

## **South-south monetary integration: the case for a research framework beyond the theory of optimum currency area**

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**Abstract:** Optimum Currency Area (OCA) theory proves inadequate in the analysis of the new regional monetary integration schemes that have sprung up among developing and emerging market economies since the 1990s. Building on the concept of ‘original sin’ developed by Eichengreen et al. (2006), we argue that a different conceptual framework is needed as these regional monetary South-South integration (SSI) schemes differ fundamentally from North-South arrangements because they involve none of the international reserve currencies. In-sights from the cases of monetary south-south cooperation in Southern Africa, East Asia and Latin America suggest that SSI can have beneficial effects on macroeconomic stability. This paper sketches a first set of hypotheses on the necessary conditions for these stability gains to materialise.

**Keywords:** regional monetary integration; optimum currency area (OCA) theory; development theory; ASEAN; MERCOSUR; CMA.

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## **1 Introduction**

The search for optimal exchange rate regimes for developing and emerging market economies has resurfaced in the wake of the late 1990s financial crises. Although in the case of industrialised countries optimum currency area (OCA) theory has been widely discussed, and brought beyond the original contributions of Mundell (1961) and others (Frankel and Rose, 1997; Mongelli, 2002; Rose and Stanley, 2005), the debate has not been sufficiently connected to the case of developing countries and emerging markets. For the overwhelming majority of developing and emerging market economies participation in a multilateral currency union that includes industrialised economies is not a policy option on offer at present. While they can choose between the unilateral defence of the domestic currency in a flexible exchange rate regime and the merely unilateral monetary integration with an international key currency ('dollarisation'), a third option has emerged as a number of south-south monetary cooperation or integration schemes (SSI) have sprung up among developing and emerging market economies since the 1990s.

We define south-south monetary integration as regional monetary cooperation or integration between developing and emerging market economies tainted by 'original sin' (Eichengreen and Hausmann, 2005; Fritz and Metzger, 2006). In accordance with the 'original sin' concept, we determine the assignment of a country to the typological categories of 'south' or 'north' by its ability to accumulate debt in its own currency ('north'), or predominantly in a foreign currency ('south'). The original sin concept, introduced by Eichengreen and Hausmann (2005), evidences the particular importance of the denomination and composition of domestic and external debt for economic growth and development. The authors develop an analysis of the cumulative impact of balance sheet effects as a consequence of forced indebtedness in foreign currency. They show that most countries outside the major currency blocs and financial centres of Europe or the USA tainted by original sin are unable to borrow abroad in their own currency or at long maturities in their domestic market. Most developing, and some emerging, market countries are therefore faced with higher economic volatility and losses in macroeconomic growth and income. In contrast with balance sheet effects, which are supposed to be mitigated to a certain extent by monetary policy decisions, the negative effects of original sin cannot be limited by domestic macroeconomic policy. The authors find no correlations between the level of original sin on the one side and the level of development, macroeconomic credibility and quality of institutions on the other side; the only explanation found empirically is economic size.

We thus consider the term 'south' not as a geographical characterisation, but rather a characterisation of structural monetary constraints imposed by a country's inability to borrow abroad in its own currency that the analysis of SSI needs to take into account. SSI needs to deal with the specific monetary constraints of the countries involved. Their net debtor status in foreign currency imposes major monetary constraints on sustained growth. A large number of developing and emerging market economies face currency and maturity mismatches in the national balance sheets associated with exchange rate movements, and limited access to international financial markets in domestic currency, resulting in mostly small and undiversified financial markets with limited access to finance. Recent contributions to public debt management suggest ways to mitigate the

impact of these constraints, focusing mainly on domestic financial market development (Eichengreen et al., 2006, IDB 2006; Demirgüç-Kunt and Levine, 2001).

In this paper we will build on these contributions in order to develop a framework for SSI that brings together the debate on exchange rate options for emerging markets and developing economies, options for financial market development and the debate on OCA criteria that needs to be adjusted to the specific conditions of developing and emerging market economies. The goal is to enable a better understanding of SSI and to develop adequate criteria for the evaluation of their potential benefits.

The list of existing or projected monetary cooperation and integration schemes among less developed economies is impressively long, the most prominent examples of regional monetary cooperation among developing and emerging market economies can be found in the Association of South East Asian Nations (ASEAN), in the common monetary area of Southern Africa (CMA), and incipiently the Gulf Cooperation Council (GCC) and the Fondo Latino-Americano de Reservas (FLAR). In addition to these, repeated attempts towards regional monetary cooperation are being made in the Mercado Común del Sur (MERCOSUR), among the Eastern European countries of the commonwealth of independent states (CIS), among the Caribbean CARICOM single market and economy (CSME) and in the Pan-African initiative, particularly with regard to sub-regional cooperation such as the West African Monetary Zone (WAMZ). There are a series of studies on each of these cases.<sup>1</sup> What we are missing, however, is an adequate framework for the evaluation of the prospects of macroeconomic stabilisation through monetary cooperation and integration among developing and emerging market economies.

In this paper we argue that the potential costs and benefits of regional monetary integration are subject to a different set of criteria in the case of 'southern' economies in the aforementioned sense. First, in the case of regional monetary south-south integration, exchange rate politics of the integrating countries need to be analysed as a potential source of intra-regional instability rather than as an available monetary policy instrument to adjust to external shocks. Second, the denomination of net external debt, as well as the regional currency denomination of assets and liabilities in general, needs to be considered in order for the influence of original sin and net potential balance sheet effects to be combined with regional monetary integration theory.

There is no doubt that the decision for regional monetary cooperation, or even integration, has to take into consideration political aspects, as it involves nothing less than the issue of national sovereignty. Nevertheless, by elaborating on the potential deficiencies of traditional, purely economic, integration theory, this paper concentrates on economic and specifically monetary reasons for regional monetary integration.

The paper is organised as follows. After this introduction, the first section critically reviews the key arguments of conventional OCA theory. It argues that recent contributions to the debate have made the concept more adaptive, but that it still falls short of taking adequately into account the monetary constraints that characterise southern economies. The second section analyses potential stability gains of SSI. The third section suggests how to adjust monetary integration theory to the analysis of SSI schemes. The fourth section provides empirical evidence from three examples of south-south monetary cooperation arrangements – namely the ASEAN, CMA, and the MERCOSUR. The concluding section summarises the criteria for an adequately adjusted research framework for 'southern' regional monetary integration and sketches the future research agenda.

