 The most suitable approach for ensuring comprehensive coverage of securities issued by nonresidents that are owned by residents varies according to a given country's circumstances. Economies differ in their financial structure for legal, institutional, and historical reasons. The types of residents that invest in securities issued by nonresidents and how they arrange for the custody of their securities vary from economy to economy. Nonetheless, experience suggests that most economies rely primarily on either (i) end-investors to report their own account holdings, (ii) custodians to report their own account and client holdings, or (iii) a combination of the two.[6] Set out below are the advantages and disadvantages of these three approaches.

An end-investor survey

4.28 An end-investor survey approaches directly the resident holders of securities issued by nonresidents. This approach should provide good coverage when investment in securities issued by nonresidents is concentrated in institutional investors, such as banks, security dealers, mutual funds, and pension funds and insurance corporations. This type of survey typically collects good data from the largest investors in portfolio investment securities. The quality of the data provided should also be good because end-investors are likely well informed about the size, composition, and value of their own portfolio. They should also be the best source on repos, which would help ensure that securities holdings include securities temporarily lent but not securities temporarily acquired under repo agreements (see paragraphs 3.53–3.64 of Chapter 3 for additional details on reporting of repos). The assets of smaller institutional and corporate investors, as well as those of the household sector, are typically not measured by this type of survey if they invest directly in securities issued by unrelated nonresidents.

4.29 If data from investment managers are supplementary to this survey, the coverage gap can be decreased. However, this would require careful instructions to both end-investors and investment managers. End-investors might be instructed to report their foreign holdings regardless of whether they employ domestic investment managers. Domestic investment managers might then also be instructed to report on all securities issued by nonresidents that they hold on behalf of domestic clients, but they should also be instructed to provide the name(s) of the institution(s) on whose behalf they are acting and the amount(s) held for each client, such that those covered by the end-investor survey can be excluded. For private individuals not covered by the end-investor survey, managers may be required to disclose the amount invested for all private individuals combined without disclosing individual identities. In this way, double counting can be avoided.

4.30 If the current method of collecting portfolio investment data is through an end-investor survey, and if it is considered that coverage is comprehensive and it is possible to amend or supplement existing statistical collections, then continuing to use this approach should be the most cost-effective method. Data from the survey could be cross-checked against other data sources as a method of quality control (see paragraphs 5.24–5.47, Chapter 5).

4.31 However, if collecting portfolio investment data through this survey is a new approach for the national compiler, additional preparation will be required. Most importantly, the compiler needs to prepare a comprehensive register of potential survey respondents/end-investors and engage in extensive discussions with the institutions most likely to hold securities issued by nonresidents. Otherwise, there is the possibility of under coverage (see paragraphs 5.5–5.22, Chapter 5 on the issues related to establishing and maintaining a register). Creating and maintaining the register of those institutional units with portfolio

[5] TPHs are securities that have been placed with a custodian resident in one jurisdiction directly by end-investors resident in another jurisdiction. The IMF Committee on Balance of Payments set up the Technical Group on Third-Party Holdings (TGTPH) in 2000, with a remit to examine how TPHs might be captured in official statistics. As such holdings lie outside the scope of balance of payments and IIP statistics of the economy of the custodians' jurisdiction, and as households, and small and medium enterprises are usually not covered in surveys of end-investors, these holdings are likely to be missed in countries' IIPs and their CPISs. See the report of the TGTPH at https://www.imf.org/external/pubs/ft/bop/2004/04-6.pdf.

[6] Investment (or fund) managers may also sometimes be approached.

investment in securities issued by nonresidents require sufficient resources. National compilers must also avoid either double counting or over-recording of securities holdings. For instance, in their reports, entities might consolidate holdings of resident subsidiaries that report separately to the national compiler (double counting) or holdings of subsidiaries located outside the resident economy (over-recording). Essentially, compilers should know whose holdings are covered by the survey respondent. Moreover, compilers should be alert to the possibility that entities not familiar with completing portfolio investment survey forms may have difficulty in reporting the required information and may require advice. Indeed, regular contact with and follow-up visits to potential respondents are very worthwhile exercises that are often indispensable during the initial years of the survey or until respondents become familiar with the survey's requirements. An end-investor approach also gives a better means of determining the holdings by sector.

4.32 Valuation by end-investors may also vary among holders and even within a respondent's own accounts. Some end-investors mark their holdings to market daily; others do it weekly, monthly, quarterly, or annually. Others may not do it on any regular basis, depending on what their needs are. Some investors may hold both a trading account and an investment account. In these cases, investment accounts are sometimes not marked to market because they are to be held to maturity[7] or are held for other purposes (such as reserve or capital requirements). Respondents should be asked to specify where they maintain valuation on a different basis from that required for the survey (i.e., market price on the reference date). Where valuation is provided on a different basis from market price, efforts should be made whenever possible to revalue the securities to market price.

A custodian survey

4.33 A custodian survey focuses primarily on those financial institutions that hold securities issued by nonresidents on behalf of end-investors. In other words, the survey population is not the same as the population of domestic investors. This type of collection system should provide good coverage when residents mainly hold their securities issued by nonresidents with domestic custodians. Because the number of survey respondents may be fewer than the number of end-investors, the difficulties inherent in identifying and maintaining the appropriate reporting population are much reduced compared to those associated with an end-investor survey.

