The Monetary Geography of Africa
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The Monetary Geography of Africa
Preface

This book describes the use of moneys in Africa, currently and in the recent past, and attempts to draw conclusions concerning the evolution of exchange rate regimes in the future. Before getting into the substance, two questions need to be answered: what is the meaning of "monetary geography," and why is it an interesting topic for Africa? We have adapted the term "monetary geography" from the title of a book by Benjamin Cohen, *The Geography of Money*[1]. In that book, Cohen argues forcefully that money has become "deterritorialized," that is, the circulation of a particular money is no longer coterminous with the country of issue. A prime case in point is the creation of the euro, which is not associated with a single country but rather with a supranational central bank. In addition, foreign currencies circulate widely in many developing countries, because of uncertainty about the ability of the domestic currency to maintain its value. Thus, in this book, we are concerned with the use of money, whether within the issuing country's borders or outside of them. We are especially interested in the potential spread of regional currency areas. In keeping with the geographical notion, we will rely on maps to convey some of the key data not only on the use of moneys but also on the economic variables that influence their use and determine their value.

This brings us to the second question: why is that an interesting topic in Africa today? In fact, Africa is arguably a more useful laboratory than is Europe for studying the use of money. It contains two monetary unions characterized by joint decision-making among sovereign states that have existed for some 40 years, the two CFA franc zones, and a monetary area between South Africa and smaller neighboring countries, in which South Africa sets monetary policy, that dates back to the early years of the 20th century. This justifies a more thorough look at the African experience than has been attempted thus far, in notable contrast to the European case, which has received enormous attention. Moreover, the African continent has several projects for further monetary unions that are intended to culminate in a single African currency. So there is a great need for analysis of the advisability of the monetary union projects and for research into how best to proceed. We hope that this book goes some way towards meeting those needs.

[1] Cohen (1998).

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List of Abbreviations and Acronyms

AEC- African Economic Community, created by the 1991 Abuja Treaty

AMU- Arab Maghreb Union, a regional group that includes Algeria, Libya, Mauritania, Morocco, and Tunisia.

APRM- African Peer Review Mechanism: an instrument of the NEPAD that will review countries' performance in the area of governance and exert peer pressure to improve it.

AU- African Union, a pan-African organization whose Constitutive Act entered into force in 2001; it aims to bring about economic and political integration.

BCEAO- Banque Centrale des états de l'Afrique de l'ouest: the central bank of WAEMU

BEAC- Banque des états de l'Afrique Centrale: the central bank of CAEMC

CFA franc zone - a common currency area that uses the CFA franc which is pegged to the euro with the assistance of the French Treasury. Its African members are comprised of two groups of countries (plus the Comoros), WAEMU and CAEMC, each with its own central bank and its own currency. In French, franc CFA stands for franc de la Communauté Financière d'Afrique for WAEMU and franc de la Coopération Financière en Afrique Centrale for CAEMC.

CMA- Common Monetary Area, is comprised of South Africa, Lesotho, Namibia, and Swaziland.

CAEMC- (CEMAC in Frenc) Central African Economic and Monetary Community, comprised of Cameroon, the Central African Republic, Chad, Republic of the Congo, Equatorial Guinea, and Gabon. They use the CFA franc issued by the region's central bank, the BEAC.

COMESA- Common Market for Eastern and Southern Africa, extending from Egypt in the north to Namibia in the south.

EMS- European Monetary System, a transitional regime leading to EMU.

EMU- European Economic and Monetary Union, the common currency area based on the euro.

EU- European Union, a grouping of at present 15 countries, 12 of which belong to EMU.

ECCAS- Economic Community of Central African States, an embryonic grouping of CAEMC countries and their neighbors in central Africa.

ECOWAS- Economic Community of West African States, founded in 1975, and which is comprised of WAEMU and WAMZ countries.

IMF- International Monetary Fund

MMA- Multilateral Monetary Agreement: the 1992 agreement that governs the CMA.

NEPAD- New Partnership for African Development; a 1999 initiative of Presidents Mbeki, Wade, Bouteflika, and Obasanjo to encourage African countries to work together in order to improve governance and further development.

NOFP- Net Open Forward Position

OAU- Organization of African Unity, the predecessor (with the AEC) to the AU.

OECD- Organization for Economic Co-Operation and Development, grouping the developed countries.

OHADA- Organisation pour l'harmonisation du Droit des Affaires en Afrique/Organization for the Harmonization of Business Law in Africa; Agreement on common business law involving mainly francophone African countries.

OCA- Optimum currency area

REC- Regional Economic Community, considered building blocks of the African Union. The principal RECs are AMU, COMESA, ECCAS, ECOWAS, and SADC.

SACU- South African Customs Union; Includes Botswana, Lesotho, Namibia, South Africa, and Swaziland

SADC- Southern African Development Community, whose goals are to foster successful economic, and social development among members states (Angola, Botswana, Democratic Republic of the Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe).

SARB- South African Reserve Bank; the central bank of South Africa, which issues the rand.

SSA- Sub-Saharan Africa

WAEMU-(UEMOA in French**)** West African Economic and Monetary Union; whose members (Benin, Burkina Faso, Cote d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo) use the CFA franc issued by their central bank, the BCEAO.

WAMI- West African Monetary Institute, located in Accra, is the precursor to the central bank for the WAMZ.

WAMZ- West African Monetary Zone, which aims to create a common central bank with a single currency by July, 2005. Its members include The Gambia, Ghana, Guinea, Liberia, Nigeria, and Sierra Leone.

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Chapter I. Introduction

Africa at the beginning of the 21st century is at an important juncture in its history. It is now roughly 50 years since the beginning of decolonization,[1] and there is a widespread consensus that Africans need to take greater responsibility for their destiny. The African continent has suffered from abysmal economic performance in recent decades, as the early hopes for rapid development have faded. The continent has largely failed to benefit from the large increase in prosperity that has accompanied the expansion of trade and other aspects of globalization in the rest of the world. Instead, African countries have become increasingly marginalized, with their share of world exports falling from already low levels, 4 percent in 1980 to 1.6 percent in 2000. Per capita incomes have almost everywhere declined relative to world averages, and have even fallen in absolute terms in a number of countries. While the causes of this poor performance are many and diverse, they include inappropriate development strategies dependent on inward-looking policies meant to capture rents rather than foster growth, obstacles to trade (especially in agricultural products) imposed by OECD countries, undemocratic politics that have produced kleptocratic leaders, and the persistence of tribal and ethnic conflicts leading to civil strife and wars with neighboring countries.

Starting in the mid-1980s, some countries liberalized payments and trade regimes in an attempt to stimulate growth, but despite a few success stories there has not been a generalized takeoff towards rapid growth or expansion of trade. A recognition of the need to carry out further structural changes and to take responsibility in Africa for the success or failure of economic policies has led to a consensus in favor of formulating outward-looking and efficiency-enhancing policies, making leaders accountable for their shortcomings, and favoring regional cooperation. The formation of the African Union, and its implementation plan, the New Partnership for African Development, or NEPAD, are manifestations of this determination. They were unveiled at a summit of African leaders in Lusaka in 2000 and adopted at the Durban summit in July, 2001.

Another manifestation has been the renewed impetus given to subregional integration initiatives, and in particular projects to create monetary unions. Monetary unions, that is, groupings of countries sharing a common currency and central bank, are a particular type of monetary integration linking countries whose popularity has been dramatically increased by the creation of the euro zone in January 1999. Three years later, in January, 2002 euro notes and coin were introduced to replace the deutsche mark, the French franc, the Italian lira, and the other currencies of the (at present) 12 member countries. Box I.1 explains some of the forms that monetary integration can take.

[1] In Sub-Saharan Africa, Ghana in 1957 was the first country to become independent after World War II; a number of other countries achieved independence in the following few years.

Box I.1

Box on Types of Monetary Integration

The study by the European Commission preparing Economic and Monetary Union and a subsequent article by Cobham and Robson,[1] distinguish between three types of monetary integration. Each of them would involve current and capital account convertibility, but they are distinguished by whether there are separate currencies (and central banks) and, if so, whether their parities are perfectly fixed.

- An **informal exchange rate union** consists of separate currencies whose parities are fixed, but only within margins (and central parities can be adjusted). The European Monetary System's exchange rate mechanism after August 1993 (ERM) is an example.
- A **formal exchange rate union** has separate currencies but rates fluctuating within narrow or zero margins, and a strong degree of coordination among the central banks. In Africa, the Common Monetary Area is an example, since the currencies of Lesotho, Namibia, and Swaziland are linked one for one with the South African rand.
- A **full monetary union** involves a single currency and central bank. The euro zone and both of the CFA franc zones would be examples of full monetary union.

We would add two other types of monetary integration[2], namely:

- **Adoption of another country's currency** (often called **dollarization** or, by extension, **euroization**). In this case, there is only a single currency but not monetary union, since the country issuing the currency does not take into account the goals of the dollarizing country. Examples of dollarized countries are Panama, El Salvador, and Ecuador. There are several examples in Africa of countries using other countries' currencies temporarily, before issuing their own (for instance, Botswana upon independence used the rand, but in 1976 issued its own currency, the pula, and Eritrea used the Ethiopian birr for a period after independence).
- A **currency board**, in which a country pegs to another currency with zero margins, and the link between the two currencies is institutionalized through a mechanism that limits the money supply in the currency board country to the quantity of reserves held in the other currency. Countries operating currency boards include Bulgaria, Estonia, and Djibouti.

Within these five types of arrangements, it is interesting to distinguish those in which decisions on monetary policy (or coordination of exchange rate policies) are **symmetric** (i.e. reflect the interests of all countries) from those that are **asymmetric.** By their very nature, dollarization and currency boards are asymmetric--countries adopt or peg to another currency unilaterally: there is no shared responsibility for monetary policy. But the first three arrangements can differ in their degree of asymmetry. The ERM was designed to be symmetric (with a parity grid defined around a basket currency, the ECU), but in practice, given the superior credibility of the Bundesbank and the strength of the German economy, operated to an extent asymmetrically. Full monetary union is likely to be symmetric, since the creation of a single supranational central bank is likely to involve institutions that represent all countries, but this is not necessarily the case, nor true of formal exchange rate unions. In particular, in the CMA, South Africa, given the size of its economy, effectively sets monetary policy for the zone; the other countries peg their currencies to the rand. In discussing projects for monetary integration within SADC (Chapter VII), we give considerable attention to the issue of whether an exchange rate or monetary union would be symmetric or asymmetric.

[1] Emerson et al., (1991) and Cobham and Robson (1994)
[2] See Hawkins and Masson (2003)

There are a number of regional monetary integration initiatives presently being considered in Africa. In West Africa, ECOWAS[2] since its formation has had the objective of constructing a free trade area and single currency union. The absence of any progress on the latter led a subset of ECOWAS countries to propose a second monetary zone—in addition to the existing CFA franc zone in West Africa, WAEMU--as a fast-track to the creation of the unified West African monetary zone. The timetable, which has been set back by a few years, now calls for the creation of this second monetary zone, or WAMZ (West African Monetary Zone) by July, 2005, to include the Gambia, Ghana, Guinea, Nigeria, and Sierra Leone. Such a monetary union would overlap closely with an earlier colonial grouping, the West African Currency Board. It would be subsequently merged with WAEMU to achieve the goal of a single West African currency.

In East Africa, Kenya, Tanzania, and Uganda have agreed to revitalize the East African Community, which was effectively dissolved in the 1960s. The project envisions a single currency, in effect reestablishing the currency union constituted around the East African shilling that was in place at the time of independence.

