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Seigniorage transfer payments in the context of the Common Monetary Area (CMA)

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Abstract

This paper considers seigniorage and seigniorage transfer payments within the context of the Common Monetary Area (CMA), i.e., South Africa on the one hand, and eSwatini, Lesotho and Namibia on the other hand. Seigniorage generally makes reference to the income that accrues to the relevant issuer of currency in circulation (physical banknotes notes and coins in circulation), but the literature also elucidates other definitions. This aspect is considered in this paper. The CMA is a characteristic of Southern Africa that is often overlooked in the literature. The currencies of eSwatini, Lesotho and Namibia are pegged to the South African rand and rand transfers freely between the CMA partner countries. After assessing alternative definitions of seigniorage, this paper argues that, while the CMA-agreement provides for South Africa to pay seigniorage to eSwatini, Lesotho and Namibia, the seigniorage sharing agreement is too generous in favour of those countries, therefore including a component of development aid. It would be in South Africa's best interest to report development aid in a transparent way, rather than to "hide" it as **deemed** or **assumed** seigniorage.

Keywords: Banknotes, coin, currency, Common Monetary Area (CMA), eSwatini, Lesotho, Namibia, SA Reserve Bank, seigniorage, seigniorage transfer payments, South Africa

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1. Introduction

The South African Reserve Bank (SARB) is the oldest central bank in Africa. The SARB was established in terms of the Currency and Banking Act of 1920 (Union of South Africa, 1920). The first Governor of the SARB, Mr. WH Clegg, was appointed in December 1920 and the SARB opened its doors for business on 30 June 1921 in Pretoria (SA Reserve Bank, 1971). The lag between the appointment of Clegg and the commencement of business can be ascribed to the fact that staff and premises had to be found for the new institution (SA Reserve Bank, 1971).

From its inception, the SARB assumed responsibility for monetary policy, albeit in terms of different monetary policy frameworks, for instance a gold standard, a peg to the British sterling, credit controls, money supply targeting and eclectic monetary policy (see for instance Rossouw, 2008). Since 2002 the monetary policy objective of the SARB is to contain the domestic inflation rate between 3% and 6% per annum (Rossouw, 2008). Monetary policy conduct within a framework of an inflation target receives considerable attention in the academic literature (see for instance Bernanke and Mishkin, 1997; Hammond, 2012; Rossouw, 2008; Taylor, 2019).

Other than a focus on containing inflation, the issuance of currency is also one of the responsibilities of the SARB. The currency issuance responsibilities of the SARB and the seigniorage earned receive scant attention in academic literature. This paper addresses this void. Seigniorage is the terminology used to describe the income accruing to the institutions issuing currency (physical banknotes and coins in circulation). In South Africa's instance, currency issuance is the responsibility of the SARB. In certain other countries, currency issuance is a shared responsibility. In such instances, for instance the United States (US), central banks are responsible for the issuance of banknotes and the government is responsible for the issuance of coin (Mishkin, 2003). However, a review of available literature shows that different approaches can be used for the calculation of seigniorage. The first SARB banknotes were issued in 1922 and those notes replaced banknotes previously issued in South Africa by commercial banks. South Africa followed an approach similar to the US until the end of the 1980s. The SARB was responsible for the issuance of banknotes and the government issued coin. Subsequently, the issuance of both banknotes and coin became the responsibility of the SARB.

But, to date, most studies of SARB focus on aspects such as monetary policy formulation (Rossouw and Padayachee 2022) or the development of monetary policy over time (Styger and Saayman 2011). The choice of a monetary policy target also receives attention (Comert and Epstein 2011) and the assessment of the policy target (Kahn and De Jager 2011) is also covered by the literature.

To the contrary, the role of the SARB in the Common Monetary Area (CMA), comprising South Africa, eSwatini, Lesotho and Namibia, and the CMA seigniorage sharing agreement between the partner countries receive scant attention in the academic literature. This paper focuses on these voids in the academic literature.

In assessing various alternative definitions of seigniorage, this paper argues that, while the CMA provides for South Africa to pay seigniorage to eSwatini, Lesotho and Namibia, the seigniorage sharing agreement is too generous in favour of South Africa's CMA partner countries and includes a component of development aid.

