Technical Notes on Balance of Payments Compilation and Analysis: The Case of Nigeria

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This paper discusses some technical issues in Balance of Payment compilation and analysis. It summarized major components of the BOP statistics, the various account balances as well as the interrelationship between them and other macroeconomic aggregates. It goes further to discuss data related issues in the compilation of Nigeria's BOP statistics with the aim of providing better insight to future/new compilers, policy and other economic analysts.

1.0 Introduction

Over the years, international trade and cross-border financial flows have become major sources of concern for both monetary and fiscal policy makers as national economies become more open to one another and the rest of the world (ROW). There has been remarkable growth in trade and exchange, not only in traditional goods and services, but also in exchange of currencies, cross-border capital movements, technology transfers and international flows of information and ideas. External sector statistics, such as the Balance of Payments (BOP), international investment position (IIP), external debts, etc. have become significantly important in monetary and fiscal policies.

The BOP, in particular, records the flows of real and financial resources between residents of an economy and non-residents. It mirrors the relative strength of an economy vis-a-vis its trading partners through the recording of financial and non-financial transactions between its residents and the ROW. The various aggregates and accounts balances in the BOP statistics are commonly used in economic analysis and discourse. However, the economic interpretations and implications of the movements in these account balances remain a major area of dispute between economic analysts and policy makers. This paper attempts to provide an insight into the BOP statistics, the major components/accounts, and interrelationship amongst the account balances. It will also serve as a summarized compilers' guide in the compilation of BOP for Nigeria.

Section 2 of the paper highlights the conceptual issues and the structure of the BOP Statistics/accounts. Section 3 deals with the inter-relationship between the major accounts of the BOP. Data elements and sources for Nigeria's BOP compilation are presented in section 4, while section 5 concludes the discussion.

2.0 Concepts of BOP Compilation

In order to ensure international comparability, national BOPs are compiled using a set of unified international standards and methodology. These standards, which cover issues of classification, recording, data sources, among others, are harmonized and published by the International Monetary Fund (IMF) in Balance of Payments and International Investments Position Manual or BPM-X. The sixth edition of the Manual, BPM-6 published in 2008 is the current methodological standard for the compilation of BOP statistics by IMF member countries. The BPM-6 defines BOP as a statistical statement that summarizes transactions between residents and nonresidents during a period. It further states that BOP consists of the goods and services account, the primary income account, the secondary income account, the capital account, and the financial account.

2.1 Recording Concepts

- **Transaction:** The BOP records only transactions between residents and non-residents. It is therefore imperative to determine who is a resident and who is not, in order to determine what transactions to capture. A transaction is an interaction between two institutional units, which occurs by mutual agreement or through the operation of the law. It involves an exchange of value or a transfer of real and financial resources.

- **Economic territory**: The concept of economic territory is very important in BOP compilation. It is one of the key elements in determining which individuals, business entities and organizations are considered residents and which are not. Economic territory represents, in the broadest sense, any geographical area or jurisdiction for which the BOP statistics may be compiled. According to the BPM6, the connection of entities to a particular economic territory is determined from aspects such as physical presence and being subject to the jurisdiction of the government of the territory.

- **Residents:** As highlighted above, the issue of residency goes beyond a simple case of nationality. Paragraph 4.113 of the BPM6 highlights that the residence of each institutional unit is the economic territory with which it has the strongest connection, expressed as its center of predominant economic interest. Each institutional unit is a resident of one and only one economic territory determined by its center of predominant economic interest. The manual further states that an institutional unit is considered a resident of an economic territory if it possesses within that economic territory, some location, dwelling, place of production, or other premises from which it intends to continue engaging in significant economic activities and transactions, indefinitely or over a long period of time.

  Therefore, a resident can simply be defined as any individual, business or organization domiciled in a particular country or economic territory, whose center of predominant economic interest is in such a country or territory. It includes companies located in the country, even if they are foreign-owned, and foreigners (except diplomats) who have resided/have intention to reside in the country for more than a year. Medical patients and students studying abroad remain residents of their original countries, irrespective of how long they have stayed abroad. However, international organizations, embassies or high commissions of various countries though situated in a particular country are considered non-residents.

