Monetary stability and regional currency board: towards a two-tier system to accelerate regional integration in the Horn of Africa: a policy proposal

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Monetary Stability and Regional *Currency Board:* towards a two-tier system to accelerate regional integration in the Horn of Africa. (A Policy Proposal)

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Summary

The last few decades have been marked by a proliferation of currency union projects in Africa. In a context of exchange rate instability and poorly convertible currencies, the authorities in most of the countries of the Horn of Africa are looking for an exchange rate regime that can stabilise and develop their economies. To achieve monetary stability in this sub-region, which is at the crossroads of some of the busiest sea and land routes, this paper reflects on the potential benefits of a monetary system that is characterised by a two-tiered architecture: national currencies and a common currency governed by a regional *Currency Board.*

Keywords: monetary regime, *Currency board*, Central Bank, Horn of Africa

JEL Classification: C01, E41, E5, F32, O17

Introduction and motivations

The Horn of Africa Initiative was launched in October 2019 by the finance ministers of Djibouti, Ethiopia, Eritrea, Kenya and Somalia with the support of three development partners: the African Development Bank, the European Union and the World Bank. The initiative calls for investments to support the development of economic corridors (transport, energy and digital), trade, and the creation of regional value chains in order to accelerate regional integration in the Horn of Africa.

Regional economic integration is an advantage for a member country because it affects the competitiveness of firms in that country, leads to lower prices and increases consumer choice, which in turn leads to consumption and hence growth (Balassa, 1964). The latest Africa Regional Integration Index report[1] 2020, reveals that, from a trade integration perspective, most of the countries in the Horn of Africa, with the exception of Kenya, which is ranked as the most developed integrated country in the Horn of Africa and the second most integrated country in the whole of Africa, perform poorly (Somalia and Eritrea) or moderately (Djibouti and Ethiopia).

In order to remove the current obstacles to effective regional and trade integration in the sub-region, which is at the crossroads of maritime and land routes, a stable currency would be needed. The common currency could ensure the stability of the common market and could attract FDI from non-member countries, which has advantages of bringing more competition and enlarging the investment and consumer choice. In fact, all the benefits and costs of common currency that we know from other monetary unions and from the literature apply here too.

More specifically, providing a monetary integration zone for the economy of this sub-region is crucial not only to ensure market enlargement and pacify the region, highly volatile due to political and ethnic conflicts, but also to limit the geopolitical influence of the monetary policies of the main partner countries. For example, in the context of sovereign lending that serves the internationalisation of the renminbi, the countries of the Horn of Africa have taken on massive debts to China to finance their infrastructure while their anchor currency is the dollar[2]. Thus, the idea of creating a common currency at parity with a basket of currencies, which would be added to the various national currencies and which would serve as a unit of account, a settlement and reserve instrument in trade within the zone could be justified.

We propose a monetary system that is characterised by a two-tier architecture: national currencies and a common currency at the regional level governed by a *Regional Currency Board* (hereafter RCB). There will be no exchange controls between member countries and with the rest of the world. This will increase cross-border trade by removing the costs of foreign exchange operations that hamper free movement in the region; enhance the competitiveness of businesses; and facilitate the financing of regional investment projects.

Historically the region has had a positive experience with the *Currency Board* system, as it belonged, during the period of the gold standard and convertibility of the pound, to the *East African Currency Board* [3], in which monetary relations between Britain and its East African territories were

[1] A multidimensional index developed jointly by the European Union Commission, the United Nations Economic Commission for Africa and the African Development Bank, analyses the current state of integration in African countries with respect to trade, as well as in four additional areas, namely: 1) regional infrastructure, 2) productive integration, 3) free movement of people and 4) financial and macroeconomic integration.
[2] On China's rising power in the region, see for example Le Gourielleg (2018, 2022).
[3] Body responsible for issuing and supervising the currency of the British colonies in British East Africa from 1919 to 1966. For the British colonial monetary policy see Clauson (1944), Greves (1953), Schenk (1992) and Uche (1997, 2011), и Gnosh and al. (2020).

established; the *Cassa per la Circolazione Monetaria della Somalia* in 1950 for Italian-administered southern Somalia and the colonial *Currency Board* for French-occupied Djibouti. In general, the principles of the Currency Board and the separation of issuing from banking activities have been applied historically in the countries of the area under consideration during different phases and periods[4]. The Currency board, though having many critics, is universally acknowledged to lead to credibility and discipline, limiting the power of politicians and the government. It is particularly suited to weak and unstable states (Hanke and al., 1993, Hanke, 2002).

A number of empirical studies have recently been devoted to the development of trade, particularly between China and the countries of the Horn of Africa, but to our knowledge, no literature has been written on the monetary integration of the sub-region. The issue of integration, and monetary integration in particular, also has an important geopolitical dimension due to political, ethnic and religious instability in the region, as well as the competing interests of the leading global powers in the struggle for resources and the global currency wars.