4.34 However, to compile good-quality data from a survey of custodians, the national compiler must be aware of the potentially complex relationships between end-investors and custodians and among custodians. Because of the hierarchy of custodians (the investor may deal with a primary custodian who in turn deals with a global custodian, or vice-versa),[8] the possibility that a security holding may be double-counted is ever present and should not be underestimated. Essentially, national compilers should understand the structure of the custodian business, know who should report, and provide very clear instructions on the survey form.

4.35 Custodians may store information in a format that makes it difficult for them to extract the data required for CPIS. They may encounter difficulties in (i) distinguishing between holdings of residents and nonresidents (unless they have a reason, such as for tax purposes, to make such a distinction), (ii) providing details of the geographic breakdown of resident holdings of securities issued by nonresidents, and (iii) valuing some securities at market value. Hence, it is essential that economies undertaking a custodian survey begin by preconsulting domestic custodians. As with a survey of end-investors, ongoing contact and follow-up visits are an important mechanism to ensure that data are reported as required. Such quality-control checks are essential.

4.36 The limitation of this approach is that all securities entrusted directly to nonresident custodians by

[7] Positions in debt securities holdings might also be valued at nominal value if such securities are designated as held-to-maturity securities (see *Handbook on Securities Statistics*, paragraph 5.52).

[8] A global custodian manages the custody of end-investors' securities via a global sub-custodian network of subsidiaries and correspondent agent banks. A primary or local custodian may not have a global sub-custodian network and, therefore, may subcontract the safekeeping of the client's securities to a domestic global custodian.

any sector of the economy are missed. However, if investment managers are added to this type of survey, then that portion of foreign holdings entrusted directly to nonresident custodians that are managed by domestic investment managers would be captured. As with an end-investor survey, care would need to be taken to avoid double or undercounting. Only securities issued by unrelated nonresidents, managed by a domestic investment manager and not entrusted to a domestic custodian should be reported by the investment manager.

4.37 In addition, at times, multiple domestic custodians are involved in the safekeeping of the same securities issued by nonresidents. This occurs when a domestic custodian (Custodian 1) that is not in the foreign custody business nonetheless accepts the custody of securities issued by a nonresident. In such cases, the securities might in turn be entrusted to another domestic custodian (Custodian 2) that provides international custodian services. This creates a situation where two domestic custodians have records pertaining to the same securities issued by nonresidents. Reporting instructions must specify how each custodian is to report in such cases. This might be handled by instructing the custodian who provides the safekeeping of the securities issued by nonresidents (Custodian 2) to report these holdings on the survey, and to instruct the custodian who passed on safekeeping responsibilities (Custodian 1) not to report such holdings, while instructing Custodian 1 to report the name of Custodian 2 and the amount entrusted for cross-checking purposes. Alternatively, it might be preferable to have the custodian that is in direct contact with the investor to report so that there is a lower possibility of misallocation of residence. Whichever approach is chosen, the instructions should be clear to avoid misreporting.

Combined custodian/end-investor survey

4.38 Surveys that cover domestic custodians only would miss any securities owned by domestic residents that are held directly with nonresident custodians or in own custody. More complete coverage would be obtained by also surveying end-investors who hold securities issued by nonresidents. Economies that use combined custodian/end-investor surveys have adopted the approach of collecting data primarily from custodians (and from end-investors only when the end-investors do not use domestic custodians or have own custody).

4.39 However, with this approach, there is a clear possibility of double counting; domestic investors might erroneously report securities deposited with domestic as well as with nonresident custodians. Hence, compilers will need to clearly define the respondent population and provide clear reporting instructions. In some cases, national compilers require the custodian to indicate the name of the end-investor on the behalf of which the securities issued by nonresidents have been entrusted.

4.40 Let us assume that primary reporting responsibility is placed with custodians. In this case, reporting instructions might be as follows:

(a) Domestic custodians that provide international custodian services are instructed to report all holdings of securities issued by nonresidents on behalf of residents.

(b) Domestic custodians that accept securities issued by nonresidents for safekeeping but in turn pass them on to another domestic custodian are instructed not to report these holdings or are instructed to report only the name of the custodian they passed the securities on to and the value of such securities. Alternatively, the custodian that is in direct contact with the investor might be asked to report because this custodian would be in a better position to determine whether the investor is a resident of the economy (or to allocate to the appropriate institutional sector, if encouraged items are being reported). Custodians who receive securities from other custodians should be advised not to include those holdings in their reporting.

(c) Investment managers are instructed to report holdings of securities under their management that were issued by nonresidents and not entrusted to other domestic investment managers or to domestic custodians.

(d) Investment managers that pass on assets under their control to other domestic investment managers are instructed not to report these securities.

(e) End-investors are instructed to report only their holdings of securities issued by nonresidents that are not under the control of a domestic investment manager and not entrusted to a domestic custodian.

4.41 Extensive coverage is achieved with this approach, but the possibility of errors arising from misunderstood reporting requirements is increased. The situation could arise in which a domestic end-investor employs a domestic investment manager who employs another domestic investment manager who employs a domestic custodian who in turn employs another domestic custodian. Five different domestic entities that are potential reporters thus have information pertaining to the same securities issued by unrelated nonresidents, but only one must report in the survey.

Investment (fund) managers survey

4.42 In addition to collecting the portfolio investment data of resident institutions following one of the above approaches (end-investor, custodian, or combined custodian/end-investor surveys), surveying investment managers is another option.

4.43 Investment managers are individuals or groups providing investment advice and management for a fee. The funds that investment managers invest remain the portfolio investment assets of their clients and are not their own assets. The ultimate responsibility for the investment remains with the client. For example, when a pension fund has all or part of its assets invested through investment managers, the trustees of the pension fund remain responsible for the investments, not the investment manager.

