



Unlocking Public and Private
Finance for the Poor



**LESSONS LEARNED ON
BUILDING AN INTERNATIONAL
TRANSACTION REPORTING SYSTEM
TO COLLECT REMITTANCE DATA
EXPERIENCES ACROSS CENTRAL
BANKS**

December 2021



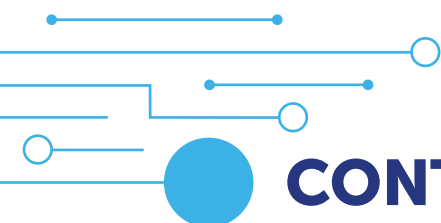
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ABBREVIATIONS AND DEFINITIONS

AML	anti-money laundering
BCB	Banco Central do Brasil
BOP	balance of payments—a statistical statement that systematically summarizes, for a specific time period, the economic transactions of an economy (resident) with the rest of the world (non-resident)
BOT	Bank of Thailand
BPM6	<i>Balance of Payments and International Investment Position Manual</i> , sixth edition (Washington, DC, International Monetary Fund, 2006) (Available at https://www.imf.org/external/pubs/ft/bop/2007/pdf/bpm6.pdf , accessed 19 November 2021)
BQK	Central Bank of Kosovo
BRC	Banco de la República (Colombia)
BSP	Bangko Sentral ng Pilipinas
CFT	countering the financing of terrorism
FX	foreign exchange
IT	information technology
ITRS	International Transaction Reporting System—a data collection system used to capture and compile BOP statistics; an ITRS captures data on individual BOP transactions passing through the domestic bank submitted by domestic banks to the compilers, which in most cases are central bank authorities or regulators in each monetary jurisdiction ¹
KII	key informant interview
LDC	least developed country
MTO	money transfer operator
RBI	Reserve Bank of India
RSP	remittance service provider
SARB	South African Reserve Bank
SBP	State Bank of Pakistan
transaction	defined in BPM6 as an interaction between two institutional units that occurs by mutual agreement or through the operation of the law and involves an exchange of value or a transfer; transactions are classified by the nature of the underlying value, for example goods, services or financial assets such as cash

¹ International Monetary Fund Statistics Department and Organisation for Economic Co-operation and Development Directorate for Financial, Fiscal and Enterprise Affairs, *Report on the Survey of Implementation of Methodological Standards for Direct Investment* (Washington, DC and Paris, March 2000). Available at <https://www.imf.org/external/BOPage/pdf/mar2000.pdf> (accessed 18 November 2021).



INTRODUCTION AND BACKGROUND

Cross-border remittances are a challenge to measure because the market is fragmented among many diverse provider types. Central banks' estimates pay particular attention to remittances transferred through official channels, such as banks and other licensed providers. However, not all remittances are captured, especially those transferred through informal channels. As a result, a deficit of information on the remittance market is widespread across countries and jurisdictions, which limits the implementation of policies and regulations aimed at reducing the cost of money transfers and strengthening sovereign credit ratings. Remittance data are also predominantly reported at highly aggregated levels, often only the total value, which severely limits their use in the development of supportive policy or to drive or inform investment and product development.

The limited capacity of regulators to collect reliable data on remittances leads to an improper understanding of the market structure for remittances and the behaviour of all the agents involved, and it limits their ability to properly supervise both the remittance sector as a whole and remittance providers individually. Central banks in developing countries often lack the in-house capacity to monitor and measure the positive and negative impacts of new players or innovation in the remittance ecosystem. As acknowledged by central banks, this may require more than measuring access to finance and remittance volumes—it will also require assessment of the quality and use of remittance services and key positive impacts of remittances on sustainable development outcomes such as inclusive economic growth, financial resilience and gender equity.

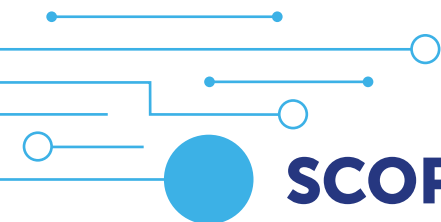
To ensure remittances foster economic development, central banks need a sound, predictable, non-discriminatory and proportionate legal and regulatory framework supporting the monitoring of the financial sector, particularly remittance services. One way to strengthen the policies and processes that facilitate the transition from informal to formal remittances is to establish a system that monitors and analyses remittance flows. Compiling and analysing complete, accurate, relevant and timely statistics helps a country to better understand its economy—including its economic vulnerabilities and risks—and formulate more informed policies.

Monitoring formal and informal remittance flows is also important for many other reasons, including:

- quickly identifying and investigating significant changes in international fund flows

- combatting terrorist financing and money laundering
- informing assessments of tax and financial regulatory policies
- understanding household consumption and saving trends
- providing the private sector with reliable and updated remittances data that can help it to understand market dynamics, facilitate operational and strategic decision-making, and inform investment
- informing economic and wider government policy, including education, migration and labour policies
- sustainability of a country's external position.

Central banks have designed various methods and tools to understand remittance markets and capture and monitor remittance flows in their countries. Many central banks have invested in an International Transaction Reporting System (ITRS) to capture, monitor and analyse cross-border transactions and financial positions. Their range of experience and knowledge offers lessons for peers globally. The following guidelines aim to share those experiences and assist central banks in least developed countries (LDCs) in the development of tools and systems to improve the collection of remittance flow data.



SCOPE AND OBJECTIVES

This guideline note is a practical knowledge product that outlines the role an ITRS can play in improving current source data on remittances and enhancing their compilation techniques.

UNCDF conducted a key informant interview (KII) exercise to better understand the roles of existing ITRSs in the collection of data on remittances and cross-border transactions and the compilation and reporting of balance of payments (BOP) statistics. The team conducted structured interviews with policymakers across the globe to better understand the role, challenges and requirements for an ITRS to monitor remittances.