- **Nonresidents:** A nonresident is any individual, enterprise, or other organizations domiciled in another country or economic territory. This includes nationals of home country, other foreign nationals and corporations who reside outside the economic territory for which the BOP is compiled. Although foreign diplomats remain non-residents irrespective of their length of stay in other economic territory/country, other foreign nationals working for international organizations are considered residents provided they satisfy the one year and above residency criteria.

- **Double Entry:** The essence of the BOP is to balance all payments with their corresponding receipts. Thus, every transaction in the BOP is represented by two entries with equal value but opposite signs (credit/debit). The counterpart entry of every transaction is commonly referred to as the "balancing item".

- **Change of Ownership/Time of Recording:** The BOP records transactions at the actual point in time when ownership of goods, assets or liabilities changes from resident to nonresident or nonresident to resident, and not an intent to change. This means that BOP transactions are recorded on accrual basis and not on cash basis.

- **Flows and Stocks:** A flow is the change between the values of financial assets or liabilities at two time points; while a stock or position refers to the level of financial assets or liabilities at a point in time. The BOP records transactions/flows within specific points in time for which the BOP is compiled.

2.2 Structure of the BOP Statistics /accounts

The BOP is divided into three major accounts, namely: current, capital and financial accounts. However, most of the transactions occur in the current and financial accounts. The current account comprises transactions in goods/merchandize trade, services, primary and secondary income and are recorded on a credit/debit basis with lines for net balances. The financial account is recorded in terms of assets (net acquisition of assets) and liabilities (net incurrence of liabilities) basis.

A. CURRENT ACCOUNT

A.1. Goods/General Merchandize
- *1.1 Exports (FOB)*
- *1.2 Imports (FOB)*

A.2. Services
- *2.1 Manufacturing services on physical inputs owned by others*
- *2.2 Maintenance and repair services*
- *2.3 Transportation Services*
- *2.4 Travels*
- *2.5 Construction Services*
- *2.6 **I**nsurance and pension Services*
- *2.7 Financial Services*
- *2.8 Charges for the use of intellectual property*

*2.9 Telecom, **C**omputer and information Services*
2.10 Personal, Cultural & Recreational Services
2.11 Other Business Services,
2.12 Government Goods and Services

A.3. Primary Income
3.1 Compensation of employees
3.2 Investment income

A.4. Secondary Income
4.1 General Government
4.2 Corporation, Households and NIPSH
4.3 *Personal Transfers (of which workers' remittance*)

B. CAPITAL ACCOUNT

B.1 Capital transfers
B.2 Acquisition and disposal of non-produced, nonfinancial assets

C. FINANCIAL ACCOUNT

C.1 Direct Investment (DI)
C.2 Portfolio Investment (PI)
C.3 Financial Derivatives
C.4 Other Investment - Trade Credits, Loans, Currency and Deposits
C.4 Reserve Assets – change in reserves

3.0 Interrelationship between the BOP account balances

The BOP is compiled using some stipulated sign convention and recording principles. Earnings by residents for exports, returns on loans and investments (interest/dividends) and incurrence of foreign liabilities are recorded as credit (positive) while payments by residents for imports, funds for investments in foreign countries and acquisition of other foreign assets are recorded as debits (negatives). Under the BPM6, the four sub-accounts in the current accounts are recorded on credit/debit basis with a net balance generated for each of goods, services, primary and secondary income. Similar recording principles are applied for the capital account. However, the financial account is recorded in terms of net acquisition of foreign assets (NAFA)/net incurrence of foreign liabilities (NIL).