## **2 The blind spot of optimum currency area theory approaches**

Numerous contributions have been made to the debate on OCA theory that concentrate on empirically examining the criteria for regional monetary integration set up by the first generation of literature (Mundell, 1961; McKinnon, 1963; Kenen, 1969). Conventional OCA focused on the trade-off between the benefits of regional monetary integration of reduced transaction costs on the one side and the cost of regional economic adjustment that would occur by abandonment of flexible exchange rates and monetary sovereignty on the other. The major conclusion of OCA theory is that integrating countries need to show symmetric reactions to external shocks with a high level of convergence in order to lower the cost of regionally coordinated monetary policy. In line with this argument, three main optimality criteria for regional monetary integration were identified:

- liberalised factor markets in order to enable labour movements as an alternative adjustment mechanism to exchange rates in the event of asymmetric shocks (Mundell, 1961)
- a certain degree of openness in order for the integrating countries to be able to abandon the exchange rate as an adjustment mechanism (McKinnon, 1963)
- a diversified production structure in the integrating economies (Kenen, 1969).

In contrast with the traditional view that emphasises the potential cost of forming an ‘optimal currency area’, second and third generation literature shows a more optimistic view by analysing mainly potential benefits of ‘optimal currency areas’. Recent contributions to the debate centre on two major lines of argumentation.

The first identifies exchange rate flexibility as a major source of regional instability itself rather than an instrument for adjustment in the case of an asymmetric extra-regional shock (Collignon, 1997; Calvo and Reinhart, 2002; Devereux and Lane, 2002). One conclusion is that currency and maturity mismatches in the balance sheets of the integrating countries may cause stagnation or even a reversal of the regional integration process (Fernández-Arias et al., 2002). Thus, the volatility of exchange rates of unilaterally defending independent monetary and exchange rate policies may itself become a source of asymmetric shocks. Exchange rate changes are therefore no longer assumed to be disposable policy instruments as in conventional OCA theory (DeGrauwe, 2004; Mongelli, 2002).

The second line of argument centres on the endogeneity of OCA criteria and the sequencing of trade and monetary integration. Although the original formulation of OCA established rigid criteria – particularly a high level of macroeconomic convergence through deeper trade integration – as preconditions for a sustainable regional monetary integration, this view is now giving way to a growing consensus that these should not be considered as exogenous determinants (Frankel and Rose, 1997; Rose and Stanley, 2005). The argument is that monetary cooperation could even give an impetus to further trade integration, thus realising OCA criteria endogenously during the integration process. According to DeGrauwe and Mongelli (2005), not only trade but also financial and labour market integration would be fostered ex post by monetary integration.

The debate reveals key elements for the understanding of SSI. Most of the monetary cooperation and integration arrangements among developing and emerging market economies are based on trade integration schemes. Although intra-regional trade has

grown significantly in recent years (Mussa et al., 2000), these SSIs would not fulfil traditional OCA convergence criteria since intra-regional trade volumina are comparatively low and most of the economies would still not be considered sufficiently open and diversified. While the Euro area could be seen, at least in part, as a point of reference for traditional ‘trade integration first’ sequencing, the debate shows that from a theoretical point of view there is no clear reason for introducing trade integration ahead of monetary integration. This holds particularly true for integration schemes among countries with a large stock of unhedged foreign currency denominated debt (IDB, 2002; Bird and Rajan, 2006). In the event of an external shock, these countries first try to avert depreciation and – if this turns out to be impossible – move on to a policy of competitive devaluations which lead to a beggar-thy-neighbour effect that runs counter to any deepening of regional integration schemes.

Nevertheless, the empirical and theoretical research on regional monetary integration arrangements outside Europe remains scant.<sup>2</sup> Here, we analyse SSI in the aforementioned sense as a regional monetary cooperation or integration arrangement pursued by countries with original sin that accumulate debt in foreign currency, thereby most often suffering from a restricted lender of last resort function, balance sheet effects (see below) in the event of a currency devaluation and, as a result, small and undiversified financial markets. Levels and composition of internal and external debt may vary among the participating countries and can be, to a certain degree, influenced by economic policies such as foreign exchange accumulation, exchange rate management or by capital controls. But these policies involve significant opportunity costs, owing to low yields of accumulated foreign exchange reserves and higher real interest rates in the domestic market.

Economic theory today recognises these monetary constraints of developing and emerging market economies by emphasising the impact of volatile exchange rates in the presence of a large stock of un-hedged foreign currency denominated debt (‘original sin’, see above). Exchange rate fluctuations may lead to a dramatic decline in the private sector’s net worth and credit worthiness, a fall in spending and output, and a financial crisis. In this context, the concept of ‘balance sheet effects’ is used to describe the deteriorating effects of the interaction between stocks and flows on net worth and net income that are induced by changes of the exchange rate (currency mismatch) and the interest rate (maturity mismatch) respectively (Aghion et al., 2004; Allen et al., 2002; IMF, 2003; Berganza and Herrero, 2004; Chue and Cook, 2004). Balance sheet exposure of economic entities, e.g., governments, banks, non-financial firms, and households with differing currency compositions of assets and liabilities, systematically increases the risk of solvency crises and thereby the overall economic uncertainty in net debtor economies.

### **3 Potential stabilisation gains of south-south integration**

The majority of current approaches to monetary integration theory do not provide a convincing research framework for the analysis of SSI. By integrating the concepts of original sin and balance sheet effects into economic monetary integration theory we first see that for southern economies the cost of giving up the exchange rate instrument is much lower than in the case of countries less tainted by original sin; and second, the

condition of business cycle correlation seems to have less importance as a precondition in this case (Devereux and Lane, 2002; Mongelli, 2002; Bénassy-Quéré and Coupet, 2005).

For a better understanding of the potential stabilisation gains entailed in SSI, we have to take into account systematically the monetary constraints of developing and emerging market economies, namely higher levels of original sin, indebtedness in foreign currency and net potential balance sheet effects. SSI always has to be analysed in comparison with other available monetary policy options to achieve stabilisation and sustainable development, i.e., the unilateral integration into a 'northern' key currency bloc ('dollarisation' or 'euroisation') or the unilateral defence of a domestic currency within a flexible exchange rate regime with its typical boom-and-bust cycles (Eichengreen, 1994).