The paper is organised in three parts. The first part provides a basic macro-monetary diagnosis of post-conflict or unstable states in the Horn of Africa to motivate monetary reforms. The second part describes the solution of a two-tiered monetary infrastructure to address monetary instability and stimulate foreign trade without foreign exchange risk. The third part discusses the technical issues related to the adoption of the regional *Currency board* (the choice of cover, the level of fixing, the exchange rate between the two co-circulating currencies etc.)

1 Macro-monetary diagnosis of the countries of the Horn of Africa

Across the Horn of Africa region, states are often characterised as 'fragile', 'unstable' or even 'collapsed', which has implications for exchange rate stability and capital flight. The monetary regimes are relatively different: Ethiopia has an inflexible regime that penalises its economy; Somalia's monetary system has failed since the collapse of the state in 1991; the credibility of the new Eritrean currency is undermined by a dictatorial regime that controls the financial sector; and finally, the irrevocable fixity of the Djibouti franc deprives its economy of useful capital for its development.

Ethiopia, a major economic power with an inconvertible currency

Ethiopia, 115 million strong and multi-ethnic, is the second largest country in Africa (after Nigeria) and the centre of the area under consideration. After years of high growth (between 8 and 10%), it is now experiencing a decline (around 3%, and mostly due to a drop in transport revenues, of Ethiopian Airlines). Created in 1945, the current Ethiopian currency (Birr) follows an inflexible exchange rate regime. Its value against the dollar has almost reduced twice in the last ten years, but is maintained by the central bank[5] . From 2018 to today, the money supply has almost doubled. To contain this depreciation and limit inflationary pressures (44% in 2008 and 32% in 2011), the Central Bank of Ethiopia intervenes in the foreign exchange market by drawing on its foreign currency reserves and has simultaneously put in place capital controls. In 2018, the Bank of Ethiopia raised the interest rate from 5 to 7 percent.

[4] See some basic titles such as: for Ethiopia and Eritrea - Mauri (1997, 1998, 2010), Wasserman (1946), Pankhurst (1963), Schaefer (1992) for Somalia - Caroselli (1922), Abdurahman, 2005), for Djibouti - Chauleur (1955), Dubois (1997), for monetary institutions and attempts for monetary integration in the Horne of Africa in general - Dubois (1999). A survey of colonial monetary regimes is given in Schuller (1999).

[5] In what follows, we use the statistics that have been communicated to the IMF, as well as the analyses of the international section of the French Treasury, and the database on the website https://tradingeconomics.com/.

But this context of exchange rate instability and limited convertibility constrains economic operators in their international financial transactions and severely handicaps the financing of the Ethiopian productive system. The Ethiopian authorities are considering a transition to a more flexible exchange rate regime that is more appropriate to support the new growth strategy. The latter is based less on an economic model centred on public investment financed by Chinese debt than on a strategy of opening up to foreign capital: restrictions on foreign investment are suspended and public enterprises are privatised in order to attract foreign capital (BNPParibas, 2020). In fact, China is Ethiopia's main trading partner with which it has a trade deficit. China ranks first in imports as it accounts for about 30% and only 3% of Ethiopian exports are to China. Capital inflow from China is extremely high[6].

In order to guarantee external and internal stability that will encourage both trade and investment, without abandoning the monetary sovereignty that the Ethiopian authorities have taken in the past[7], the establishment of a *Regional Currency Board* seems to be a natural solution.

Somalia, exchange rate volatility and inflation in the absence of effective state authority

Having gone through a period of Marxist socialism, like Ethiopia, Somalia now is a highly unstable country politically, ethnically and religiously. Currently, part of its territory is not officially recognised (Somaliland[8]). Since the collapse of the state in 1991 and the subsequent crash of the national currency, the Somali economy has lacked the means to facilitate economic recovery. Somalia is the only African country that has allowed its currency to float freely. In fact, the economy is highly informal and dollarized. In the prolonged absence of an effective state authority and central bank, warlords ensured the issuance of coins and notes until 2012 (Mubarak, 2002). To maximise their seigniorage income, they created a huge amount of paper money, creating inflation with negative repercussions on household living standards (Abdurahman, 2005; Luther, 2016).

As a result, the agents' choice of alternative monetary instruments, particularly the US dollar, was made. But what prevents a complete dollarisation of the Somali economy is the unavailability of low-value coins in dollars. Somalia's conventional banknotes therefore continue to circulate especially for low value transactions[9] and this is despite the continued importation of counterfeit notes into the country.