Overall, BOP statistics are compiled for specific period, usually a year or a quarter, and transactions are reported in a single currency (domestic currency or any other convertible currency). The Nigerian BOP is first compiled in US dollars because most international transactions are denominated in US dollars and where otherwise, the dollar equivalents of such transactions are readily available. The tables are converted to the domestic currency (naira) using a central rate of exchange of Naira/US dollars for the period.

3.1 Current Account

One of the major aggregate/account balances in the BOP is the current account balance (CAB). It is a popular and important indicator of a country's economic health. The CAB is the sum of the balance of trade (exports less imports of both goods and services), net factor income from abroad (primary income) and net current transfers (secondary income). In a more simple terms, the CAB is sum of net exports of goods and services, net primary income and net secondary income. Thus the identity:

$$CAB = Merchandize\ Trade\ (net) + Services\ (net) + Primary\ Income\ (net) + Secondary\ Income\ (net) \quad (1)$$

In actual compilation, the CAB is derived from the difference between the exports earnings/receipts (credit or positive) and imports/payments (debit or negative) for each of the four sub-accounts.

The "primary income" and "secondary income" accounts replace the "income" and "current transfers" accounts used in BPM5, respectively. The primary income account covers transactions in income associated with production process, ownership of financial and other non-produced assets between residents and non-residents. These include compensation of employees, investment income, dividends, reinvested earnings, interest, rent, taxes and subsidies on products. Secondary income, however, records current transfers in cash and in kind between residents and non-residents. Current transfers cover all transfers that directly affect the disposable income of the receiving party and influence its consumption of goods and services. It includes personal transfers (such as workers' remittances), social contributions/benefits, net non-life insurance premium/claims, current taxes on income and wealth. Other transfers that do not meet this criteria (does not directly affect the disposable income of recipients) are classified as capital transfers.

3.2 Capital Account

The introduction of the BPM5 in September 1993 brought about the reclassification of capital transfers and acquisition/disposal of non-produce non-financial assets into the new "capital account" (KA). This concept of KA differs greatly in terms of its component and definition compared to previous usage in BOP statistics before this period. Before 1993, the term "capital account" was used to denote the account that captures the outflow[1] and inflow[2] of capital to finance current account transactions. Paragraph 13.3 of the BPM6 also highlights that in economic literature, the term "capital account" is often used to refer to what is today called the "financial account" in both the BPM6 and in the System of National Accounts manual (SNA 2008).

The BPM6 retained some of the changes brought along in BPM5, including a KA to capture capital transfers as well as the acquisition/disposal of non-produce non-financial assets such as land sold to embassies, leases, other transferable contracts and goodwill (e.g. debt forgiveness). The Capital Account Balance (KAB) is derived as follows:

$$KAB = Capital\ Transfers(net) + acquisition\ of\ nonprod. \&\ non\ fin.assets\ (net) \quad (2)$$

The remaining part of the hitherto "capital account" was renamed the Financial Account (FA). The BPM5 brought the emergence of an important aggregate called the Capital and Financial Account Balance (CFAB) in the analysis of how the current account transactions in the BOP are financed as well as the inflow/outflow of capital. The CFAB is derived as follows:

$$CFAB = KAB + FAB \quad (3)$$

Where FAB represents the financial account balance or net financial account entries including official reserves.

3.3 Financial Account

The FA records transactions in financial assets and liabilities between residents and non-residents using the functional categories, institutional sector

[1] Purchase of foreign assets by residents
[2] Purchase of domestic assets by non-residents

classification and maturities. The functional categories used in the FA are Direct Investments (DI), Portfolio Investments (PI), Financial Derivatives (FD), Reserves Assets (RES) and other investments (OI). DI covers flow of investments, where the investor seeks control and significant degree of influence. A minimum of 10 per cent ownership of an enterprise is usually adopted in classifying a non-resident investor: as a direct investor, the investment as a DI, and the receiving enterprise as a Direct Investment Enterprise (DIE).