This report is organized in the following sections:

1. Presentation of the KII **methodology and process**
2. **Prerequisites** for developing an effective ITRS
3. **Main findings and guiding insights:** stock-taking of central banks' experiences with the roll-out of systems that allow authorities to monitor foreign exchange (FX) transactions and cross-border transactions, with an emphasis on remittances
4. **High-level takeaways:** identification of lessons learned by central banks related to transaction reporting and remittance information gathering
5. **High-level recommendations:** presentation of some implications for how the United Nations Capital Development Fund (UNCDF) can help central banks in LDCs to capture crucial data on remittance flows more effectively.

UNCDF conducted structured interviews with key representatives of central banks' BOP departments. In the exercise, UNCDF conducted a total of 13 central bank interviews.

Through the structured interview method, UNCDF collected data using a predetermined set of questions. For each interview, the same set of questions was used. This approach allowed the interviewer to compare transcripts and enabled the interviewees to provide valuable feedback information while constraining interviewees' ability to shape the discussion.²

Interviewees included a range of central bank authorities in Africa, Asia, Europe and Latin America. The countries listed in Table 1 were selected according to the following criteria:

- relevance of experience in the use of data for decision-making processes
- geographic distribution across regions
- applicability of conclusions to LDCs.

Table 1. Key informant interviews (2021)

Country	Agency	Country	Agency
Brazil	Banco Central do Brasil (BCB)	Mexico	Banco de México
Colombia	Banco de la República (BRC)	Namibia	Bank of Namibia
Iceland	Central Bank of Iceland	Pakistan	State Bank of Pakistan (SBP)
India	Reserve Bank of India (RBI)	Philippines	Bangko Sentral ng Pilipinas (BSP)
Indonesia	Bank Indonesia	South Africa	South African Reserve Bank (SARB)
Jordan	Central Bank of Jordan	Thailand	Bank of Thailand (BOT)
Kosovo ³	Central Bank of Kosovo (BQK)		

² Freya A.V. St. John, Aiden M. Keane, Julia P.G. Jones, et al., "Forum: Robust study design is as important on the social as it is on the ecological side of applied ecological research", *Journal of Applied Ecology*, vol. 51, No. 6 (December 2014), p. 1479–1485. <https://doi.org/10.1111/1365-2664.12352>

³ All references to Kosovo in this guidance note should be understood to be in the context of United Nations Security Council Resolution 1244 (1999).



DEFINITION OF AN EFFECTIVE ITRS AS IT RELATES TO THE COLLECTION AND ANALYSIS OF DATA ON REMITTANCES

ITRSs in many countries do not collect data on remittances beyond the highly aggregated national totals for remittances required for the compilation of BOP statistics. To achieve the goals of providing central banks and the wider government with sufficient information on remittances to develop data-driven policy and for the private sector to make informed investment decisions, an ITRS must have certain additional characteristics. These include, but are not limited to:

- collection of **transaction-level data**
- collection of data either **without limits on transaction value** or with transaction limits low enough to still provide detailed data on remittances
- **validation module** to check data quality, identify outliers, validate data formatting and ensure completeness
- an **analysis module** that supports the detailed analysis of remittance data by way of dashboards or other data visualization tools within the central bank; BOP compilation requires dissemination but does not require the level of analysis needed to maximize the value of transaction-level remittance data
- effective public communication of relevant data in a machine-readable format (i.e. a spreadsheet rather than a PDF file).



PREREQUISITES FOR DEVELOPING AN EFFECTIVE ITRS

This section presents the most salient findings from central banks' experiences on the roll-out of ITRSs, with a special focus on remittances. ITRSs vary from country to country, depending on the regulatory framework, FX regulations, accounting systems and processes; however, all such systems have certain features in common.

Based on interviews with key informants in 13 countries, the following prerequisites for developing an effective ITRS have emerged: (i) sound legal basis and responsibility for collecting, processing and disseminating statistics; (ii) institutional willingness and ITRS usefulness; and (iii) adequate capacity, skills and resources.

1. Sound legal basis and responsibility for collecting, processing and disseminating statistics

Central banks are the primary compilers and providers of economic and financial statistics to the government and the market. All central banks that have taken part in this exercise are responsible for collecting, processing and disseminating BOP statistics. Given the multiplicity of data sources required for the compilation of statistics on the BOP and cross-border transactions, a clear legal basis to collect data is critical.

All central banks mentioned the importance of a well-established legal framework as the foundation for an effective and well-functioning national statistical system. A sound legal framework gives the central bank a clear mandate to collect data and to compile and disseminate statistics, and it makes relevant information (e.g. supplementary data sources) available to the compiler. Legislation giving compilers the authority to collect the required data is necessary for building an effective ITRS.

"The South African Reserve Bank is officially responsible for compiling balance-of-payments statistics in South Africa." – SARB

The interviewed central banks have the authority to collect such data under their respective central bank, FX and/or foreign trade laws. FX records data from banks and FX companies are the major sources of BOP statistics in many countries. The FX data collected are incorporated into the BOP with some adjustments.

While FX controls have been removed in Brazil, Colombia, Namibia, Pakistan and South Africa, the central banks still have to authorize institutions to operate in FX markets, and registrations through their FX settlement systems are kept for statistical purposes.

“Banco de la República is the official authority charged with compiling and publishing statistics related to workers’ remittances. Therefore, BRC possesses all the necessary attributes for the compilation and publication of complete information on the market, as well as the authority to review the compilation system when it deems it necessary.” – BRC

In Jordan, the Central Bank of Jordan has been compiling and disseminating the BOP statistics since its establishment in 1964. This reflects a well-established practice, since no government agency has been legally assigned to compile BOP statistics. In Colombia and India, while there is no formal legal mandate assigning responsibility for the collection, processing and dissemination of BOP statistics, there is clear recognition through established practice that this responsibility resides with the central bank.