From the perspective of original sin as the major constraint of this type of economies, north-south integration (NSI) offers developing and emerging market economies a 'best of all worlds': bilateral integration with the currency in which their debt is denominated turns their external debt into internal debt denominated in the countries' own currency, reducing both potential balance sheet effects and original sin to zero (Schelkle, 2006). The Eastern enlargement of the Euro area can be seen as the example of an NSI with the corresponding stabilisation gains for the new member states (DeGrauwe and Schnabl, 2005). These benefits of NSI, however, only materialise if the 'southern' economy's gains from the internalisation of its former external debt exceed the potential costs arising from external shocks that affect the NSI asymmetrically. Second, the formation of a bilateral NSI depends on the willingness of the 'northern' central bank to expand its lender of last resort function to the 'southern' economy. As a result, NSI is a policy option that is simply not available for the majority of developing and emerging market economies today.

Unilateral monetary integration, commonly labelled 'dollarisation' or 'euroisation', in common with NSI and SSI eliminates the need to defend the exchange rate unilaterally. This may be a significant advantage in the case of an economy that already shows a high degree of de facto dollarisation, since a process of currency substitution is usually resistant to reversals ('hysteresis'). But the key disadvantage of a policy of full dollarisation is that the economy loses its domestic lender of last resort function: all debts, including contracts denominated in domestic currency, are turned into debt denominated in the external anchor currency. In contrast with NSI, in the case of unilateral dollarisation or euroisation, the 'southern' economy's monetary policy becomes entirely dependent on the 'northern' country's policy decisions on which it has no particular influence. In this sense, it does not reduce, but rather increases, the problems related to original sin.

In this context, stabilised intra-regional exchange rates that avoid the economic costs of beggar-thy-neighbour policies by abandoning volatile exchange rates can be regarded as the major benefit of SSI arrangements that may endogenously enhance economic convergence, openness and industrial diversification of the integrating countries. The second potential stabilisation gain of SSI is the deepening of regional financial markets. By reducing the risks associated with foreign borrowing, deepened financial markets may provide a regional 'insurance' in the case of an asymmetric extra-regional shock through regionally diversified mutual portfolio holdings in regional currencies (Mongelli, 2002).

Moreover, the original sin concept shows that the size of an economy rather than domestic policy choices has significant influence on the ability of these economies to borrow abroad in their own currency. Following traditional portfolio theory, the influence

of economic size can be explained by economies of scale in the size of financial markets that influence the portfolio decisions of international investors. Thus the formation of a Southern monetary bloc may create a size effect with positive influence on the deepening of financial markets in developing and emerging market economies.

At the level of monetary integration the size effect is that of adding several economies into one, given that the enlarged financial market increases market capitalisation and liquidity. Yet the supposed threshold value at which the potential size effect of different levels of regional monetary south-south cooperation schemes may lead to lower original sin still remains to be tested empirically.

Already at the level of monetary cooperation, however, the stabilisation of intra-regional exchange rates may enhance financial market integration. In this case, financial deepening can be achieved first and foremost through a facilitated issuing of debt instruments in local currencies, particularly through the creation of an enlarged regional financial market that encompasses a number of regional currencies. Size effects play a crucial role in enhancing the efficiency of financial markets and in minimising a country's exposure to currency and maturity mismatches and the share of foreign currency denominated debt (Blommestein and Santiso, 2007; Panizza, 2006; see also Eichengreen et al., 2006; Goldstein and Turner, 2004; Burger and Warnock, 2004; Bossone and Lee, 2002).

From the basis of the empirical findings on original sin, we argue that SSI may in fact not lower international original sin. By creating economies of scale in 'southern' regional financial markets it may nevertheless spur intra-regional financial deepening alongside regional monetary cooperation and integration through stabilised intra-regional exchange rates or a regional currency area.

Existing SSIs, however, show that a deepening of regional financial markets, without either a regional anchor currency or a regional involvement of multilateral institutions that may each bear a regional lender of last resort function in the case of liquidity or balance of payments crisis, is not a likely scenario in the context of SSI. Hierarchies in terms of asymmetrically distributed levels of original sin and net external foreign currency debt among the integrating countries strongly enhance the potential benefits of regional monetary integration, especially for smaller participating countries. If economies less tainted by monetary constraints than their partner countries in the regional cooperation and integration arrangement establish a lead role in intra-regional financial market development, benefits of SSI increase for both the region as a whole and for the anchor economy – even if international original sin remains high, and the ability to borrow internationally in own currencies remains limited. The realisation of stabilisation gains, however, depends on the net benefits that the anchor economy can realise in the regional monetary integration arrangement, i.e., through enlarged financial markets in its own currency.

#### **4 Levels of regional monetary south-south integration**

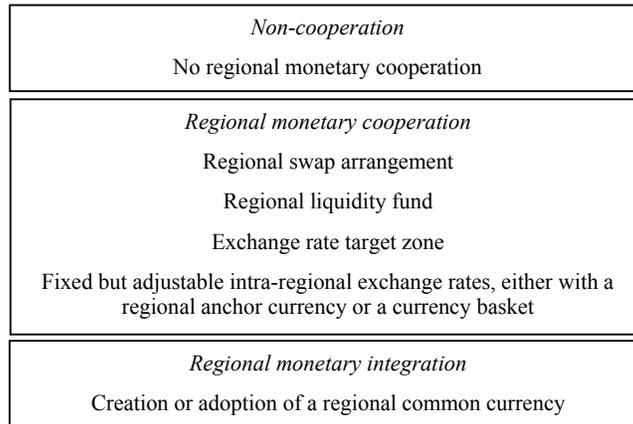
Traditional OCA theory focuses mainly on optimality criteria for regional monetary integration at the level of a regional currency area, leaving aside more shallow levels of monetary cooperation arrangements. For the analysis of existing SSI schemes, however, it is important to include these prior levels of monetary cooperation. For that purpose, we identify different levels of south-south regional monetary cooperation and integration

which might or might not result in deeper monetary integration. The different levels of regional monetary cooperation and integration are not regarded in a deterministic sense of sequencing but rather as arrangements in their own right.

