

B.3 Treatment of Centralized Currency Unions in Macroeconomic Statistics

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Appendix 3 of the sixth edition of the Balance of Payments and International Investment Position Manual (BPM6) elaborates on the treatment of different regional arrangements in external sector statistics. With reference to currency unions (CUs), the appendix identifies two types of CUs—centralized and decentralized—and provides guidance on the application of core balance of payments concepts. Questions on centralized CUs were raised concerning the treatment of imputed reserve assets (RA) where a solidarity principle is in place; and on the residency attribution of national agencies (NAs) of the CU central banks (CUCBs). This guidance note (GN) discusses and proposes recommendations on three areas of concern, namely imputed RA; treatment of NAs and related transactions/positions; and the concept of CUCB own account transactions. This GN recommends that (i) NAs continue to be treated as residents of the economies of their location; and (ii) the CUCB own account transactions with CU residents be restricted to those which do not relate to the regular operations of the monetary authorities of member countries (i.e., those which cannot be attributed to NAs). Regarding imputed RA, the GN recommends that the guidance on imputed RA following the principles outlined in the BPM6 be maintained, namely using net claims on CUCB for deriving imputed RA for cases where there is no direct information/accounting records to apportion reserves across Member States (as is the case of Eastern Caribbean Economic and Currency Union). In view of the solidarity principle, such assets could alternatively be recorded under other investment in the national Balance of Payments and International Investment Position of the CU Member States. However, such alternative treatment is not recommended.²

SECTION I: THE ISSUE

BACKGROUND³

1. **The *Balance of Payments and International Investment Position Manual, sixth edition (BPM6)*, Appendix 3 covers regional arrangements such as currency unions (CUs) and their treatment in external sector statistics (ESS).** Specifically, the appendix discusses the treatment of national agencies (NAs) and reserve assets (RAs) in centralized and decentralized CUs. The *BPM6* identifies two kinds of CUs—centralized and decentralized. In the centralized model, the CU has a CU central bank (CUCB) owned by the governments of the member economies with the common currency issued by the CUCB and central bank operations in each economy carried out by branches or NAs of the CUCB.⁴ This model is observed in Africa and the Caribbean [Central African Economic and Monetary Community (CEMAC), West African Economic and Monetary Union (WAEMU), Eastern Caribbean

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² The recommendations outlined in this GN were approved by the Committee via written consultation.

³ See BOPCOM paper 19/13 [Treatment of Centralized Currency Unions in Macroeconomic Statistics](#) for additional details.

⁴ National Directorates in the case of the Banque Centrale des États de l'Afrique de l'Ouest (BCEAO) and the Banque des États de l'Afrique Centrale (BEAC), and agency offices in the Eastern Caribbean Central Bank (ECCB) member countries with limited functions. For CEMAC, ECCU, and WAEMU, corresponding regional central banks are BEAC, the ECCB, and the BCEAO, respectively.

Economic and Currency Union (ECCU)]. In the decentralized model, the CU comprises a CUCB and CU national central banks (CUNCBs) of the member economies with the CUCB being owned by the CUNCBs. This model is observed in the euro area. **Annex I** summarizes the characteristics of different CUs.

2. **Following the *BPM6*, the NAs in a centralized CU are treated as institutional units separate from the headquarters of the CUCB**, implying that that the central bank functions are deemed to be carried out by the resident NAs in each member economy of the centralized CU.⁵ Even in those cases where NAs are not established in the member economies of the CU, for statistical purposes an institutional unit is to be created (notional resident unit) to record the central bank transactions and positions with the residents of economy. This treatment of classifying NAs as residents of member economies facilitates in portraying the complete macroeconomic framework of member economies for analytical purposes. However, some users questioned the treatment of NAs as residents on the grounds that the *BPM6* treats the international/regional organizations as resident in an economic territory of their own, and not of the economy in which they are physically located (*BPM6*, paragraph 4.139) and NAs don't enjoy the same level of autonomy like the central banks in the decentralized CUs.

3. **Further, as a consequence of the above treatment of NAs in centralized CUs, assets and liabilities of resident units of a member economy vis-à-vis the monetary authority should be treated as domestic.**⁶ Given that the central bank functions are deemed to be carried out by the resident NAs, transactions among resident units settled through accounts with the CUCB are resident-resident transactions⁷ and should not be included in the balance of payments of the member economy (*BPM6*, paragraph A3.33). However, some users questioned whether the risks and rewards of these transactions/positions remained with the NAs or with the CUCB, (i.e., with a non-resident). In the second case (i.e., risks and rewards remain with the CUCB), such transactions/positions would need to be recorded in cross-border statistics.

4. **The *BPM6* guidance indicates that transactions of CU residents with the CUCB, where the CUCB is acting on its own account, should be recorded in the national balance of payments of the member economy according to the nature of the transaction.** *BPM6* Appendix 3 presents only one example: debt securities issued by the CUCB and subscribed by residents of an economy of the CU are recorded as portfolio investment (assets) in the national balance of payments (*BPM6*, paragraph A3.35). Further guidance on the criteria to attribute transactions/positions in the CUCB headquarters' balance sheet versus in the NAs' is required to prepare consistent national balance of payments and International Investment Position (IIP) statistics. For example, it should be clarified whether CUCB's assets (e.g., credit to the government and domestic banks) and liabilities (e.g., banknotes denominated in domestic currency and domestic banks' deposits) should also be attributed to the NAs of the CUCB. This information will be

⁵ *BPM6*, paragraph A3.40 states: "The methodology recommended for a centralized CU is de facto applied in the decentralized system where, in each economy, monetary activities with residents of the CU are carried out by national central banks having their own assets and liabilities."

⁶ The term NAs refers in this outline to national directorates, branch offices, and notional units acting as national monetary authorities in a centralized CU.

⁷ CUCB lending to the government and banks (if any) through the NA as part of regular monetary authority function is then imputed in the NA's balance sheet and is therefore treated as resident to resident transactions/positions.

important to develop the concept of CUCB “on own account transactions” in the next edition of the Balance of Payments Manual.