To address the issue of exchange rate volatility and inflationary pressures, Somali economists support the idea of creating a new currency (Nor and Masron, 2020) but without thinking about the framework within which this currency should evolve (with the exception of the former Director General of the Central Bank of Somalia Mohamed Dalmar Abdurahman). The widespread use and acceptance of the US dollar by the public limits the options available to the government. Either a sound and credible currency, fully backed by foreign exchange reserves, is provided, or the US dollar becomes legal tender in the country. If the Currency board is not adopted, the alternative is de facto dollarisation. For this reason, Currency board is recommended, as it brings the same benefits as dollarisation, plus it yields a substantial amount of seigniorage and provides a means of retaining the national currency (Abdurahman, 2005).[10]

[6] Overall, due to its size, Ethiopia is a closed economy, openness around 6% of GDP.
[7] See literature cited in note 4.
[8] For Somali land see the interesting article by Azam (2010).
[9] See for more details Abdurahman (2005), Luther (2012), Nor and Masron (2014)
[10] Former Director General of the Central Bank of Somalia.

In line with these reflections, we believe that as Somalia is a small open economy in a post-conflict period, credibility and confidence in the national currency will be further restored as the establishment of a *Currency Board* at the regional level is expected to limit the ability of inefficient authorities to monetise the public deficit at the local level.

The limits imposed on political leaders and the rule of covering the monetary base with a volume of reserves in regional currency will give a strong signal to the foreign exchange market and will allow for an increased credibility and a high degree of confidence in the Somali monetary regime[11] . Historically Somalia has had a positive experience with the Currency Board system, as it once belonged to two colonial *currency boards*: the *Cassa per la Circolazione Monetaria della Somalia* in 1950 for Italian administered southern Somalia and the *East African Currency Board* for British occupied northern Somalia. These two *Currency boards* remained in existence until the independence of reunified Somalia[12].

Thus, unlike the configuration envisaged for Ethiopia, we propose here the creation of a new currency that will be pegged to the hard currency at a fixed exchange rate.

Eritrea, a closed country with an unsustainable deficit

Eritrea, independent from Ethiopia in 1993 after more than thirty years of war, was to issue the nakfa in 1997. Officially, the aim was to resolve the problems between two states using the same currency but with different monetary policies: the currency market was free in Eritrea but controlled in Ethiopia, where all imports were made through a letter of credit (Styan, 2000).

However, the financial sector is under state control and credibility in the nakfa is compromised by the monetisation of the budget deficit. The structural deficit of the state is mainly explained by military and social spending. Eritrea's public debt is extremely high at 190% of GDP, of which about 60% is external debt. Thus, these discretionary policies have thus led to a very high inflationary bias and instability in the banking system (Debesay, 2021).

The greatest advantage of the currency board system is the "depoliticisation" of the money creation process. The configuration that can be envisaged for the Eritrean case is in all respects identical to that of Somalia, with one notable change: Eritrea can retain its currency upon adoption of the regional *Currency board*. By prohibiting the monetisation of public deficits, the currency board system limits corruption and imposes fiscal discipline. By extension, this implies that external debt must be kept stable. This will lead to low inflation which in turn will lead to a stable exchange rate encouraging both trade and investment. It should be noted that, like other countries in the region, Eritrea is heavily dependent on China for both imports and exports (China is Eritrea's number one partner for its exports, mainly of resources, while Eritrea is China's 7th most important trading partner for its imports). Eritrea is also home to the region's largest Chinese cultural institute, the Confucius Institute. Despite, the peace with Ethiopia made before 2018 and the lifting of sanctions by the UN, tensions with Ethiopia and other countries have not been fully resolved.

[11] At the same time, when the money supply contracts and interest rates are higher, this will lead to a decrease in incomes resulting in a weakening of aggregate demand which, in turn, will lower the prices of domestic goods. This deflation will reduce demand for imported goods and improve Somalia's structurally deficit current account trade balance.

[12] See literature in footnote 4.

The *Currency bord* system is extremely important in the case of Somalia and Eritrea, as the involvement of politicians is undoubtedly at the root of the financial chaos that has inflicted so much damage on the economy and the population (Abdurahman, 2005 and Debesay, 2021).

Djibouti, a regional financial centre to support trade and logistics development

Djibouti has operated a *Currency Board* through which the stability of the Djibouti franc has been assured since 1949[13]. Djibouti's success has inspired the paper and will serve as a model for the operation and development of the RCB.

In a regional context of exchange rate instability and poorly convertible currencies, it is difficult for most countries in the Horn of Africa to develop trade across their borders without taking advantage of the unlimited convertibility and fixity of the franc. Most Ethiopian and Somali private operators have found Djibouti to be an opportunity to conduct international financial transactions in a short time[14] . The absence of exchange controls and capital movements reinforces Djibouti's centrality in the sub-region's financial flows (AfDB, 2011).