In Namibia, in accordance with the powers delegated to it by the Minister of Finance by the Currency and Exchanges Act and the Exchange Control Regulations, the central bank is mandated to administer exchange controls in support of the country’s foreign reserves management objectives. The bank leverages its ITRS data to enhance the monitoring of transactions as it continues with the phased liberalization of controls.

Finally, as observed by the BSP, it is also important to note that intergovernmental and interdepartmental cooperation is crucial for building a sound data collection system for compiling BOP statistics.

The legal basis of BSP to collect data from BSP-supervised and non-BSP-supervised entities is provided by Section 23 of Republic Act (R.A.) No. 7653, as amended by R.A. No. 11211:

Sec. 23. Authority to Obtain Data and Information.—The Bangko Sentral shall have the authority to require from any person or entity, including government offices and instrumentalities, or government-owned or -controlled corporations, any data, for statistical and policy development purposes in relation to the proper discharge of its functions and responsibilities: provided that disaggregated data gathered are subject to prevailing confidentiality laws. The Bangko Sentral through the Governor or in his absence, a duly authorized representative shall have the power to issue a subpoena for the production of the books and records for the aforesaid purpose. Those who refuse the subpoena without justifiable cause, or who refuse to supply the Bangko Sentral with data required, shall be subject to punishment for contempt in accordance with the provisions of the Rules of Court.

“The authority of the Bangko Sentral to require data from banks shall continue to be exercised pursuant to its supervisory powers set forth in this Act and other applicable laws.” – BSP

2. Institutional willingness and ITRS usefulness

In general, the interviewed central banks have developed tools to facilitate monetary policy decision-making, effectively enforce compliance with FX and anti-money laundering/ countering the financing of terrorism (AML/CFT) regulations and enhance BOP statistics, including remittance flows. The central banks use a combination of ITRS data and survey data to compile BOP statistics. In most economies, ITRSs initially evolved as sub-products of FX control systems. As FX restrictions were relaxed or eliminated, many systems were expanded beyond their initial purpose of monitoring FX transactions, enabling the comparison of more granular data by source and use, such as remittances.

In terms of tools used, an ITRS or a variant of it is used by the central banks of Brazil, Colombia, Iceland, India, Indonesia, Jordan, Kosovo, Namibia, Mexico, Pakistan, the Philippines, South Africa and Thailand. Surveys are also used to collect information in Iceland, Indonesia, Kosovo, Mexico and the Philippines.

“Foreign exchange transactions are collected through an international transactions reporting system (ITRS) and an ITRS is State Bank of Pakistan’s major source of BOP Statistics. All foreign exchange transactions; inward and outward remittances; international trade; inter-bank sale and purchase; sales to and/or purchases from SBP; conversion of currencies in exchange of other currencies and balances are captured through ITRS.” – SBP

In South Africa, in accordance with official government policy to liberalize exchange control regulations gradually, the central bank decided in 1999 to broaden the responsibilities of the exchange control department to collect a more comprehensive set of data from reporting institutions.

“In 2001, the electronic Cross-Border Foreign Exchange Transaction Reporting System (ITRS) was introduced, which replaced the previous paper-driven system, as a reporting system to be used by all reporting institutions. The ITRS is used to assist the compilation of BOP statistics in general, but from the point of view of SARB, it has special benefits for collecting trade in services data.” – SARB

Other central banks echoed the need to use the ITRS to better compile BOP statistics and FX transactions:

“One of the missions as a central bank is monitoring the sustainability of the financial market in Thailand. For this reason, Bank of Thailand (BOT) needs an efficient financial data warehouse for the regulator to analyze the data in order to drive a suitable policy.” – BOT

“In 2009 and after the banking crisis that started in 2008, the Central Bank of Iceland upgraded its ITRS as a data collection system. It requires the commercial banks to record all details for each international payment and receipt made through the banking system (e.g., SWIFT payments and receipts).” – Central Bank of Iceland

"In the Philippines, the BSP's ITRS serves as one of the primary sources of data for monitoring cross-border transactions and the compilation of the country's BOP and international investment position (IIP) statistics based on international standards. It also serves as a platform for prudential supervision and monitoring of foreign exchange transactions and provides information on the daily net open foreign exchange position of banks." – BSP

"All authorized foreign exchange intermediaries are subject to registration, control and licensing by BRC and the financial supervisor, and carry the obligation to prepare registries, maintain regulated accounts and send reports to the authorities, in such ways and formats as they may determine." – BRC

3. Adequate infrastructure, human capacity and good communication with reporting institutions

Successfully implementing an effective ITRS usually involves updating or supplementing existing systems. This requires both central banks and reporting institutions to ensure adequate human capital and infrastructure, both of which come at a financial cost. Central banks' resources must be allocated to the planning, collecting, validating, analysing and reporting phases of a data collection activity. Insufficient resources may make it difficult for compilers to collect accurate information. All central banks agreed on the importance of allocating capacity, skills and resources, including adequate information technology (IT) systems.

Central banks must also provide support to reporting institutions, including providing detailed reporting standards and data structures to ensure comparability between reporting institutions. A significant challenge mentioned by many central banks was reporting institutions' lack of personnel with the technical knowledge to properly complete the reporting templates. Some central banks provide training to reporting institutions.

It is also important to establish means of communication (e.g. a contact person) and a dialogue with reporting institutions.