Southern Africa has been exploring regional integration in the context of the Southern African Development Community, to build on the long-standing but more restricted South African Customs Union and the Common Monetary Area. Though the focus of SADC is on trade and structural policies, some consideration is also being given to expanding the Common Monetary Area centered on the rand, which now includes Lesotho, Namibia, and Swaziland, to include other SADC countries. An expanded monetary zone could involve shared monetary policy responsibility by South Africa's Reserve Bank with neighboring central banks.

A feature of regional cooperation in Africa is the existence of overlapping regional integration initiatives. For instance, the Common Market for Eastern and Southern Africa (COMESA) includes most of the countries of SADC but also Egypt, Sudan, and East African countries, and it has a different timetable for trade liberalization. The CFA franc zones overlap partially with ECOWAS, as only one of the two CFA zones, WAEMU, is part of West Africa. Both WAEMU and ECOWAS have criteria for regional surveillance, but not identical ones, and dismantling of trade restrictions has proceeded differently in the two organizations. Overlapping initiatives with sometimes conflicting provisions may prove to be an obstacle to achieving the objectives of each; at the very least, they squander resources of expertise and money which are in short supply in Africa.

It is useful first to review the history of monetary arrangements in Africa to understand how exchange rate regimes evolved into their current constellation. Chapter II provides a brief history, showing that in the early postcolonial period the non-French-speaking colonies largely abandoned their colonial monetary arrangements, which were typically currency boards linked to the pound sterling, Belgian franc, Spanish peseta, or Portuguese escudo, in favor of the creation of a national central bank and a looser exchange rate arrangement such as an adjustable peg or

[2] See table following Preface for a list of abbreviations used in the book and the membership of regional organizations.

managed floating. In contrast, the francophone countries largely retained their institutional structures, which linked them to their neighbors in a multilateral framework as well as to France. The reasons for the difference in postcolonial experience seem to be essentially two: i) the British, Belgian, Spanish, and Portuguese monetary arrangements were bilateral links with the home country, and did not have sufficient institutional structure to survive independence; and ii) the French made efforts to adapt the CFA franc zone in order to preserve it, while the other colonial powers did not resist the dissolution of the colonial currency boards. A third set of countries are those in Southern Africa. Lesotho, Swaziland, and Namibia upon independence continued their strong link with the rand, the currency of the continent's largest economy, South Africa, while another country in the region, Botswana, abandoned the monetary union and pegs the pula to a basket of currencies (in which the rand is given a large weight, however).

The advantages and disadvantages of monetary integration are considered in Chapter III from the perspective of the traditional criteria for a monetary union, as well as from the point of view of providing discipline over fiscal policies. The advantages of a common currency (for a region or for the continent as a whole) depend on the savings of transactions costs, and these savings depend on the extent of trade among countries. Unfortunately, data for most African regions do not hold out much promise that savings of transactions costs will be large: trade within regional groupings (or even with all of Africa) is typically quite low. A new currency will be more attractive if it exhibits more stability (i.e., maintains its purchasing power better) than the currencies it replaces, and this might be the case if monetary union provides an institutional framework for achieving more discipline over fiscal policies, and a sustainable regime that insulates the (regional) central bank from pressures to provide monetary financing. On the other side of the ledger, as stressed by the "optimum currency area" (OCA) literature pioneered by recent Nobel prize winner Robert Mundell, having a common monetary policy is likely to be more constraining, the more dissimilar the countries are, in that their economies face shocks of a quite different nature (because they export different commodities, for example). Greater labor mobility or compensating flows of capital, achieved in a federation through a system of taxes and transfers, can mitigate the effects of asymmetric shocks. Labor mobility between some countries has been quite high, for instance to South Africa from neighboring countries . In others, there are periods of high mobility but when the economic or political situation changes, migrants are expelled, as has occurred in several countries in both West and East Africa. As for fiscal flows, shortage of financial resources means that they are likely to be severely limited.

We argue in this Chapter that an important source of asymmetry among countries relates to the degree of fiscal discipline. This is likely to be especially important in the African context, since in practice a central bank's independence cannot be guaranteed—even if it is a supranational institution associated with a regional monetary union. As a result, more disciplined countries will not want to form a monetary union with countries (especially if they are large) whose excessive spending puts upward pressure on the central bank's monetary expansion. We sketch out a simple model embodying this feature (as well as the traditional OCA criteria) and calibrate it to African data. It will serve in later chapters to evaluate the costs and benefits of various monetary union proposals.

The experience of the currency union countries in Africa, those that are members of the CFA and CMA zones, has been different from that of countries managing independent

currencies. As shown in Chapter IV, the CFA franc zone countries experienced significantly lower inflation than the rest of sub-Saharan Africa, though no better growth performance. And they suffered a period of exchange rate overvaluation and economic crisis in the late 1980s and early 1990s that culminated in a large devaluation in 1994 (cutting in half the value of the currency relative to the French franc). The crisis was due in part to the weakness of commodity prices, the strength of the French franc, and over-expansionary fiscal policies in the zone. In recognition of the latter problem, member countries have attempted to put in place a process of regional surveillance over national fiscal policies in order to provide fiscal discipline. Each of the two CFA franc zones has also made progress in creating an effective customs union with a common external tariff. It must be recognized, however, that even these two sets of countries differ considerably: regional surveillance, trade, and cooperation are more advanced in WAEMU than in CAEMC. The CMA countries have also generally benefited from low inflation, thanks to the monetary anchor provided by South Africa's Reserve Bank, and trade linkages are very strong between South Africa and the smaller CMA countries. However this zone, unlike the CFA, has not been accompanied by regional surveillance over fiscal policies, due probably to the great asymmetry in size which has not favored the establishment of multilateral institutions.

In most of Sub-Saharan Africa (with the exception of Southern Africa), independent currency regimes have been associated with higher inflation and periodic devaluations. This experience is discussed in Chapter V. Initially, the official pegs were maintained with exchange controls accompanied typically by inefficiencies and corruption, and parallel exchange markets developed. Under pressure from the Bretton Woods institutions, these countries moved toward liberalizing their payments regimes starting in the mid-1980s to enable current account convertibility and the elimination of parallel markets. In many of these countries, the current exchange rate regime is some form of managed floating.

Lessons from both experience and theory are then applied to the proposals for regional monetary unions in Chapters VI-VIII. We first consider (in Chapter VI) ECOWAS, which as noted above has a project to create a second monetary zone of mainly Anglophone countries in West Africa—those not members of WAEMU—by mid-2005. This region however faces a major problem because Nigeria has both asymmetric terms of trade shocks—it is a large oil exporter while its potential partners are oil importers—and also has large fiscal imbalances that would not bode well for the effective independence or monetary discipline of a regional central bank. Any sustainable monetary union among these countries would have to be accompanied by reinforced fiscal discipline through effective regional surveillance and controls. We go on to consider another possible way towards greater monetary integration in West Africa, namely through the expansion of the CFA franc zone. We find that indeed a few candidates would both gain, and also produce gains for existing WAEMU members, but that WAEMU would lose from admitting some of the other ECOWAS countries.

In Chapter VII, we examine the concept of a monetary union among the SADC countries of Southern Africa. Again, a full monetary union seems infeasible at this stage, since a number of countries suffer from the effects of civil conflicts and drought, and are far from having converged with the macroeconomic stability of South Africa and her CMA partners. More likely, any progress in achieving a monetary union would involve a limited expansion of the CMA, and it would likely involve a monetary policy set by South Africa (as in the existing

CMA) rather than involve the delegation by that country of monetary policy to a new and untried supranational institution.

Chapter VIII considers the plan by Kenya, Tanzania, and Uganda to revive the monetary union that formed part of the East African Community. Such a limited monetary union, though unlikely to produce enormous economic gains, does seem to be generally compatible with other initiatives that could contribute to greater regional solidarity. However, economic gains would likely favor Kenya, which, unlike the other two countries, has substantial exports to its neighbors, and the main issues would be whether the political will exists now to push regional integration ahead, and whether it would continue to exist in the future. We also discuss in this chapter a wider project that includes all but Tanzania among these countries, namely a project of a monetary union among countries in eastern and southern Africa (COMESA) countries. This regional grouping also partly overlaps with SADC—exhibiting the overlapping regional commitments that prevail in Africa and that often lead to inaction and contention. As is the case for SADC, differences in macroeconomic stability, fiscal discipline, and financial development among COMESA countries are great, making it unlikely that such a project is achievable as currently envisioned. Moreover, South Africa is not a member, and so that COMESA would not benefit from the track record of monetary stability of South Africa's Reserve Bank.

Does that mean that the goal of a single African currency—the subject of Chapter IX--is beyond reach?[3] Probably, and in any case the idea that currencies should span a continent does not make a lot of sense. At present, the only regional currency with a global role is the euro. Creating a single African currency would not likely give it such a role, and the single African monetary policy (whatever it was) would impose considerable costs on very dissimilar economies. If exchange rate stability is the primary objective, then it could be achieved at a much lower cost through a unilateral peg to the dollar, the euro, or a combination of the two—depending on a country's pattern of trade and financial relations. If the objective of a single currency is primarily to demonstrate continental solidarity, we think that since the economic costs would be substantial, a better way should be found to demonstrate that solidarity—for instance through agreement to dismantle barriers to the movement of goods, people, and capital throughout the region. Of course, regional integration would be abetted by succeeding with the NEPAD initiative: by reducing conflicts, improving governance, eliminating corruption and fiscal excesses, and promoting the rule of law, African countries would become much more attractive partners in regional cooperation.

We go on to speculate in Chapter X on the evolution of exchange rate regimes in Africa in the short run to medium run, in the light of developments in the rest of the world. We believe that economic realities suggest that grand new projects for monetary unions are unlikely to be successful, though it is possible that expansion of existing monetary unions may take place, building on the considerable experience and credibility of the CFA franc zone and the CMA. However, enlargement of the CFA franc zone poses institutional problems: indeed, in accordance with European Council decision of November 23, 1998, any modification of its scope or membership would require the approval of France's EU partners. It is likely that any major expansion would require giving up the French Treasury's guarantee of convertibility of the CFA

[3] Robert Mundell has argued (Mundell, 2002) that though a common currency would be a good thing, a more realistic goal in the medium term would be a common peg to the euro.

franc into the euro at a fixed parity[4]. And the CMA countries differ considerably in financial development and in macroeconomic stability from their neighbors in Southern Africa, so any expansion of the CMA is likely to be limited and delayed.

We also consider the issue of external monetary anchors for African currencies. Recently, a great deal of attention has been paid to the hypothesis that countries need to choose between very hard pegs (in the limit, a monetary union) or flexible exchange rates: the intermediate regimes are not sustainable. The main argument relates to the trend toward capital account liberalization, which makes the maintenance of anything but perfectly credible pegs difficult. We consider that this factor is unlikely to dictate the choice of regime for most African countries, which continue not to be well integrated with international capital markets. If true, this would leave open the full range of possible regimes, including adjustable pegs.

A major issue concerns the choice between a domestic nominal anchor and some form of exchange rate target. Exchange rate targets are fairly transparent (especially single currency pegs, less so for a basket peg) and do not require sophisticated financial systems, since the central bank essentially makes the foreign exchange market, buying and selling as necessary. If an exchange rate peg is preferred, the choice of the anchoring currency is also important. The European Union has successfully created a new currency, the euro, and on January 1, 2002, introduced notes and coins that have replaced those of 12 separate national currencies. The euro is already the world's second most important currency, and the euro area is set to expand further. Given the extent of Africa's trade with Europe, a peg to the euro may be an attractive option.