Djibouti's success has inspired the paper, but the irrevocable fixity of the Djibouti franc has a price: it deprives the local economy of useful capital for development even in times of massive capital inflows (Aman, 2018). Consequently, the country needs to move towards a more flexible exchange rate regime to combat unemployment and the severe poverty that affects 18% of families, a priority project of the president of the republic (Jeune Afrique, 2022). Financial inclusion is also crucial, which is at an extremely low level due to the structure and policies of commercial banks. It is no coincidence that a new national strategy for financial inclusion and integration is being adopted. The configuration envisaged for Djibouti could therefore make it possible to establish discretionary margins within which to ensure the prerogatives of the central bank.

There are many reasons for the establishment of a national *currency board on the one* hand and a common currency governed by a regional *Currency board on the* other. At the national level, the currency board system will lead to "depoliticisation" in the process of money creation. At the regional level, the CBR will (i) increase cross-border trade and develop the regional market by combating the costs of foreign exchange operations, which hinder free circulation in the region (ii) contribute to the monetary stability of the region (iii) constitute a response to counteract the growing renminbi and dollarisation of this sub-region Indeed, in their cross-border or foreign relations, the countries of the sub-region cannot engage in trade without using the dollar every time (iv) to facilitate and make transparent the financing of regional investment projects, particularly through the creation of a *Special Purpose Vehicle* (SPV) (v) and finally to calm regional and ethnic conflicts.

2 Creation of a two-tiered monetary infrastructure

In order to avoid the mistake of the CFA zone[15] (as well the eurozone), it is important to preserve the sense of existence and monetary sovereignty and not to destroy the national currency but rather to link the two monetary circuits. This is mostly dictated by practice, and by political constraints,

[13] For Djibouti, see footnote 4 as well as Aman (2018), Aman and Nenovsky (2021).

[14] Ethiopian private operators, fleeing the limited convertibility of the birr, take advantage of the Djibouti banking system to make international transfers with confidence. Somali economic operators have also turned to banks in Djibouti to take advantage of banking facilities essential to their trading activities. Because of the control or weakness of the banking system in their countries, Ethiopian and Somali traders hold deposit accounts in Djibouti to conduct their transactions.

[15] Criticisms of the CFA zone are numerous and have been going on for decades, see one of the most recent publications, that of Nobukpo and al. (2016).

but confirmed by institutionalist monetary approaches. In a regional integration between countries, there are at least two large and complementary "monetary communities" (to use G. Simmel's terminology), - the regional monetary community and the national monetary community. While the regional community is based on trade and bank money creation, the national community is primarily fiscally determined.

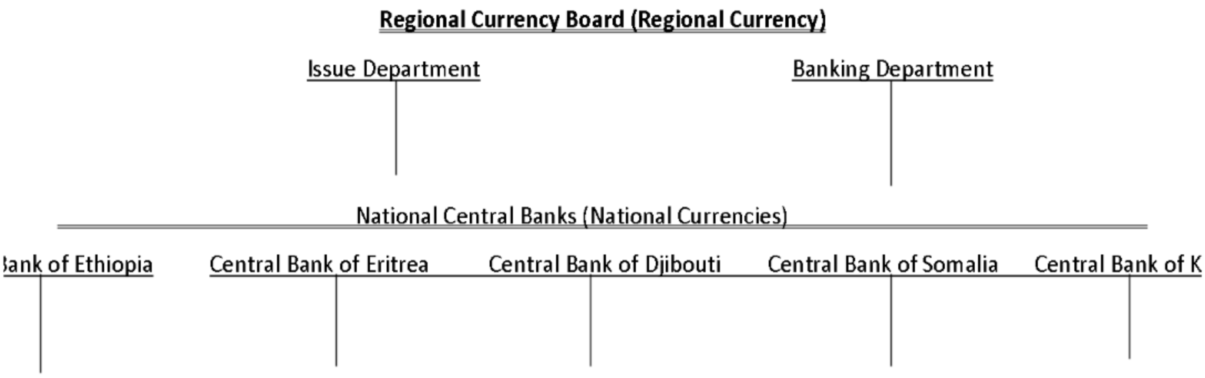
In our case, the common currency will be strong, stable and will be used in particular for cross-border transactions without any exchange rate risk, while the national currency (rather flexible currency) will be attached to the strong currency at a fixed exchange rate and will allow for monetary discretions at the local level without any risk for monetary stability. The two tiers of the monetary system would represent the two monetary communities, the two currencies. They would be primarily complementary, i.e., would coexist serving two monetary circuits. The retention of discretionary elements at the national level is dictated by the countries different evolution of the economic cycle, the asymmetric shocks, and the possibilities of pursuing independent economic policies and priorities at the national level. Let's consider the two levels in particular.