4.44 The advantage of including investment managers as one of the possible data sources is that more complete coverage of portfolio investment holdings of residents might be obtained. The disadvantage is that both the complexity of the survey and the possibility of double or undercounting are increased.

4.45 A typical coverage gap—even in the case of combined custodian/end-investor surveys—is small business enterprises and individuals with high net worth who own securities issued by unrelated nonresidents, particularly if they entrust these securities directly to foreign-based custodians. Although it is not usually practical to include such investors directly in asset surveys, these investors sometimes employ the services of domestic investment managers to manage their portfolios. The leading investment managers can often be identified and surveyed because in many economies, investment managers must register with a government agency and disclose the size of funds under their control.

4.46 Yet, investment managers are not employed only by individuals and small companies; they are also used by large institutions whose assets are already being measured by the survey, so care must be taken to carefully delineate and explain reporting responsibilities.

Degree of Detail Required (Security-by-Security or Aggregate)

4.47 The degree of detail required for the CPIS can be met by collecting data either on an *SBS* basis or on an *aggregate* basis. Deciding which approach to take depends on the degree of detail required by the national compiler for domestic statistical purposes, on the costs involved, and perhaps on the type of respondent being approached.

Security-by-security basis

4.48 Collecting data on an SBS rather than on an aggregate basis provides detailed information and allows greater possibility for data verification,[9] with a considerable gain in accuracy and consistency of the data. It also provides the possibility of deriving flows from high-frequency stock data and the calculation of interest on an accrual basis. This approach not only provides the building blocks required to construct the geographically allocated position data and allows for verification of certain variables, such as price and country of issuer, but it can also provide additional information—for instance, on currency attribution, industry/sector of the issuer, and yields on securities—that facilitate the economy's reporting of the CPIS encouraged items. It could also help identify direct investment securities. An additional side benefit of an SBS approach, in conjunction with a securities database, is that other data series may be constructed from it or be used to supplement information required for other statistics, such as external

[9] In an integrated end-investor survey system that collects aggregate data, some of the additional detail may be collected on other survey forms.

debt data or the data template of reserve assets and foreign currency liquidity. But the national compiler will probably need to acquire a database that provides information on individual securities so that securities can be correctly allocated and valued.[10] Before deciding on implementation of SBS database system, the compiler needs to decide whether the extra information from such database is required for their country.

4.49 The decision whether to collect data SBS will also depend on the costs involved and whether respondents are prepared to provide the information on that basis. Given the considerable amount of information to be collected, this type of survey requires electronic reporting, which involves developing compatible software to receive and process the information from survey respondents.

Aggregate basis

4.50 In contrast, an aggregated survey relies on the survey respondent to perform the aggregation, allocation, and valuation of securities, thus entailing relatively less involvement from national compilers.

4.51 Regarding data quality, an end-investor survey should produce good-quality data reported on an aggregate security basis, if the national compiler ensures that survey respondents are fully aware of the survey requirements: for instance, regarding market valuation and country attribution of issuer. This is because end-investors are the best informed about the size, composition, and value of their portfolio investments, and there is a direct link with their balance sheet data. Hence, end-investor surveys tend to be associated with an aggregated approach.

4.52 In contrast, to ensure that (i) double counting is kept to a minimum, (ii) securities are correctly valued, and (iii) quality is maintained, the evidence from those countries collecting data from custodians is that it is advisable to collect data at the individual security level.

4.53 Nonetheless, aggregate custodian surveys can produce good-quality data. A key factor in ensuring success appears to be the experience of the national statistical agency in organizing custodian surveys. The greater the experience, the deeper the knowledge. The more frequent the survey, the more reliable the data from an aggregate security survey of custodians.

[10] See next section for more detail on securities databases.

Securities Databases

4.54 The Association of National Numbering Agencies (ANNA) has a database covering equities and debt securities for more than 120 national numbering and partner agencies that accept International Securities Identification Number (ISIN) codes.[11] The ANNA Service Bureau (ASB) is a central data hub that has been collecting and enriching securities data from around the world since 2001. On a daily basis, the national numbering agencies feed new ISINs and Classification of Financial Instruments (CFIs) as well as updates to existing data to the ASB. These data are provided to the other numbering agencies, as well as non-members of ANNA such as financial services firms and financial data vendors. The ASB was developed and is operated by ANNA partners CUSIP Global Services and SIX Financial.[12] This database was completely redesigned in 2014 to collect and maintain not only ISINs and related CFIs but also a host of other related International Organization for Standardization (ISO)-standards identifiers and their data elements, including the Legal Entity Identifier (LEI).[13] Securities are identified by ISIN codes. Key information[14] on each security is generally available, but there is no information on prices or on holders. Before acquiring a database, national compilers should be aware of one potential difficulty: different respondents could submit different security identifiers for the same security because any widely traded security could be allocated identifiers by more than one coding system. Indeed, in some of the model survey forms in Appendix 1, survey respondents are given the option of reporting either an ISIN code or a code allocated by another of several coding systems.[15]

[11] See http://www.anna-web.org/ for more details.
[12] See http://www.anna-web.org/service-bureau/about-the-anna-service-bureau/
[13] The Legal Entity Identifier (LEI) is a 20-character, alphanumeric code, to uniquely identify legally distinct entities that engage in financial transactions (see https://www.leiroc.org/).
[14] ISIN number, ISIN status, issuer long name, issue description, CFI code, currency of issue, maturity/expiry date, etc. (see http://www.annaservice.com/anna/whats.jsp).
[15] Other popular securities coding systems include Committee on Uniform Securities Identification Procedure (CUSIP) used in North America, Stock Exchange Daily Official List (SEDOL) in United Kingdom, SICC Code in Japan, and VALOR in Switzerland, Belgium, and Liechtenstein. ISIN combines the

National compilers should discuss this issue with potential survey respondents; the allocation exercise becomes more straightforward and efficient if national compilers can rely on survey respondents to use primarily one coding system—ISIN, for instance. If not, then the agency is advised to acquire a database that contains all the various identifier codes that a given security has been assigned by the different coding systems, and then build links between all these data and the reported information.