5. **The concept of imputed RA/net contribution to the pool of RA is needed for assessing the external position of individual members of the CU.** The net claim of the NA on the CUCB (i.e., the difference between assets and liabilities) represents its share of the RA⁸ of the CUCB (see Annex I)⁹ and negative net claims on the CUCB are treated as loan liabilities (see *BPM6*, paragraph A3.37). Because economic and fiscal policies are often still largely defined at the national level, there is a need to compile national balance of payments and IIP statements for the member economies in a CU. In addition, despite sharing a common currency, these economies still have their own individual balance of payments needs—for instance, due to capital flight, or a sudden disinvestment or stop of financing by external investors. Suitable estimates of reserve assets may help determine the balance of payments need at the economy level for surveillance and external sector assessment purposes. The balance of payments, IIP, International Reserves and Foreign Currency Liquidity (IRFCL), and the determination of quota shares (and shares in SDR allocations), require individual member economy data on RA and/or central bank foreign assets.¹⁰

6. **Finally, according to *BPM6* (see *BPM6*, Appendix 3—numerical example), in centralized CUs, intra-CU transactions settled through the CUCB (e.g., the intra-CU accounts between members—known as liaison accounts) impact the net claims of the members on the CUCB.** This implies that such transactions impact the members imputed share of the CU RA.

7. **Examples 1–5, and 10 in Annex III provide additional guidance on the recording of some possible transactions following the *BPM6* framework.**

- Example 1: Opening statistical balance sheet of CUCB and the NAs
- Example 2: Following example 1, **extra-union export of CU member economy A**
- Example 3: Following example 1, **intra-union export of CU member economy A** settled in domestic currency
- Example 4: Following example 1, **extra-union imports of CU member economy A**
- Example 5: Following example 1, CUCB lends to a bank in CU member economy A in the context of regular monetary authority function (**intra-union**)
- Example 10: **extra-union union imports** of CU member economy B following the CUCB intra-union lending to economy B.

Concerns

8. **In practice, compilers have faced challenges in the residency attribution of assets and liabilities of NAs and the allocation of RA among members of centralized CUs.** Further, some users

⁸ Breakdown of reserve assets by instruments is available only at the regional level.

⁹ Basic formula for calculating imputed RA: Net claims on CUCB=Reserve Money (RM)-Net Domestic Assets (NDA) for each economy.

¹⁰ It is noted that the reserves/central bank foreign assets can be presented for the region as a whole or for individual member countries of the currency union.

have expressed concerns on the treatment of NAs and its implications on the macroeconomic aggregates. Questions on three main features of the current guidance have been raised:

- First, the apportioning of pooled RA of a centralized CU to member economies for their recording in national ESS. The *BPM6* does not discuss the issue of imputed RA in the case of centralized CUs with a solidarity principle (i.e., where any individual member has access to the full pool of union-level reserves irrespective of their contributions to the pool). This is especially relevant in the case of WAEMU, where because of the WAEMU solidarity principle, BCEAO does not disseminate data on neither member countries contribution to nor imputed shares on the CU reserves pool (i.e., net claims on the BCEAO). Conversely, although the solidarity principle is also in place in CEMAC but is not absolute;¹¹ the BEAC regularly compiles imputed RA for member economies. In the case of ECCU, the solidarity principle in RA applies, albeit to a significantly less degree than in WAEMU.¹²
- Second, are the NAs separate resident institutional units in the member economies? This is a relevant question because if the answer is yes, then assets and liabilities of the monetary authority vis-à-vis resident units (e.g., lending to governments and banks, deposits of banks, etc.) should be attributed to the NAs, in which case, they should be considered as domestic. However, if the answer is no, these assets and liabilities should be attributed to the CUCB, in which case, they are treated as cross-border, with country liabilities increasing the amount of external debt of the country.
- And third, additional guidance on when the CUCB is “acting on its own account” (discussed in paragraph A3.35–3.36 of *BPM6*), which is also relevant in determining whether CUCB transactions can be deemed domestic or cross-border, seems to be necessary.

ISSUES FOR DISCUSSION

Issue 1: Imputed RA and Solidarity Principle

9. **The RA of the member economies of CEMAC, ECCU, and WAEMU are pooled. In both the WAEMU and the CEMAC, member states pool their foreign assets in a common foreign exchange reserve fund and there is no national ownership of a share of the common pool.** While both regional central banks may compute imputed reserves for their member economies, having a negative position does not prevent an economy from accessing the regional reserve pool for valid balance of payments transactions. In the case of the ECCU, the member economies own/hold a national share of the common pool of RA.

10. **The solidarity principle in WAEMU and CEMAC implies that each member of the CU has full access to the common pool of RA to meet their needs, irrespective of their contributions to**

¹¹ According to the current Article 11.2 of BEAC’s statutes, if a state has a negative position, the Governor calls the Ministerial Committee as well as the Member State in question to take necessary corrective measures.

¹² ECCU countries can engage in bilateral lending/borrowing of reserves by mutual agreement. Further, the currency board can extend short-term domestic credit in excess of established limits with approval of the monetary council thus implicitly sharing reserves when that takes place—a country takes reserves from the pool.

the pool.¹³ Although the monetary surveys are well established in each WAEMU member (with separate identification of NA claims on nonresidents), the strong adherence to the solidarity principle in WAEMU challenges the current guidance on imputing RA. The BCEAO stopped publishing imputed reserves data for each WAEMU member economy in 2017. Nevertheless, the standardized report forms in monetary and financial statistics (MFS) continue to separately identify NAs' claims on nonresidents and RA data are disseminated in the IIP¹⁴ and balance of payments¹⁵ separately for each member. In general, the NA claims on nonresidents in MFS match the RA presented in the IIP in recent years (see **Annex II** for details).