Irrespective of the chosen extra-regional fixed or floating type of currency regime, each level of regional monetary cooperation may bring about a specific degree of stabilisation to the intra-regional exchange rates that influences the integration and deepening of regional financial markets. As an initial point of reference, the status of non-cooperation is added.

- Non-cooperation: is characterised by a lack of commitment and non-fulfilment of binding agreements by the respective neighbouring countries, most often resulting in beggar-thy-neighbour policies in the effect of an extra-regional shock.
- Monetary cooperation: is characterised by a closer monetary policy coordination which may appear either in the form of
  - a regional liquidity fund as a binding commitment for mutual provision of liquidity in the event of extra-regional shocks, either through intra-regional swap arrangements, credit lines, or intra-regional reserve pooling
  - intra-regional exchange rate band/target zones either weighted in a regional currency basket or at bilateral exchange rates
  - fixed but adjustable regional currencies at par rates or in a regional currency basket.
- Monetary integration: is characterised by either the creation of a single currency or the adoption of a regional currency.

**Figure 1** Forms of regional monetary south-south cooperation and integration



Source: Authors

The principal drawback of non-cooperation between national monetary policies within regional trade agreements (RTA) is the inability to prevent beggar-thy-neighbour policies among net external debtor countries that can be highly damaging for the whole regional integration process (IDB, 2002). Among countries with a net current account deficit and a net external debtor status in foreign currency, the regional rivalry for export earnings,

foreign direct investment (FDI) and other capital inflows may easily disrupt trade integration efforts in the case of external shocks, since these countries compete for foreign exchange earnings to achieve current account surpluses (Fritz and Metzger, 2006a). In this context, by aiming at harmonised intra-regional exchange rates, intra-regional monetary policy coordination generally provides enhanced prospects for intra-regional stability.

Accordingly, deepened levels of regional monetary cooperation, such as a liquidity fund or regionally fixed exchange rates, may reduce the probability of regional macroeconomic disturbances. Potential stability gains of different levels of regional monetary cooperation essentially depend on the extent to which enlarged regionally integrated financial markets can be developed within an SSI arrangement. The ability of the integrating countries to borrow regionally in domestic currencies has to be considered the major stepping-stone of SSI. This may be further enhanced either by the existence of a regional anchor currency; or, under certain circumstances, a regional multilateral financial institution may give fundamental incentives towards market creation.

A full monetary integration can create size effects in portfolio diversification of an enlarged regional currency area. With an increased size of stabilised currency area, the portfolio composition of regional investors and households may change in favour of the regional currency and thus mitigate exposure to currency and maturity mismatches in the balance sheets of the cooperating economies (Eichengreen and Hausmann, 2005; Panizza, 2006). Even in such cases of SSI, however, where the size effect is rather large for the smaller partners owing to integration together with a large emerging market economy, we consider the reduction of the degree of original sin as a long-term and rather difficult endeavour for regional monetary integration in the 'south'.

Taking into account the different potential stability gains rendered by different levels of SSI and different approaches to the realisation of scale effects in regional financial market development the following section sketches these features in three cases of SSI in Southern Africa, South East Asia and South America.

## **5 Evidence from empirical cases**

Empirical evidence of both established and intended regional monetary cooperation can be found in several regions of the world. We can identify at least nine different arrangements in different stages of projection and implementation (see Table 1)

In the following we will illustrate our arguments by a closer look at three regional cases:

- 1 the CMA or 'rand zone', as a region with different levels of original sin and debt structure, and with strongly hierarchical intra-regional relations
- 2 ASEAN as an integration process among countries with moderately distinct but higher levels of original sin and differing debt structures
- 3 the South American MERCOSUR as a case of a stagnating integration process among countries with similar levels of original sin and debt denominated in foreign currency.

**Table 1** Characteristics of south-south regional monetary cooperation

<i>Regional monetary integration arrangement</i>	<i>Point of Reference: EMS II (expanded Euro area)</i>	<i>Partly Commonwealt h of Independent States (CIS)</i>	<i>CARICOM Single Market and Economy (CSME)</i>	<i>Mercado Común del Cono Sur (MERCOSUR)</i>	<i>Western African Monetary Zone (WAMZ)</i>	<i>Fondo Latinoamericano de Reservas (FLAR)</i>	<i>Common Monetary Area of Southern Africa (CMA)</i>	<i>Association of South East Asian Nations (ASEAN)</i>	<i>Gulf Cooperation Council (GCC)</i>
<i>Integration category</i>	NSI	SSI	SSI	SSI	SSI	SSI	SSI	SSI	SSI
<i>No. of participating countries</i>	Estonia, Latvia, Lithuania, Poland, Czech Republic, Slovak Republic, Hungary, Slovenia, Malta, Cyprus (10)	Russia, Belarus, Ukraine and Kazakhstan (4)	Antigua and Barbuda, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Surinam, Trinidad and Tobago (13)	Brazil, Argentina, Paraguay, Uruguay, Venezuela (5)	Gambia, Ghana, Guinea, Nigeria, Sierra Leone (5)	Bolivia, Columbia, Costa Rica, Ecuador, Peru (5)	South Africa, Namibia, Lesotho, Swaziland (4)	Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam (10)	Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates (6)
<i>Level of monetary cooperation</i>	Exchange Rate Band (EMS II); Currency Union	none envisaged monetary union	none envisaged common currency	none envisaged common currency, "Monetary Institute of MERCOSUR"	Exchange Rate Band against the US Dollar envisaged monetary union	Liquidity Fund	Fixed but adjustable exchange rates	Liquidity Fund envisaged common ASEAN currency	Exchange Rate peg to US dollar envisaged Currency Union

Note: This list includes existing as much as projected integration schemes.

Source: Authors

### *5.1 SSI with a regional anchor currency: the case of CMA*

The CMA is the oldest and most sophisticated SSI with regard to the commitment of member countries to shared seignorage, fixed intra-regional exchange rates, a common foreign exchange pool, and a common capital control system (Metzger, 2006).