The rest of this paper is structured as follows: Section 2 deals with the CMA to provide a context. Section 3 reviews literature on monetary areas, seigniorage and related matters. Section 4 discusses alternative approaches to the calculation of seigniorage and section 5 assesses the CMA seigniorage sharing agreement. Section 6 concludes.

2. The Common Monetary Area (CMA)

In terms of the CMA agreement, all four member countries have their own central banks. These central banks issue their own currencies, although the currencies of eSwatini, Lesotho and Namibia are pegged at one-to-one exchange rates with the South African rand, and therefore also to one-another in terms of the CMA agreement. In practice, this implies that the SARB formulates monetary policy for the CMA countries (see for instance Maziva 2016).

The agreement with pegged exchange rates might give the impression of currency board-type arrangements, rather than autonomous central banks, in eSwatini, Namibia and Lesotho. However, the countries have central banks which should not be regarded as currency boards. The only limitation on those central banks is that they should hold sufficient foreign exchange reserves to be able to protect the currency peg against the South African rand. The balance of their foreign exchange reserves is held by those central banks for reasons such as providing foreign exchange liquidity to commercial banks; providing foreign exchange for the fulfilment of the respective governments' commitments for servicing foreign debt; and as part of the respective country's national wealth. Holdings of foreign reserves also increase confidence among foreign investors and rating agencies in the respective country's ability to service its obligations in foreign currency, despite market conditions.

The CMA countries use the South African national payment and settlement system for the settlement of interbank transactions and claims. Any initiative for any CMA country, other than South Africa, to waive the currency peg will have implications for its use of the payment and settlement systems. Delinking will also bring the circulation of South African rand within the borders of the country that delinked in jeopardy. It follows then that the CMA and seigniorage sharing agreements will have to be renegotiated.

Another important characteristic of the CMA agreement is that eSwatini, Lesotho and Swaziland apply the same or stricter exchange control as South Africa. This is to ensure that those countries cannot serve as a conduit for exchange control contraventions, given the fact that the South African rand can be freely transferred to eSwatini, Lesotho and Namibia.

South Africa compensates its CMA partner countries for the rand currency circulating within their borders in terms of a seigniorage sharing agreement, based on deemed or assumed South African currency in circulation in those countries. This agreement limits the sharing of seigniorage to South Africa's CMA partner countries. Other countries such as Zimbabwe where the rand also circulates (albeit without any formal agreement) are excluded from the agreement and, therefore, receives no transfers from South Africa as compensation (see for instance Maziva 2016).

This paper argues that the seigniorage sharing agreement between South Africa and its CMA partner is too generous in favour of eSwatini, Lesotho and Namibia and includes a component of development aid.

3. Literature review

A review of literature provides different views on the impact of monetary areas in Africa, of which the CMA is one, on the continent's development. On the one hand, there is a drive for the development of monetary areas in Africa, with an ultimate aim of a single currency for the whole continent (see for instance Masson and Pattillo 2005; or Rossouw 2006).

On the other hand, the literature raises questions whether a common monetary area in Africa can serve as an extension of earlier colonial rule. In this neocolonial context, Pigeaud and Sylla (2021) view the two CFA-franc areas in Africa as the continent's last colonial currencies, and describe these currency blocks as " … the oldest in the world" (2021:137). The abbreviation CFA-franc is used for the West African Economic and Monetary Union (WAEMU) and for the the Central African Economic and Monetary Community (CEMAC, based on its French name, i.e., *Communauté Économique et Monétaire de l'Afrique Centrale*) (Obeng-Odoom, 2022: 260).

Pigeaud and Sylla (2021:103) hold the view that the benefits of the CFA-franc currency unions to France are underestimated, while the perceived the benefits to the African countries participating in the two CFA-franc areas are exaggerated. Pigeaud and Sylla (2021) hold a view that the international financial structure supports a monopoly enjoyed by global currencies like the CFA-franc, the Euro and the US dollar, which contributes to underdevelopment in Africa. Additionally, in his discussion of the book by Pigeaud and Sylla (2021), Obeng-Odoom (2022: 260) states that the CFA-franc areas give " … board and several decision-making positions and political power to France". The literature on how this problem arises, how it continues to be reinforced, why the problem requires urgent resolution and how to address this problem, is limited, but quite visible. However, an analysis of these matters is beyond the scope of this research paper.