11. **In the CEMAC, economies and regional authorities estimate, and report imputed RA.** The solidarity principle in this case does not prevent attributing the pool of RA to the member economies. In accordance with Article 26 of the Convention Governing the Monetary Union, only BEAC can hold external assets denominated in foreign currencies, which constitute the foreign exchange reserves of the CU. Article 28 of the aforementioned Convention states that the BEAC should keep in its books the foreign exchange reserves of all member economies. Thus, the calculation of the foreign exchange reserves of each member state is an institutional obligation for the BEAC. Further, when a country has negative imputed RA in CEMAC, BEAC has the power to seek policy adjustment for that country. The imputed RA are calculated as the sum of (i) items that are subject to a breakdown between the member states and the head office based on the centralized accounting records maintained at the BEAC Headquarters (e.g., "Account of Operations with the French Treasury" and "Current Accounts with Foreign Correspondents"); and (ii) other components of the foreign exchange reserves directly recorded in the accounts of each member state.

12. **In the ECCU, the imputed reserves of each member country are computed following the BPM6 guidance as the difference between the assets held by the member country with the ECCB and the liability of the member country to the ECCB.** It is based on the following identity: $NFA(X) = RM(X) - NDA(X)$ (where $NFA(X)$ is net foreign assets of member country X, $RM(X)$ is reserve money issued by country X, and $NDA(X)$ is net domestic assets of country X).¹⁶ **Annex II** provides more detailed information on the imputed RA in CEMAC, ECCU, and WAEMU.

13. **In the context of imputed RA, the GN notes that intra-union balances also have an impact on its calculation as discussed in BPM6.** In centralized CUs, balances of intra-union country transactions channeled through the CUCB (e.g., the liaison accounts¹⁷ between members) are deemed to impact the net claims on CUCB of the members, affecting their share in the RA (*BPM6*, paragraph A3.37).

¹³ In respect of BEAC, see footnote 10 above.

¹⁴ Currently, three WAEMU countries (Burkina Faso, Cote d'Ivoire, and Senegal) compile and disseminate IIP data.

¹⁵ Currently, all WAEMU member countries disseminate balance of payments data.

¹⁶ The updated BPM Compilation Guide could consider providing a methodology for estimation of currency in circulation in member countries of a currency union. The recent adoption of a digital currency by the ECCB may help in identifying the currency in circulation in the individual member countries and the proposed guidance on the estimation of currency in circulation should take this into consideration.

¹⁷ Liaison accounts record all financial transactions among BEAC's branches and between the branches and the BEAC headquarters. Entries in the liaison accounts associated with cross country transactions within the CEMAC region are foreign claims/liabilities that can be used for balance of payment purposes.

See examples 3 and 6 for further elaboration of on such transactions and their impact on imputed RA. The GN considers that no additional guidance is warranted on this issue.

Issue 2: Ambiguous Interpretation of the Role of NAs and their Transactions with Residents

14. **NAs in centralized CUs are deemed to be resident institutional units in the economies where they are located.** Where no NAs are established, for statistical purposes a notional institutional unit is imputed (*BPM6*, paragraph A3.32). In the first instance, a complete set of accounts, including a balance sheet, should either exist for the branch or should be possible and meaningful—from both an economic and a legal viewpoint—to compile if these accounts were to be required. This is consistent with recognizing institutional units in the cases of branches and notional resident units even though they may not fully satisfy all the main attributes of an institutional unit (*BPM6*, paragraph 4.13).¹⁸ This institutional unit, called “the national agency,” acts as the central bank for that economy and must be treated for statistical purposes as an institutional unit that is separate from the headquarters of the CUCB.

15. **The methodology recommended in *BPM6* for a centralized CU is de facto applied in the decentralized system (i.e., euro area) where, in each economy, monetary activities with residents of the CU are carried out by national central banks having their own assets and liabilities.** The NAs have close links with the member economies and perform the functions of monetary authorities as in any other economy with an independent central bank. Further, complete set of accounts including the balance are available for statistical purposes, as recommended in the macroeconomic statistics manuals. The nature of the transactions conducted by NAs is different from the usual transactions carried out by international organizations. Therefore, the treatment recommended in *BPM6* permits an evenhanded treatment of member economies of centralized CUs vis-à-vis economies with independent central banks (including in decentralized CUs), where transactions/positions of monetary authorities with resident units are always considered as domestic transactions.

16. **Users have raised questions on the residency attribution of NAs transactions with other resident units because of the lack of an independent balance sheet of the NAs and the consideration that the ultimate risk rests with the CUCB (as the CUCB decides and NAs just execute and record the transactions).** In practice, however, residence attribution of transactions of NAs is not based on whether the ultimate loss bearing falls on the CUCB or on the NA. “Who bears the ultimate risk” is not the criteria used in macroeconomics statistics for deciding the residency of branches and quasi-corporations’ assets and liabilities. Following the *BPM6*, paragraph 4.26, when a nonresident unit has substantial operations over a significant period in an economic territory, but no separate legal entity for those operations, a branch may be identified as an institutional unit. This unit is identified for statistical purposes because the operations have a strong connection to the location of operations in all

¹⁸ In general, all regional organizations (including regional development banks such as the Development Bank of Central African States and the West African Development Bank) are treated as nonresident of their member countries and transactions with member countries are treated as external. *BPM6* discourages treating branches/offices of regional organizations as residents of their location without strong connection to the domestic economy (i.e., production on a significant scale that is based in the economy and also a balance sheet that makes sense economically).

ways other than incorporation. This principle is applicable to the residence attribution of transactions of NAs of the BCEAO, BEAC, and ECCB.

Issue 3: CUCB Transactions and Positions on “Own Account”

17. **CUCB “own account” transactions should be clarified in the context of the role of NAs and other national institutional units.** The *BPM6* guidance indicates that transactions of CU residents with the CUCB, where the CUCB is acting on its own account, should be recorded in the national balance of payments of the member economy according to the nature of the transaction. Yet, the interpretation of “own account” in some cases, could be contrary to *BPM6* guidance. For instance, some users may conclude that liquidity/other operations of the CUCB with members take place exclusively through the (nonresident) CUCB—because NAs may only help channel funding from the CUCB to the members and act merely as conduits.

18. **CUCB own account transactions are those that cannot be attributed to NAs.** In simple terms, for the most part the balance sheet of the CUCB could be seen as the sum of the balance sheets of the NAs. This implies that every transaction¹⁹ conducted by the CUCB is recorded in the imputed balance sheet of the NAs (i.e., they are resident-resident transactions). Own account transactions are recommended to be limited to those beyond the regular operations of monetary authorities of an economy. For instance, if the CUCB borrowed from another central bank/government or IO, this is an example of an own account transaction to be recorded in the balance of payments of the CU and not attributed to (nor recorded in the Balance of Payments or the IIP of) any member economy (see example 8, **Annex III**).