The CMA is characterised by a strong intra-regional economic hierarchy. Its leading partner, the economy of the Republic of South Africa, does not exhibit vulnerabilities to external shocks similar to the other member countries, Lesotho, Namibia and Swaziland. South Africa determines the reference values regarding inflation and intra-regional exchange rates for the CMA and – as the South African rand follows a managed floating – regarding extra-regional exchange rates as well. On the other hand, South Africa itself is a typical emerging market economy which has been hit by high exchange rate fluctuations. Original sin of South Africa is, however, strikingly low compared with other emerging markets in Asia and Latin America (Table 2). Approximately two-thirds of South Africa's total foreign debt is denominated in rand (South African Reserve Bank, 2006). In contrast, the other CMA member countries have only marginal access to international foreign markets, and limited capability to attract foreign investors.

In both Lesotho and Namibia, the South African rand serves as legal tender; Swaziland abolished the legal status of the rand in 1986, although de facto it is still widely used. Since intra-regional financial markets in the CMA region are liberalised with regard to market access within the partner countries, the CMA can be perceived as one regional financial market, with the South African banks as the major regional players (Wang et al., 2007).

In the case of CMA, the smaller partners within the regional monetary cooperation seem to gain significantly from the SSI through a low level of interest rates and increased macroeconomic stability, compared with other countries in Southern Africa outside the CMA region with similar economic characteristics.

### *5.2 SSI with multilateral institutional involvement: the case of ASEAN*

The ASEAN has become a prominent example for regional monetary cooperation among developing and emerging market economies in recent years. Since the Asian financial crisis at the end of the 1990s, ASEAN monetary and financial integration is supported by strong engagement with its neighbouring 'plus-three' partners, China, the Republic of Korea and Japan, with the goal of financial crisis prevention. A joint multilateral regional swap arrangement for members facing temporary liquidity or balance of payments problems was launched in 2001 ('Chiang Mai Initiative') and transferred into a multilateral liquidity fund of about US\$ 80 billion in 2005.

With strong support from the Asian Development Bank (ADB) and the Executives' Meeting of East Asia and Pacific (EMEAP), the development of regional financial markets through issuance of and investment in local currency denominated government bonds under the Asian Bond Market and Bond Fund Initiatives (ABMI and ABF) has become a major pillar of regional financial cooperation (ADB, 2007). These initiatives aim to mitigate the problem of currency and maturity mismatches in local balance sheets by developing regional bond markets (Eichengreen et al., 2006).<sup>3</sup>

The ASEAN countries, together with China, follow similar monetary strategies with an extra-regional orientation to the US dollar in their currency regimes and through the reduction of debt shares denominated in foreign currency. At present this is reflected in an intra-regional exchange rate harmonisation that could provide a valuable basis for enhanced regional monetary and financial integration (Branson and Healy, 2005).

The ASEAN economies differ substantially with regard to financial market development as well as access to international financial markets in domestic currencies; Singapore particularly stands out with a deeper financial market. The strongest ASEAN countries are currently developing debt structures that are very similar to those in advanced countries, with a growing share of long-term domestic currency denominated private and public issued debt; in addition, they are gradually turning from debtor to regional creditor countries (Jeanne and Guscina, 2006) (Table 2). In contrast, most of the smaller ASEAN economies have only limited access to international financial markets.

### *5.3 Regional monetary non-cooperation among 'southern' countries involving similarly high levels of original sin: the case of MERCOSUR*

In contrast with its ambitious goals, which include monetary coordination and even a common regional currency, the MERCOSUR currently represents no more than a half-way customs union, characterised by repeated episodes of beggar-thy-neighbour policies concerning trade-related conflicts owing to significant intra-regional real exchange rate shifts. Even if all member countries show symmetric reactions to external shocks, exchange rate reaction since the 1990s has often taken place with time delays because of differing monetary and exchange rate regimes (Fritz, 2006; Carvalho, 2006). Currently the member states follow different and uncoordinated strategies of free respective managed floating, resulting in high nominal and real intra-regional exchange rate volatility.

The MERCOSUR economies are characterised by similarly high degrees of liability dollarisation and original sin and a rather low degree of domestic financial development. Although Brazil, which dominates MERCOSUR with regard to economic weight, shows a lower foreign currency share of total debt (see Table 2), it has not been able in the past to exercise the role of a regional anchor currency. One reason for this is its domestic financial market structure which is marked by indexation of financial contracts, especially to the exchange rate in times of expected negative external shocks, and which makes the economy highly vulnerable to balance sheet effects (Fritz, 2006).

The deadlock of the MERCOSUR process is widely attributed to a lack of political and institutional commitment, as illustrated in the diverging positions on bilateral trade agreements with the USA. From the point of view of this study, however, the main problem consists of the similarly high levels of original sin, which make the expected first round stabilisation effects of monetary policy cooperation limited. In addition, regional monetary and financial integration would require sustained efforts to harmonise macroeconomic policies in the region in order to stabilise the intra-regional exchange rate. Table 2 summarises the discussed aspects of SSI in MERCOSUR, ASEAN and CMA.

**Table 2** Characteristics of CMA, ASEAN, and MERCOSUR

<i>Regional monetary cooperation project</i>	<i>CMA</i>	<i>ASEAN</i>	<i>MERCOSUR</i>
SSI level	Monetary cooperation	Monetary cooperation	Non-cooperation
Current level of monetary cooperation	Fixed but adjustable exchange rates	Liquidity Fund; envisaged common currency	None; envisaged common currency
Highest/Lowest level of regional original sin (2001)	South Africa 0.09 other countries n.a.	Malaysia 1.00 Singapore 0.70	Argentina 0.97 Brazil, Uruguay, Venezuela 1.00
Foreign currency share of total debt (2002, %)	South Africa 14.63, other countries n.a.	Indonesia 52.53, Malaysia 18.59, Philippines 35.15, Thailand 22.07, other countries n.a.	Argentina 87.71, Brazil 30.95, Uruguay, Paraguay n.a.
Share of the largest country in regional GDP (economic weight) (2004)	98% (South Africa)	32% (Indonesia )	78% (Brazil)

*Sources:* IMF's International Financial Statistics 2004 ([www.imf.org](http://www.imf.org)), South African Reserve Bank 2006, INTAL/IADB 2007, ASEAN secretariat ([www.aseansec.org](http://www.aseansec.org)). Data on original sin levels: \*(value between 0 and 1 - zero original sin is associated with the full ability of a country to borrow in its domestic currency whereas levels until 1 show a decreasing ability to borrow abroad in domestic currency): Eichengreen and Hausmann 2005, Hausmann and Panizza 2003, Mehl and Reynaud 2005; data on the foreign currency share of external debt: Goldstein and Turner 2004; n.a.: no data available.