"Good communication and personal contact between the central bank and reporters to share the methodology and the forms and to follow up is the key to collection of useful and accurate data." – Central Bank of Jordan

"It is important to conduct a training program for banks on reporting and applying the updated ITRS codes." – SARB

"Banco de la República coordinates continually with market participants and has established a call centre for addressing data collection problems and safeguarding the quality of compiled statistical data." – BRC



CHALLENGES AND LIMITATIONS FOR AN ITRS TO SUPPORT DATA- DRIVEN INSIGHTS FOR REMITTANCES

While many countries now use ITRSs to compile data on remittances, many of these systems are not capable of producing the detailed insights required to inform policy and private sector investment. Limitations encountered in the surveyed countries include the following.

Transaction limits

In the majority of countries surveyed, central banks do not apply thresholds to cross-border transaction reporting. The only exception is Central Bank of Indonesia with a threshold amount of US\$10,000 agreed for Indonesia's ITRS. Transaction limits are a major barrier to insight generation for remittance policy. With an exemption threshold, the small-value transactions that fall below the threshold are not reported individually but in an aggregated form that introduces a host of issues.

"There are various shortcomings associated with ITRS data for the specific purpose of measuring remittances: a) since typically remittances fall beneath the reporting threshold they would be included in the lump sum reported for small transactions, thus making their extraction subject to estimation and creating the potential for misclassification; b) financial flows through the banking system will be reported through ITRS subject to the netting, batching and geographical uncertainties mentioned in the context of financial flows; and c) the ITRS data does not cover flows through informal or unregistered delivery channels." – Central Bank of Indonesia

In these cases, the ITRS cannot be considered to effectively capture remittance flows and may not even be able to accurately estimate gross remittance value, let alone produce the detailed data required to develop data-driven policy and investment insights. Remittance flows in LDCs are mostly low-value transactions, and aggregated reporting results in the loss of information and makes the detection of errors more difficult.

In some central banks, this has led to a bifurcated approach with the ITRS covering FX contracts and household surveys being used to capture information on remittances.

"The Colombian measurement system basically employs two sources of information in calculating total balance of payments and remittance flows into the country: an International Transactions Reporting System (Sistema de Notificación

de Transacciones, SNTI in Spanish) made on the basis of foreign exchange contracts, and estimates based on household surveys for the measurement of remittances arriving outside formal channels.” – BRC

Limited by type of reporting entities

An ITRS typically collects data from reporters in the banking sector, including the commercial banks and selected companies called direct reporters that report directly to the BOP compiling institution.

Reporting is mandatory for banks and FX companies. Banks’ role in BOP reporting is linked to their role as authorized dealers in FX. Banks report all cross-border transactions to the central bank for statistical, regulatory and informational purposes.

“In South Africa reporting is mandatory, as the central bank authorizes each institution to operate in the foreign exchange market. The provision of ITRS data is for the most part a responsibility of the banking system, with origins in exchange controls and supervisory and AML/CFT requirements.” – SARB

“The Central Bank of Kosovo (BQK) is one of the main institutions in Kosovo producing data on remittances. The method that BQK uses in estimating remittance flows is based on international transaction reporting system (ITRS) and information is obtained from banks. The BQK has also developed additional estimation techniques based on surveys and models. Transactions of the Money Transfer Operators are surveyed separately, with data for these transactions being provided separately to the central bank.” – BQK

ITRSs only cover institutions regulated by the central bank. With increased use of mobile money, other fintech products and cryptocurrencies, which may not fall under the oversight of the central bank, the percentage of the market that is unsupervised is likely to grow unless central banks expand the remit of their current systems. Even where ITRSs are used to capture cross-border transactions from banks, in some countries, such as Kosovo, data from other types of financial service providers, including money transfer operators (MTOs), are reported using separate systems.

While the ITRS is often the main data source for compiling remittance data, it often only covers remittances conducted through banks, authorized dealers and MTOs attached to banks. Remittances conducted through MTOs acting autonomously as remittance service providers (RSPs), as well as those conducted through other channels (e.g. brokers, couriers, postal, informal) are excluded. Banks are required by regulators to report individual cross-border transfers carried out on behalf of their customers and to provide information pertaining to the nature of the transaction and the origin or destination of funds in a standardized format.

A particular challenge is the relaxation of FX controls and the growing role of non-banks in international financial transactions. In many remittance markets, the bureau de change industry and MTOs have flourished since abolition of exchange controls.

“The Philippines’ ITRS captures all transactions that pass through the local banking system. These include those channelled through courier companies, money transfer operators, and mobile companies, as these have existing accounts with the local banks. Separate reports are also submitted by these entities to other departments in the BSP.” – BSP

The lack of a clear legal framework for inclusion of other RSPs is seen as one of the most significant challenges to increasing the number and types of institutions reporting into ITRSs. This has led to reliance on surveys, which lack a legal mandate. As MTOs have gained traction in several economies as an alternative to banks for sending and receiving remittances, all interviewed central banks expressed a desire to embrace new reporting institutions, use new sources of data and adopt innovative methods for producing and using remittance statistics.

Mexico offers an example of good practice in terms of onboarding different RSPs and establishing data transfer requirements as part of the legal basis for the compilation of remittance statistics:

“Given the importance of remittances to the elaboration of diverse local economy indicators and statistics by the central bank, fund transfer rules were issued to (among other things) standardize the way and terms under which banks and companies that provide this service must present the corresponding information to Banco de México. The notice from 12/2012, issued by Banco de México, establishes the rules for transfer of funds that all financial institutions and companies that transfer funds in Mexico are subject to.” – Banco de México

Another example is in the Philippines:

“The BSP’s mandate to produce data and maintain statistical frameworks for banking and external accounts supports the regulatory framework on remittances, particularly with respect to the periodic bank reporting system. Republic Act No. 7653 (Central Bank Act) provides the BSP a double role of data compilation and economic research. Furthermore, BSP Circular No. 942 (issued on January 20, 2017) applies to operations and reporting obligations of non-bank institutions engaged in remittance, money changing or foreign exchange dealing” – BSP

The BSP issued Circular No. 194 dated 30 March 1999, which mandates all commercial banks to submit to the BSP the FX Form 1 Report (which refers to ITRS reports). The BSP also issued the following circulars pertaining to remittance services, e-money, digital currency and other fintech businesses, which amended specific portions of the BSP Manual of Regulations for Non-Bank Financial Institutions.