2-1 A regional *Currency Board* to preserve monetary stability

In order to strengthen intra-regional trade and economic integration in the sub-region, while adopting optimal management of foreign currency deposits, it would be appropriate to establish a common currency (HORN/HRN)[16] with a pegging system based on a basket of currencies, namely the renminbi, the US dollar and the euro, the fixity of which will be preserved within the framework of a *Regional Currency Board*. If the latter is not adopted, the alternative is de facto dollarisation or renminbisation. For this reason, the RCB is recommended, as it brings the same advantages as dollarisation, and in addition it yields a substantial amount of seigniorage while offering the means to preserve monetary stability.

The regional currency, without becoming legal tender in the member countries, will be used for cross-border transactions by central banks and all commercial banks.

Figure 1 Two-tiered monetary infrastructure



Let us specifically present the structure of the RCB balance sheet. Following the classical model of the Bank of England created by the Peel Act of 1844, later practically all colonial Currency Boards, or more recently the Estonian and Bulgarian model, two distinct departments will be established within the structure of the regional *Currency Board*, an *Issue Department* and a *Banking Department* (see Nenovsky and Hristov, 2002, Magnin and Nenovsky, 2022).

[16] For the sake of simplicity and to comply with the international standard with a three-letter abbreviation (HRN).

The balances of the two departments are as follows.

No 1 Balance sheet of the Issue Department

Assets	**Liabilities**
1 Liquid foreign currency assets 2 Monetary gold 3 Foreign currency securities	1 Monetary base 11 Regional banknotes 12 Reserves of Centrals banks of Ethiopia, Somalia, Eritrea and Djibouti 13 Reserves of the systemic commercial banks of the region 2 Deposits of the Banking department (Net assets of the Regional Currency Board)

Source: the authors

No 2 Balance sheet of Banking Department

Assets	**Liabilities**
1 Monetary gold 2 SPV HORN 3 Claims on Reserves of Centrals banks of Ethiopia, Somalia, Eritrea and Djibouti 4 Claims on systemic commercial banks of the region 5 Deposit at the Issue Department	1 Regional Loans from IMF, European Union, African Development Bank 2 Regional debt to International Financial Institutions 3 Capital and Reserves

Source: the authors. SPV HORN is a SPV for which will mobilize investment in the region

RCB will be subject to strict rules. The change in the quantity of the regional currency issued will follow exactly and automatically the change in the foreign assets of the issuing department, i.e., the foreign currency inflow and outflow deposited by the central banks of the region and the commercial banks. The residual foreign exchange reserves in the issuing department present the assets of the Banking department providing the accounting link between both departments. This deposit represents the positive net worth of the RCB, i.e., the excess of official foreign exchange reserves over the monetary base (monetary base consists of the regional currency in circulation and the reserves of the central banks and some systemic commercial banks). If the banking department has sufficient reserves, it can lend to central banks in the event of a systemic liquidity crisis in the banking system of a member country, playing the role of limited LOLR (claims on central banks and systemic commercial one). The primary role of the RCB will therefore be to ensure monetary stability and to intervene in case of a liquidity or exchange rate problem with a local currency.

It is appropriate to consider digitalization of the currency of the *Regional Currency Board*. This will give an opportunity to expand the financial inclusion of the population in the region, which is at a very low level (for example, the authorities of Djibouti are concerned about this state). China's experience in digitizing the yuan, in this regard, comes in very handy.

With the objective of external stability of their currency ensured by the RCB, the central banks of each country will be able to carry out monetary discretion (easing or tightening) at the local level to manage the national liquidity and domestic economic activity their economies without eroding the credibility of their national currency.

At the regional level, monetary regulation is based on a quasi-automatic mechanism for adjusting the supply of the regional currency to the balance of payments of member countries, i.e., to the demand for the regional currency. Thus, the money supply of the member country must adjust automatically when there is disequilibrium in the balance of payments, following partly the example of the gold standard (this is debatable question, but nevertheless see the mechanism exposed in Hanke and al., 1993). However, to avoid too large imbalances within the region, the country in disequilibrium can compensate the loss of regional currency by creating temporarily and in some limits domestic, national currency (ex. in buying limited volume of domestic securities).

2-2 Local monetary discretion without great risk to monetary stability

To guarantee the convertibility of the base of currency at the national level, a fractional cover rule will be put in place, *i.*e., only a fraction of the stock and flow of local currency of each country is covered by reserves in regional currencies. More precisely, the coverage rule obliges the issuing institution to keep on the asset side of the balance sheet a volume of reserves in regional currencies equivalent to 50% of the national monetary base and on the other hand a limited volume of securities in national assets (advances to the Treasury and debt securities)[17] (see balance sheet No 3).