## 6 Conclusions

The purpose of this paper was to verify the adequacy of traditional OCA theory when faced with the cases of regional monetary South-South cooperation and integration (SSI) that have sprung up since the 1990s.

The paper draws on recent reinterpretations of OCA theory that emphasise the endogeneity of integration criteria and thus open the perspective for a reversed sequencing of trade and monetary integration. This is highly relevant for cases of SSI where, owing to a number of reasons, rather low levels of intra-regional trade levels would not usually fulfil traditional OCA criteria. Nonetheless southern economies engage in arrangements of monetary cooperation and integration.

The research framework proposed in this paper for the analysis of SSI thus asks for the potential of intra-regional exchange rate stabilisation to serve as a tool subsequently to increase intra-regional trade. In addition, we asked for further potential stabilisation gains beyond traditional OCA criteria for successful monetary integration, where we identified regional financial market development as a major potential stabilisation gain in SSI.

The paper shows that an adequately adjusted research framework for 'southern' regional monetary integration has to take into consideration the specific macroeconomic

constraints of developing and emerging market economies. For the analysis of the major potential costs and benefits of SSI, these constraints can at best be described by the original sin hypothesis and balance sheet analysis, both resulting from a high share of unhedged foreign currency in most of these countries.

Based on the integration of the debates on original sin, on public debt management, and on financial market development, we sustain the hypothesis that the major benefit of SSI consists in the realisation of scale effects that may contribute to a deepening of regional financial markets and consequently to the reduction of potential balance sheet effects in national accounts. This hypothesis is grounded in the assumption that stabilised intra-regional exchange rates, once achieved, contribute to enhanced market size in the regional monetary cooperation area. Deepened levels of regional monetary cooperation, such as fixed intra-regional exchange rates, may reduce the probability of regional macroeconomic disturbances. Potential stability gains of different levels of regional monetary cooperation essentially depend on the extent to which enlarged regionally integrated financial markets can be developed within an SSI arrangement. The ability of the integrating countries to borrow regionally in domestic currencies has to be considered the major stepping-stone of SSI.

Our empirical observations suggest that, to achieve stable intra-regional exchange rates, either a fairly strong hierarchy within the regional monetary cooperation scheme is necessary, as in the case of Southern African rand area (CMA), or, as in the case of ASEAN, a common strategy of avoiding future potential balance sheet effects with multilateral institutional support in the development of financial markets through public bond issuance in regional currencies. Thus, while international access to debt instruments in domestic currency remains limited for SSI, the increasing regional market size of a SSI may contribute to regional financial deepening.

We hypothesise two possibilities of regional financial market development in SSI arrangements at the level of regional monetary cooperation. First is the regional financial market, particularly the market for local currency bonds, which may be driven by a regional anchor currency characterised by a lower level of original sin compared with other countries in the SSI, i.e. a structure of external debt that is characterised by a higher share of debt denominated in domestic currency and long-term financial contracts with fixed interest rates. This case can be observed in the CMA. The other possibility would be the formation of a regional financial market without the presence of a regional anchor currency, but involving strong institutional initiatives on the regional multilateral level, particularly for the issuance of local currency bonds and the establishment of regional financial market infrastructure.

Our framework suggests that if both intra-regional hierarchies in terms of original sin and debt structures and a common strategy of avoiding future potential balance sheet effects and the involvement of regional multilateral institutions are missing, the realisation of potential stabilisation gains of SSI seems a rather difficult endeavour, as the case of MERCOSUR shows.

Further to this, the suggested analytical framework shows that SSI need to be understood as a 2nd best monetary policy strategy compared to the 1st best option of NSI for net debtor economies tainted by original sin. The 2nd best option of SSI emerged not least owing to the present disorder of the international financial, monetary and partly also of the international trade system. SSI is a result of the lack of stability of the international financial and monetary system (Cohen, 1998). As such, on the one side SSI may be

considered to be stumbling blocs to the global financial and monetary integration efforts. SSI may shift the international financial and monetary system further away from endeavours to global monetary governance and cause further instabilities by boosting regional monetary bloc building rather than international integration. Yet, in the presence of the current disorder, original sin, balance sheet exposure and net debtor status force 'southern' countries to find available monetary policy strategies in order to mitigate the overall economic uncertainty they are exposed to. Thus, on the other side, SSI may equally be considered to be building blocs for greater international monetary stability since they may at least provide a basis for intra-regional financial and monetary stability.

Yet, the significance of such stabilisation gains in practice and its effects on the macroeconomic stability of the countries involved, require further research on financial market development in regional monetary integration schemes with a solid empirical base. The ongoing process of developing adequate data sets on debt denomination for a broad range of countries and sectors needs to be elaborated further. Taking these limitations into account, this paper makes the case for adjusting traditional OCA theory by elaborating criteria for a new research framework on regional monetary integration that adequately takes into account the need to address the specific monetary constraints inherent in south-south regional monetary integration.

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### References

- ADB (Asian Development Bank) (2007) *Asian Bond Monitor*, April, 2007.
- Aghion, P., Bacchetta, P. and Banerjee, A. (2004) 'A corporate balance-sheet approach to currency crises', *The Journal of Economic Theory*, No. 119, pp.6–30.
- Allen, M., Rosenberg, C.B., Keller, C., Setser, B. and Roubini, N. (2002) 'A balance sheet approach to financial crisis', *IMF Working Paper 02 and 210*, available at <http://www.imf.org/external/pubs/ft/wp/2002/wp02210.pdf> (01.10.07).
- Bénassy-Quéré, A. and Coupet, M. (2005) 'On the adequacy of monetary arrangements in Sub-Saharan Africa', *The World Economy*, Vol. 28, No. 3, pp.349–373.
- Berganza, J. and Herrero, A.G. (2004) 'What makes balance sheet effects detrimental for the country risk premium?', *Working Paper*, available at <http://129.3.20.41/eps/if/papers/0408/0408002.pdf> (01.10.07).
- Bird, G. and Rajan, R.S. (2006) 'The political economy of sequencing: monetary versus trade regionalism', *The North American Journal of Economics and Finance*, Vol. 17, No. 3, pp.335–341.
- Blommestein, H.J. and Santiso, J. (2007) 'New strategies for emerging domestic sovereign bond markets in the global financial landscape', *The Global Economy Journal*, Vol. 7, No. 2.
- Bossone, B. and Lee, J-K. (2002) 'In finance, size matters', *IMF Working Paper*, Vol. 02 and 113, International Monetary Fund 2002.
- Branson, W.H. and Healy, C.N. (2005) 'Monetary and exchange rate policy coordination in ASEAN+1', *NBER Working Paper 11713*, available at [www.nber.org/papers/w11713](http://www.nber.org/papers/w11713) (01.10.07).