Other than literature on monetary areas, the literature also deals with aspects of seigniorage, albeit to a limited degree. Bain and Howells (2003:21) state that the word *seigniorage* originates from the French word *seigneur*, which means a feudal lord or lord of the manor, a reflection of the centrality of land to the emergence of money (Obeng-Odoom 2021: 19-20). The meaning of *seigniorage*, therefore, implies monopoly and power (Obeng-Odoom 2020: 48; Obeng-Odoom 2021: 19-20).

The available literature provides different descriptions of seigniorage and alternative ways for its calculation. These different descriptions are related to the bases of the calculation of seigniorage and the methodologies to be used in such calculations.

The most basic description of seigniorage and the method of calculation are revenue earned by the issuer of currency (banknotes and coin) on the issued currency in circulation. From an historic perspective, Vanthoor (1997) explains that seigniorage originates from the difference between the cost of coin production (which is assumed to include the cost of circulation), i.e., the methodology, and the issuance value of coin, i.e., the basis. With the adoption of banknotes as a part of currency in circulation, seigniorage also applies to banknotes in circulation. As a result, in terms of the use of currency in circulation for calculating seigniorage, banknotes and coin are included. An alternative approach is the use of more liabilities on the balance sheet of central banks (typically the issuer of currency) as a basis for the calculation of seigniorage.

However, once the basis for calculation of seigniorage (currency in circulation or more liabilities than only currency in circulation) is determined, it is necessary to agree on the appropriate calculation of income (methodology). While Vanthoor (1997) uses cost of production and circulation as the methodology for calculation, an alternative is the use of a rate of interest for the calculation of seigniorage. These aspects are highlighted in a later section on this paper, but it is already clear that these differences result in an array of ways in which seigniorage can be calculated (see for instance Reich 2017). This aspect is further complicated by the fact that currency issuers such as central banks do not show seigniorage as a separate line item in their income statements.

Vanthoor (1997) provides an historic definition of seigniorage which excludes any mention of banknotes in circulation. The inclusion of banknotes or any broader asset structure as the basis for the calculation of seigniorage, gives rise to different perspectives on the way in which it could be calculated, as is shown in this literature review. Keynes (1923:37) stated that:

> (a) government can live for a long time … by printing paper money. That is to say, it can by this means secure the command over real resources, resources just as real as those obtained by taxation. The method is condemned, but its efficacy, up to a point, must be admitted. A government can live by this means when it can live by no other. It is the form of taxation which the public find hardest to evade and even the weakest government can enforce, when it can enforce nothing else.

In this statement, Keynes (1923) points out the advantage that can be reaped by governments or an agency of a government from the issuance of currency, but also warns against the abuse of currency issuance, e.g., inflation emanating from over issuance of currency. Seigniorage will accrue, even under conditions of over issuance of currency and hyperinflation, for as long as the domestic currency is accepted by the public and used in trade, despite the inflationary conditions.

Circumstances have changed since the writings of Keynes, with the currencies of some countries experiencing hyperinflation disappearing from circulation. Under conditions of hyperinflation, domestic currency is replaced by foreign currency, albeit often on an informal (or even illegal) basis. Zimbabwe serves as a case in point (see for instance Koech, 2011). The Zimbabwean dollar ceased to circulate, following hyperinflation in that country (Maziva 2016). The currencies of Botswana, South Africa and the United States replaced the Zimbabwean dollar as the currency in circulation in that country (Maziva 2016). Once the domestic currency is replaced with a foreign currency or a number of foreign currencies, no seigniorage is earned by any agency or by the government in the country suffering hyperinflation, except if a seigniorage sharing agreement is in place (Maziva 2016). Under such conditions and in the absence of a seigniorage sharing agreement, the benefit of seigniorage accrues to the country of issuance of the currency that replaced the domestic currency.

De Kock (1956) shows that central banks were initially established as banks of issue, rather than as institutions with primary responsibility for monetary policy. These institutions were given monopoly powers for the issuance of banknotes by their respective governments (De Kock, 1956, see also

Dunbar, 1917). De Kock (1976) and Dunbar (1917) show that the monopoly powers granted to banks of issue resulted in:

- uniformity in the issuance of currency;
- proper supervision over a credit instrument (currency) which derived its legal tender status from legislation;
- control over credit expansion; and
- the government sharing directly in the profitability of currency issuance through seigniorage.