In this context, the question arises as to whether the European Union could play some role in guaranteeing a peg to its currency, as is done by France for the CFA franc, now that the euro has replaced the French franc as the anchoring currency. An expansion (and transformation) of the CFA franc zone would allow countries joining it to achieve stability with the euro, while at the same time benefiting from the considerable credibility associated with the CFA franc. It would be natural to envision the EU assuming France's role of guaranteeing the currency peg. However, France's EU partners have shown no enthusiasm for doing so, especially since an enlarged CFA might have more serious budgetary and monetary consequences for Europe than is the case at present. The question for African countries would then arise of whether to continue to anchor the CFA franc to the euro, and if so, how. The alternatives would be a joint float, a currency board with a peg to the euro, or "euroisation," that is, the outright adoption by African countries of the euro as their currency If the former, the currency would then rely solely on the discipline and independence of the central bank, operating a credible domestic monetary anchor. If the latter, countries would abandon any possibility of monetary independence vis-à-vis Europe, and doing so would likely revive perceptions of colonial dependence.

With increasing financial development, a domestic financial target becomes both more desirable and achievable. This is likely to be the route followed by the more advanced and larger economies—or regional monetary unions. It is already practiced in South Africa, which targets domestic inflation and lets the rand float freely in foreign exchange markets. At present, this is an option that is open to few of the countries or regions in Africa, but greater institutional and

[4] Currently 655.957 CFAF=1 euro.

financial development could make it an attractive option for more—but by no means all—African countries. In the future, therefore, we see the monetary geography of Africa as including diverse arrangements--some regional currencies, some countries with independent currencies, and these currencies either pegged to international currencies or floating—as is currently the case.

10/2/03

Chapter II. African Currency Regimes Since World War II

This chapter describes the historical evolution of monetary and exchange rate regimes in Africa, during the period since the Second World War. This exercise is doubly important for our purposes: it provides at least a partial explanation for the current constellation of currency areas, and it throws some light on the potential success of initiatives towards greater monetary integration. Indeed, the proposals to create a monetary union in West Africa (ECOWAS) and in East and Southern Africa (COMESA), to reinforce or enlarge the CFA franc zone, or to extend the rand area to SADC, to say nothing of the plan to create a single currency for Africa, need to be evaluated in the light of past experiences with monetary integration. However, this is not the place for an exhaustive survey of the use of money since the dawn of recorded time. Instead, the experience in the post-war period, both before and after decolonization, seems most relevant, to the extent that economies had already acquired some of the structural features that characterize them today. A look at the immediate pre-colonial experience shows that much of the continent had currencies that were tightly linked to the currency issued by the European colonizer; moreover, neighboring colonies often shared the same (African) currency.

This fact could be used in support of the argument that reestablishing those monetary unions is both feasible and (more speculatively) desirable. However, subsequent history suggests reasons to doubt that assessment, since in most cases those monetary unions were dissolved shortly after independence and African countries now typically have their own currencies and independent monetary policies. The two major exceptions are the CFA franc zones in West and Central Africa, which consist mainly of former French countries, and the CMA centered around South Africa and the rand. We discuss below why those monetary unions have survived, and compare them with the experience after independence of other colonies, in particular the former British ones. These cases provide interesting insights into why currency unions get dissolved, and the institutional development needed for their success. Thus, the prospects for the continued existence of the CFA and CMA zones and the creation of new monetary unions are illuminated by the historical experience.

A. Prologue: Pre-colonial times

Africa has had an important role in the monetary history of the world at various times, in particular by supplying precious metals that served as money. During the medieval period, it was a major source of gold, most of which reached Europe via trans-Saharan trade routes from West Africa to North Africa. From the 9th to the 16th century, Africa was a prime supplier of gold to the world economy, until it was eclipsed by the gold discoveries in the new world. During the earlier period, "… West African gold was absolutely vital for the monetization of the medieval Mediterranean economy and the maintenance of its balance of payments with South Asia." (Austen, 1987, p. 36).

Gold served little role for Africa's own monetary use, however. Instead, a variety of goods served as units of account, and these included palm oil, cotton cloths, cowries, copper ingots, brass or iron bars, and brass horseshoe-shaped 'manillas' (Austen, 1987, p. 92). The case

of cowrie shells in West Africa has received considerable attention. These shells were imported from the Indian Ocean, so that transport costs limited the expansion of the money supply. However, improved shipping technology in the late 19th century led to rampant inflation (Austen, 1987, p. 134). Because they were awkward to carry, the cowries served mainly as units of account rather than as means of payment. They maintained this role to some extent under British rule, and they still had some exchange value in markets of north-western Ghana in the 1960s (Johnson, 1970).

Despite being overshadowed by other sources of bullion, Africa continued to be a notable supplier of precious metals. The British "guinea" coin was named after the area in West Africa were the silver was mined, which had unusually rich deposits. And South Africa became in the late 19th and early 20th century an important enough source of gold that an interruption of its supply to the London market would have had implications for the international monetary system, in a period when the world economy was on the gold standard or the Bretton Woods gold-exchange standard.

B. Colonial monetary arrangements

As Africa increased its contacts with European powers, coastal areas tended to adopt European silver coins of various kinds (e.g. Maria Theresa thalers and French five franc pieces) alongside African commodity currencies. However, the advent of colonization led soon to the replacement of both African commodity currencies and silver coins by government-issued coins and notes linked to the metropolitan currency (Austen, 1987, p. 134). Since the metropolitan governments were on the gold standard, this essentially linked African currencies to gold.

Incorporating Africa into the international monetary system via linkage with the metropolitan currency had both advantages and disadvantages. It facilitated international trade, but could discourage internal trade in areas with little access to the official currency. And it was a manifestation of dependency on the financial system of the metropole, which may have inhibited the development of domestic financial institutions.

The Great Depression and the Second World War ushered in regimes which, at least in the early post-war years, involved extensive restrictions on the convertibility of the European currencies to which the African colonies were linked. Since European economies had been weakened by the war and their import needs greatly exceeded their export capacities, they all imposed various import restrictions and exchange controls that prevented the free international use of their currencies. So instead of being a link to a single international monetary standard, the colonial monetary arrangements served to tie each African economy much more closely to its colonial power. Payments restrictions were accompanied by import preferences vis-à-vis the metropolitan country that had much the same effect.

This period also saw the creation of monetary institutions that gave further structure to the African monetary arrangements, while maintaining the close link with the metropolitan currency. Initially the French franc circulated in its African colonies, but in 1945 France introduced new currencies for its colonies. For the major groups of tropical African colonies, the currency was called the CFA (for Colonies Françaises d'Afrique) franc; in 1948, it was pegged

to the French franc at a rate of 1 CFA franc=2 French francs[1]. The CFA franc served as currency for two separate groupings of sub-Saharan countries, French West Africa and French Equatorial Africa[2]. The French treasury guaranteed the exchange rate and ensured transferability to and from France and the other territories through potentially unlimited financing provided by an "Operations Account." Until 1955, the right of bank note issue in the CFA franc zones was vested in certain private banks. In 1955, two new public institutions were given responsibility for note issue in West and Central Africa: the *Institut d'émission de l'Afrique occidentale française et du Togo* (Dahomey, Guinea, Ivory Coast, Mali, Mauritania, Niger, Senegal, Upper Volta, and Togo), and the *Institut d'émission de l'Afrique équatoriale française et du Cameroun* (Cameroun, Central African Republic, Chad, Congo-Brazzaville, and Gabon) (Abdel-Salam, 1970, p. 341). Each of these monetary institutes, based in Paris and controlled by the French government, issued a distinct bank note that was the respective monetary area's version of the CFA franc.

The Operations Account system (which is still in place in the existing CFA franc zones, albeit in modified form, as will be discussed below) needs to be distinguished from a traditional system based on foreign exchange reserves, since it provides unlimited access to a particular foreign currency, the French franc. In the colonial system, the African countries in the franc zone were obliged to deposit all their earnings in francs and the countervalue of their earnings in foreign currency in their Operations Account with the French Treasury, but had unlimited access to French francs in exchange for their own currency (Abdel-Salam, 1970, p. 340). Access to French francs was not the same as access to foreign exchange (in particular US dollars), however, since at the time the French franc was not freely convertible into other major currencies. Access to French franc balances was unlimited, since Operations Account balances could become negative, providing financing for potentially large balance of payments deficits, but only vis-à-vis the franc zone, since international use of the French franc was restricted.

Most of the British colonies were grouped into three currency boards, the West African Currency Board, the Southern Rhodesia Currency Board, and the East African Currency Board, in each of which the quantity of money was linked to the amount of sterling assets held by the currency board[3]. The membership of the West African Currency Board was comprised of Gambia, Gold Coast, Nigeria, Sierra Leone, and later the British Cameroons. The Southern Rhodesia Currency Board (or Central African Board after 1954) included Southern Rhodesia, Northern Rhodesia, and Nyasaland. The East African Currency Board grouped Kenya, Tanganyika, Uganda, and later Zanzibar, Aden, Somalia, and Ethiopia. Each of the currency boards was characterized by a fixed parity with the pound sterling, an automatic system of issue, and 100 percent sterling cover for the local currency (Abdel-Salam, 1970, p. 346). Thus, the British had a quite different mechanism from the French for ensuring the convertibility of their currencies into the metropolitan currency. The automaticity of the currency board ensured that the parity vis-à-vis the pound sterling could be maintained and would not be strained by

[1] With the move to the new French franc in 1960, the parity became 1 CFA franc=0.02 French francs. This parity remained in effect until the devaluation of the CFA franc on January 11, 1994, making 1 CFA franc=0.01 French francs.

[2] And also League of Nations mandated territories Cameroun and Togo, and French controlled islands in the Indian Ocean, including Madagascar and Comoros.

[3] As described below, British Protectorates in Southern Africa depended on the Reserve Bank of South Africa.

excessive monetary expansion, without the British monetary authorities having to provide overdraft facilities.

Spain, Belgium, and Portugal had various arrangements with their colonies that in each case provided for a link with the metropolitan currency. Belgian colonies of the Congo and Rwanda-Urundi formed a monetary union, whose currency, the Congolese franc, was pegged to the Belgian franc. Portuguese and Spanish colonies typically used the escudo or peseta, respectively. The British protectorates in southern Africa were linked to the Union of South Africa, the major economy in the region, which was formed in 1910. It had its own currency, the South African pound, which upon creation of South Africa's central bank (the Reserve Bank of South Africa) in 1921, became the sole circulating medium and legal tender for the small British protectorates of Bechuanaland (Botswana), Basutoland (Lesotho), and Swaziland, and also for the League of Nations' trusteeship territory of South-West Africa. The South African pound was replaced by a new currency, the rand, in 1961, and the monetary union became known informally as the rand monetary area.

C. The period after independence

As the movement leading to general decolonization gained strength, Britain and France differed in the arrangements that they proposed for their African colonies. France attempted to preserve and strengthen the currency unions based on the CFA franc by allowing for greater African representation on governing boards and offering a currency guarantee on French franc reserves. The link with the French franc was maintained, as was France's strong influence on monetary policy, while the French treasury continued to provide a guarantee of convertibility.

Britain, in contrast, did not try to influence the post-colonial monetary policy regimes by offering inducements to her colonies to remain linked to sterling. One by one the newly-independent countries created their own central banks and their own currencies. Even when these new currencies were to be linked together, as in the East African Community composed of Kenya, Tanzania, and Uganda, the forces of disintegration were irresistible in the absence of external inducements to cooperate. Thus, while the former French colonies are still grouped into two currency unions, the West African Economic and Monetary Union and the Central African Economic and Monetary Community, the former British colonies (with the exception of the British protectorates in southern Africa) all have independent monetary policies and separate currencies. The same is generally true of the former Spanish and Portuguese colonies, though several of them have in fact joined one or the other of the CFA zones (Equatorial Guinea joined the Central African currency zone in 1985, and Guinea-Bissau joined the West Africa Monetary Union in 1997) or linked their currencies to the euro (Cape Verde has done so, with the financial assistance of Portugal), also producing exchange rate stability vis-à-vis the CFA franc.