- Burger, J.D. and Warnock, F.E. (2004) 'Foreign participation in local-currency bond markets', *International Finance Discussion Papers No. 794*, Board of Governors of the Federal Reserve System, available at <http://www.federalreserve.gov/pubs/ifdp/2004/794/default.htm> (01.10.07).
- Calvo, G.A. and Reinhart, C.M. (2002) 'Fear of floating', *The Quarterly Journal of Economics*, Vol. 117, No. 2, pp.379–408.
- Carvalho, F.C. (2006) 'Perspectives for a monetary union between Argentina and Brazil', in Fritz, B. and Metzger M. (eds.): *New Issues in Regional Monetary Coordination*, pp. 98–115.
- Choi, G. (2005) 'A roadmap for the Asian exchange rate mechanism: a common currency approach', Paper prepared for presentation at the international seminar of the Forum on East Asian Monetary Cooperation, on August 18th, Seoul, Korea.
- Chue, T.K. and Cook, D. (2004) 'Emerging market exchange-rate exposure', *Working Paper*, available at <http://home.ust.hk/~davcook/exposure28trytry.pdf> (01.10.07).
- Cohen, J.B. (1998) *The Geography of Money*, Cornell University Press, London.
- Collignon, S. (1997) 'Bloc-floating and exchange rate volatility: the causes and consequences of currency blocs', *Association for the Monetary Union of Europe Working Paper No. 23*, Paris.
- DeGrauwe, P. (2004) *Economics of Monetary Union*, Oxford University Press, Oxford.
- DeGrauwe, P. and Mongelli, F.P. (2005) 'Endogeneities of optimum currency areas – what brings countries sharing a regional currency together?', *European Central Bank (ECB) Working Paper Series No. 468*.
- DeGrauwe, P. and Schnabl, G. (2005) 'Exchange rate stability, inflation and growth in (South) Eastern and Central Europe', *Working Paper*, available at [http://www.euroframe.org/fileadmin/user\\_upload/euroframe/docs/2006/session5/eurof06\\_schnabl.pdf](http://www.euroframe.org/fileadmin/user_upload/euroframe/docs/2006/session5/eurof06_schnabl.pdf) (01.10.07).
- Demirgüç-Kunt, A., Levine, R. (2001) 'Bank-based and market-based financial systems: cross-country comparisons', in Demirgüç-Kunt, A. and Levine, R. (eds.): *Financial Structure and Economic Growth: A Cross-Country comparison of Banks, Markets, and Developments*, pp.81–140, MA: MIT Press, Cambridge.
- Devereux, M.B. and Lane, P.R. (2002) 'Understanding bilateral exchange rate volatility', *CEPR Discussion Papers*, pp. 3518.
- Eichengreen, B. (1994) *International Monetary Arrangements for the 21st Century*, The Brookings Institution, Washington, D.C.
- Eichengreen, B. (1998) 'Does Mercosur need a single currency?', *Paper C98-103*, Center for International and Development Economics Research, available at <http://repositories.cdlib.org/cgi/viewcontent.cgi?article=1018&context=iber/cider> (01.10.07).
- Eichengreen, B. (2006) 'Insurance underwriter or financial development fund: what role for reserve pooling in Latin America?', *NBER Working Paper 12451*.
- Eichengreen, B., Borensztein, E. and Panizza, U. (2006) 'A tale of two markets: bond market development in East Asia and Latin America', Paper prepared for the Seoul National University Conference on China and the World Economy, 7–8 May 2006, Seoul.
- Eichengreen, B. and Hausmann, R., eds. (2005) *Other People's Money – Debt Denomination and Financial Instability in Emerging Market Economies*, University of Chicago Press, Chicago.
- Fernández-Arias, E., Stein, E. and Panizza, U. (2002) 'Trade agreements, exchange rate disagreements', *IADB Background Paper*, available at <http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=801427> (01.10.07).
- Frankel, J.A. and Rose, A.K. (1997) 'Is EMU more justifiable ex post than ex ante?', *The European Economic Review*, Vol. 41, No. 3–5, pp.753–760.
- Fritz, B. (2006) 'So far from God and so close to the US dollar: contrasting approaches of monetary coordination in Latin America', in, Fritz, B. and Metzger, M. (eds.): *New Issues in Regional Monetary Coordination*, pp.126–146.
- Fritz, B. and Metzger, M. (eds., 2006) *New Issues in Regional Monetary Coordination*, Palgrave, London and New York.