This assessment by De Kock (1956) and Dunbar (1917) highlights the importance of seigniorage in the context of central banking, albeit initially in the context of banks of issue. Bain and Howells (2003:2) define seigniorage in a historical context as " … the excess of the face value over the cost of production of the currency". Cost of production is assumed to include the cost of placing currency in circulation. Bain and Howells (2003:464) expand the historical definition by stating that:

> (i)n modern times, seigniorage takes many forms. For example, in international economics, the willingness of countries and central banks to hold and use US dollars after World War II converted US dollars into a world currency and the US obtained the benefits (or seigniorage) as the issuer of the currency.

This reminds of the remark about currency "replacement" under conditions of hyperinflation. Mishkin (2003:574) states that " … governments (or their central banks) do not have to pay interest on their currency … (but) … earn revenue (seigniorage) by using this currency to purchase income-earning assets such as bonds."

In an article in the September 2021 *Quarterly Bulletin* of the SARB (De Beer and Shikwane 2021b), seigniorage is defined as " … the difference between the face value of banknotes and coin and its production cost"[1] (De Beer and Shikwane 2021b:113). The printed version of this article by De Beer and Shikwane (2021b:113) states incorrectly that "South Africa used the British currency system until 1961 … ", but this text was replaced by the wording "South Africa's currency system was initially modelled on the British currency system until 1961" (De Beer and Shikwane 2021a:113) in the electronic version of the article. If South Africa used British currency until 1961, seigniorage would only have accrued to South Africa if a seigniorage sharing agreement with the United Kingdom was in place. South Africa had its own independent currency before 1961 and seigniorage accrued to the local currency issuers (SARB in respect of banknotes and the government in respect of coin).

This article by De Beer and Shikwane (2021b), only covers currency in circulation in its definition of seigniorage. However, this definition used by De Beer and Shikwane (2021b) is not compatible with the definition for seigniorage sharing in terms of the CMA agreement, explained in more detail in this paper. The agreement states that the transfer made by South Africa is calculated on the basis of a rate of return based on a **deemed** or an **assumed** value of banknotes in circulation in CMA partner countries. This definition uses a stock of currency in circulation, rather than a change in the stock of currency in circulation, for the calculation of seigniorage, and makes no provision for a negative transfer. State differently, there will never be a flow from the CMA partner countries to South Africa. The definition to be used for the calculation of seigniorage receipts by the SARB should therefore, at a minimum, provide for the calculation of positive annual seigniorage receipts.

An alternative perspective is to delink the calculation of seigniorage from currency (banknotes and coin) in circulation. In terms of such an approach, seigniorage linked to currency in issue is too limiting, as the power of the central bank to earn interest on liabilities extends beyond currency in

1. It is important to note that this reference appears in the printed version of the article by De Beer and Shikwane (2021b:113) in the September 2021 *Quarterly Bulletin*, but not in the electronic version (De Beer and Shikwane, 2021a:113), which is available at https://www.resbank.co.za/content/dam/sarb/publications/quarterly-bulletins/quarterly-bulletin-publications/2021/back-up-september/.

circulation. In terms of this view, seigniorage should, beyond currency in circulation, also include central bank accommodation of commercial banks in the event of temporary liquidity shortages ("high powered money" or "money creation"), or as an even broader basis, the central bank's balance sheet. Bain and Howells (2003:231) state that " … any expansion of the money supply provides seigniorage … to the issuer of money".

According to this argument, seigniorage should not only cover physical (manufactured) currency in circulation, but also bank accommodation that "creates" money in the system. Likewise, reserves of commercial banks (particularly non-interest-bearing reserves) held at the central bank give it the capacity to hold interest bearing assets against this liability, just as currency on issue does. Seigniorage calculated in this way gives rise to a much wider basis for calculation and more income earmarked as seigniorage than in instances where seigniorage is calculated only on the basis of currency in circulation.

Reich (2017) covers these various aspects highlighted from the literature in assessing the basis for seigniorage. In an assessment of different approaches to seigniorage, Reich (2017) shows that the basis for the calculation of seigniorage can range from currency issuance to the inclusion of all balance sheet liabilities for the purpose of calculating seigniorage. The latter approach implies that the net interest income of the central bank should be regarded as seigniorage, i.e., net interest earned on all assets held against central bank liabilities.