4.55 Some countries use ISIN codes as their only securities identification system. However, many advanced economies developed their own national numbering systems prior to the introduction of ISIN codes, and these have remained in widespread use in many cases. Thus, private firms have adopted a variety of different securities identification systems as their primary identifier. Thus, some national compilers have respondents that report securities identified by several different security identification systems, such as SEDOL (United Kingdom and Ireland), CUSIP (United States and Canada), or VALOR (Switzerland, Belgium, and Liechtenstein), as well as ISIN. This can result in identical securities being reported by different respondents with different security identification codes, since the same security might trade in different countries using different codes.

4.56 Having a database that contains all the various worldwide identification codes that each security is identified by can be very useful. This makes it possible to know when the same security is being reported regardless of whether it is identified by an ISIN code or a SEDOL code or yet another code. Without such a cross-reference database, the value of having a securities database (as discussed earlier) is significantly reduced. Cross-reference databases are generally available from the same commercial firms that provide international securities databases.

code allotted by NNA of country (in the case of CUSIP) with the country code as per ISO of the security issuer and a check digit. For example, Amazon.com stock listed on NASDAQ has the following securities identification numbers: ISIN US0231351067 and CUSIP 023135106. The last digit (7) in the ISIN is the check digit calculated from algorithm and the first two letters are country code of the issuer of Amazon stock which is the United States.

4.57 Some national numbering agencies issue ISIN codes to neighboring or related jurisdictions that do not have a national numbering agency of their own. For example, securities issued by Crown dependencies and territories of the United Kingdom may be assigned a United Kingdom ISIN code.

Security-by-Security (SBS) Database

4.58 An SBS database is a micro database that stores statistics at an individual security level. It offers features that cannot be matched by pre-aggregated data. Micro-data can be compiled on a multipurpose basis and be customized ex-post for each specific analysis or used to produce new aggregates (including recalculating time series) in a flexible way without imposing additional burden and requirements to reporting agents. SBS database also allows the use of micro-data as such, permitting to analyze individual or specific groups of instruments and issuers. Timeliness is an additional advantage of an SBS database, as information can be individually received and recorded on a frequent basis. Furthermore, new statistical standards can be more easily implemented by using an SBS database, as it permits to adjust mappings and calculations at an individual security level in an automatic way. The SBS database is also efficient for statistical compilers as it allows to check the data only once for multiple purposes. A crucial aspect of SBS database is its reliance on unique identifiers for instruments and entities, namely the ISIN (ISO 6166) for securities and the LEI (ISO 17442) for legal entities. Furthermore, the SBS database not only applies international statistical standards but typically also makes use of ISO standards for compiling attributes referred to: for example, country (ISO 3166), currency (ISO 4217), financial instrument short name (ISO 18774), market identification code (MIC) (ISO 10383), and CFIs (ISO 10962).

4.59 While the SBS database brings quality improvements to the CPIS, there are significant costs in its setting and maintenance, which can't be overlooked. This entails mainly expenses on acquiring securities data from commercial databases and the computer hardware/software. In addition, trained staff with technical know-how would be necessary.

4.60 Prominent examples of SBS databases on securities issues and holdings are the Centralized

Securities Database (CSDB) and the Securities Holdings Statistics Database (SHSDB) set up by the European System of Central Banks. These data serve as the basis for the compilation of the statistics on securities required under IMF's Special Data Dissemination Standard Plus[16] and Second Phase of G-20 Data Gaps Initiative.[17] Box 4.1 provides further details on the CSDB and the SHSDB.

4.61 Further, Box 4.2 provides information on the Bank for International Settlements securities database that is available to central banks on request and, depending on circumstances, to statistical agencies.

Reporting Thresholds

4.62 To limit the amount of respondent burden, it may be appropriate to establish reporting thresholds.

[16] The Special Data Dissemination Standard Plus prescribes the dissemination of debt securities data covering holdings of debt securities by issuer and holder on a from-whom-to-whom basis.

[17] As per the recommendation II.7 of the Second Phase of G-20 Data Gaps Initiative on securities statistics, G-20 economies provide on a quarterly frequency debt securities issuance data to the Bank for International Settlements consistent with the *Handbook on Security Statistics* (Washington, DC: IMF, 2015), starting with sector, currency, type of interest rate, original maturity, and, if feasible, market of issuance.