1. BSP Circular No. 942, issued on 20 January 2017, applies to the operations and reporting obligations of non-bank entities engaged in remittance, money changing or foreign exchange dealing. In particular, the circular applies to remittance and transfer companies

(RTC), remittance sub-agents and money changers/FX dealers. RTCs include e-money issuers and remittance platform providers (RPPs).⁴

2. BSP Circular No. 944, issued on 6 February 2017, governs the operations and reporting obligations of virtual currency exchanges in the Philippines offering services or engaging in activities that provide facility for the conversion or exchange of fiat currency to virtual currency or vice versa.

The Central Bank of Jordan confirmed that new remittance channels are becoming an important player in the remittance industry. The central bank created a new department to monitor and supervise MTOs through survey forms for collecting data on cross-border remittances.

Missing analysis modules

Understanding remittances and generating data-driven insights require detailed and in-depth analysis, and one of the most effective ways of doing this is with a data analysis module that visualizes the collected data and allows them to be filtered and explored for insights. Very few of the ITRSs currently in place have such an analysis module.

System development

All the central banks surveyed developed their ITRSs in house and use on-site data storage. For many central banks with greater financial, technical and human capacity constraints, this will not be possible. While some technology providers in the market have solutions that could be customized to allow central banks without the capacity to build a system in house and from scratch to access the same features, many of them rely on in-house hosting and are tied to software licensing that would require the central bank to also subscribe, which may be an unfamiliar concept to the central bank and potentially against its ethos.

Human resources to run and manage the system

Most of the central banks surveyed reported that they dedicate a significant part of their human resources and capacities to run and manage the ITRS in their country. This includes the compilers responsible for collecting, checking and processing the data received through the ITRS. Some BOP divisions often hire staff with an IT background to help deal with large volumes of data and data processing to reduce the processing burden and eliminate misclassifications and errors.

4 An RPP is an entity that provides a shared or common platform/IT infrastructure and maintains settlement accounts in order to provide funds for remittance transactions within its network.



MAIN FINDINGS AND GUIDING INSIGHTS: HOW TO BUILD AN ITRS

Role of BOP data, including remittances, in policy formulation

One of the objectives of central banks, regarding statistical compilation, is to expand ITRS coverage, quality, timeliness, indicators and economic analysis to facilitate monetary policy decision-making. An ITRS platform for BOP and remittance tracking and measurement would provide the relevant authorities with effective visibility over important money flows (inflow and outflow).

All interviewed central banks emphasized the importance of ITRS data for national and international policy formulation. The central banks use these data to understand the factors that influence the BOP in their countries.

“The objective of the Reporting System is to ensure accurate and comprehensive reporting of all data by authorized dealers on cross border transactions for compilation of: – Balance of payments statistics by the Research Department of the South African Reserve Bank – Foreign debt statistics and repayment profiles to support monetary policy decisions – Statistical information relating to the nature, volume and values of the various cross border flows and provide the appropriate information for economic and financial management decisions, as well as planning and policy formulation.” – Excerpt from SARB rulings

“In the case of Kosovo, data on remittances is used through the reporting to the Ministry of Internal Affairs that prepares the Migration Profile for Kosovo and is reported to the European Union (EU) as part of their requirements for EU accession. The information in the Migration Profile is aimed to serve for policy formulation in EU and respective countries. For Kosovo, the data on remittances plays an important role in Kosovo’s migration profile.” – BQK

Data management, as the integrated system for collecting, cleaning, storing, monitoring, reviewing and reporting, determines the utility and ability to meet the goals of the ITRS

All central banks mentioned that an ITRS should contain a number of basic features to produce statistics of good quality. The ITRS should clearly establish the reporting institutions, the

level of detail (aggregated versus transaction by transaction), frequency, collection method, reporting forms, reporting channels, data security and quality assessment, and management.

Central banks use reporting forms to collect data from banks and other reporting institutions. Submission of the forms is required in some cases, voluntary in others. Some data are collected frequently, others only occasionally. Data on FX contracts and payment orders have typically been reported on paper, but electronic transmissions are increasingly being used.

Each situation for regulatory data collection is different. The rules of the ITRS must clearly define which institutions should report which transactions. Rules should be clearly defined so that there is no omission or duplication in reporting. Clear rules are also necessary to ensure that reporters provide data according to BOP requirements.

A recurrent challenge for central banks is connecting ITRS data to data from other sources to enable comprehensive analysis and support policy formulation and implementation. Hence, comprehensive and flexible ITRSs are required to implement effective compilation efforts, considering specific contextual factors.

All central banks mentioned that, to enhance the compilation and analysis of official BOP statistics, data collection systems have to be reviewed and expanded continually to ensure that potential data gaps are identified and addressed in a timely and efficient manner. The following steps form the conceptual framework in which central banks have developed and organized their data collection systems.