This literature review indeed shows different approaches to the calculation of seigniorage. Based on this analysis, a number of equations highlighting alternative ways of calculating seigniorage is developed in the next section. It is shown that seigniorage should be calculated on the basis of available information, as central banks do not publish seigniorage revenue as a separate line item. It is therefore impossible to assess seigniorage on any other basis than available information.

The research in this paper was prompted by a paper co-authored by Rossouw and Padayachee (2022). Rossouw and Padayachee (2022:73) state that:

> (i)n terms of the CMA agreement, the South African rand circulates freely as legal tender in eSwatini, Lesotho and Namibia. One condition for this free circulation is that South Africa shares with the other CMA countries the seigniorage earned in respect of rand currency in circulation within their respective borders.

Rossouw and Padayachee (2022:75) concluded that " … more research on the CMA and seigniorage sharing is necessary to enhance better understanding of South Africa's role and the role of the SARB in the CMA arrangement." This paper fills certain aspects of this void in the literature.

4. Alternative methodologies for the calculation of seigniorage

Alternative approaches could draw on the discussion in the literature review and the view of Reich (2007). A practical approach seems to be to calculate seigniorage on the basis of available information, as all relevant information is not always available, given that central banks do not report revenue from seigniorage as a separate income statement item. The calculation methodology used in this paper for the assessment of CMA seigniorage compensation is informed by available information. For instance, the SARB does not publish its revenue from seigniorage as a separate line item.

From the description of seigniorage above and from the literature review, it transpires that a number of aspects are relevant in the consideration of the calculation of seigniorage, although the relationships between these components can vary, as is explained in the equations that follows. These aspects are:

(i) *Seigniorage*: The revenue accruing to the issuer of currency, but its basis is sometimes expanded to include other central bank activities.

(ii) *Basis of calculation*: The stock of currency in circulation, the change in the stock of currency in circulation, or the balance sheet of the central bank.
(iii) *Revenue calculation*: The revenue from seigniorage can be calculated in different ways:

a. Currency in circulation minus cost of production and circulation;
b. Changes in currency in circulation minus cost of production and circulation;
c. Interest earned on currency in circulation (where interest can be calculated in more than one way) minus cost of production and circulation of currency; or
d. Net interest receipts of the central bank minus cost of production and circulation producing of currency.

As a point of departure, the basis for the calculation of seigniorage as the stock of currency in circulation less its cost of production and circulation is used. This corresponds with the historic definition of Vanthoor (1997). As an equation, this definition gives us:

$$S = cic - pc, \tag{1}$$

Where S = Seigniorage, cic = currency in circulation, and pc = production and circulation costs of currency for the year in which the seigniorage is calculated.

An alternative is to use the change in currency in circulation as a basis for calculating seignorage. As an equation, this definition gives us:

$$S = \Delta cic - pc, \tag{2}$$

Where Δcic = change in currency in circulation. A third definition focuses on currency in circulation and the rate of interest used by the central bank for accommodation, minus the cost of production and circulation of currency, for an equation:

$$S = (cic \times repo \quad i) - pc. \tag{3}$$

Where repo i = the repo rate, i.e., the accommodation rate of the central bank.

An alternative approach for the calculation of seigniorage is to base it on the rate of return (for example for one year) on assets held against the non-interest bearing liability (currency in circulation), rather than the stock of currency in circulation. A fourth definition of seigniorage is therefore average interest income earned by a central bank on the assets held against currency in circulation, one of the liabilities on its balance sheet (see for instance European Central Bank, 2017), minus cost of production and circulation of currency. As an equation, this definition gives us:

$$S = (cic \times ave \quad i) - pc, \tag{4}$$

Where ave i = average interest income earned by a central bank on the assets held against currency in circulation.

There is also another approach to the calculation of seigniorage, which does not fit any of the definitions described above. The fact that the SARB and other central banks do not report in their financial statements seigniorage revenue as a separate line item, makes it difficult to decide which of the equations above, if anyone, is the appropriate one to use. A further limitation is that central banks publish the cost of producing new currency on an annual basis, but not the full cost of currency in circulation, i.e., cost aspects such as issuance, withdrawal and destruction of currency. Net interest earned by central banks are also not reported in respect of individual assets on the balance sheet, and can therefore not be linked to specific liabilities. For this reason, the four equations above have little use in practice for calculating an actual amount of seigniorage earned by any central bank, given scant information published.