Box 4.1 The Use of the Centralized Securities Database and Securities Holdings Statistics Database in the European System of Central Banks in Compiling the Coordinated Portfolio Investment Survey

Background

The Centralized Securities Database (CSDB) provides comprehensive and up-to-date information on all securities relevant to the European System of Central Banks (ESCB), including its statistical objectives. In particular, the CSDB contains information on over six million debt securities, equities (both listed and unlisted shares), and investment fund shares/units issued or held by residents of the European Union (EU) member states or denominated in euro.[1] From a statistical angle, the CSDB serves two purposes: supply information for the *direct* compilation of aggregates for the euro area (such as monthly indicators on debt securities issuance and service by EU governments) and supply reference information on individual securities (i.e., on a security-by-security—SBS—basis) and issuers to *support other statistical data collections* in the euro area and EU (e.g., the compilation of the portfolio investment both flows and stocks).

Since 2008, the use of an SBS collection system with coverage of at least 85 percent of the total portfolio investment stocks is mandatory for the compilation of portfolio investment in balance of payments and international investment position (IIP) statistics for euro area economies. As IIP data for portfolio investment is fully aligned with the CPIS, SBS data also serves as the basis for the latter exercise.[2] Since 2014, as a way to consolidate and enhance all the existing SBS data on the holdings of securities by euro area residents, a new SBS data collection has been launched by the ESCB—the Securities Holdings Statistics Database (SHSDB). This covers also the domestic tranche of the holdings from resident custodians and from resident end-investors of debt securities, listed shares, and investment fund shares/units.[3] The linkage of the SHSDB with the CSDB is based on the International Securities Identification Number code of the individual securities. Together, these databases provide very rich and granular information both on the securities' holder and issuer perspectives.

Benefits of Using the CSDB and SHSDB

One of the main advantages of the CSDB and SHSDB in the compilation of Coordinated Portfolio Investment Survey (CPIS) data, when compared to aggregate reporting, is that compilers, rather than respondents, are responsible for the statistical classification of securities in a standardized and harmonized way. This promotes accuracy and consistency of the data, and adherence to international statistical standards, improving the quality and homogeneity of the data collection.

The CSDB in combination with the SHSDB allows for the compilation of aggregated statistics at mark-to-market value: for example, providing all the required breakdowns addressed in the CPIS reporting framework—that is, by instrument type,[4] issuer (holder) sector, issuer (holder) economy, and currency of denomination, including also short selling positions.[5]

Both the CSDB and SHSDB provide great flexibility to cater for new or additional output requirements in the CPIS: for example, changes in geographical areas, granularity of holder and issuer sectors, detail by instrument, and maturity and currency of denomination breakdowns. Also, the information on prices available in the CSDB allows for the compilation of positions both at market and nominal values. This is often possible without additional requests to the reporting entities, by means of amendments to the aggregation procedures managed by the compiler himself.

Box 4.1 The Use of the Centralized Securities Database and Securities Holdings Statistics Database in the European System of Central Banks in Compiling the Coordinated Portfolio Investment Survey (*concluded*)

The SBS approach increases the quality of the data as it allows for better checking and greater accuracy in the calculation of position and flow data. Numerous quality checks are performed at the level of the individual security, instead of at aggregate level. For example, it allows for comparisons for debt securities of total outstanding issuances (or market capitalization regarding equities) and holdings at individual security level, reconciliation of flows and positions for individual securities, analysis of the consistency of the reference data over time at the SBS level, and improved bilateral geographical data comparisons.

From the euro area perspective and regarding securities issued by euro area residents, the availability of comprehensive SHSDB data permits one to perform detailed checks of the so-called derived euro area portfolio investment liabilities, obtained residually after deducting euro area holdings from total euro area issuances.

Challenges Associated with Using the CSDB and SHSDB

Challenges arising from the use of granular data for the compilation of statistics are quite diverse. On the one hand and despite the automated rules and algorithms implemented, some outliers might remain in the SBS databases. Consequently, the responsible staff should be well skilled and trained on the system to monitor and solve these issues. In addition, both the setting-up and maintenance costs of the CSDB and SHSDB were not marginal, largely attributable to purchasing and developing the necessary hardware and software to handle large volumes of data.

Conversely, the SBS reporting, in comparison with aggregated reporting, implies a shift of the costs from reporting agents to compilers, while the overall costs are expected to be lower. If reporters would have to aggregate the data according to statistical classifications themselves, each one of them would have to keep track internally of SBS information and run aggregation procedures, which would imply higher costs. Moreover, the marginal costs of introducing new statistics have been reduced (reporting forms do not need to be changed) and the consistency among the various types of statistics has been improved. However, all these costs from SBS reporting are deemed to be offset by the associated benefits in the medium term.

Source: European Central Bank.

[1] For more information, see the publication ECB, "The Centralized Securities Database in Brief," *Centralized Securities Database* (February 2010): 1–7, https://www.ecb.europa.eu/pub/pdf/other/centralisedsecuritiesdatabase201002en.pdf.
[2] In the past years, SBS reporting has been also increasingly used (and has in some cases become legally required) for statistics on investment funds, financial vehicle corporations, monetary financial institutions, and insurance corporations.
[3] For more information, see ECB, "Who Holds What? New Information on Securities Holdings," *Economic Bulletin* 2, no. 2 (2015): 72–84, https://www.ecb.europa.eu/pub/pdf/other/eb201502_article02.en.pdf.
[4] It should be recalled that the SHSDB scope does not include unlisted shares.
[5] The CSDB is also useful in the context of balance of payments and IIP statistics for the purposes of estimating revaluations and other changes in the volume of assets and liabilities by type of financial instrument, as well as to derive transactions from high-frequency position data (when not collected directly). It also allows for the derivation of investment income data on an accruals basis.

Box 4.2 BIS International Debt Securities Statistics

The Bank for International Settlements (BIS) maintains a security-by-security database covering international debt securities.