Investments in equity (usually less than 10 per cent) and other debt instruments are classified as PI. RES covers transactions in official reserves in form foreign exchange, IMF's special drawing rights (SDR), etc. On the other hand, OI records transactions between residents and non-residents related to Trade Credit (TC), loans, Currency and Deposits (C&D) as well as Other Receivable (OR) and Other Payables (OP). It records both short and long term transactions in these categories. Thus OI (net) is derived as:

$$OI(net) = TC(net) + FD(net) + Loans(net) + C\&D(net) + OR(net) - OP(net) \quad (4)$$

FD transactions are however, not available in the case of the Nigerian BOP.

FA is recorded in terms of the Net Acquisition of Financial Assets (NAFA) and Net Incurrence of Financial Liabilities (NIFL). Entries in the FA are balancing items from corresponding transactions in the current and capital as well as other FA transactions (double entry principle). For instances, a current account credit usually has a corresponding entry in the FA of an increase in financial assets or a reduction in financial liabilities. It is important to note that netting in the FA is obtained by aggregating all debit entries on a particular asset/liability and netting against the total credit entries in the same type of asset/liability (see paragraph 8.7 of BPM6). FAB is derived as:

$$FAB = DI(net) + PI(net) + FD(net) + Change\ in\ RES + OI(net) \quad (5)$$

The FAB is also called the net lending/borrowing because it indicates if a country is a net source of fund to the rest of the world or a net recipient of funds.

3.4 Net Errors and Omissions

Hypothetically, when all related transactions between residents and non-residents are correctly and adequately captured/recorded with the correct signs in the BOP, the sum of the transactions equal to zero and the BOP is said to be balanced (hence its name). For example, if a country is importing more goods and services than it exports, it will have a deficit trade balance and most likely a current account deficit. This deficit/shortfall will have to be financed in other ways such as earnings from its foreign investments abroad, drawdown on official reserves or borrowings (loans) from non-residents, which are captured in the FA. All components of these transactions are required to be adequately recorded for the BOP account to be balanced.

Theoretically, a current account surplus should result in a net acquisition/increase in financial assets (such as accumulation of official reserves) and/or a reduction in other financial liabilities. Conversely, a current account deficit needs to be financed through a net inflow in form of increased financial liabilities (such as loans) and/or decrease in financial assets (such as draw down on official reserves). In practice however, information on all such transactions are not readily available to compilers with the required details, hence the need for a miscellaneous balancing item commonly referred to as the "net errors and omissions" (NEO). Thus the identity:

$$CAB + KAB + FAB + NEO = 0 \tag{6}$$

Overall, the BOP statistics will always balance with improve transaction coverage and the introduction of the NEO as a miscellaneous balancing item. However, other imbalances are possible on some individual components of the BOP as well as the sum of these components. A country's balance of payments is said to be in surplus if its earnings/receipts (such as export of goods and investment income) exceed its payments (such as import of goods and debt servicing) and in deficit if its payments exceed its earnings/receipts. Theoretically, these two BOP imbalances result in the accumulation of wealth by countries with BOP surpluses and increased indebtedness for countries with BOP deficits. Majorly, a BOP surplus (or deficit) manifest in the accretion (or drawdown) of foreign exchange reserves.

3.5 Other Macroeconomic Identity and Interpretation

There are a number of other interpretations of the major account balances of the BOP. These are derived through mathematical identities with the other macroeconomic aggregates in the four macroeconomic accounts, which is the focus/major idea surrounding financial programming. In establishing a link to national account statistics, it has been shown that the current account balance (CAB) is identical to the saving-investment gap/balance in any economy. Thus CAB = S – I, where S = savings and I = investments.

The primary and secondary income accounts provide the link between the Gross Domestic Product (GDP) and Gross National Income (GNI). The gross national disposable income (GNDI) is define as the GDP plus net primary and secondary income from abroad, thus the identity:

$$GNDI = C + G + I + X - M + PIB + SIB \tag{7}$$

Where GDP = C + G + I + X - M, C = household consumption, G = government consumption, I = gross capital formation, M = imports of goods and services, X = exports of goods and services, PIB = primary income balance and SIB = secondary income balance.