These limitations give rise to the formulation of a fifth equation, that can be used for all central banks. This equation encompasses various elements of the aspects raised in the literature, and elements of certain of the equations highlighted above. In this instance, all net interest received by any central bank is regarded as seigniorage, as the central bank's capacity and ability to earn interest are supported by its total balance sheet. Cost of production and circulation of currency should be deducted. The result is equation (5):

$$S = i - pc; \tag{5}$$

Where i = net interest earnings of the central bank on all assets held on the balance sheet.

Net interest earnings are used, rather than gross interest earnings of the central bank, as gross earnings clearly show that certain liabilities imply an interest cost for the central bank. Given limited disclosure, equation (5) is regarded as a practical approach for the calculation of the seigniorage revenue of a central bank.

This approach can be applied in respect of the SARB. The SARB's cost of new currency in the financial year to 31 March 2022 amounted to R180 million (US$11 million)[2] (SA Reserve Bank, 2022). This is considerably lower than the corresponding cost of R927 million in the financial year to 31 March 2021 (US$62 million) (SA Reserve Bank, 2021). Net interest of the SARB in the financial year to 31 March 2022 amounted to R3,54 billion (US$216 million) (SA Reserve Bank, 2022), which implies seigniorage income of R3,36 billion (R3,54 billion minus R180 million) (US$ 205 million, i.e., US$ 216 million minus US$11 million) for the respective financial year. This approach is used in this paper in respect of the SARB, as the information it publishes only allows for a best estimate of seigniorage (see for instance Rossouw, 2022). The main criticism against the use of equation (5) for the calculation of seigniorage, is the degree in which it differs from the definition used in the CMA seigniorage sharing agreement. However, insufficient information makes a direct comparison based on the provisions of the CMA seigniorage agreement impossible. This matter receives attention in the next section.

5. Seigniorage in the context of the CMA

The next challenge is to clarify the CMA seigniorage sharing agreement. This agreement compensates the CMA partner countries for their lost seigniorage on South African rand circulating within their borders. The basis for this compensation is that own currencies of the respective central banks in those countries would have circulated in a larger volume if rand did not circulate within the borders of those countries.

The compensation payable by South Africa to its partner countries is based on a **deemed** or **assumed** rand in circulation in each of eSwatini, Lesotho and Namibia, multiplied by 2/3 of the annual yield on a portfolio of South African government bonds. However, the SARB does not publish the information that is used in this calculation, thus rendering a direct comparison impossible.

As no data is available on the actual value of rand circulating in each of these countries, the calculation of seigniorage is based on an estimate. To the extent that the rand in circulation in eSwatini, Namibia and Lesotho is overestimated, the seigniorage sharing agreement includes a component that can be classified as development aid.

Table 1 analyses South Africa's seigniorage transfers to eSwatini, Lesotho and Namibia since the 2012/13-financial year. Seigniorage transfers grew at an average annual rate of 22,2 per cent over the period 2012/13 to 2022/23, which is well in excess of the growth rate in South African currency in circulation over the same period, as is shown in Table 2.

Table 2 analyses the value of South African currency in circulation over the past decade and shows average annual growth of 6,6 per cent over this period. This rate of growth pales in comparison to the growth rate of seigniorage transfer payments over the same period, shown in Table 1.

2. End-of-period exchange rates are used in this paper, as actual payment dates are not published.

Table 1. Analysis of Seigniorage Transfer Payments and Annual Change, 2012/13 to 2022/23, R-Million

Period	Seigniorage payment (Rm)	% change
2012/13	490,7	
2013/14	554,4	13,0
2014/15	640,8	15,6
2015/16	712,5	11,2
2016/17	792,3	11,2
2017/18	891,7	12,5
2018/19	973,8	9,2
2019/20	976,9	0,3
2020/21	763,0	–21, 9
2021/22	1566,0	105,2
2022/23	1578,0	0,8
Total growth		221,6
Average annual growth		22,2

Source: National Treasury Estimates of National Expenditure (various years)

Table 3 shows that the South African government transferred 27,4 per cent of the seigniorage income of the SARB over the past decade to eSwatini, Lesotho and Namibia. This level of seigniorage transfer supports the notion of a development aid component in these transfers, not supported by actual rand in circulation in eSwatini, Lesotho and Namibia. This sharp increase is not supported by the growth rate of South African currency in circulation. This growth in seigniorage transfers, compared to the growth in South African rand in circulation, also supports the notion of a development aid component in these transfers, not supported by actual rand in circulation in eSwatini, Lesotho and Namibia.