To define international debt securities, the BIS focuses on the primary market: that is, the market where securities are issued for the first time. Different primary markets are distinguished by referring to the residence of the issuer. The domestic market is where residents issue, and the international market is where nonresidents issue. Therefore, international debt securities are those issued in a market other than the local market of the country where the borrower resides. They encompass what market participants have traditionally referred to as foreign bonds and eurobonds. Foreign bonds are issued by nonresidents under the registration rules of a local market: for example, U.S. dollar bonds issued in the U.S. market by borrowers residing outside the United States. Eurobonds, also known as offshore bonds, are issued outside the registration rules of any local market, usually in a foreign currency.

The focus on the primary market has three advantages.[1] First, it helps to answer questions about the functioning of local capital markets. Second, in the absence of specific information on the currency of denomination or governing law, the

Box 4.2 BIS International Debt Securities Statistics (*concluded*)

market of issue can provide insights into a range of financial stability questions. The third advantage of focusing on the primary market is that it complements the statistics compiled by many national agencies, which typically are also based on the market of issue regardless of currency.

The BIS international debt securities statistics capture bonds, notes, and money market instruments, starting in 1962. Data on bonds are obtained from Dealogic and Thomson Reuters, and data on notes and money market instruments from Euroclear. Data before 1996 are mainly from the Bank of England, as well as the OECD (Organisation for Economic Co-operation and Development) for some issues in the 1970s. Information on events occurring during the lifetime of an issue (e.g., exercised call and put options, sinking funds, and early redemptions) are obtained from Trax. The BIS merges the data obtained from these different sources, identifies and removes duplicates, and ensures that individual issuers are classified consistently. It then aggregates the data and calculates gross issues, net issues, and amounts outstanding.

The BIS international debt securities statistics are harmonized with the recommendations of the *Handbook on Securities Statistics*, an internationally agreed framework for classifying securities issues. The statistics are classified by residence of both the issuer and the issuer's parent (i.e., the issuer's nationality), sector of the issuer and its parent, currency, maturity, and interest rate type. The statistics are disseminated quarterly on the BIS website (https://www.bis.org/statistics/secstats.htm).

[1] Branimir Gruić and Philip Wooldridge, "Enhancements to the BIS Debt Securities Statistics," *BIS Quarterly Review* (December 2012): 63–76, http://www.bis.org/publ/qtrpdf/r_qt1212h.htm.

A reporting threshold is a value that, if exceeded, indicates whether a respondent will be required to report its holdings of portfolio investment. The threshold can be for a minimum of total holdings of nonresident-issued securities or for the level of holdings by country. The way a threshold is established and how it is used depend to a certain extent on the way in which the survey is conducted.

4.63 The survey may be conducted first by mailing all on the register of potential investors (or their agents) in securities issued by nonresidents (see Figure 5.1, Chapter 5 of this *Guide*) to ascertain the level of holdings, without any detail being sought. The mailing may be structured to "cast the net as widely as possible": that is, to include all possible investors of significant size, without specific knowledge of the holdings of many on the register. In this way, maximum coverage may be established, but there will also probably be many institutional units that will report zero, or a very low level of, holdings of securities issued by nonresidents.

4.64 To avoid collecting information from many units with very small holdings (which, therefore, add very little to the results), some economies may decide that a threshold of total holdings should be established. This could be set at a certain percentage of total value reported from the survey (e.g., 95 percent), and then a grossing up done for the balance. Alternatively, it could be set at the largest units (e.g., the top 100 or 500 in terms of value of holdings), depending on the resource capacity of the compiling agency.

4.65 One of the drawbacks of using thresholds is that it limits the usefulness of the data for counterparties. Country A may have established a threshold that is appropriate for its own purposes (to limit respondent burden or the burden on the compiler's own resources) but excludes information for Country B. In view of the cooperative nature of the CPIS, the information on Country A's investments in Country B may be of high importance to Country B. This is particularly true if Country B is much smaller than Country A, and investments that seem small to Country A are significant to Country B.

Third-Party Holdings Survey

Background

4.66 Experience from the CPIS showed that economies are unable to capture comprehensive information directly from domestic households on their holdings of securities issued by unrelated nonresident entities. Practical difficulties in targeting and surveying a relevant sample of households, the sensitivity of the information hampering the response rate, and the quality of the responses received are main reasons for this inability. Insofar as domestic households that hold their portfolio investment directly with nonresident

financial entities, there will be gaps in the coverage of the CPIS. Coverage of other investors (such as small companies and NPISHs) may also be incomplete. These shortages in the coverage of assets in the CPIS often mirror gaps in the national and international accounts, and hamper the analysis of key policy indicators such as an economy's level and composition of savings, net lending/net borrowing, and the size and composition of its IIP.

4.67 A TPH survey is a way of obtaining information on holdings in securities owned by nonresidents and held directly with resident financial entities.[18] The information that is obtained from the resident financial entities should not be reported on the resident jurisdiction's CPIS (because the CPIS covers data on securities that are owned by residents not by nonresidents), but that information could be exchanged with TPH survey data collected by other countries, increasing the robustness of the CPIS results for all jurisdictions who receive information from TPH surveys conducted by others. This improvement in the CPIS results requires international collaboration and exchanges of information.

4.68 Below, some issues are described that need consideration before embarking on the task of conducting a TPH survey.

Preparatory Investigations

4.69 Because of the lack of experience with TPH surveys in most the countries, thorough preparatory investigations are necessary. The following describes the preparations that should be undertaken by a compiler conducting a TPH survey in which nonresident investors' holdings of securities entrusted directly with local custodians are to be covered.