19. **Therefore, following the *BPM6* framework, the scope of “own account” transactions with CU residents²⁰ is limited.** Direct borrowing by the CUCB through issuance of securities or by taking external debt could be a possibility, although it has not occurred in practice as yet. Further, it should be noted that in all these CUs, member countries raise funds by issuing securities (including in the international markets), bilateral loans, and credit and loans from the IMF (see example 7, **Annex III** to understand the recording of the IMF loan to a member economy). In addition, in CEMAC/WAEMU, direct lending from BEAC/BCEAO to the governments of member economies is not permitted. However, following the *BPM6*, ECCB temporary advances²¹ to member government/other institutional units channeled through NAs are reflected in their notional balance sheets and thus, they are treated as resident-resident transactions (examples 5 and 9, **Annex III** explain intra-union lending of CUCB to resident units of member CU member economies channeled through NAs).

SECTION II: OUTCOMES

20. **The GN discussed the following options on the three issues discussed above.**

¹⁹ Such as lending to resident institutional units as part of conducting monetary policy.

²⁰ Transactions and positions of the CUCB with nonresidents of the CU, where the CUCB is acting on its own account, such as interest on the part of reserve assets that are not allocated to any member economy should not be recorded in any national balance of payments of member economies but are included in the balance of payments of the CU (*BPM6*, paragraph A3.36). See example 8, **Annex III** to understand the recording of CUCB’s transactions with nonresidents of the CU.

²¹ ECCB can provide only temporary advances to member economies with certain limits in place.

Issue 1: Imputed RA

21. **BPM6 guidance on attribution of RA based on the net claims on the CUCB is applied in ECCU.** Data are available to implement this guidance (even though currency in circulation in each economy is somehow estimated); thus, estimates of transactions and positions for each member country are included in the respective national balance of payments and IIP statistics. As explained in paragraph 11, CEMAC RA attributed to member states are calculated as the sum of the components of the foreign exchange reserves that are directly recorded in the accounts of each member state and items that are subject to a breakdown between the member states and the head office.

22. **The strong adherence to the solidarity principle in WAEMU challenges the current guidance on imputing RA.** Although CEMAC also follows the solidarity principle, imputed RA is compiled regularly for member economies. In contrast, BCEAO does not compile imputed RA for WAEMU members citing the same solidarity principle. However, well-established central bank surveys within the monetary statistics framework in each WAEMU member separately identify the NA claims on nonresidents. At the same time, RA data are disseminated in the IIP/balance of payments separately for each member, which match with NA claims on nonresidents in recent years.

23. **The GN proposes the following option for recording imputed RA for member countries of CU for cases where there are no direct information/accounting records to apportion reserves across Member States (as is the case of ECCU).**

- **Option 1.1 (preferred option):** Maintaining the guidance on imputed RA following the principles outlined in the *BPM6*, namely using net claims on the CUCB for deriving imputed RA.
- **Option 1.2 (not recommended option):** However, in view of the solidarity principle, RA could only be recorded in the balance sheet of the CUCB and not in the national balance of payments and IIP of CU Member States. In that case, net claims on the CUCB could be recorded under other investment in the national balance of payments and IIP of CU Member States.²² This recording should be appropriately clarified in the ESS metadata of the individual member countries.

Issue 2: Interpretation of the Role of NAs and their Transactions with Residents

24. **The GN proposes the following two options:**

- **Option 2.1 (preferred option):** Maintain the *BPM6* guidance to treat NAs (including the notional resident units) as residents of economies of their location. Thus, transactions between the NA and resident units of the same member economy settled through accounts at the CUCB are recorded/imputed in the balance sheet of the NA for statistical purposes and treated as transactions and positions between residents. This ensures that in each economy, monetary activities with residents of the CU are carried out by NAs (which resemble in its operations a

²² Regarding the Reserve Position at the IMF, SDRs holdings and cash holdings in foreign currencies, the data on these reserve assets are available by each national agency and should not be recorded under other investments given their reserve asset status.

national central bank) having their own assets and liabilities. In all three centralized CUs, well-established central bank surveys within the monetary statistics framework in each CU member separately identify the NA's balance sheet for statistical purposes.

- **Option 2.2 (rejected option):** NAs are not recognized as residents for statistical purposes implying that transactions/positions of residents of an economy with CUCB would be recorded as resident-nonresident transactions/positions. If this option were adopted, gross external assets/liabilities (including external debt) of the member economies would significantly increase. Further, following this recording, monetary operations of a central bank would be recorded as cross-border. This treatment would also imply that transactions between resident units (e.g., general government and banks) through accounts at the CUCB would result in changes in positions of these sectors through reclassification. This option would raise concerns on the evenhanded treatment of member economies of the IMF from both surveillance and statistical perspectives.

Issue 3: CUCB Transactions and Positions on “Own Account”

25. The GN proposes the following two options:

- **Option 3.1 (preferred option):** No changes proposed to the concept of “own account” transactions/positions discussed in *BPM6*, consistent with option 2.1 above treating NAs as residents of the economies of their location. However, the text in *BPM6* should be clarified such that own account transactions are considered as those that do not relate to regular operations of monetary authorities of an economy.
- **Option 3.2 (rejected option):** Consistent with option 2.2 above, all transactions/positions between resident units of an economy and CUCB would be recorded in the balance of payments/IIP of the member economy. This means all the transactions of CUCB (both with residents and nonresidents of CU) would be considered as “own account”.

Recommendations

26. To ensure consistency with the overall principles of *BPM6* and other macroeconomic statistics discussed above (i.e., residency of institutional units, uniform treatment of institutions fulfilling the functions of monetary authorities, and data comparability across countries for policy/surveillance purposes), the **GN recommends option 1.1, 2.1, and 3.1**. Option 1.2 would be an alternative for cases like the WAEMU, where the CUCB (the BCEAO) does not calculate imputed reserves on account of the solidarity principle. However, this alternative treatment is not recommended.