It is true that the former colonies of Britain did tend to remain in the sterling area, in the sense that payments regulations gave preference to transfers vis-à-vis other countries using the pound sterling or linked to it. Map 1 (based on Mládek, 1964a, 1964b) shows what can loosely be called the French franc and sterling area countries in Africa in 1964, less than a decade after independence. However, while the franc zone is an institutionally supported monetary union, the

sterling area at this time is only a loose arrangement mainly based on preferential payments regulations.

The franc area in 1964 included Algeria, Morocco, and Tunisia, which maintained some monetary arrangements with France, though increasingly loose ones; the monetary unions constituted by the two CFA franc zones in West and Central Africa; and the Malagasy Republic and Comoros. The sterling area at this time was characterized not by monetary unions (with the exception of the East African currency union, which was shortly to disappear) or Operations Accounts in sterling, but rather the following characteristics which generally applied to member countries: rates of exchange quoted in sterling; official reserves held in sterling; payments and private assets normally routed or held in London; and freedom of payments made within the sterling area, but restrictions on payments outside (Mládek, 1964b). Sterling area countries and territories in 1964 included all former and present British colonies in Africa (including the Republic of South Africa) except British Cameroons (which merged with French Cameroun), and British Somaliland, which was absorbed in the Republic of Somalia. By this time, other colonial powers' currency areas have disappeared, or only survive in countries not yet independent, such as Angola and Mozambique, which are part of the Portuguese escudo zone, though have their own bank notes[4]. Mozambique adopted a new currency, the metical, in 1980, 5 years after independence, and initially its official fixed parity was defined in terms of a basket of 6 currencies.[5] Upon independence in 1960 (and the independence of the Belgian Congo), Ruanda and Burundi ceased using the Congolese franc and responsibility for issuing the new franc of Ruanda and Burundi was given to a joint monetary institution.[6] However, the economic union did not survive the tribal conflicts that occurred in 1963-64, and each country subsequently adopted its own currency.

The sterling area ceased to have any operational significance with the abandonment of exchange controls by Britain in the late 1970s. Moreover, the breakdown of the Bretton Woods system of fixed by adjustable parities and the advent of generalized floating of the currencies of the major powers led many African countries to loosen their exchange rate links with the former colonial power and to devalue or abandon their exchange rate parities with the metropolitan currency. However, the CFA franc zone retains, with the financial support of France, the fixed parity with the French franc, despite the devaluation that occurred in 1994.

Dissolution of British Currency Boards

The seeds of the dismemberment of the currency boards in western and eastern Africa were already planted before independence. Their rigidity and automaticity evoked the criticism that they could not be managed flexibly enough to attain such policy objectives as stimulating economic activity, and that forcing colonies to hold reserves in London detracted from use of their savings to foster development (Hazlewood, 1952). Sterling balances yielded at the time very low rates of interest, stimulating demands that the colonies be allowed to hold a more diversified portfolio of assets. In any case, despite resistance from the Bank of England, which

[4] The escudo zone broke down before independence because of payments imbalances, and the colonial escudos were made inconvertible in the metropolitan currency. See Valério (2002).
[5] See Indian Ocean Newsletter (1986).
[6] See Institut Royal des Relations Internationales (1963).

feared that African central banks would be subjected to political pressures and would be ineffective if capital markets were not in place, the British authorities succumbed to the criticisms (including those of economists from the US Federal Reserve and the World Bank) and agreed to dismantle the currency boards and set up central banks in each of the colonies (Uche, 1997, pp. 152-53; Helleiner, 2001).

The Central African Currency Board was abolished in April 1956 and replaced by the Central Bank of Rhodesia and Nyasaland, which operated until 1964, when the newly independent countries of Malawi, Rhodesia, and Zambia started issuing their own banknotes. In large part because of political frictions and diverging economic interests among the member countries (see Birmingham and Martin, 1983), the monetary area was definitively dissolved in June 1965 and each of the countries created its own central bank (Abdel-Salam, 1970, p. 347). In West Africa, member countries progressively withdrew from the West African Currency Board, Ghana doing so in 1957, Nigeria in 1959, British Cameroons in 1962 (to join the Central African CFA franc zone as part of Cameroun), Sierra Leone in 1963, and Gambia in 1964. The new currencies in Ghana (the Ghanaian pound, later the cedi) and Nigeria (the Nigerian pound, later the naira) were initially linked at par with sterling but subsequently depreciated.

In East Africa, the former colonies aimed to retain cohesion among the member countries and replace the currency board with some type of monetary union, in the context of a new East African Community linking Kenya, Tanzania, and Uganda. However, after protracted negotiations that broke down in 1966 each of the three countries decided to issue its own currency and create its own central bank (Abdel-Salam, 1970, p. 349). The currencies were to be freely convertible at par, but subsequent events and political disagreements led to restrictions on convertibility and exchange rate fluctuations, effectively ending the monetary union (Cohen, 1998, p. 73). Capitalist Kenya and socialist Tanzania were following quite different economic policies, while the Uganda of Idi Amin was practically at war with her neighbors. In these circumstances, the cooperation required to make monetary union work was clearly not present.

Consolidation of the CFA franc zone

In contrast to Britain, France moved to shore up the institutions that linked her former African colonies to the French franc, by increasing African participation in decisions, while maintaining the financing facility embodied in the Operations Accounts. In 1959, the *Instituts d'émission* were transformed into central banks, called the *Banque centrale des états de l'Afrique de l'ouest (BCEAO)* and the *Banque centrale des états de l'Afrique équatoriale et du Cameroun (BCEAEC)* subsequently renamed *Banque des états de l'Afrique centrale (BEAC).* Their headquarters were initially in Paris, but provisions were made for them to move to Africa. In addition to the currency issue, the two central banks were authorized to extend credit to commercial banks and the treasuries of the member countries. Starting in 1966, each central bank could grant short term loans to a national treasury equal to 10 percent of the country's fiscal receipts; in 1970, this limit was raised to 15 percent in exceptional circumstances; and in 1972-73, boosted to 20 percent, accompanied by abandonment of restrictions on the exceptional nature of full access and the short maturity of the loans (Vinay, 1988, p. 24). The agreements establishing the central banks provided for each of them to pool the foreign exchange reserves of their member countries and to maintain a separate Operations Account at the French Treasury.

The boards of the two banks now included both French and African representatives (Abdel-Salam, 1970).

The former French colonies upon independence chose to remain in the CFA franc zone and to participate in the regional central bank, with the exception of Guinea and Mali[7], which chose an anti-capitalist path of national self-reliance rather than integration with the world economy (Yansané, 1984). Both countries created their own central banks and currencies. Whether the decision of the other, non-socialist, countries to remain in the franc zone was due to a calculation of the benefits of monetary stability and the financing guarantee of the Operations Account or to the advantages of maintaining other links with France is hard to say. Cultural links with the former metropolitan power remained strong, as France had long welcomed the participation of African elites in French life, for instance honoring the contributions of poet (and later statesman) Leopold Senghor by naming him to the Académie Française. France in any case was keen on maintaining the monetary relationship with African countries and brought pressures to bear to induce them to continue to participate.[8] The economic performance of the CFA franc zone will be reviewed in another chapter, but it is clear that price and monetary stability was an important benefit of the continuing link with a currency of a major economic power. Indeed, Boughton (1991) argues that considered alone, monetary union among the African members of the CFA franc zone would not seem to yield obvious benefits; instead, France needs to be considered an integral part of the system, and a source of benefits that include discipline, credibility, and stability in international competitiveness. This may, however, be too negative a view of a purely African monetary union since it ignores the advantages of having a supranational central bank that is at least partially insulated from pressures from national treasuries—an issue that will be discussed in a subsequent chapter. It is also noteworthy that even in 1970 an observer could say that "… one of the fundamental ills of the C.F.A. franc system is that it had given its member countries an essentially overvalued currency, which has seriously impaired the competitiveness of their export products, and has tied their economies to French markets …" (Abdel-Salam, 1970, p. 345). This ill became evident in the course of the 1980s and led to an economic crisis that culminated in the devaluation in 1994 of the CFA franc.

The CFA franc zone was further modified in 1972-73 by new treaties between France and the African members. In Central Africa, the central bank was renamed the *Banque des Etats de l'Afrique centrale*, its headquarters was moved to Yaoundé as of 1977, and an African named as Governor. In West Africa, similarly, the headquarters was moved to Dakar in 1978 and henceforth the *BCEAO* was headed by an African, Abdoulaye Fadiga. The requirements for holding reserves in the Operations Account were loosened somewhat, and now only constitute 65 percent of total reserves, but emergency measures are to be taken if the ratio of reserves to the central bank's sight liabilities decline below 20 per cent or if the Operations Account balance

[7] Mali subsequently reached agreement in 1967 with France on the conditions for Mali to rejoin the CFA franc zone, and, after a period of pegging to the French franc with French support, Mali did so in 1984.

[8] Monga and Tchatchouang (1996), p. 23, argue that the continued existence of the CFA franc zone was primarily the result of French pressure rather than the wishes of the African colonies, which were given independence on the condition that they would sign cooperation accords with France. Helleiner (2001) notes that the harsh treatment that France accorded to Guinea and Mali served as a caution to the others. Mundell (1972) suggests that the different choices of policy regime made by leaders of francophone and anglophone African countries were related in part to their different economic training. Keynesian heterodoxy in monetary matters was much more in vogue in London than in Paris in the postwar period.

becomes negative. The limit on lending to national treasuries was raised to 20 percent of their fiscal receipts in the previous year. France provided an exchange rate guarantee for reserves in the Operations Account, compensating for any decline in the value of the French franc against the SDR (Vinay, 1988, Annex 6). This guarantee and generous remuneration of French Franc balances (linked to the French money market rate) made the requirement to hold 65 percent of reserves in the Operations Account not constraining; indeed it was in the interest of African central banks to hold reserves in excess of the minimum, because in effect they were being paid an interest rate whose high level reflected an exchange rate risk to which they were not exposed (Vizy, 1989, p. 47). As a counterpart for the overdraft facilities of the Operations Account, France retained some representation on the bodies in each central bank that made monetary policy decisions; however, that representation was a minority one.[9]

Despite these changes, Madagascar and Mauritania chose to quit the CFA franc zone rather than sign the new treaties with France. Madagascar's decision was the result of a choice in favor of a planned economy, while Mauritania's decision reflected lack of solidarity with its West African neighbors, with whom it had had ethnic conflicts (Parmentier and Tenconi, 1996, p. 39).

The 1994 devaluation was a major event that risked destroying the CFA franc zones. The decision to devalue came after years of wrangling; it was advocated early on by the IMF and World Bank, but resisted by both the French and African authorities. France signaled a change in its position at a meeting of the Franc Zone in Abidjan in September, 1993, when it made clear that it would only provide aid to countries having agreed to programs with the Bretton Woods institutions (Parmentier and Tenconi, 1996, p. 155). The depth of the economic and financial crisis eventually forced African heads of state to accept the fact that there was no alternative to devaluation, and on January 11, 1994, the decision to cut the value of the CFA franc in half, from 50 to the French franc to 100, was announced.[10] Instead of destroying the monetary union or cutting the link with the French franc, the commitment to a fixed parity was reiterated and the two African zones agreed on measures that would reinforce their cooperation on fiscal policy, banking supervision, and regional free trade.[11] The framework for enhanced cooperation was embodied in treaties setting up the West African Economic and Monetary Union (WAEMU) and the Central African Economic and Monetary Community (CAEMC), respectively. The operation of these organizations and the subsequent performance of the CFA franc zones will be discussed in Chapter IV.