- Fritz, B. and Metzger, M. (2006a) 'Monetary coordination involving developing countries: the need for a new conceptual framework', in Fritz, B. and Metzger M. (eds.): *New Issues in Regional Monetary Coordination*, pp.3–25.
- Giambiagi, F. (1999) *Mercosur: Why Does Monetary Union Make Sense in the Long Run?*, Ensaios BNDES, Rio de Janeiro.
- Goldstein, M. and Turner, P. (2004) 'Controlling currency mismatches in emerging markets', *Institute for International Economics*, Washington D.C.
- Hausmann, R. and Panizza, U. (2003) 'On the determinants of original sin: an empirical investigation', *The Journal of International Money and Finance*, Vol. 22, No. 7, pp.957–990.
- INTAL and IADB [Institute for the Integration of Latin America and the Caribbean, Interamerican Development Bank] (2007) *Mercosur Report No. 11, 2005–2006*, available at [http://www.iadb.org/intal/aplicaciones/uploads/publicaciones/i-MERCOSUR\\_Report\\_11.pdf](http://www.iadb.org/intal/aplicaciones/uploads/publicaciones/i-MERCOSUR_Report_11.pdf).
- IDB [Inter-American Development Bank] (2002) 'Beyond borders: the regionalism in Latin America', *Economic and Social Progress in Latin America, 2002 Report*.
- IDB [Inter-American Development Bank] (2006) *Living with Debt: How to Limit the Risk of Sovereign Finance*, Harvard University Press, Cambridge.
- IMF [International Monetary Fund] (2003) 'The balance sheet approach and its applications at the fund', prepared by the *Policy Development and Review Department*.
- Jeanne, O. and Guscina, A. (2006) 'Government debt in emerging market countries: a new data set', *IMF Working Paper WP*, Vol. 06, pp.98.
- Kenen, P.B. (1969) 'The theory of optimum currency areas: an eclectic view', in Mundell, R. and Swoboda, A. (eds): *Monetary Problems of the International Economy*. University of Chicago Press, Chicago.
- McKinnon, R. (1963) 'Optimum currency areas', *The American Economic Review*, Vol. 53, pp.717–725.
- McKinnon, R. (2005) 'Exchange rates under the East Asian dollar standard – living with conflicted virtue', *MIT Press*, London et al.
- McKinnon, R. and Schnabl, G. (2004) 'The return to soft dollar pegging in East Asia: mitigating conflicted virtue', *International Finance*, Vol. 7, No. 2, pp.169–201.
- Masson, P.R. and Pattillo, C.A. (2004) *The Monetary Geography of Africa*, Brookings, Washington D.C.
- Mehl, A. and Reynaud, J. (2005) 'The determinants of 'domestic' original sin in emerging market economies', *European Central Bank Working Paper Series No. 560*.
- Metzger, M. (2006) 'The common monetary area in Southern Africa: a typical south-south coordination project?', in Fritz, B. and Metzger, M. (eds.): *New Issues in Regional Monetary Coordination*, pp.147–164.
- Mongelli, F-P. (2002) 'New' views on the optimum currency area theory: what is EMU telling us?', *European Central Bank Working Paper No. 138*.
- Mundell, R. (1961) 'A theory of optimum currency areas', *The American Economic Review*, No. 51, pp.657–665.
- Mussa, M., Masson, P.R., Swoboda, A.K., Jadresic, E., Mauro, P. and Berg, A. (2000) 'Exchange rate regimes in an increasingly integrated world economy', *IMF Occasional Paper No. 193*, IMF, Washington D.C.
- Panizza, U. (2006) 'Original sin' and monetary cooperation', in Fritz, B. and Metzger, M. (eds.): *New Issues in Regional Monetary Coordination*, pp.26–35.
- Park, Y.C. (2004) *Regional Financial Integration in East Asia: Challenges and Prospects*, Paper prepared for presentation at a Conference on Regional Financial Arrangements, United Nations, New York, July 14–15, 2004, available at <http://www.un.org/esa/ffd/Independent%20Events/Regional%20Financial%20Arrangements/0704-RFA-YCPark-prospects-paper.pdf> (01.10.07).

- Rose, A.K. and Stanley, T.D. (2005) 'A meta-analysis of the effect of common currencies on international trade', *NBER Working Paper*, pp.10373.
- Schelkle, W. (2006) 'Comment on 'original sin' and monetary cooperation', in Fritz, B. and Metzger, M. (eds.), *New Issues in Regional Monetary Coordination*, pp.36–41.
- South African Reserve Bank (2006) *Quarterly Bulletin*, Nr. 240 (June).
- Souza, L.V. de and de Lombaerde, P. (2006) *The Periphery of the Euro. Monetary and Exchange Rate Policy in CIS Countries*, Ashgate, Hampshire.
- Sturm, M. and Siegfried, N. (2005) 'Regional monetary integration in the member states of the Gulf Cooperation Council', *European Central Bank Occasional Paper Series No. 31*.
- Wang, J.-Y., Masha, I., Shirono, K. and Leighton, H. (2007) 'The common monetary area in Southern Africa: shocks, adjustment and policy changes', *IMF Working Paper No. WP/07/158*.
- Worrell, D. (2003): 'A currency union for the Caribbean', *IMF Working Paper WP/03/35*.
- Wyplosz, C. (2003) 'Regional exchange rate arrangements: lessons from Europe for East Asia', in ADB (ed.): *Study on Monetary and Financial Cooperation in East Asia*, available at <http://www.mof.go.jp/jouhou/kokkin/tyousa/tyou056.pdf> (01.10.07).

## Notes

- 1 See, for example, on ASEAN McKinnon and Schnabl (2004), Park (2004), on CMA Metzger (2006), on the GCC Sturm and Siegfried (2005), on FLAR Eichengreen (2006), on MERCOSUR Fritz (2006), on the CIS region Souza and De Lombaerde (2006), on CSME Worrell (2003), and on the WAMZ, Bénassy-Quéré and Coupet (2005).
- 2 The research is either conducted by reference to the European experience (Mongelli 2002; Wyplosz 2003), including the new EU members in Eastern Europe (e.g. DeGrauwe and Schnabl, 2005), or by individually designed regional case studies; for example, extensive research is now elaborating on the trade and monetary integration process in East Asia (e.g. McKinnon, 2005, Choi, 2005) and, to a lesser extent, on each of the regional integration arrangements in South America (e.g. Eichengreen, 1998, Giambiagi, 1999, Fritz, 2006) and South Africa (e.g. Masson and Pattillo 2004, Metzger, 2006).
- 3 While the 'Northern' neighbour Japan is involved in EMEAP, the bond market initiatives target the engagement with and of the strongest ASEAN countries Indonesia, Malaysia, Philippines, Thailand and Singapore together with China. The influence of Japan as a 'Northern' partner country in ASEAN+3 is twofold: on the one hand, the regional monetary cooperation dynamics in ASEAN is enhanced by its stabilising potential. On the other hand, the unresolved regional anchor currency dilemma between China as a 'Southern' emerging market and Japan as a 'Northern' industrialised economy seems to have a partly paralysing influence.