27. **The Balance of Payments Task Team (BPTT) overwhelmingly supported options 1.1, 2.1, and 3.1 recommended in the GN.** Regarding the numerical examples in Annex III, most of the members considered that they are useful to clarify the underlying conceptual issues and supported presenting them as part of the updated appendix on currency unions in *BPM7*. Some other members noted that the examples may overload the *BPM7* and suggested reducing their length or including them in the updated *BPM6 Compilation Guide*.

OUTCOMES OF THE WRITTEN CONSULTATION WITH THE COMMITTEE

28. **Committee members fully supported the recommended options for the treatment of NAs and related transactions/positions (Option 2.1) and the concept of CUCB own account transactions (Option 3.1) and a wide majority of members also agreed on Option 1.1 for imputed RA.**²³ Additionally, most of the members agreed that the numerical examples presented in Annex III are useful for clarifying the issues discussed in the GN and recommended including them in the updated appendix on currency unions in *BPM7*.²⁴

²³ Only one member supported Option 1.2 for imputed RA noting that the allocation of RAs to countries when the solidarity principle is in place would heavily distort the allocation of risks and rewards across the different countries in the area.

²⁴ A few members suggested including examples in the updated *BPM6 Compilation Guide*.

Annex I. Characteristics of Different Currency Unions

	CEMAC	ECCU	EMU	WAEMU
Composition	The CEMAC comprises six Central African countries: Cameroon, Central African Republic, Chad, Equatorial Guinea, Gabon, and the Republic of Congo.	The ECCU comprises six Caribbean countries (Antigua and Barbuda, Dominica, Grenada, Montserrat, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines) and two territories (Anguilla and Montserrat), which are not IMF members since they are dependent of the United Kingdom.	The EMU comprises 19 countries: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.	The WAEMU comprises eight West African countries: Benin, Burkina Faso, Cote d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo.
Exchange Rate Regime	The "CFA franc" has its own fixed exchange rate vis-a-vis the Euro and a separate acronym, with the Central African CFA franc to stand for "Coopération financière en Afrique centrale" (Financial Cooperation in Central Africa). Prior to the euro's introduction, the CFA was pegged to the French franc.	The de jure regime for the ECCU is a currency board. In practice, backing of the currency and demand liabilities has been close (but not equal) to 100 percent, hence the operation of a quasi-currency board.	The Eurosystem issues a reserve currency, the euro, which floats freely.	The "CFA franc" of the WAEMU has its own fixed independent exchange rate vis-a-vis the Euro and a separate acronym, with the West African CFA franc to stand for " <i>Communauté Financière d'Afrique</i> " (Financial Community of Africa). Prior to the euro's introduction, the CFA franc was pegged to the French franc.
Trade Integration	Customs union in place but full implementation has been delayed.	Customs union in place for most sectors of the economy, but tariffs are not fully harmonized.	EU common market.	Customs union (UEMOA) established between 1996 and 2000 but issues remain (Goretti and Weisfeld, IMF WP 08/68)

	CEMAC	ECCU	EMU	WAEMU
Type of Currency Union²⁵	“Centralized”, characterized by having only one regional central bank—no national central banks exist. The BEAC (the central bank of the CEMAC) is headquartered in Cameroon, and each has national directorates in each member country. National branches are not autonomous and serve essentially as local quarters for the regional central bank. they help implement regional policies and provide analysis of local economic conditions to support regional policy-making.	“Centralized”, characterized by having only one regional central bank—no national central banks exist. In the ECCU, the regional central bank (ECCB) is headquartered in Saint Kitts but maintains agency offices in the other seven islands.	“De-centralized”. In a decentralized currency union, central banks at national level coexist with the European Central Bank (ECB), which is headquartered in Germany. National central banks maintain their individual balance sheets and are integral part of the Eurosystem. The Eurosystem (ECB and NCBs) is governed by the decision-making bodies of the ECB.	“Centralized”, characterized by having only one regional central bank—no national central banks exist. The BCEAO (the central bank of the WAEMU) is headquartered in Senegal, and each has national directorates in each member country. National branches are not autonomous and serve essentially as local quarters for the regional central bank. they help implement regional policies and provide analysis of local economic conditions to support regional policymaking.
Reserve Pooling	French Treasury acts as guarantor.	ECCB maintains a peg to the U.S. dollar through a quasi-currency board arrangement. ECCU members pool foreign exchange to a common reserve pool. ECCB must maintain their contribution to pooled official reserves at no less than 60 percent of its demand liabilities.	Reserves are partially transferred to ECB, part remain on national central banks’ books. Upon creation of the ECB, member national banks contributed to the ECB reserves [in relation to the ECB capital key]. Given the euro’s status as a reserve currency and its fully floating nature, reserve coverage and/or reserve buildup are not considered explicit objectives.	French Treasury acts as guarantor.

²⁵ As defined in the *Balance of Payments and International Investment Position Manual, sixth edition (BPM6)*, Appendix 3.

	CEMAC	ECCU	EMU	WAEMU
Repatriation Requirements	Yes, there are repatriation requirements.	In the ECCU, these vary country by country.	No repatriation requirements	Yes, there are repatriation requirements.
Access by the Government to Direct Monetary Financing or Stability Support	Advances exist. ²⁶ Limits on holdings of T-bills by the central bank.	In the ECCU, only through temporary advances to the government (at 5 percent of revenue over the preceding three years). Limits on holdings of T-bills by the central bank.	No. The ECB is prohibited from providing monetary financing to sovereigns.	No. Limits on holdings of T-bills by the central bank.
Emergency Liquidity Provision to Banks	Not part of standard toolkit.	The ECCB has the power to provide liquidity assistance to financial institutions in the event that one of its members is in danger of disruption.	ELA assistance is provided by NCBs, under the control of the ECB Governing Council.	Not part of standard toolkit.
Decision Making Bodies of the Central Bank	The CEMAC Monetary Policy Committee is presided by the governor of the central bank and includes 14 other members, two for each member country (one of which is the Director on the national directorate of the BEAC) and two for France.	ECCB Monetary Council includes the finance ministers of all eight member-governments.	Independent central bank, with decision making done by the Executive Board of the ECB and the Governing Council of the ECB. These two bodies govern the Eurosystem.	The Conference of Heads of States and Governments sets the overall directions of monetary, exchange rate, and financial sector policies but also has the final responsibility for their implementation. From an operational viewpoint, the BCEAO defines and implements monetary and exchange rate policies while the responsibility for the stability of the financial system is settled between regional (BCEAO/Banking Commission) and national authorities (Ministry of Finance). The Monetary Policy Committee is composed of the

²⁶ Since 2017, BEAC is prohibited from providing monetary financing to sovereigns. Existing advances are being phased-out.