Table 2. Value of and Growth in South African Currency in Circulation, 2012/13 to 2022/23, R-Million

Period	Seigniorage payment (Rm)	% change
2012/13	103136	
2013/14	107385	4,1
2014/15	122170	13,8
2015/16	130562	6,9
2016/17	132297	1,3
2017/18	146330	10,6
2018/19	151307	3,4
2019/20	155544	2,8
2020/21	168339	8,2
2021/22	171097	1,6
2022/23	171565	0,3
Total growth		66,3
Average annual growth		6,6

Source: SA Reserve Bank Annual Reports (various issues)

The CMA transfers are made by the South African government and not by the SARB, the institution that earns seigniorage in South Africa. The basis for this approach is the transfer of profits

Table 3. Seigniorage Transfer Payments Compared to Seigniorage Income of the SARB, 2012/13 to 2022/23, R-Million

Period	Seigniorage payment (Rm)	Seigniorage income of the SARB (Rm)	Payment/revenue (%)
2012/13	490,7	1512,3	32,4
2013/14	554,4	1626,5	34,1
2014/15	640,8	4435,6	14,4
2015/16	712,5	5545,6	12,8
2016/17	792,3	5442,9	14,6
2017/18	891,7	5366,1	16,6
2018/19	973,8	2376,4	41,0
2019/20	976,9	901,3	108,4
2020/21	763,0	2563,2	29,8
2021/22	1566,0	3249,9	48,2
2022/23	1578,0	3323,1	47,5
Totals	9940,1	36342,9	27,4

Sources National Treasury Estimates of National Expenditure (various years) SA Reserve Bank Annual Reports (various issues)

by the SARB to the South African government. The South African government shares in two ways in these profits, which include income from seigniorage. First, The SARB pays income tax on its profit. Secondly, any profit of the SARB after taxes, dividends and reserve allocation is paid to the South African government by means of a surplus distribution to the National Revenue Fund.

Seigniorage sharing is reported annually in the *Estimates of National Expenditure* as an expenditure item of the South African National Treasury (see for instance National Treasury, 2023). Seigniorage is earned by the SARB in respect of South African currency circulating in eSwatini, Lesotho and Namibia, but the payments to those countries are made by the South African government. It can therefore be argued that the payment of seigniorage to eSwatini, Lesotho and Namibia should be a commitment of the SARB, rather than the South African government, although the actual amounts paid will not change. Reporting by the SARB, rather than by the South African government, will:

- Bring the reporting of the seigniorage transfer payment to the source where it is earned, i.e., the SARB, rather than to transfer the payment commitment of the South African government; and
- to ensure a better reflection and more transparency in respect of seigniorage earned and the commitment paid from it.

The payment for "Common Monetary Area compensation" (seigniorage) by the South African government for the 2021/22-fiscal year amounted to R1 565,7 million (US$96 million) (National Treasury, 2023). This is equal to some 44% of the estimated seigniorage income of the SARB calculated above.

The treatment of the seigniorage compensation in the CMA countries show significant differences. Seigniorage compensation is recorded as revenue in the annual financial statements of the central banks of eSwatini (Central Bank of eSwatini) and Namibia (Bank of Namibia). The Central Bank of eSwatini reports compensation for rands in circulation as E354,2 million (US$22 million) and E369,2 million (US$25 million),[3], respectively, for the 2021/22- and 2020/21-financial years (Central Bank of eSwatini, 2022). The compensation for rands in circulation amounted to 101,6% of the central bank's total comprehensive net income for the 2021/22-financial year. The central bank made a loss in the 2020/21-financial year and the compensation for rands in circulation contributed to containing this loss to E575,6 million (US$35 million) (Central Bank of eSwatini, 2022).