Creation of the Common Monetary Area in Southern Africa

As mentioned above, the British Protectorates in southern Africa adopted the South African currency. After they became independent in the late 1960s, Botswana, Lesotho and Swaziland continued to use the rand as the sole currency in circulation, without any formal agreement with the South African government; however, informally they and the Republic of

[9] There are currently 2 French representatives (out of 18) on the board of the BCEAO, and 3 (out of 13) on the board of the BEAC. See Gnassou (2001).

[10] The Comoros franc was devalued by half this amount, from 50 to 75 to the French franc.

[11] See, for instance, Clément et al. (1996). For the lead-up to the devaluation, see for instance the article in Boughton (1993).

South Africa constituted the "rand area." There were no internal restrictions on payments within the zone, and the smaller members imposed similar payments restrictions *outside* the zone to those of South Africa.

In 1969, after a customs union agreement was renogotiated with South Africa, attention turned to formalizing and adapting monetary relations between the smaller countries and South Africa. This led eventually, in December 1974, to a formal agreement recognizing the Rand Monetary Area linking Lesotho and Swaziland with South Africa; Botswana had decided to withdraw from the monetary union. The agreement provided that the rand would be legal tender and exchangeable at par within Lesotho and Swaziland, but the latter would have the right to issue their own currencies, whose note issue would be backed 100 percent by rand deposits with the South African Reserve Bank (d'A. Collings et al., 1978, p. 102). There would be no restrictions on transfers of funds within the union or on access of the smaller countries to South Africa's capital markets. The smaller countries would apply substantially the same foreign exchange controls as South Africa for transfers outside the area, though they could apply their own regulations on foreign direct investment. Uniquely among monetary unions with a dominant member, South Africa agreed to share seigniorage on the basis of an estimate of the rand currency circulating in the other two member countries. Swaziland established its own monetary authority and began to issue its own currency, while Lesotho did not. Botswana continued to use the rand on an informal basis until the introduction of the pula in August 1976, which was pegged to the U.S. dollar until 1980, when it was pegged to a basket of currencies. Botswana's decision to have its own currency and, on occasion, to vary its exchange rate peg and the basket or currency to which it is pegged has allowed the authorities to insulate the economy to some extent from fluctuations in the demand for its exports, in particular diamonds (Masalila and Motshidisi, 2003).

The Rand Monetary Area was replaced in July 1986 by the Common Monetary Area as a result of agreement among the three countries to accommodate certain concerns of Swaziland. The Multilateral Monetary Agreement (MMA) made Namibia an independent member of the CMA in February 1992, though the latter had long been a de facto member of the rand zone. As was the case for the Rand Monetary Area, the CMA is a decentralized monetary union in which monetary policy is effectively set by South Africa but where the smaller members have the right to issue their own currencies. There are no restrictions on transfers of funds within the CMA, and the smaller countries' currencies are convertible into rand at a one-to-one rate; they are not legal tender in South Africa, however. Namibia and Lesotho issue their own currencies (as does Swaziland), but they have to be fully backed by prescribed rand assets; the latter is not true for Swaziland (Van Zyl, 2003).

South Africa introduced a dual currency system in 1979, which applied to payments outside the CMA. The commercial rand rate was determined in the market subject to reserve bank intervention, while the financial rand, which applied to most nonresident portfolio and direct investment, floated cleanly (except for some intervention in the early 1990s), with market thinness making the rate volatile. One of the objectives was to break the link between domestic and foreign interest rates, and to insulate the capital account from certain categories of capital flows (Aron et al, 2000). The financial rand was abolished in 1983, and some capital controls on residents liberalized, but following large depreciations of the single rate associated with gold

price weakness and the debt crisis in 1985, the financial rand was reintroduced and controls tightened again. The dual currency system remained in effect until exchange rate unification in 1995. The objective of the reserve bank's intervention in the commercial rand market during the period 1979-99 has been characterized as aiming to maintain the profitability and stability in the gold industry by smoothing the real rand price of gold, with, as a consequence, a highly variable real exchange rate. After 1988, however, the real rand gold price was allowed to fall and the reserve bank was more active in limiting movements of the real exchange rate (Aron et al, 2000). The current regime of inflation targeting is discussed in Chapter IV below.

The continued existence of a monetary union based around South Africa's currency is evidence of the mutual advantage of a common currency in the area (much of the revenues of the smaller countries come from remittances from workers in South Africa). The willingness of South Africa to listen to the concerns of its neighbors, as evidenced by the various adaptations of the monetary union over time, has also contributed to its success. The relative size of the countries is a factor in the durability of the relationship, as there is no doubt where the responsibility for monetary policies lies.[12]

D. Exchange Rate Regimes in Effect at the Beginning of the 21st Century

The international environment in which African currencies function is very different today compared to what prevailed in the early post-colonial period. In that period, the sterling and French franc zones (Figure II.1) were essentially comprised of countries with currencies fixed to the two European currencies. Since both the franc and the pound sterling were pegged to gold via the US dollar, albeit with possible changes in parities[13], African currencies exhibited exchange rate stability against all other major reserve currencies. Three major events have occurred in the meantime, two external and one internal, each with significant effects for the monetary geography of Africa.

First, starting in 1973 the central banks of countries issuing the major currencies no longer attempted to maintain parities, either against the dollar or against gold. Thus, an African country's choice of which currency to use as an anchor could have major repercussions on its effective exchange rate (that is, a weighted average of its exchange rate against other currencies), since the major currencies now fluctuated among themselves. In particular, countries that pegged to a European currency could experience a large real appreciation if the dollar was weak, and vice versa. Movements of European currencies among themselves could have similar effects. While the formation of the European Monetary System (EMS) and the progressive hardening of exchange rates between pairs of EMS currencies during the 1980s limited the latter problem, the exchange rate crises in 1992-93 exacerbated intra-European exchange rate volatility once again, especially after Britain and Italy were forced to leave the Exchange Rate Mechanism in September, 1992. Movements among the exchange rates of the major currencies thus made exchange rate pegs more difficult for the African countries, as is also true for other developing countries.

[12] Cohen (1998) argues that the existence of a hegemonic power is a strong factor favoring the survival of common currency areas.
[13] There was a devaluation of the pound in 1967 and of the franc in 1969.

Second, payments restrictions needed to prop up pegged exchange rates in environments where fiscal discipline did not exist and inflation resulted in a continual decline in competitiveness were seen to produce widespread inefficiencies. In particular, exchange controls and rationing of foreign exchange opened up widespread opportunities for corruption and distortions across sectors. As a result of this realization and pressures from official lenders, African countries moved to liberalize their international payments and to give greater weight to market forces in the determination of their exchange rates. Many countries therefore moved to greater exchange rate flexibility, though not to free floating, either abandoning exchange rate parities or allowing greater fluctuations around them. As a result, in 2001 most countries exhibited substantial exchange rate volatility against the two most important reserve currencies, the dollar and the euro (Figures II.2 and II.3, respectively). Countries' experiences in managing independent currencies is analyzed in a Chapter V.

The principal exception was constituted by the countries of the two CFA franc zones, the West African Economic and Monetary Union and the Central African Economic and Monetary Community. As indicated on Figure II.3, the two CFA francs are perfectly stable against the euro (at a rate of 655.967 CFAF=1 euro), and have been since the introduction of the latter on January 1, 1999, at which time the euro replaced the French franc as the anchor for the African currency.[14]

The official exchange rate classification published by the IMF to some extent reflects this reality, as a majority of African countries in 2001 practiced either "managed floating" or "independent floating"—26 out of 49 countries (see Table II.1). Aside from the countries of the CFA and CMA zones (excluding South Africa, which as the anchor of the CMA was classified as independently floating against the rest of the world), few African countries had hard pegs or currency board arrangements (only Botswana, which pegs to a basket, Djibouti, Eritrea, Libya, Morocco, Seychelles, and Zimbabwe). Only one country, Egypt, was classified as having a "pegged exchange rate with horizontal bands."

An alternative classification created by Levy-Yeyati and Sturzenegger (2002) on the basis of the actual behavior of exchange rates and reserves broadly supported the existence of intermediate and floating rate regimes, albeit with some differences with respect to some of the countries officially declared as peggers (see Table II.1). A different classification scheme also based on observed behavior is provided by Reinhart and Rogoff (2002). They classify most countries as pegging to the euro (principally the CFA franc zone countries) or to the rand; having a de facto peg, crawling or not, with respect to the euro or the dollar; or having managed floating. Only three countries at end-2001 are free floaters, namely Madagascar, South Africa, and Zambia, while a novel category that applies to some flexible rate countries in earlier periods is "freely falling," for instance Nigeria during 1991-96 and Zambia from 1985 to August 2001.

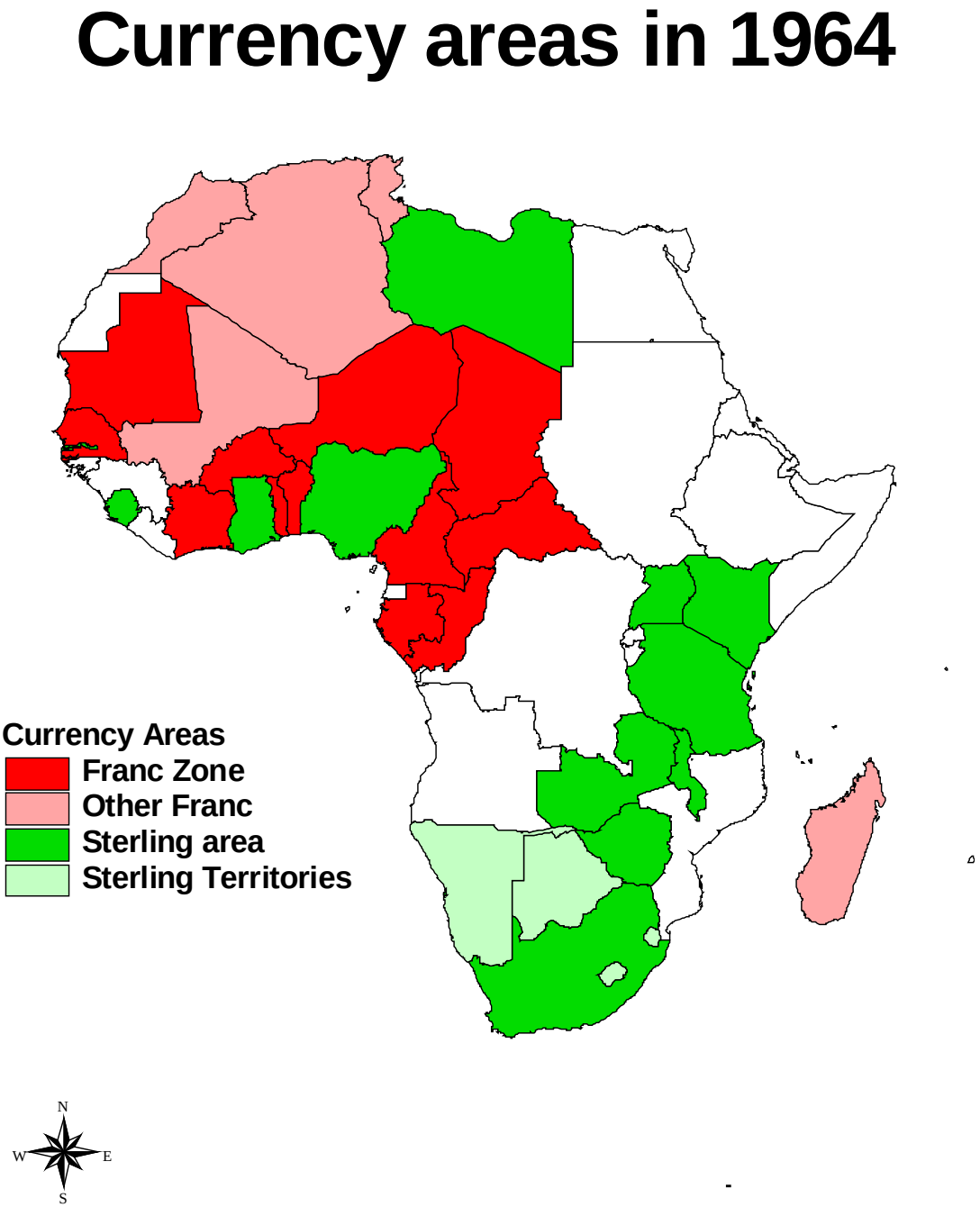
The **third** major event is the creation of the euro, which is likely to have further significant repercussions for Africa and influence on the evolution of exchange regimes in the future. The peg to the euro provides both a potentially more stable anchor for African currencies