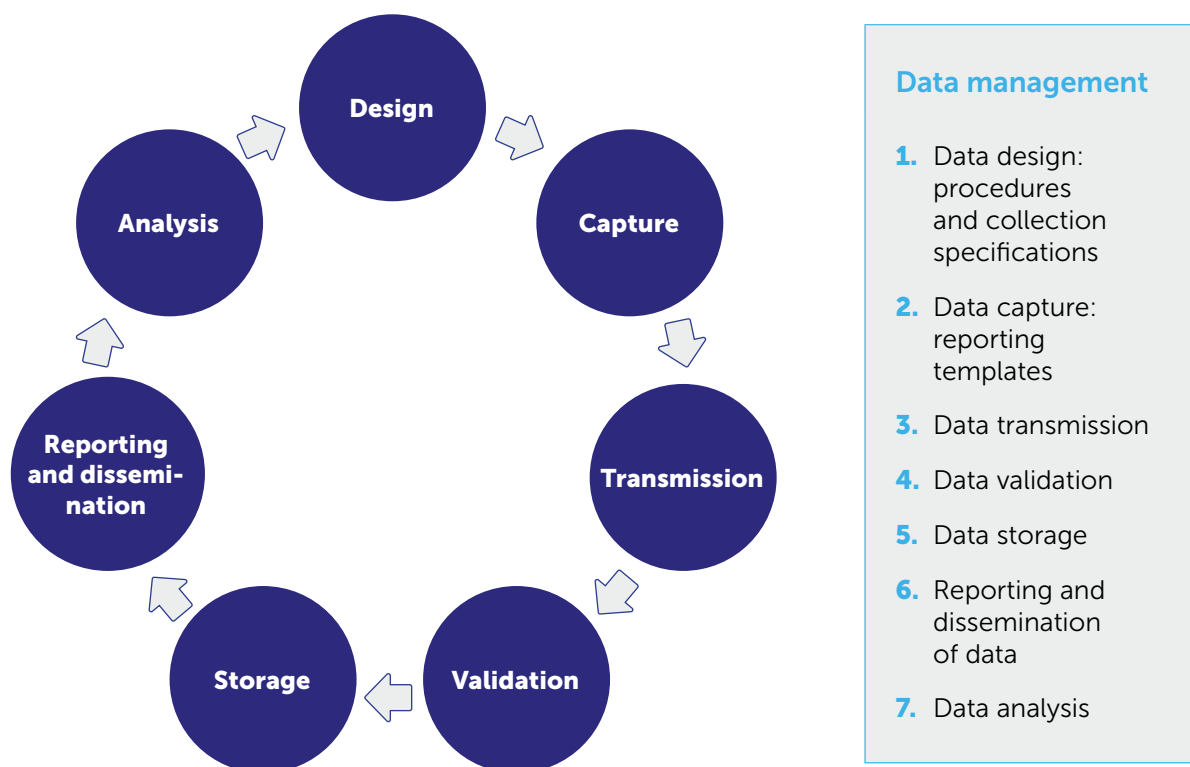


Figure 1. Data management

The key steps of this section also form the basis of the forthcoming practical reference, *A guide for designing and implementing a Remittance Reporting and Analysis System (RRAS)*.

Step 1: Create clear procedures and collection specifications

An important first step in the data collection process is to create a clear, simple set of instructions, known as collection specifications. Collection specifications include ITRS purpose, legal basis, timeliness of reporting, reporting forms, data field names, definitions, types, acceptable format and referential integrity restrictions that are essential for data.

All central banks emphasized that data collection procedures need to be carefully considered in planning the operations of an ITRS. SARB mentioned the importance of (i) gradually improving the source data by extending coverage and updating and implementing new survey forms, in line with the sixth edition of the *Balance of Payments and International Investment Position Manual* (BPM6); (ii) ensuring the availability of data with sufficient granularity for generating reports requested for BOP purposes; and (iii) moving towards system-to-system data transmission to reduce human intervention in the process of reporting, to increase quality and completeness, and to reduce errors.

Step 2: Develop clear reporting templates

Developing clear reporting templates facilitates the communication with banks and other reporting institutions regarding the reporting requirements and data reporting and transmission. Reporting templates are completed by the reporting institutions based on information provided by the client/beneficiary of the remittance payment.

In South Africa, the BOP customer transaction report message (BOPCUS) is sent by banks to the BOP compiler (SARB) for reporting individual customer transactions processed during a specific time period. The report forms include the reference number of the transaction, the reference period, identification of the transactor, the bank accepting the form, the currency, the value of the transaction (in terms of the currency used, the unit of account or both), the classification and description of the purpose of the transaction. SARB also collects data on the location of outbound remittances (recipient's province and city), sex of sender and channel through the Reporting Mandate, which supplements the transaction data for every record.

In Colombia, the measurement system for remittances flowing through registered institutional channels is based on data compiled through individual forms (the exchange declarations) that all remittance beneficiaries must fill out upon receiving a remittance payment. The form has been designed by BRC to gather information on the different types of transactions in the FX market. Required information includes name and official identification of beneficiary (identification or tax number, address etc.), reason for remittance, amount received, and other data such as US\$ amount and exchange rate applied.

Step 3: Develop an appropriate data transmission system

Once the data sources have been identified, the central bank team can determine how data will be entered into the database. Many options, techniques and technologies exist for reaching (transmitting) or moving data, including paper submission, email, direct data entry, facsimile or scanning systems, and electronic transmissions.

Most countries' ITRS BOP statistics are compiled from forms or from electronic transmissions sent by reporting institutions. ITRS data have typically been reported on paper, but electronic transmissions are increasingly being used.⁵ Central banks have developed different systems, including online systems, data transfer applications and secure reporting portals. In many central banks, email transfer has been replaced by direct data transfer to ensure use of international standards of security and encryption.

In Jordan, Excel spreadsheets are the main software used for compiling and analysing the statistical series.

In Pakistan, all banks are directed to report to the central bank through SBP's Data Acquisition Portal (DAP). In this regard, instructions for uploading money-market reporting through DAP are provided by the central bank, and reporting specifications are available in SBP's DAP knowledge centre.