	CEMAC	ECCU	EMU	WAEMU
				BCEAO Governor, Deputy Governors, representatives of each member states, one member in charge of CFAF convertibility, and other members nominated by the Council of Ministers. convertibility, and other members nominated by the Council of Ministers.

Source: IMF Policy Paper “*Program Design in Currency Unions*”, March 2018, at <https://www.imf.org/en/Publications/Policy-Papers/Issues/2018/03/15/pp031618-program-design-in-currency-unions>

Annex II. Imputed RA in CEMAC, ECCU, and WAEMU

CEMAC

29. Imputed RA (i.e., the share of each member country in the pooled RA) is calculated as the sum of (i) items that are subject to a breakdown between the member states and the head office based on the centralized accounting records maintained at the BEAC Headquarters (e.g., "Account of Operations with the French Treasury" and "Current Accounts with Foreign Correspondents"); and (ii) other components of the foreign exchange reserves directly recorded in the accounts of each member state denominated in the foreign currency it takes place. Central bank surveys are well established in all CEMAC member countries within their monetary statistics framework (with separate identification of NA claims on nonresidents as net foreign assets). Further, RA data are disseminated in the IIP/balance of payments separately for each member and in general the NA claims on nonresidents match their RA in the IIP. It appears that compilers use the NA claims on nonresidents from 1SR as a good proxy of RA in the IIP for Cameroon (see Table 1 for a comparison of reserve assets in IIP and NA claims on nonresidents for Cameroon in 1SR).

Table 1. Reserve Assets (IIP) vs. Central Bank Claims on Nonresidents (1SR) of CEMAC Countries

	(millions of US Dollars)							
	2012	2013	2014	2015	2016	2017	2018	2019
Cameroon								
Reserve Assets in IIP	3,431	3,508	3,204	3,568	2,260	3,235	3502	3765
Central Bank-claims on Nonresidents	3,431	3,508	3,204	3,568	2,260	3,235	3502	

ECCU

30. The imputed reserves of each member country in the ECCU are computed as the difference between the assets held by the member country with the ECCB and the liability of the member country to the ECCB. It is based on the following identity: $NFA(X) = RM(X) - NDA(X)$ (where $NFA(X)$ is net foreign assets of member Country X, $RM(X)$ is reserve money issued by Country X, and $NDA(X)$ is net domestic assets of Country X). Changes in imputed reserves are a proxy for the BOP reserve flows. Monetary surveys are well established in all ECCU member countries (with separate identification of NA claims on nonresidents as net foreign assets). It is also noted that RA data are disseminated in the IIP/balance of payments separately for each member and in general the NA claims on nonresidents match their RA in the IIP (see Table 2 for a comparison of reserve assets in IIP and NA claims on nonresidents in 1SR for ECCU member countries).

Table 2. Reserve Assets (IIP) vs. Central Bank Claims on Nonresidents (1SR) of ECCU Countries

ECCU Member Country	(Millions of US Dollars)					
	2013	2014	2015	2016	2017	2018
Anguilla						
Reserve Assets in IIP	41.0	47.3	48.1	55.6	76.4	65.5
Central Bank-Claims on nonresidents	41.0	47.3	48.1	55.6	76.4	65.5
Antigua and Barbuda						
Reserve Assets in IIP	202.6	297.1	355.7	330.1	313.6	328.7
Central Bank-Claims on nonresidents	202.7	297.1	355.8	330.2	313.7	328.7
Dominica						
Reserve Assets in IIP	87.1	101.5	126.2	221.9	212.3	191.3
Central Bank-Claims on nonresidents	87.1	101.5	126.3	221.9	212.3	191.3
Grenada						
Reserve Assets in IIP	150.6	170.0	198.0	207.7	199.1	233.8
Central Bank-Claims on nonresidents	150.6	170.0	198.0	207.8	199.2	233.8
Montserrat						
Reserve Assets in IIP	40.5	45.1	51.5	49.4	47.6	50.1
Central Bank-Claims on nonresidents	40.5	45.1	51.5	49.4	47.6	50.1
St. Kitts and Nevis						
Reserve Assets in IIP	302.0	327.3	288.4	320.5	365.1	363.2
Central Bank-Claims on nonresidents	297.5	323.3	284.6	316.8	361.8	361.0
St. Lucia						
Reserve Assets in IIP	192.2	257.7	317.5	305.5	321.8	285.8
Central Bank-Claims on nonresidents	192.4	257.8	317.7	305.7	321.9	285.8
St. Vincent and Grenadines						
Reserve Assets in IIP	135.1	157.4	172.7	192.3	182.1	169.6
Central Bank-Claims on nonresidents	135.1	157.4	172.7	192.3	182.1	169.6

WAEMU

31. The strong adherence to the solidarity principle in WAEMU challenges the current guidance on imputing RA. However, well-established central bank surveys within the monetary statistics framework in each WAEMU member separately identify the NA claims on nonresidents as net foreign assets. At the same time, RA data are disseminated in the IIP/balance of payments separately for each member. It appears that the compilers use the NAs claims on nonresidents in 1SR as a good proxy of RA recorded in the IIP in Burkina Faso, Cote d'Ivoire, and Senegal in recent years (see Table 3 for a comparison of RA in IIP and NAs claims on nonresidents for three WAEMU member countries).