[14] As a result of an agreement reached in March, 1998, Cape Verde is also linked to the euro at a fixed parity, with the convertibility of the Cape Verde escudo guaranteed by Portugal (Alibert, 1999).

than a peg to the French franc (because the euro is based on a larger, and more economically diversified, geographic area), and it insulates a greater fraction of African trade from exchange rate fluctuations. In addition, the successful launch of the euro has stimulated interest elsewhere in monetary unions, including in Africa. We will discuss in later chapters whether that renewed interest is warranted, and also review in Chapter IV the experience of the two existing monetary unions in Africa, the CFA and CMA zones.

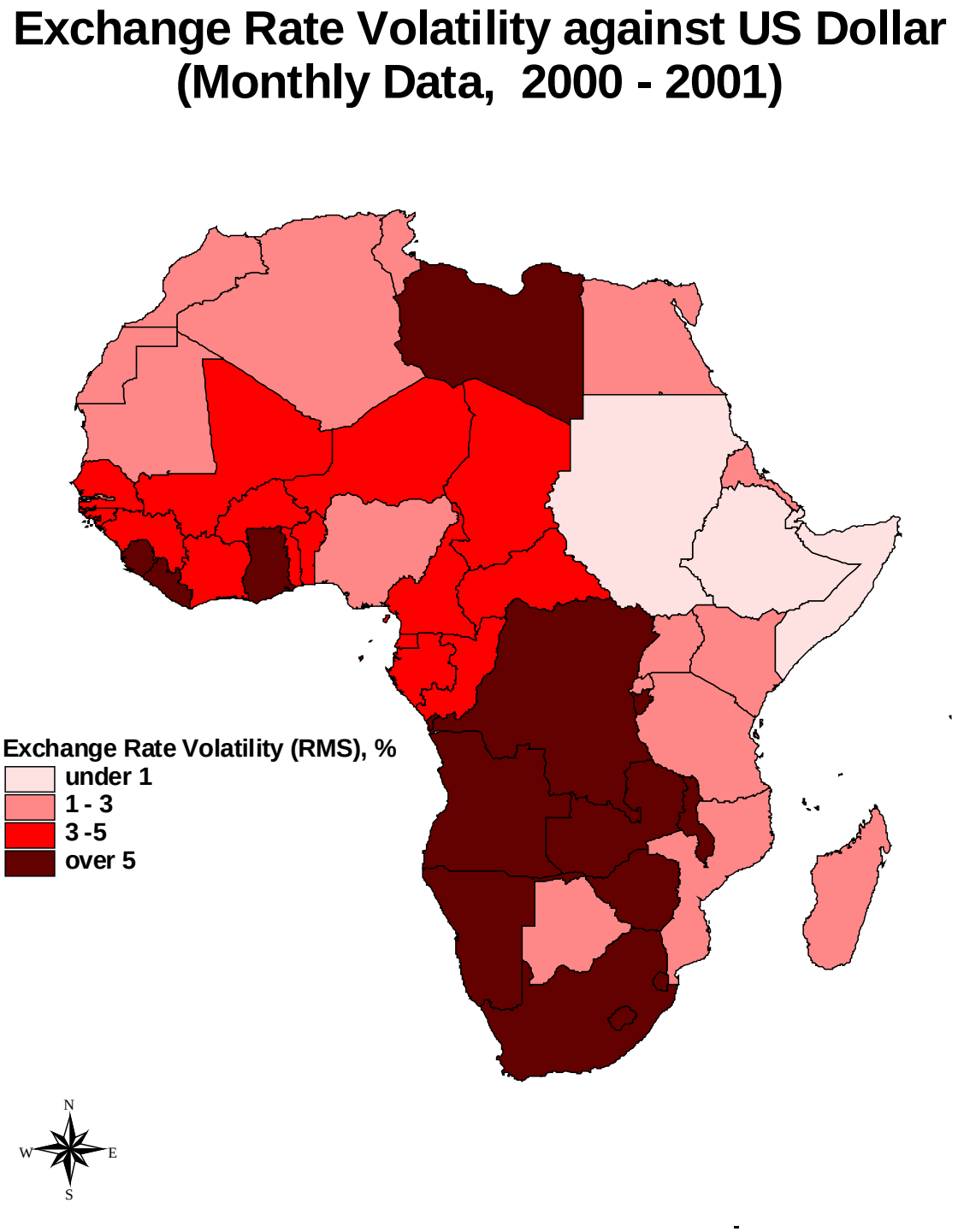
The experience with African monetary unions in the post-colonial period underscores the importance of political forces in leading to their dissolution or, in the case of the French involvement with the CFA franc zone, in encouraging their continued existence. Either a strong shared commitment to regional integration in its various dimensions or a hegemonic power willing to support other members seem to be essential for the durable success of a monetary union. Whatever the economic costs and benefits, therefore, and in the absence of an external guarantor or hegemonic power, political solidarity among member countries will be crucial to make a success of current projects for monetary union. The continued episodes of regional conflict suggest that the bases for such solidarity do not seem to exist among many of the candidates for regional monetary integration in Africa—but the same could have been said of Europe in the immediate post-war period.

Figure II.1



Source: Mladek, J.V. 1964a.,1964b.

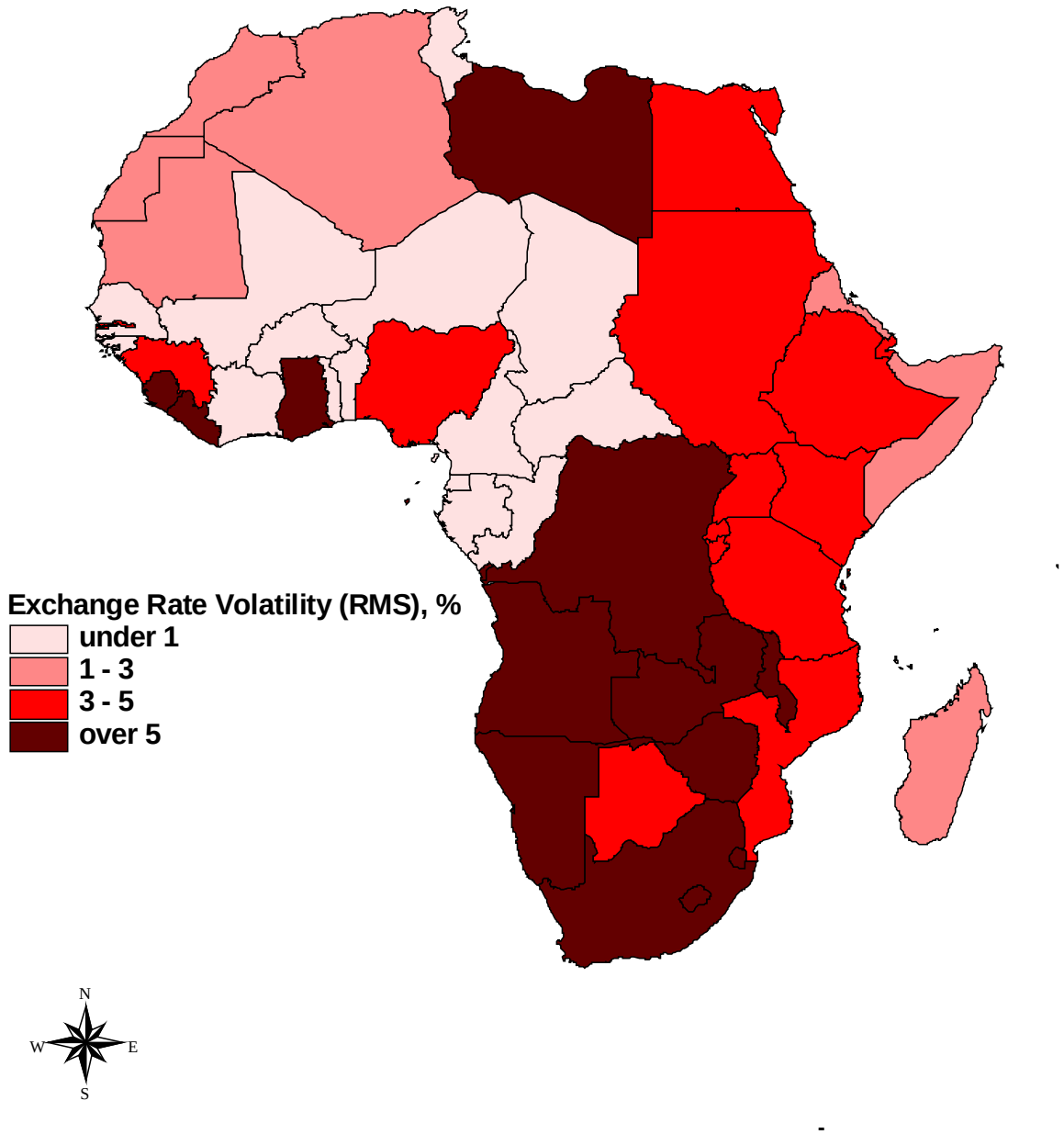
Figure II.2



Source: IFS 2002

Figure II.3

Exchange Rate Volatility against the Euro (Monthly Data, 2000 - 2001)



Source: IFS 2002.