Following from equation 1, the current account balance (CAB) can be rewritten as:

$$CAB = X - M + PIB + SIB \tag{8}$$

From equations 7 and 8, the GNDI can be redefined as:

$$GNDI = C + G + I + CAB \tag{9}$$

Chapter 14 of BPM6 discusses in detail major issues in the BOP and IIP analysis framework in relation to the other macroeconomic accounts, which is beyond the scope of this paper.

The BPM6 also introduces a new balance called the Current and Capital Account Balance (CCAB). The CCAB as well as the FAB indicates whether a country is a net borrower or a net lender to the ROW. A positive CCAB indicate that a country is a net lender to the ROW while a negative CCAB indicates that it is a net borrower from the ROW. The ideal here is that a surplus CCAB indicates surplus foreign exchange earnings which invariable result in accumulation of foreign reserves/currency & deposit, increase foreign investments as well as increased availability of loanable funds to non-residents (the reverse is true for a deficit balance in CCAB). A similar interpretation can be applied to the FAB. The follow identity for Net Lending/Borrowing (NLB) is thus derived:

$$NLB = CCAB = CAB + KAB = -FAB \quad (10)$$

Equation 10 holds because of the sign-based recording applied for the FA transactions in the Nigerian BOP (negative sign for increase in assets, positive for increase in liabilities and vice versa).

4.0 Data Elements and sources for Compilation of Nigeria's BOP Statistics

The utmost challenge to BOP compilers is the issue of data, especially, with regards to availability, timeliness and accuracy. Data for BOP compilation are obtained through two basic sources: Enterprises Survey (ES) or the International Transactions Reporting System (ITRS) - use of banking records. However, because of declining response rate in ES, other administrative sources such as returns from other regulatory agencies as well as the published financial statements of enterprise have become of immense use to BOP compilers in developing countries like Nigeria.

Although the BPM-6 provides a broad guide to the compilation of BOP statistics, institutional arrangements, sources and collection of data may differ from country to country. In Nigeria, compilers rely a lot on the statutory and other returns of the banking system made available to the Central Bank of Nigeria through the Electronic Financial Analysis and Surveillance System (e-FASS). These returns are made on daily, monthly, quarterly, semi-annually, and annual basis. Table 1 below provides a summary of the sources of data and the data elements required for the compilation of the various accounts of the BOP, while the meaning of the acronyms used for the data sources are in Appendix 1.

Table 1: Data Elements and Sources for BOP Compilation in Nigeria

	SECTION OF THE ACCOUNT	DATA ELEMENTS	DATA SOURCES
A.	**CURRENT ACCOUNT**		
1	Goods/General Merchandize		
	Exports (FOB)	Crude oil, gas, electricity and other non-oil exports	NNPC, NLNG, NCS, ONEM, COBALT INT'L
	Imports (FOB)	Imports of Petroleum and other products	PPPRA, NNPC, NCS
2	Services		
	Manufacturing services on physical inputs owned by others	Debit - Processing fees for crude sent for processing Abroad	NNPC
	Maintenance and repair services	Debit – payments for repairs of airlines, etc abroad	CBN Banking records (e-FASS)
	Transportation Services	Debit – payments for freight, passenger fares, etc Credit - Earnings for freight, port charges, etc	e-FASS, NCS and NPA
	Travels	Debit – BTA, PTA Credit – Non-resident visitors expenditure in Nigeria	e-FASS, CBN Cash Flow Statement –BPSD and NTDC
	Construction Services	Debit – Cross border payments for construction	e-FASS and Financial Statements
	Insurance and pension Services	Debit – payments for insurances services abroad Credit - Earnings for insurance services to non-residents	e-FASS and Financial Statements
	Financial Services	Debit – payments for financial services abroad Credit - Earnings for financial services to non-residents	e-FASS and Financial Statements
	Charges for the use of intellectual property	Debit – payments for the use of intellectual property	e-FASS
	Royalties & Licenses	Debit – payment for royalties and licenses	e-FASS
	Telecom, Computer & information Services	Debit – payment for Telecom and information services	e-FASS
	Personal, Cultural & Recreational Services	Debit – payment for personal, cultural & recreational services	e-FASS
	Other Business Services,	Debit – payment for other business services Credit - Earnings for other business services	e-FASS and Financial Statements
	Government Services	Debit – Embassy expenses and Technical Assistance Credit – Embassy expenses and Technical Assistance	NPC, e-FASS & CBN Cash Flow Statement – BPSD