Table 3. Reserve Assets (IIP) vs. Central Bank Claims on Nonresidents (1SR) of WAEMU Countries

WAEMU Member Country	(millions of US Dollars)							
	2012	2013	2014	2015	2016	2017	2018	2019
Burkina Faso								
Reserve Assets in IIP	1,025	628	297	260	51	1,649	1619	1795
Central Bank-claims on Nonresidents	1,017	616	643	926	996	1,649	1620	1795
Cote d'Ivoire								
Reserve Assets in IIP	3,928	4,225	4,487	4,702	4,147	6,257	6341	
Central Bank-claims on Nonresidents	4,457	4,806	5,165	5,516	4,935	6,257	6344	7419
Senegal								
Reserve Assets in IIP	2,082	2,253	2,039	2,012	1,554	1,914	2405	
Central Bank-claims on Nonresidents	2,101	2,099	2,042	1,988	1,554	1,914	2466	

Annex III. Numerical Examples

Example	Description of the Transaction
1.	Opening statistical balance sheet of CUCB and the NAs
2.	Following (1), Economy A exports 100 of goods to Economy Y (not a member of the CU), which are paid in foreign exchange (U.S. dollars)— extra union transaction of member Economy A
3.	Following (1), Economy A exports 100 of goods to B (external transaction settled in domestic currency)— intra-union transaction
4.	Following (1), Economy A imports goods for 400 from Economy Y (not a member of the CU), which are paid in foreign exchange (U.S. dollars)— extra union transaction of member Economy A
5.	Following (1), CUCB lends 100 to a bank in Economy A (in the context of regular monetary authority function)— funds channeled through NA of Economy A
6.	Following (5), the bank in Economy A lends 100 to a bank of Economy B (which increases its deposits in 100)— intra-union transaction
7.	Following (1), the government of Economy A borrows 100 from IMF— extra union transaction of member Economy A
8.	Following (1), HQ of the CUCB borrows 300 from the government of Economy Y (not a member of the CU)— CUCB own account transaction with nonresidents
9.	Following (8), the CUCB lends 300 to the government of Economy B (in the context of regular monetary authority function)— funds channeled through NA of Economy B
10.	Following (9), the government of Economy B uses the funds for goods imports 300 from Economy Y (not a member of the CU), which are paid in foreign exchange (U.S. dollars)— extra union transaction of member Economy B

Example 1: Opening period (it is assumed that the CUCB has no assets and liabilities on “own account”)

CUCB Balance Sheet			
Assets		Liabilities	
RA	500	Banknotes	1600
Claims on CU residents	1500	Deposits of CU banks	400
Total	2000	Total	2000

NA Balance Sheet—Economy A			
Assets		Liabilities	
Net claim on CUCB-RA	300	Banknotes	1000
Domestic assets (residents of A)	950	Bank deposits (residents of A)	250
Total	1250	Total	1250

NA Balance Sheet—Economy B			
Assets		Liabilities	
Net claim on CUCB-RA	200	Banknotes	600
Domestic assets (residents of B)	550	Bank deposits (residents of B)	150
Total	750	Total	750

Example 2: Following example 1, Economy A exports 100 of goods to Economy Y (not a member of the CU), which are paid in foreign exchange (U.S. dollars).

The exporter sells foreign currency (100) and the bank account at the exporter's resident commercial bank is credited (100). The commercial bank sells foreign currency to the CUCB (100) and the commercial bank's account at the CUCB is credited (from 250 to 350).

For statistical purposes, it will be assumed that the national agency in Economy A holds the account of the commercial bank, and that in turn the national agency acquires the foreign currency from the CUCB.

CUCB Balance Sheet			
Assets		Liabilities	
RA	600	Banknotes	1600
Claims on CU residents	1500	Deposits of CU banks	500
Total	2100	Total	2100

NA Balance Sheet—Economy A			
Assets		Liabilities	
Net claim on CUCB-RA	400	Banknotes	1000
Domestic assets (residents of A)	950	Bank deposits (residents of A)	350
Total	1350	Total	1350

NA Balance Sheet—Economy B			
Assets		Liabilities	
Net claim on CUCB-RA	200	Banknotes	600
Domestic assets (residents of B)	550	Bank deposits (residents of B)	150
Total	750	Total	750

Example 3: Following example 1, Economy A exports 100 of goods to B (external transaction settled in domestic currency).

The resident importer's bank in B settles in domestic currency with the exporter's bank through its accounts at the CUCB. Thus, B's commercial bank account at the CUCB is debited (from 150 to 50), while A's commercial bank account is credited (from 250 to 350).

Net claims of economy A on the CUCB increase (from 300 to 400) as a result of the crediting of the national agency's account and net claims of B decline (from 200 to 100) as a result of the debiting of the national agency's account.

CUCB Balance Sheet			
Assets		Liabilities	
RA	500	Banknotes	1600
Claims on CU residents	1500	Deposits of CU banks	400
Total	2000	Total	2000

NA Balance Sheet—Economy A			
Assets		Liabilities	
Net claim on CUCB-RA	400	Banknotes	1000
Domestic assets (residents of A)	950	Bank deposits (residents of A)	350
Total	1350	Total	1350

NA Balance Sheet—Economy B			
Assets		Liabilities	
Net claim on CUCB-RA	100	Banknotes	600
Domestic assets (residents of B)	550	Bank deposits (residents of B)	50
Total	650	Total	650

Example 4: Following example 1, Economy A imports goods for 400 from Economy Y (not a member of the CU), which are paid in foreign exchange (U.S. dollars).

The government of A buys the foreign currency with bank deposits (250) and the difference (150) is recorded as a loan. Thus, A's commercial bank account at the CUCB is debited (from 250 to 0); net claims of Economy A on the CUCB become negative (from 300 to -100).

CUCB Balance Sheet			
Assets		Liabilities	
RA	100	Banknotes	1600
Claims on CU residents	1650	Deposits of CU banks	150
Total	1750	Total	1750

NA Balance Sheet—Economy A			
Assets		Liabilities	
Net claim on CUCB-RA	-100	Banknotes	1000
Domestic assets (residents of A)	1100	Bank deposits (residents of A)	0
Total	1000	Total	1000

NA Balance Sheet—Economy B			
Assets		Liabilities	
Net claim on CUCB-RA	200	Banknotes	600
Domestic assets (residents of B)	550	Bank deposits (residents of B)	150
Total	750	Total	750

Example 5: Following example 1, CUCB lends 100 to a bank in Economy A (in the context of regular monetary authority function).