"In the Philippines, the BSP requires banks to submit Excel-based reporting templates. The banks have the option to populate the templates manually or automatically through their systems. The templates that were manually populated, took significant time to complete and were subject to human error. Furthermore, the templates were emailed, creating security concerns. While an automatic validation process was in place, staff at the BSP and the institutions it regulates were still required to cross-validate and reconcile data. The BSP is currently revising its ITRS system and is developing a portal that will streamline the transmission and processing of data." – BSP

"RBI has gradually developed the system over the years—initially it was mostly based on email. Banks used to have a format for all the transactions and they used to send Excel files to us by email; banks also sent us hard copies of all the transactions. There was always a chance of failure, you had to check and cross-validate. It had to be done manually when submitted by email. Now the Portal system is in place and the authorized dealers report every two weeks, with a lag of seven working days. The data are reported to the Reserve Bank through electronic transaction, and banks must ensure balanced accounting, otherwise they have to come to us if there is any discrepancy and [explain] the exactly reasons, and they have to go back and correct it and only then uploading the data is possible. Errors have been minimized. When RBI is convinced and the data are cleared from our side, only then can they upload the data." – RBI

"In Iceland the central bank gets all the details a SWIFT transaction generates. Then the central bank manually sorts through each transaction to determine whether it is a remittance transaction or not (sort out all goods and services transactions). We are currently working on a machine learning algorithm to automate most of the manual work." – Central Bank of Iceland

⁵ International Monetary Fund, *Balance of Payments Compilation Guide* (Washington, DC, 1995). Available at <https://www.imf.org/external/np/sta/bop/BOPcg.pdf> (accessed 19 November 2021).

The ITRS of South Africa has been enhanced several times since its introduction in 2000. The most recent improvement, at the end of 2013, has also ensured better alignment with the requirements of BPM6, although it required a substantial additional investment by reporters. SARB's future ITRS plans include an application programming interface (API) to link with banks' core banking systems, eliminating human intervention and dramatically reducing the risk of human error.

Step 4: Data quality assurance: clean, classify, evaluate and refine

One current hurdle for ITRS expansion is poor data quality and the lack of fully adequate coding in the ITRS for certain transactions to be accurately registered. All central banks mentioned the importance of ongoing review of the ITRS codes and instructions for aligning with BPM6 and for accommodating new codes emerging from economic events as new RSPs enter the market.

In central banks, BOP reports are obtained by transforming ITRS data into BOP data. This transformation is achieved by means of *translating* combinations of ITRS fields into standard International Monetary Fund (IMF) BOP codes using a correspondence table. This table is updated monthly to incorporate any new combinations that may arise.

To compile BOP statistics, it is necessary to ensure that the reporting classifications (i.e. transactor codes, other party codes and transaction codes) used in the ITRS conform, as closely as possible, to the classifications used for the BOP statement. Central banks are undertaking major changes to align the ITRS with the concepts and classifications set out in the IMF's BPM6. Quality is assured by the application of the BPM6 concepts and thorough validation of the data delivered by countries, but many international transaction reporting systems require large numbers of processing staff to check, code and enter data.

Central banks struggle to know the actual purpose of every transaction. They can only trust that the customer or the bank is classifying correctly. However, central banks train bank staff and give them text files with definitions of the codes to put into their systems as a way to help correct classification.

In many countries, the main problem with the ITRS is data quality, that is, how to ensure the accuracy of customer transaction information submitted by banks.

"One of the main limitations of the current ITRS is the misclassification of transactions due to unavailability of codes for specific transactions. For this reason, the BSP is updating the system to include an expanded list of transaction codes in accordance with the IMF's BPM6 classifications and the BSP's authorized FX transactions." – BSP

"In Iceland we monitor transactions entered into the system mainly by observing the value and volume of data. We want to see that the data trends are more or less consistent over time and that there is no big shift in the way the transactions are classified." – Central Bank of Iceland

SARB concurs:

“Misclassification is a frequent problem identified in an ITRS, [e.g.] inaccuracy of underlying transaction, ordering & beneficiary customer codes.” – SARB

Central banks are aware that human and technical resources have to be enhanced not only at the central bank but also at the level of the reporting institutions. Any shortcomings in the human resources available to the commercial banks will definitely affect the efficiency of the ITRS data collection and hence its reliability.

“Commercial bank data typically contain misclassifications, which must be accounted for and cleaned out. BOP purpose codes are given by the client and validated by the banks, so one first point of checking will be when the client is providing such transaction information to banks.” – RBI

Step 5: Data storage, security and confidentiality

For all interviewed central banks, the processing of primary data from the various data sources to generate BOP statistics is made through in-house data warehouses fully dedicated to the BOP.

“BCB’s data warehouse serves not only as a storage place for all the BOP transactions but also as a tool for the compilation process. For instance, after data have been loaded to the warehouse, data is checked and reclassified according to BOP needs.” – BCB

All interviewed central banks also emphasized the importance of establishing principles and guidelines to ensure the confidentiality of data used to produce statistics and access to those confidential data with due account of technical developments and the requirements of users. In all interviewed central banks, individual data remain confidential to the central bank, and the data are only to be publicly released in the form of aggregated statistics. In Mexico, all the information from the reports is deposited and aggregated in the system, so Banco de México is able to generate several data tables that classify the information by different criteria (e.g. revenues by remittances distributed by state, municipality, country of origin).

Additionally, the remittance system works as a secure and private directory of fund transfer companies. Authorized staff have access to the contact information of each institution and, if necessary, can even send emails to remind the institutions of deadlines for submitting reports. Moreover, whenever a company replaces the employee who sends the information, they have to notify this change to compilers as soon as possible so that the compilers can issue a new username and password for the new contact and update the directory.