Table II.1. African Currencies and Exchange Arrangements

Country	Currency	Article VII	Exch. Arr. *IMF*	Exch. Arr. *Levy-Yeyati Sturzenegger*	Exch. Arr. *Reinhart Rogoff*
Algeria	Algerian dinar	Sep-97	MF	FL	2
Angola	New kwanza		MF	IN	--
Benin	CFA franc	Jun-96	NL	FX	1
Botswana	Pula	Nov-95	P	FX (1976)	2
Burkina Faso	CFA franc	Jun-96	NL	FL	1
Burundi	Burundi Franc		MF	FL (1991)	3
Cameroon	CFA franc	Jun-96	NL	FX	1
Central African Rep.	CFA franc	Jun-96	NL	FX	--
Chad	CFA franc	Jun-96	NL	FX	1
Comoros	Comoro franc	Jun-96	P	FX	--
Congo	CFA franc	Jun-96	NL	FX	5 (1997)
Congo, Dem. Rep. Of	New Zaire		IF	IN (1995)	--
Djibouti	Djibouti Franc	Sep-80	CB	FX	--
Egypt	Egyptian pound		BH	FL	1
Equatorial Guinea	CFA franc	Jun-96	NL	FX	1
Eritrea	Birr		P	--	--
Ethiopia	Birr		MF	FL (1999)	--
Gabon	CFA franc	Jun-96	NL	FX	1
Gambia	Dalasi	Jan-93	IF	FL	2
Ghana	Cedi	Feb-94	MF	IN	3
Guinea	Guinea franc	Nov-95	MF	IN (1998)	3
Guinea-Bissau	CFA franc	Jan-97	NL	FX	1
Ivory Coast	CFA franc	Jun-96	NL	FX	1
Kenya	Kenyan shilling	Jun-94	MF	FL	3
Lesotho	Loti (plural Maloti)	Mar-97	P	FX	1
Liberia	Liberian dollar		IF	FX (1997)	2
Libya	Libyan dinar		P	FL	--
Madagascar	Malagasy franc	Sep-96	IF	FL	4
Malawi	Kwacha	Dec-95	IF	IN	3
Mali	CFA franc	Jun-96	NL	FX	1
Mauritius	Mauritian rupee	Sep-93	MF	IN	2
Mauritania	Ouguiya	Jul-99	MF	FL (1997)	2
Morocco	Dirham	Jan-93	P	FL (1990)	2
Mozambique	Metical		IF	FX	--
Namibia	Namibian dollar	Sep-96	P	FX	--
Niger	CFA franc	Jun-96	NL	FX	1
Nigeria	Naira		MF	FL	3
Rwanda	Rwanda franc	Dec-98	MF	FL	--
Sao Tome and Principe	Dobra		IF	FL	--
Senegal	CFA franc	Jun-96	NL	FX	1
Seychelles	Seychelles rupee	Jan-78	P	IN (1995)	--
Sierra Leone	Leone	Dec-95	IF	IN	--
South Africa	Rand	Sep-73	IF	FL	4
Somalia	Somali shilling		IF	FX (1981)	--
Sudan	Sudanese pound		MF	FL (1998)	--

Swaziland	Lilangeni	Dec-89	P	FX	1
Tanzania	Tanzanian shilling	Jul-96	IF	FL (1999)	3
Togo	CFA franc	Jun-96	NL	FX	1
Tunisia	Tunisian dinar	Jan-93	MF	2	2
Uganda	Ugandan shilling	Apr-94	IF	FX	3
Zambia	Kwacha		MF	FX	5
Zimbabwe	Zimbabwe dollar	Feb-95	P	IN	2

LEGENDS

IMF Classification

In table: as of 2001

NL	Exchange arrangements with no separate Legal tender
CB	Currency Board arrangement
P	Conventional pegged arrangement
BH	Pegged exchange rate within horizontal bands
PC	Crawling Peg
BC	Crawling Band
MF	Managed floating with no pre-announced Path for the exchange rate
IF	Independently Floating

Levy-Yeyati and Sturzenegger

In table :as of 2000 (last year available-dates in parentheses)

	3-Way Classification
FL	Float
IN	Intermediate (dirty; dirty/CP)
FX	Fix

Reinhart-Rogoff

In table: as of 2000 (last year available in parentheses)

1	Fixed
2	Crawling Peg or Band
3	Managed Floating / Widely Crawling band / Moving Band
4	Freely Floating
5	Freely Falling

10/2/03

Chapter III. Economic and Political Criteria for Currency Unions or the Adoption of Another Currency

The issue of the choice of a currency regime, and in particular whether to adopt a common currency in the context of regional integration, has received much attention over the past four decades—stimulated greatly by the plan to create the euro zone in the EU. Its successful launch helps explain the current interest in other regions, in particular Africa, for monetary unions. Despite the extensive analysis that monetary unions have received in the economics literature and some agreement on the factors that would produce costs and benefits, there is no consensus even among economists on whether the benefits outweigh the costs when considering a particular region—much less a general presumption that monetary unions are necessarily a good thing.[1] Despite this, there is considerable *political* support for the idea, often in the context of a desire to further regional solidarity, which suggests that the economic literature has not paid sufficient attention to the political dimension. In addition, we will argue below that some of the existing literature is less applicable to Africa than to Europe, because of fundamental problems of lack of central bank independence and fiscal distortions leading to overspending and pressures to monetize deficits.

The economics literature on optimum currency areas, which derives in large part from the seminal article by Robert Mundell (1961), has already been much surveyed, so we will only briefly discuss it in the section that follows (section A). In a nutshell, a common currency can save on transactions costs of various types, but a country in abandoning its own currency gives up the ability to use monetary policy to respond to asymmetric shocks, that is to shocks which affect it differently from the other countries in the union. Those costs, in turn, can be minimized by greater flexibility of the economy, in particular labor mobility, wage/price flexibility, and fiscal transfers; and the likelihood of asymmetric shocks depends inversely on how diversified a country's economy is and how similar its production and export structures are relative to its partners in the monetary union.

The analysis when applied to Europe has usually assumed that institutional design issues have by and large been resolved. In particular, the central bank can be insulated by statute from having to finance government spending (in Europe, this is ensured by a no-bailout provision preventing the central bank from lending to governments, buttressed by a history of central bank independence, particularly in Germany). The main danger is that fiscal policy may indirectly put pressures on monetary policy; for instance, if a country got into trouble servicing its debt, the central bank might be led to ease monetary policy to lower the treasury's interest costs and prevent a financial crisis. The Stability and Growth Pact was aimed at minimizing that danger in Europe. Though there is considerable controversy at present about the effectiveness of the Pact, and several governments are in danger of breaching the deficit ceiling (3 percent of GDP), there is no immediate concern that the ECB's independence is being put in peril.

In Africa, however, the institutional challenges are at least an order of magnitude greater. Existing national central banks are generally not independent, and countries with their own

[1] This is in contrast to the sweeping statement by John Stuart Mill that separate currencies are a form of "barbarism" and that the common interest would require moving to a single, world currency. While there are some supporters of this view (e.g. Cooper, 1987), it is certainly not generally held at present.

currencies have often suffered periods of high inflation because those central banks have been forced to finance public deficits. Hence the interest in the African context in whether the creation of a regional central bank can be a vehicle for solving pre-commitment and credibility problems that bedevil existing central banks. If so they may be able to provide an "agency of restraint" (in Paul Collier's words), producing a central bank that is more independent and that exerts greater discipline over fiscal policies than do national central banks. We consider this question in Section B.

A further important motivation for monetary union in Africa is to provide impetus for greater regional integration. Monetary union is often seen as an important symbol of regional solidarity, one that is likely to reinforce popular (and hence political) support for regional initiatives. In Europe, that aspect was important, but the implementation of monetary union (envisioned already some 40 years ago) followed, rather than preceded, deep structural integration, the creation of other regional institutions, and experience of close inter-governmental cooperation. We discuss this issue in Section C, noting that a common currency that is not supported adequately by institutions and by regional solidarity may fail, and this would harm, not help, other regional integration initiatives. There are examples of this, including the ruble zone at the dissolution of the Soviet Union and the monetary union in the East African Community shortly after independence. Thus we argue that it is unrealistic to assume that creating a common currency will necessarily enhance integration. On the contrary, a strong political commitment to common regional goals and the presence of other economic institutions that make sticking with the monetary union in every country's interest are necessary to ensure its success and continued existence.

In Section D, we describe a formal model based on our previous work that serves as the basis for evaluating monetary projects in later chapters of the book. It integrates the idea of asymmetry of shocks with the absence of institutions able effectively to insulate the central bank from pressures to finance deficits and to produce over-expansionary monetary policies. Though monetary unions reduce somewhat the bias towards monetary expansion (because, by fixing the exchange rate between countries in the monetary union, they reduce the scope for competitive devaluations), the composition of the monetary union is crucial. Not only would a country not want to join in a monetary union with another country that faced very different external shocks (e.g. to its terms of trade)—at least if that country was large enough to matter--it would also not want to link to a country that had much less disciplined fiscal policies. The latter country would cause the central bank to produce higher inflation, and this would have adverse consequences on the first country's welfare. Measuring fiscal discipline is difficult, but we attempt to do so using measures of institutional development and of absence of corruption. In Africa, as described in this section, countries with their own monetary policies tend to suffer from higher inflation, the lower they score on these measures that proxy for diversion of spending and taxes to purposes that do not reflect social needs but rather the private objectives of the government in power (through tolerance of corruption and rewarding of supporters, for instance). Though we focus in what follows on fiscal distortions and shock asymmetries, we do not neglect political factors, which we highlight as important influences on the potential success or failure of monetary union projects—a point forcefully made by Benjamin Cohen (2000).

The Appendix provides some more details concerning the model and its calibration, forming the basis for its application in subsequent chapters.

A. Optimum Currency Areas[2]

If there were no nominal frictions, so that wages and prices were perfectly flexible, then it would surely be optimal from an economic perspective to have but a single, world currency. But for various reasons, however, there is stickiness of wages and prices, which opens the door for monetary policy to have a significant effect on economic activity. This stabilization role for monetary policy in the face of shocks to the domestic economy is all the more valuable, the greater is the magnitude of those shocks and the less important are other available shock absorbers.

Mundell in 1961 emphasized labor mobility as the key shock absorber that could compensate for lack of flexibility of prices and a fixed exchange rate. When the region where they lived was hit by a negative shock, workers could migrate to regions that had better employment prospects. Thus, an "optimum currency area" would exhibit high labor mobility within the area, and relatively low labor mobility outside it. Others (e.g. Kenen, 1969) suggested that financial transfers could also provide a shock absorbing role: income losses could be partially offset by payments from areas that were relatively favorably affected. There is a considerable literature examining the role of federal taxes and spending in compensating for asymmetric shocks in existing federations (e.g. Sala-I-Martin and Sachs, 1992; Bayoumi and Masson, 1995). Since multi-national monetary unions would typically not provide for such financial transfers, or at least not to the extent of fiscal federations, they would need other forms of flexibility if faced with large asymmetric shocks.

The optimum currency area approach to the cost benefit analysis of monetary unions emphasizes three key factors that need to be quantified:

- Potential losses from membership in a monetary union depend on the extent that a country faces large shocks that are asymmetric, that is differ from those of potential partners in the monetary union. If all countries faced the same shocks (and were affected in the same way by them), then a common monetary policy would be optimal.
- Potential gains depend on the saving of transactions costs that are incurred by changing currencies, and these transactions costs are larger, the greater is actual *or potential* trade between the countries (Frankel and Rose, 1998). Countries that would not benefit from trade would not gain from using the same currency. However, currency union may in itself stimulate an increase in trade (Rose, 2000).
- The losses are mitigated by the extent that other shock absorbers exist, in particular factor mobility and financial transfers. Asymmetric shocks would not be a serious problem for a monetary union if economies were sufficiently flexible.

The above three factors have formed the basis for much of the discussion of the costs and benefits of monetary union in Europe and in other regions. In Europe, the gains were seen to be significant given the extent that EU countries trade among themselves. Moreover, losses due to

[2] There are many good surveys of the literature. A recent one containing an extensive bibliography is Hawkins and Masson (2003).

asymmetric shocks, at least for most EU countries, were considered relatively small, given the similarity of their economies (diversified manufacturing and services sectors, relatively low dependence on commodity exports)[3]. Other shock absorbers are widely recognized to be present in only very limited form: labor mobility is low, fiscal transfers through the EU budget are small (and not linked to asymmetric shocks) but countries perform stabilization policy effectively through national fiscal policies (Bayoumi and Masson, 1995).