	SECTION OF THE ACCOUNT	DATA ELEMENTS	DATA SOURCES
3	Primary Income		
	Compensation of employees	Debit – Payments to non-residents working for Nigerian Embassies expenses abroad Credit – Earnings of Nigerian working for foreign Embassies & int'l organizations and students studying abroad	CBN Cash Flow Statement –BPSD, MFA, FIRS and staff estimates
	Investment income	Debit – FDI dividend payments, reinvested earnings, earnings from PI and payments paid for funds placed in foreign banks Credit – Interest on Reserves and fund placed in foreign banks	CBN Cash Flow Statement –BPSD, e-FASS, BIS, Financial statements and staff estimates
4	Secondary Income		
	General Government	Current Transfer to/from other government or public entity	NPC and staff estimates
	Other Sector - Corporation, Households and NIPSH (*of which workers' remittance*)	Current Transfer (private) – worker remittances	e-FASS
B.	**CAPITAL & FINANCIAL ACCONT**		
1	Capital Account		
	Capital transfers	Capital transfers	NPC, FMOF, NCS
	Acquisition/disposal of non-produced, nonfinancial assets	Acquisition/disposal of land by embassies, leases, other transferable contracts and goodwill – debt Forgiveness	NPC, FMOF
2	Financial Account (Assets and Liabilities)		
	Direct Investment	Equity capital, other capital and retained earnings	e-FASS and Financial Statement
	Portfolio Investment	Equity and debt instruments	e-FASS and Financial Statement
	Financial Derivatives	-NA-	-NA-
	Other Investment - Trade Credits, Loans, Currency & Deposits	Exports proceeds and domiciliary account balances, Placements by foreign banks with Nigerian bank (vise versa), resident non-banking sector deposit with foreign banks	NNPC, NLNG, e-FASS, BAPLA -CBN and BIS
	Reserve Assets – change in reserves	Composition and external reserve stock	BAPLA –CBN

5.0 Conclusion

This paper simplified some of the technical issues in BOP compilation and analysis. It summarized the major components of the BOP statistics, the various account balances as well as the interrelationship between them and other macroeconomic aggregates. It goes further to discuss data related issues in the compilation of Nigeria's BOP statistics with the aim of providing better insight to future/new compilers, policy and other economic analysts.

References

International Monetary Fund (2009): Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6)

International Monetary Fund (1993): Balance of Payments Manual, fifth Edition (BPM5)

Appendix 1

List of Abbreviations

BIS	Bank of International Settlement
BPSD	Banking and Payments Supervision Department
COBALT INT'L	One of the Pre-shipment Inspection Agent
DPR	Department of Petroleum Resources
e-FASS	Electronic Financial Analysis and Surveillance System
FIRS	Federal Inland Revenue Service
FMOF	Federal Ministry of Finance
JVC	Joint Venture Company
MFA	Ministry of Foreign Affairs
NCS	Nigeria Customs Service
NLNG	Nigeria Liquefied Natural Gas
NNPC	Nigerian National Petroleum Corporation
NPA	Nigerian Ports Authority
NPC	National Population Commission
NTDC	Nigerian Tourism Development Corporation
ONEM	Operators of Nigerian Electricity Market
PPPRA	Petroleum Products Pricing Regulatory Agency
TED	Trade and Exchange Department