This translates into a capacity to alter the ratio of foreign currency reserves to domestic liabilities, thus giving the central bank a certain capacity to carry out discretionary sterilisations. Central banks can thus combine conventional (lowering or raising reserve requirements) and unconventional (increased liquidity injections, purchases of government securities, or inversely) discretionary measures without the risk of inflation since the emission of local currency is limited.

The conversion of regional currency into local currency - and vice versa - is automatic. It takes place on simple request to the banks[18], which will put local currency into circulation by making foreign currency available to the RCB, which will deposit regional currency in their accounts at the RCB (see the balance sheet No 3). Only the central banks will have a monopoly on the emission of local, national currency, which alone is legal tender within a country and will give seigniorage from which the national states can benefit.

[17] We take the 50% coverage rule from the practice of the past when such a percentage of the Treasury's paper currency was covered by metal reserves. The percentage chosen may be different. In balance sheet 3, cash base 1 should be covered by 50% of the sum of assets (1 + 2 + 3).

[18] All commercial banks will be able to exchange their currencies into regional currencies at the CBR without the intermediation of the NCB. The level of exchange rates between the regional currency (HRN) and the basket of currencies, and between the Horn and the national currencies will be discussed in the following section.

No 3. Balance sheet of the National central bank

Assets	**Liabilities**
1 Reserves in regional currency 2 Cash and foreign currency deposits 3 Monetary gold 4 IMF related elements 5 Claims and loans to the State 6 Claims on commercial banks 7 Fixed assets and investment securities	1 Local currency (banknotes and coins) 2 External liabilities related to IFIs 3 Government accounts payable 4 Accounts payable to financial institutions 5 Capital and reserves

Source: the authors

Thus, the RCB is able to ensure monetary and banking stability at the regional level, and by safeguarding the national currency (in the form of banknotes and coins) it provides dual sources of seigniorage and a sense of existence and monetary sovereignty. This model, has much in common with the ideas of monetary federalism that became popular after the 2008 crisis (see, for example Théret and Coutrot, 2018).

The model presented so far is only the most general, it requires specification and the solution of a number of technical problems that are in a sense crucial for the whole system. Let us consider some of them.

3. Technical aspects of the regional *Currency Board*

The RCB imposes a double constraint: a fixed parity against a basket of currencies and the full coverage of the monetary base by foreign exchange reserves. In this section, we will address the technical issues related to its implementation: the choice of the coverage and its level of the exchange rate, the ratio between the local currency and the regional currency, and finally the subscription to the RCB capital.

It should be noted that new regional currency appears in the nude, it is not an extension of a previous monetary institution, and therefore there are a number of conceptual and technical difficulties with determining its volume and its exchange rate (in fact, a similar problem is observed with the emergence of others regional currency, such as the CFA franc and the euro). However, it is necessary to start from somewhere, bearing in mind that even with the wrong initial conditions, if the Curency Boards rules are respected, the economic activity will adapt to them and they will integrate, endogenize into the agent behaviours. When significant deviations and disequilibria are firmly established, then an amendment to some basic elements of the Currency Board is always possible. In fact, the history of Currency Boards that have existed and that exist today shows that the initial conditions (exchange rate, coverage, etc.) are very quickly integrated by the economic agents and do not have a major impact on the rules of the game.

The breakdown of the currency basket and foreign reserves composition

In principle, the eligible assets of a currency board should be denominated in the reserve currency, to limit exchange rate instability against a third currency. The more the country trades with the reserve currency issuing country, the greater the credibility.

As the geography of the global economy changes, the configuration of the international monetary system is also changing. Since the integration of the yuan into the Special Drawing Rights (SDRs), the Chinese authorities have been promoting the use of SDRs as a real currency, a settlement currency for natural resources, as more and more partner countries are abandoning the dollar in bilateral trade with China in favour of the yuan. The digital version of the renminbi, which is undergoing promotion, also sees widespread adoption in Africa. Most countries in the sub-region have signed agreements on the establishment of national clearing houses that allow economic operators to trade without using their reserve currency. The establishment of these clearing houses is crystallised by the setting up of large Chinese banks that convert national currencies into Yuan to facilitate exports and imports between China and the countries of the Horn of Africa region. Also, in the framework of sovereign loans that serve the internationalisation of the renminbi, the Horn of Africa countries have massively indebted themselves to China to finance their infrastructures while their anchor currency was the dollar and negotiate trade relations with the euro zone. Thus, the growing integration of the sub-region with China is a major concern, even if for some countries the internationalisation of the economy and the banking sector in the dollar zone mitigates the scope of the dollar peg conflict.