“It is worth to mention that all remittance data collected by Banco de México is intended for statistics purposes only and is protected and managed confidentially.” – Banco de México

“In South Africa, SARB guarantees the confidentiality of the data by using Internet encryption, senders’ validation, and the Society for Worldwide Interbank Financial Telecommunication’s SWIFT-Net system.” – SARB

In the Philippines, individual data remain confidential, and only aggregated statistics are published. In particular, Section 23 of Republic Act (R.A.) No. 7653, as amended by R.A. No. 11211 provides that:

“Data on individuals and firms, other than banks, gathered by the BSP shall not be made available to any person or entity outside of the BSP whether public or private except under order of the court or under such conditions as may be prescribed by the Monetary Board: provided, however, that the collective data on firms may be released to interested persons or entities.” – BSP

Step 6: Data reports

All central banks mentioned that all remittance data collected are intended for statistical purposes only and are protected and managed confidentially.

The majority of ITRS do *not* include dashboards, which allow authorities to view consolidated and continuously updated data and remittance statistics, including total amounts remitted or even sex-disaggregated data information to be collected on these transactions for a given period.

The only exceptions are Mexico and South Africa. In Mexico, the remittance service firms send monthly information, meeting all the format requirements, to a remittance platform, property of Banco de México. The remittance platform can be accessed from any computer device with Internet connection. Each RSP has a username and password to log in to the system.

“In Mexico the remittance system was designed by a specialized area in Banco de México, to process this information and to generate several reports that show remittance information by institution, state, municipality, country of origin/destination as well as from banks and non-banks.” – Banco de México

Moreover, the remittance system allows Excel reports to be downloaded from all RSPs that send their information on a monthly basis.

South Africa, in collaboration with FinMark Trust, is the first country to develop a public platform that allows the analysis of such detailed remittance data not only by the regulator and government but also by financial service providers, researchers and the general public. SARB will be able to run some truly innovative analysis. Not only will users of the analysis tool be able to see the geographical distribution of the value of remittances broken down by province but they will be able to break down this provincial-level data by sex.

In a following paper, [The case for disaggregated supply side data on remittances](#), UNCDF will demonstrate the potential value that can be derived from detailed supply-side data on remittances, using Banco de México and SARB as practical examples.



HIGH-LEVEL TAKEAWAYS

Some salient conclusions that can be distilled from the experience of central banks developing ITRS and data-gathering systems include the following.

- While ITRSs offer the potential to allow central banks to capture and analyse detailed data on remittances, this opportunity is either underutilized or entirely neglected by many of the current systems.
- Successful implementation of a transaction-level reporting system relies on institutional willingness, identifying the needs of policymakers and ensuring the availability of resources to address those needs.
- The choice of data collection methods, sources and systems is an important strategic decision and should be as flexible and adaptive as possible, as it will impact IT architecture, the compliance burden imposed, data availability and implementation, and running costs.
- Data transfer applications and electronic data-reporting portals offer a more secure, technically advanced and efficient system that serves as a single point of entry for electronic report submission either via direct data transfer or bulk file uploads.
- One of the main challenges to the compilation of BOP statistics is to ensure that the classification of transactions used in the ITRS conforms as closely as possible to the classification required for the BOP statement. The coding system should be customized for different reporters.
- Minimizing the reporting burden is critical. Current data gathering technologies enable the collection of more detailed statistics with less effort and cost, for both the compilers and the reporting entities.
- The utilization of micro-data plays an important role in compilation processes and filling data gaps. Staff resources and costs can be reduced significantly by capturing more granular data using sophisticated computer processes—in particular, electronic transmission of data from provider to compiler.

- New or alternative data sources and solutions could provide additional checks and validations, and thereby strengthen the reliability and accuracy of BOP and remittance statistics.
- ITRS reporting usually covers only institutions regulated by the central banks. Other forms of transferring money (MTOs, RSPs, mobile money etc.) can make up a significant percentage of remittance data in a country, which is potentially left uncovered.
- Currently, most of the systems for capturing data on remittances lack the data analysis tools that would allow the authorities to view consolidated and continuously updated data and remittance statistics.



HIGH-LEVEL RECOMMENDATIONS

Every country, central bank and statistical system is different. Nevertheless, these high-level recommendations can serve as guidance for other central banks and policymakers.

- To provide the detailed data required to support policymaking and investment decisions, current transaction limits would have to be scrapped and *all* transactions, regardless of value, would have to be reported.
- For a complete understanding of behaviours around remittances, additional data on the purpose of the transfer, location data and data regarding the sex of users would have to be captured and reported alongside the transaction data, as is done in South Africa.
- Central banks can work to sustain the momentum of innovation in the remittances field and embrace better ways of collecting new information and adapt, on an ongoing basis, their data-reporting frameworks and systems to enhance the compilation and analysis of BOP statistics and remittances.
- Carefully assess data availability gaps that limit evidence-based policy and product decisions, and identify the needs and available resources to address those needs.
- Consult: At the beginning of the design phase, the first step should be to consult the reporting institutions to learn what kinds of data are available and how they are structured. This will ensure that it is possible for all reporting entities to comply with the new reporting requirements.
- Embrace new reporting institutions and sources of data (including them by updating legal and regulatory frameworks if necessary).
- Build capacities for quality data production and use—by promoting coordination with data providers, and training human resources allocated to data compilation and dissemination.
- Strengthen traditional systems of data collection or build new ones by using new technologies and methods to enable capture of timely and frequent statistics. Advances in IT can make a large volume of raw data available to compilers at a low

cost, facilitate compliance with reporting requirements, and reduce the burden on the banking system and reporting institutions.

- Support and democratize data analysis: Data analysis and visualization tools that make the data available to different audiences as dashboards and interactive analysis tools will greatly enhance the potential for insight generation.



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