CUCB Balance Sheet			
Assets		Liabilities	
RA	500	Banknotes	1600
Claims on CU residents	1600	Deposits of CU banks	500
Total	2100	Total	2100

NA Balance Sheet—Economy A			
Assets		Liabilities	
Net claim on CUCB-RA	300	Banknotes	1000
Domestic assets (residents of A)	1050	Bank deposits (residents of A)	350
Total	1350	Total	1350

Example 6: Following example 5, the bank in Economy A lends 100 to a bank of Economy B (which increases its deposits in 100).

The bank of Economy A acquires an external asset (it is recorded in the balance sheet of the bank, which is not shown below), bank deposits of A decrease as well as the net claim on CU of the NA of the Economy A.

The bank of Economy B incurs in an external liability (it is recorded in the balance sheet of the bank, which is not shown below), bank deposits of B increase as well as the net claim on CU of the NA of the Economy B.

CUCB Balance Sheet			
Assets		Liabilities	
RA	500	Banknotes	1600
Claims on CU residents	1600	Deposits of CU banks	500
Total	2100	Total	2100

NA Balance Sheet—Economy A			
Assets		Liabilities	
Net claim on CUCB-RA	200	Banknotes	1000
Domestic assets (residents of A)	1050	Bank deposits (residents of A)	250
Total	1250	Total	1250

NA Balance Sheet—Economy B			
Assets		Liabilities	
Net claim on CUCB-RA	300	Banknotes	600
Domestic assets (residents of B)	550	Bank deposits (residents of B)	250
Total	850	Total	850

Example 7: Following example 1, the government of Economy A borrows 100 from IMF.

At inception, the government of Economy A incurs in an external liability of 100 (it is recorded in the balance sheet of the government as well as the matching deposit with the NA/CUCB, which is not shown below), bank deposits of residents of A increases as well as the net claim on CU of the NA of the Economy A. Total RA of the CU increase in 100.

CUCB Balance Sheet			
Assets		Liabilities	
RA	600	Banknotes	1600
Claims on CU residents	1500	Deposits of CU banks	500
Total	2100	Total	2100

NA Balance Sheet—Economy A			
Assets		Liabilities	
Net claim on CUCB-RA	400	Banknotes	1000
Domestic assets (residents of A)	950	Bank deposits (residents of A)	350
Total	1350	Total	1350

NA Balance Sheet—Economy B			
Assets		Liabilities	
Net claim on CUCB-RA	200	Banknotes	600
Domestic assets (residents of B)	550	Bank deposits (residents of B)	150
Total	750	Total	750

Alternatively, if the contractual debtor is the NA of Economy A:

NA Balance Sheet—Economy A			
Assets		Liabilities	
Net claim on CUCB-RA	400	Banknotes	1000
Domestic assets (residents of A)	950	Bank deposits (residents of A)	250
		IMF credit and loans	100
Total	1350	Total	1350

Example 8: Following example 1, HQ of the CUCB borrows 300 from the government of Economy Y (not a member of the CU)—own account transaction with nonresidents.

Reserve assets of the CU increase by 300 matched by an increase in liabilities to nonresidents. This will be recorded in balance sheet of CUCB, but not attributed to any of the NAs.

CUCB Balance Sheet			
Assets		Liabilities	
RA	800	Banknotes	1600
Claims on CU residents	1500	Deposits of CU banks	400
		Loans to nonresidents	300
Total	2300	Total	2300

NA Balance Sheet—Economy A			
Assets		Liabilities	
Net claim on CUCB-RA	300	Banknotes	1000
Domestic assets (residents of A)	950	Bank deposits (residents of A)	250
Total	1250	Total	1250

NA Balance Sheet—Economy B			
Assets		Liabilities	
Net claim on CUCB-RA	200	Banknotes	600
Domestic assets (residents of B)	550	Bank deposits (residents of B)	150
Total	750	Total	750

Example 9: Following example 8, the CUCB lends 300 to the government of Economy B (in the context of regular monetary authority function).

This lending will be seen as channeled through the NA of Economy B and recorded in its balance sheet for statistical purposes.

CUCB's claims on CU residents increase by 300 matched by an equal increase in deposits of CU banks (counterpart entries are recorded in the balance sheet of NA of Economy B).

CUCB Balance Sheet			
Assets		Liabilities	
RA	800	Banknotes	1600
Claims on CU residents	1800	Deposits of CU banks	700
		Loans to nonresidents	300
Total	2600	Total	2600

NA Balance Sheet—Economy A			
Assets		Liabilities	
Net claim on CUCB-RA	300	Banknotes	1000
Domestic assets (residents of A)	950	Bank deposits (residents of A)	250
Total	1250	Total	1250

NA Balance Sheet—Economy B			
Assets		Liabilities	
Net claim on CUCB-RA	200	Banknotes	600
Domestic assets (residents of B)	850	Bank deposits (residents of B)	450
Total	1050	Total	1050

Example 10: Following example 9, the government of Economy B uses the funds for goods imports 300 from Economy Y (not a member of the CU), which are paid in foreign exchange (U.S. dollars).

The government of B buys the foreign currency with bank deposits. Thus, B's commercial bank account at the CUCB is debited (from 450 to 150); net claims of Economy B on the CUCB become negative (from 200 to -100).

CUCB Balance Sheet			
Assets		Liabilities	
RA	500	Banknotes	1600
Claims on CU residents	1800	Deposits of CU banks	400
		Loans to nonresidents	300
Total	2300	Total	2300

NA Balance Sheet—Economy A			
Assets		Liabilities	
Net claim on CUCB-RA	300	Banknotes	1000
Domestic assets (residents of A)	950	Bank deposits (residents of A)	250
Total	1250	Total	1250

NA Balance Sheet—Economy B			
Assets		Liabilities	
Net claim on CUCB-RA	-100	Banknotes	600
Domestic assets (residents of B)	850	Bank deposits (residents of B)	150
Total	750	Total	750