This new situation could change the relationship between the main world currencies and their hierarchies on the monetary regimes of the countries of the Horn of Africa region, which are still part of a global monetary hierarchy with a dominated position, and could ultimately increase the weight of the renminbi in the deposits of the banking system. For optimal management of foreign currency assets in the sub-region's economy, it would therefore be preferable to set up a pegging system based on a basket of currencies reflecting the main partners, i.e., the renminbi, the euro and the US dollar. Thus, this configuration will make it possible to take into account the geopolitical dimension of the monetary policies of the main partner countries.

In concrete terms, for the calculation of the weight of each currency in the basket of currencies, the trade criterion must be used, i.e. the weight of each country's data in the overall result must depend on the relative share of each country in intra-regional trade weighted by the relative share of the currencies in foreign trade (table 1).

Table 1: Relative share in intra-regional trade and relative share of foreign exchange in foreign trade (2019)

Share of intra-regional trade	Ethiopia (49.5%)			Kenya (28%)			Djibouti (9%)			Somalia (8%)	Eritrea (5.5%)
	CNY	EURO	UDS	CNY	EURO	UDS	CNY	EURO	USD	n. a. (Mainly USD)	n. a. (Mainly USD and CNY)
Share of foreign exchange in foreign trade	21%	22%	57%	22%	14%	62%	21%	14%	65%		

UNCTAD/African Trade Statistics, our calculations

The reconciliation between the various data available has made it possible to conclude for the time being that the sub-region's transactions in goods with the rest of the world remain predominantly in dollars with a weighted average of 50%, followed by the share denominated in yuan with 25% and the euro (20%). It can be rounded up to the following values: 50% in dollars, 25% in yuan and 25% in euros. The basket can be called URE (US dollar, Renminbi, Euro). After a certain period, five years for example, the weights will be revised depending on the region's trade and capital exposures (the phenomenon of de-dollarisation can be expected to increase in favour of the yuan).

As regards the choice of cover, the law of convertibility should allow monetary liabilities to be covered by a basket of monetary assets denominated according to this distribution: 50% in dollars, 25% in yuan and 20% in euros and the remaining 5% by other currencies and cold which intervene marginally in the invoicing of commercial exchanges. The coverage, i.e., the composition of foreign exchange reserves in general, should follow, of course with minor deviations, the structure of the basket. In the coverage there will also be a higher specified percentage for foreign exchange assets in gold. The management of foreign exchange reserves, the structuring of its liquidity and investment part, will be done strategically according to the current and expected dynamics of exchange rates and interest rates of the three currencies of the basket, as well as the gold price.

The level of the exchange rate between the regional currency and the basket

Under the two tiers monetary system the exchange rate adjustment is not possible at the regional level, so the decision on the level of the exchange rate between the common currency and the basket is important. In economic theory, there are different approaches to determine the initial exchange rate (purchasing power parity or real effective exchange rate[19], via the level of a certain period before the introduction of the Currency Board, determination of the exchange rate as a fraction of the foreign exchange reserves and monetary base, etc.). In our case, because regional money has no history, it is possible to restrict ourselves to some form of purchasing power parity derived by approximation.

Our proposal is to posit two price indices P*, composite index of foreign prices (*i*: USD, EURO, CNY) и P: composite index of regional HRN prices (*j*: Ethiopian Birr, Somali Shilling; Djibouti Franc; Eritrean Nakfa; Kenyan Shilling) weighted by each country's relative share of intra-regional trade. That is:

$P* = \sum_{i=1}^{3} \alpha_i p_{hp\,i}^{*}$

$P = \sum_{j=1}^{4} \gamma_j p_{hpj}$

The exchange rate is then the ratio of the external to the domestic price level:

$$e = P^*/P = \sum_{i=1}^{3} \alpha_i p_{hp\,i}^{*} \Big/ \sum_{j=1}^{4} \gamma_j p_{hpj}$$

To determine P and P* we first calculated the average, over the period 1993-2020 (or using *HP* filter), of each country's CPI (based on a weighted average of the prices of products belonging to the national baskets). Then, the weight of each country's data in the overall result must depend on the relative share of each country in intra-regional trade (for the *P* index) or the relative share of currencies in foreign trade (for the *P** index).

After the calculations we did, the exchange rate estimated by the purchasing power parity method is equal to 1HRN = 0.287 URE or 1URE = 3.485 HRN. The latter quotation is determinant, and it indicates how much regional money must be given to obtain a unit of the composite currency, the basket. To give room for real appreciation, and for easier calculation one can round the initial

[19] This method is used by international organisations and one of the main advantages of PPPs is their relative stability over time (OECD, 2002).

rate to 1URE = 3.5 HRN, or 1URE = 4 HRN and even **1URE = 5 HRN (1 HRN = 0.20 URE)**. Since the new regional money is not only covered, but also convertible to the basket, it must be taken into account the existence of transaction cost of decomposing the basket into the three constituent currencies (whose cross-exchange rates will move, and the demand for the three currencies will also change). This will require careful liquidity management by the RCB and all agents who will undertake the conversion/convertibility of the new money.