4.70 A TPH survey should be adapted to the institutional arrangements through which nonresident investors hold or entrust their securities to domestic financial entities. Nonresident investors can arrange for their securities investments directly with local custodians in different ways. The following are two examples:

- Possibly the most widely used approach is the one in which a nonresident investor entrusts securities issued by a nonresident directly to a resident custodian for safekeeping. Nonresident investors in this case act as customers vis-à-vis the custodian and do not make use of intermediaries in their own country.
- Alternatively, a nonresident investor could directly entrust asset management to an investment manager abroad. These assets are not on the balance sheet of the investment manager that administers the assets by investing the funds and entrusting securities to a local (to the investment manager) custodian for safekeeping on behalf of the customer. Investment management services are commonly provided by banks, but some investment managers operate independently from banks.

4.71 To cover such portfolio investments, the agency conducting the TPH survey (central banks and statistical offices) should approach the local custodians and/or investment managers.

4.72 By investigating how market players use these kinds of financial services vis-à-vis nonresident customers, the concerned agency will be able to design and target the TPH survey to obtain maximum useful output.

4.73 If both custodians and investment managers are approached in a TPH survey, there is a distinct possibility of double counting. If the investment manager, acting on behalf of nonresidents, has entrusted securities to local custodians, instructions should be clear as to who is to report the information to the compiler.

4.74 A TPH survey also should be designed within the legal provisions of the country. In general, many countries have no legal provisions authorizing the collection of information on holdings by nonresidents. In these countries, it may be feasible to conduct the TPH survey on a voluntary basis.

4.75 It is also necessary to initiate contacts with major players (including custodians) in the market. In particular, central banks and statistical offices need to gauge the availability of information on the residence of the customers of custodians and on the residence of the issuers of the securities held by custodians. Another issue is whether the respondents can distinguish households among their nonresident

[18] For a TPH survey to provide as much information to the third party as possible, securities issued by entities resident (as well as by entities that are not resident) in the same jurisdictions as the custodian, and held on behalf of nonresident investors, should be included.

customers, and whether they can distinguish in more detail different kinds of nonresident customers, such as institutional investors and NFCs. The quality of the data is also affected by whether this information is readily available in the records of the respondents or if it is necessary for them to make additional calculations or estimations.

Scope

4.76 A TPH survey could also be designed to consider the needs of the partner countries with whom the information from the survey is to be shared. In many of the countries participating in the CPIS, one of the major problems encountered was the coverage of the household sector because many households had entrusted their holdings directly with nonresident custodians. To maximize the benefits of a TPH survey requires targeting the holdings of nonresident households—the *household approach.*

4.77 However, depending on the survey system in place in partner countries (end-investor survey, custodian survey, or a combination of the two), the extent of the lack of coverage can differ and may not be confined to the household sector. Gaps in coverage of portfolio assets can also be related to other noninstitutional investors, such as securities owned by trade unions, religious societies, and NFCs that are held with nonresident custodians. This would imply the need, from the partner country's view, to have the coverage of the TPH survey extended to include nonresident investors other than those in the household sector—the *extended approach.*

4.78 Another issue with the scope of the TPH survey is how households should be defined (see Chapter 3).

4.79 If the extended approach is chosen, it is not possible to give advice on the coverage and breakdown of categories of nonresident investors. These issues should be decided after consultations with partner countries. It is in any case very important to have a consistent treatment in the TPH survey and in the partner country to avoid double counting.

4.80 In considering whether to conduct a TPH survey, the national compiler should consider the complexity of the extended approach, not least because it requires a breakdown of its nonresident customers into different subcategories.

4.81 The extended approach is also associated with an increased risk of double counting by the partner country. The risk that the information shared with the partner country is to some extent already covered in the partner country's own compilation, leading to double counting, must always be carefully watched. Extending the survey beyond the household sector would increase this potential for double counting.

4.82 The household approach is less demanding for the respondents that merely must focus on nonresident private persons, and it would in general be easier to control the risk of double counting. On the other hand, the information from the household approach may not satisfy the information needs of the partner countries in some cases.