3. E denotes lilangeni (from the plural, emalangeni) the currency of Eswatini. One lilangeni is equal to one rand.

The Bank of Namibia reports rand compensation income as N$505,6 million (US$34 million) and N$499,8 million (US$28 million),[4] respectively, for the 2020/21- and the 2019/20-financial years (Bank of Namibia, 2021). In this instance, the rand compensation income amounted to 44,1% of the central bank's total comprehensive net income for the 2021/22-financial year. For the 2019/2020-financial year, the corresponding figure is 58,1%.

To the contrary, in the case of Lesotho, the compensation is recorded as revenue by the government, and shown in annual revenue accounts (Kingdom of Lesotho, 2021) and not in the accounts of the Central Bank of Lesotho. However, despite the central bank not being the recipient of the seigniorage sharing payments, the central bank nevertheless makes provision in its accounts for a rand compensation reserve (Central Bank of Lesotho, 2020), although there is no clear link between this reserve and seigniorage sharing payments received from South Africa.

The receipts are reported as rand monetary compensation[5] and the amounts received or budgeted for receipt are M262,7 million (US$16 million) and M275,8 million (US$15 million),[6] respectively, for the 2021/2022-, and 2022/2023-financial year (Kingdom of Lesotho, 2021). Compared to the total comprehensive net income of the Central Bank of Lesotho, the rand monetary compensation amounted to 95,5% of the total comprehensive income for the central bank for the 2019/20-financial year (Central Bank of Lesotho, 2020).

Based on the available evidence, South Africa is too generous in its compensation of CMA countries. The seigniorage sharing agreement therefore clearly includes a large amount of development aid in favour of South Africa's CMA partners. Such generosity should rather be identified as development aid than to be hidden as seigniorage sharing. At least South Africa will then get the necessary recognition as one of the most generous donor countries of the world, particularly when this aid is seen in conjunction with the development aid hidden in the revenue sharing agreement of the Southern African Customs Union.

Official development aid ("ODA") has a long history, with the United Nations (UN) General Assembly adopting a resolution in this regard in 1970. In terms of this resolution, " … each economically advanced country would aim to reach a minimum net ODA level of 0,7% of national income" (OECD, 2011). ODA is government aid designed for the promotion of economic development and welfare of developing countries, and should be approved as such by the respective legislatures of donor countries. Only five OECD countries met the UN target of 0,7% of GDP for ODA in 2018, i.e., Luxembourg, Norway, Sweden, Denmark and the United Kingdom (The New Humanitarian, 2020).

6. Conclusion

This paper considers alternative ways for the calculation of seigniorage and shows that central banks as issuers of currency do not follow a standardised approach for its calculation. Central banks also do not report their income from seigniorage as a separate line item. The research highlights different alternatives for the calculation of seigniorage, but reaches the conclusion that net interest earnings of central banks are a practical approach for the calculation of the seigniorage, given limited disclosure.

The CMA is a characteristic of Southern Africa that is often overlooked in the literature. The currencies of eSwatini, Lesotho and Namibia are pegged against the South African rand and rand is freely transferable between the CMA partner countries. In assessing various alternative definitions of seigniorage, this paper argues that, while the CMA provides for South Africa to pay seigniorage to eSwatini, Lesotho and Namibia, the seigniorage sharing agreement is too generous in favour of those countries and includes a component of development aid.

4. N$ denotes Namibian dollar, the currency of Namibia. One Namibian dollar is equal to one rand.

5. The use of the terminology rand monetary compensation reminds of the Rand Monetary Area comprising South Africa and Botswana, Swaziland (as eSwatini was known at that time) and Lesotho, that preceded the Common Monetary Area.

6. M denotes loti (from the plural, maloti), the currency of Lesotho. One loti is equal to one rand.

South Africa's generosity in transferring a donor aid component as part of the seigniorage sharing agreement is not approved as donor aid by the Parliament. It is approved as seigniorage sharing in the form of CMA compensation (National Treasury, 2022). The implication is that South Africa gets no credit as a major donor country. This problem is exacerbated when seen in conjunction with the donor aid component in the annual Southern African Customs Union (SACU) transfers to South Africa's SADC partners, Botswana, eSwatini, Lesotho and Namibia.

Biography notes

Jannie Rossouw is a political economist and visiting professor at Wits Business School at the University of the Witwatersrand. His research interests include central banking, monetary policy and inflation, and economic policy.

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Conflict of interest

The author declare no conflict of interest.

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