Once the exchange rate is determined, and taking into account the foreign exchange reserves that may be transferred from the four countries, or borrowed by the IFIs, then the new regional monetary base is to be determined. That is, the initial foreign exchange reserve should be multiplied by the exchange rate. In this sense, the logic is the reverse of introducing a monetary board with existing money (here the monetary base is primary, since its past dynamics are known).

The exchange rate between the common currency and the national currency

The common currency issued by the RCB, which would be in addition to the various national currencies, must be complementary and not in competition. To simply link the two circuits, the common currency will be strong, stable and used in regional transactions without becoming legal tender in the member states. National currencies will be legal tender and they will be pegged to the common currency at a fixed exchange rate. The fact that the national currency will be the only legal tender in a given country, and especially for paying taxes and for paying the salaries of civil servants and various kinds of social benefits, will create a demand for this money, which will be different from the demand for money at the regional level[20].

The exchange rate that central banks will impose cannot be considered as a conversion rate that could vary according to the forces at play in the foreign exchange market and central banks will not be allowed to manipulate it as part of monetary policy at the risk of compromising monetary credibility. Change should be as difficult as possible and any change in the exchange rate should require a parliamentary decision and not a decision by the Council of Ministers. However, it is also possible to discuss the possibility of disciplining monetary policy through a flexible exchange rate between the regional currency and the national currencies. Over time, as the new system becomes operational, the two circuits will become increasingly separate and linked in a stable and predictable way.

Thus, in general, the fixed exchange rate, the fractional coverage of national currencies by reserves in regional currencies and the prohibition to exceed a limited volume of securities in assets (advances to the Treasury and debt securities) will force the issuing institution not to finance public deficits.

Subscription of RCB capital and foreign reserve consolidation

To get started and provide the necessary capital for the establishment of the CBR, the national banks of all member states can allocate part of their foreign exchange reserves according to the relative share of the country in the total population and the gross domestic product of the region (the rules are similar in the euro area). These two determinants have equal weight. As with the currency basket, the CBR must adjust the shares every five years and whenever there is a change. The CBR is responsible for issuing the banknotes in cooperation with the national central banks of all member states. As the demand for regional banknotes can be met either by commercial banks

[20] Similar ideas are contained in the proposals of Théret and Coutrot (2017, 2018, 2019) and Bossone and al. (2015, 2918), rightly in the context of monetary federalism in Europe.

or national central banks, there is no need to set up branches in each country and city. However, it will be necessary to create a regional structure (headquartered in Addis Ababa, and representative offices in each country) which will be in charge of establishing the guidelines and procedures for supervising the management of foreign exchange reserves and in which the governors of each Central Bank will reside to establish the decision rules.

The seigniorage gains will be partly transferred to the banking department (for example *20% of the benefit*) to act as a stabiliser and the remaining net gains will be distributed to the national central banks according to their share in the RCB capital. The central banks, in turn, can transfer this income to the State after deducting operating costs and making the necessary provisions.

Due to the low level of foreign exchange reserves, and the need to service heavy external debts (Eritrea for example), an alternative scenario for the launch of the RCB should be envisaged. In this configuration, the initial foreign exchange reserves could be given, in the form of a loan or grant from the IMF, African Development Bank, or other strategic partners (China, for example) who would help with expertise to counter the new monetary system.

Conclusion

In this paper, we have presented the main elements of the project for the organization of the monetary system of the Horn of Africa at two levels - regional and national. The model proposes the participation of Ethiopia, Eritrea, Somalia, Djibouti and possibly Kenya and Tanzania, but in reality, it is only about those countries that have the political conditions and will to adopt the model.

The two-tiered monetary infrastructure proposed in this article has a dual purpose, stability at the regional level and flexibility at the national level.

The first objective is therefore a factor of monetary stability, credibility and discipline necessary to intensify cross-border trade without exchange risk. At the regional level, adjustment by the exchange rate is made impossible and is replaced by the rules of the *Regional Currency Board*: the variation in the quantity of the regional currency issued follows exactly the variation in the trade balance/current account.

The second objective is a factor of both monetary easing and fiscal disciple, insofar as it limits the authorities' ability to monetise the public deficit and increase public debt. Indeed, the introduction of a *flexible currency board* at the national level aims both to discipline the budget deficit and introduces discretionary room for manoeuvre to manage the liquidity and finance the economy without risk to monetary stability.

Of course, many issues remain to be elucidated, both fundamental (about the level of the exchange rate and the convertibility of the basket, as well as the relationship between the two types of currency) and technical and organisational (banknotes and settlement, the organizational structure and the governance of the monetary system, etc.).

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