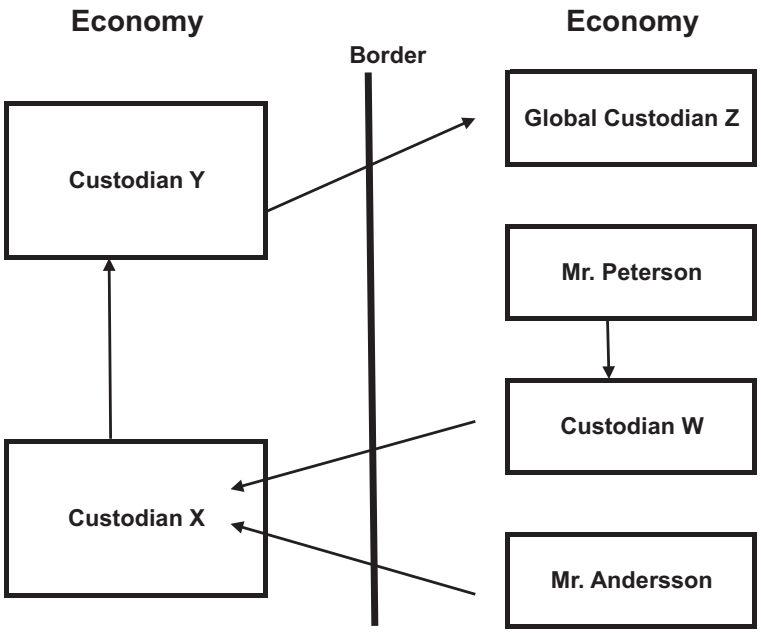
How to Avoid Double Counting

4.83 Another issue is how to make sure that the risk of double counting is minimized. In the example presented in Figure 4.1, the compiler of Economy A is undertaking a TPH survey (the *household approach*), approaching local custodians, and asking them about securities entrusted to them by nonresident private persons. The issue is which of the compilers in the different economies is to collect the information on the holdings of Mr. Peterson and which is to collect those of Mr. Andersson. Mr. Andersson and Mr. Peterson have entrusted their securities in different ways.

4.84 Mr. Peterson, a resident of Economy B, has entrusted his securities to a sub-custodian within his own economy (Custodian W), who in turn entrusts them to Custodian X, who is a resident of Economy A. In this case, the compiler in Economy B will cover the assets of Mr. Peterson in the standard CPIS, if domestic custodians are covered. The information on Mr. Peterson's holdings, even though held with Custodian X in Economy A, should still be available to Custodian W in Economy B.

4.85 Mr. Andersson, on the other hand, has entrusted his securities directly to Custodian X, who in turn placed them with Custodian Y, another resident of Economy A. However, Custodian Y then placed them with Custodian Z, a resident of Economy B. In this case, the compiler of Economy B will not be able to trace these holdings (since there is no direct

Figure 4.1 Potential Double Counting in Compiling Third-Party Holdings Surveys



Note: For explanation, see paragraphs 4.83 through 4.89.

survey of households) and so is dependent on the information from the TPH survey, if any, conducted by the compiler in Economy A.

4.86 Thus, if compilers in Economy A were to undertake a TPH survey, it should cover only those securities that have been entrusted directly by nonresident households. If securities indirectly entrusted (through an intermediary, Custodian W) by a nonresident household (that of Mr. Peterson) are also covered in the TPH report by Custodian X to the compiler in Economy A, double counting of TPH in Economy A will occur because Mr. Peterson's holdings will also be reported by Custodian W to the compiler in Economy B. Accordingly, the instructions for the custodian survey in Economy A should make clear that any securities that have been entrusted to them by another custodian, whether resident or nonresident, should be excluded.

4.87 The clarity of instructions is particularly important in this example because of the sequence of on-entrustment. If Custodian Y reports (to the compiler in Economy A) its holdings of nonresident-issued securities on behalf of residents of Economy A and also reports the holdings entrusted to it by Custodian X, and if Custodian X were to include in its report to the compiler in Economy A these same securities, the holdings of residents of Economy A of securities issued by nonresidents of Economy A would be overcounted. At the same time, if Custodian Y were unaware that some of these securities were owned by a nonresident (Mr. Andersson), there would be an additional overstatement of Economy A's securities holdings.

4.88 The situation is further compounded in this example because Mr. Andersson's securities were placed with Global Custodian Z, a resident of Economy B. In this instance, if Global Custodian Z were to report nonresident ownership of those shares placed by Custodian Y (a resident of Economy A), the effect would be to overstate Economy A's holdings of nonresident-issued securities because the report would include the holdings of a nonresident

of Economy A (Mr. Andersson) to the extent that Mr. Andersson's shares were not issued by residents of Economy A.

4.89 To make sure that only directly entrusted securities are covered in a TPH survey, it is crucial for the compiler to keep track of the custodian chain within the compiler's own economy. Custodian X is acting as first custodian vis-à-vis Mr. Andersson and is in the best position to supply the compiler with correct detailed information. Therefore, in a TPH survey, custodians in the retail business acting directly for nonresident customers should be approached.

What Information to Collect

4.90 After the compiler has targeted the population of custodians and the respondent has identified the nonresident households among its counterparts, then the issue arises of what is to be reported.

4.91 The reporting should contain, for nonresident households in each country, a breakdown of types of securities (equity, long-term debt, and short-term debt securities) and for each of these categories a breakdown of country of issuer. An important difference, compared with the standard CPIS, is that the TPH survey should also cover domestic securities: that is, securities issued by residents of the same economy as the compiler. On the other hand, holdings by nonresident households of securities issued by residents of their own economy do not have to be reported. In the example above, Custodian X would not report any holdings of residents of Economy B of securities issued by other residents of Economy B. Such holdings do not represent any claim on nonresidents from the partner country's perspective and are not relevant for CPIS or IIP purposes. However, for simplicity, it may be easier for the custodian to report all holdings of securities owned by nonresidents, including securities issued by residents. As geographical detail of all holdings, by residence of issuer, and by residence of holder (while observing confidentiality) would thus be provided, any resident-to-resident claims would be identified and could be eliminated for the purposes of the CPIS (but that information may be valuable for other statistical purposes).

Conclusions

4.92 National compilers are advised to choose the method of collection that best suits their domestic circumstances, ensures good-quality data, and meets the objectives of their national survey. The IMF is available to provide targeted guidance, including on the choice of collection system.

4.93 Appendix 1 of this *Guide* provides model report forms for collection of data using different approaches. In addition, Appendix 2 provides web links to survey forms/instructions of some CPIS participating countries. Both these sources could be useful to implement suitable collection systems for countries that plan to introduce CPIS for the first time, and help in improving the existing surveys.