In Africa, as we will discuss in subsequent chapters, the scope for significant gains and the factors attenuating losses are much reduced. Asymmetric shocks are in many cases likely to be more important: countries are often dependent on only a few export commodities, whose prices do not move together; intra-regional trade is low, so the scope for saving on transactions costs is limited; and the availability of shock absorbers such as labor mobility and financial transfers is inhibited by ethnic conflicts and a general lack of financial resources. This generally negative assessment of monetary unions leads us to consider other arguments that go beyond the optimum currency area approach.

B. Credibility and an Agency of Restraint

Losing the ability to use monetary policy is not worrisome if the latter is an instrument that is in any case misused. On the contrary, a new regional central bank might be able to produce a better monetary policy because it was more independent of any particular government. In turn, this independence might force greater discipline on fiscal policies, that is, provide an "agency of restraint" for them. In this section we review the arguments for and against this view.

Some have argued, for instance Hausman et al. (2001) for Latin America, that the theoretical advantage of having monetary policy in reserve to offset asymmetric shocks is in practice not worthwhile. They argue that instead of offsetting asymmetric shocks, monetary policy has typically just produced inflation, no doubt because of absence of effective central bank independence and because of lack of public support for low inflation. Hence tying the hands of the monetary authorities would be a good thing. One way of doing so would be to constrain monetary policy in the context of a monetary union.

The experience of African countries with independent currencies is discussed below, in Chapter V. These countries have not, with a few exceptions, been notably successful in approximating price stability, and it is doubtful whether monetary policy changes that occurred were optimal responses to asymmetric shocks. Instead, in many countries monetary policy has been dictated by the need to finance fiscal policy. In the absence of central bank independence and of debt markets where governments could finance themselves, persistent deficits have led to excessive money creation, as governments have used seigniorage to plug the gap between expenditure and taxes.

A monetary union with a regional central bank might avoid this pitfall. Each country in the union would have less influence over the actions of the central bank than they would have in a national setting; this could enhance the central bank's independence and its ability to resist pressures to provide monetary financing. No longer able to obtain seigniorage revenue on

[3] Nevertheless, even in Europe there was considerable disagreement on whether EMU would produce net gains, and the issue remains open for the EU countries not yet members. See, for instance, UK Treasury (2003).

demand, governments would bite the bullet and tailor their spending to their revenues (or if they borrowed, they would be subject to the discipline exerted by financial markets).

Experience contradicts this sanguine assessment. The CFA franc zone has two regional central banks, yet the independence of the two central banks was compromised in the 1980s by large countries bypassing limits on monetary financing through borrowing by state-owned banks (Guillaume and Stasavage, 2000). This led to a serious economic downturn and a banking crisis, culminating in the 1994 devaluation. Since then, both WAEMU and CAEMC have attempted to put in place additional institutional mechanisms to reinforce fiscal discipline. On its own, monetary union is unlikely to ensure that a regional central bank will be able to resist pressures for monetization.

Though the weaknesses of existing national central banks make it natural to envision creating new institutions, there is no guarantee that a regional central bank would do better. Regional development banks and public investment funds in Africa have sometimes been viewed as just another opportunity for capturing rents or funneling revenues. Hence, design of adequate safeguards is key. We have argued elsewhere in the context of West Africa (Masson and Pattillo, 2002), that it is essential to complement a well-designed institutional framework for the central bank with regional surveillance over fiscal policies that includes sanctions on those governments that run excessive deficits. This conclusion has, we would argue, general relevance to the continent.

In Europe too, despite greater institutional development and a longer historical record of macroeconomic stability, the project of monetary union was attractive in part because it built on the monetary institution with the greatest reputation for monetary rectitude—the German Bundesbank. African countries may not be able to benefit from as credible a model, but should in any case attempt to use what credibility exists rather than rely on the presumptive credibility gains that might accrue to an untried institution. The two existing monetary unions, the CFA franc zone and the CMA, discussed in Chapter IV below, because they have track records of stability and institutional development, are likely to be more credible than *de novo* monetary unions.

C. Will Monetary Union Enhance Regional Integration and Solidarity?

As mentioned above, monetary unions are often favored by politicians because they are a symbol of regional solidarity. It is believed that the creation of such a symbol may bring about forces that lead to stronger regional linkages in other areas too—creating a virtuous circle of closer integration. For instance, monetary union could increase trade, lead to harmonization of fiscal policies, and integrate financial markets. In turn, these changes would increase the net benefits from having a common currency.

In fact, monetary unions (surveyed in Masson and Pattillo, 2001), display very different degrees of integration in other areas. The Eastern Caribbean Currency Union has no coordination of fiscal policies, low trade between member countries, and no harmonization of capital controls. Even the CFA franc zone, despite a history extending more than 50 years, exhibits little financial integration, as banking systems tend to be segmented and regional financial markets rudimentary. Coordination of fiscal policies emerged in earnest only following the 1994 devaluation, which brought home to leaders the deficiencies of the existing system.

An influential recent paper (Rose, 2000) offers empirical evidence in support of the contention that membership in a currency union should increase intra-regional trade by a factor of about 3. We revisit that evidence in the African context in Chapter IV, for the two existing monetary unions (the CFA franc zone and the CMA), and provide some support for Rose's estimates. This enhances the advantages of forming monetary unions in Africa. Even if that estimate is accepted, however, the fact remains that given low per capita income and concentration on primary commodity exports, it is likely that trade within African regional groupings will remain small relative to trade with Europe or Asia.

In Europe the debate over whether creation of the monetary union should precede other forms of integration or rather come later, "crowning" the successes in other fields, was resolved in favor of the latter position. It was felt that the dangers of introducing monetary union when countries were not sufficiently integrated for them to form an "optimum currency area" outweighed the symbolic value of its early creation. Other regions illustrate the possibility that an inadequately designed monetary union or one with insufficiently committed countries may harm, not help, the cause of regional integration. This was the case for the ruble zone at the breakup of the Soviet Union and for the monetary union based on the East African shilling, which broke down as the EAC member countries attempted each to extract seigniorage at the expense of the others (Masson and Pattillo, 2001).

Though the goal of African unity receives much lip service, the reality in Africa is much different. Countries that are members of the same regional organization whose goal is to achieve the closest form of integration are often engaged in overt or covert warfare through supporting rebel groups. Examples include conflicts in Sierra Leone, Liberia, Cote d'Ivoire, Rwanda, the D.R. of the Congo, Angola, and the Sudan. As mentioned above, hostilities among member governments helped to sink the East African Community. The ideal that the existence of a monetary union could effectively curb warlike impulses is dubious. At most, the stability afforded by a common currency could dampen the negative economic effects of civil conflicts. But it seems likely that in the end, hostility between members of a monetary union would simply destroy it. The prospects for a single African currency, which is the goal of the African Union, are discussed in Chapter IX below.

This is not to deny that political objectives are important to the formation of monetary unions, but rather to argue that rhetoric and reality need to be aligned. As we saw in Chapter II, the continued existence of Africa's monetary unions—the CFA franc zone and the CMA—is due in large part to the perceived political self-interest of the major power—France in the former case and South Africa in the latter. While economic advantage may be part of the story, other factors were at least as important: security and regional/global influence. As Cohen (1998) notes, the commitment of a hegemonic power is often a precondition for making a monetary union work.

D. An Augmented OCA Model with Fiscal Distortions

The model that we use to analyze monetary union is described in fuller technical detail in previous papers with Xavier Debrun (Debrun, Masson, and Pattillo, 2002, 2003). It is based on the optimum currency area literature, which focuses on asymmetries of shocks, but further identifies another important asymmetry, political distortions affecting fiscal policy decisions. The model focuses on the monetary impact of country-specific differences in preferences over the size of the government and differences in distortions (political or structural) affecting fiscal

policy (either through tax collection costs, spending diversion, or corruption). The regional central bank is assumed not to be fully independent, but to set monetary policy to reflect *average* conditions (including fiscal deficits) in the region. As a result, countries that were very different with respect to the fiscal distortion would be unattractive partners for a monetary union, because the central bank would produce undesirable outcomes for one or both of them.

In particular, it is assumed that policymakers manipulate fiscal policy to serve their own private objectives. The political distortion is modeled as a wedge between the true socially optimal level of public expenditure (reflecting the population's demand for public goods in the country) and the level targeted by the government. We posit that the government's spending target exceeds the social target by the amount of public resources policymakers wish to devote to the exclusive benefit of themselves and their supporters. For instance, ministers may systematically hire too many civil servants among their constituents to provide a given service to the general public, and approve spending on "white elephants" and wasteful infrastructure projects. This shows up as higher spending than is socially desirable. This political distortion adds a source of divergence among states that is highly relevant in the African context.

Central banks have two incentives to generate inflation. On the one hand, since they are not independent of the government, they reflect the trade-off that society perceives between the costs of tax distortions and inflation. On the other hand, following the insight of Barro and Gordon (1983), they have incentives to stimulate output by monetary expansion (see Jensen 2003 for a modern reinterpretation). We extend their model along the lines of Martin (1995), to encompass another effect of monetary expansion—namely depreciation relative to trading partners, increasing exports (in Martin, this works through direct investment). Systematically using monetary policy to stimulate output, however, is self-defeating, as individuals and firms anticipate the higher inflation and economic activity does not rise. Instead, only inflation is higher, and the exchange rate depreciates continually. Hence, the resulting equilibrium is sub-optimal even from the standpoint of the distorted objectives of the government. The government's decision to join a monetary union will depend on the whether the new regime moves the economy closer to the government's optimum. Monetary union reduces the central bank's incentive to expand monetary policy because the scope for depreciating the currency against neighboring countries is eliminated, as they share the same currency. However, asymmetries (both of shocks and of fiscal policy distortions) can still be a serious problem that produce a welfare loss relative to an independent currency.

We restrict our analysis to a comparison of two benchmark regimes. Under the first regime (autonomy), each country simultaneously sets monetary and fiscal instruments, considering its neighbors' decisions as given. This (Nash) conjecture implicitly assumes complete discretion and flexible exchange rates. Under the second regime (monetary union), fiscal policies remain under the responsibility of national authorities while monetary policy is under the control of a central bank that maximizes a weighted sum of member states' objective functions, leading to the same inflation rate for all the member states. Again, there is no reason to believe that a commitment device would be available to the supranational central bank, so that it continues to internalize the incentives of the member governments proportionally to their weight in the union. However, the big difference with respect to monetary autonomy is that a single government now has a limited impact on joint decisions. Moreover, conflicting demands by different member states may cancel out to the benefit of all.

The properties of the model regarding the incentives to form a regional currency union can be summarized as follows. Those general properties reflect the fact that, as already mentioned, the gains from monetary unification depend on the ability of the new regime to address the excessive inflation problem and the implications of the latter on fiscal strategies.

First, if all countries in the region were identical and subject to the same shocks, then a currency union including all countries would be desirable for all. In such a configuration, the loss of monetary autonomy does not entail any cost since, in line with the OCA literature, the common monetary policy optimally corresponds to everyone's needs. Moreover, all countries benefit from lower inflation because the common central bank internalizes the beggar-thy-neighbor effect of autonomous policies. In that sense, it is spontaneously more "conservative" than a national central bank because the regional central bank cannot exploit the competitive devaluation channel that is available to national central banks. Hence, monetary unification serves as a partial surrogate for the credible appointment of a conservative central banker. As a corollary, the gains from monetary unification tend to increase with the seriousness of the inflationary bias, which itself positively depends on the degree of regional trade integration. In other words, all other things being equal, a group of high-inflation countries would expect to gain more from monetary unification than a group of low-inflation countries.

Second, structural cross-country differences (i.e. differences in size, political distortions or social spending targets) do not necessarily reduce the net gains from monetary unification for all member states. On the one hand, differences in *governments' spending targets* are a source of cost because the union-wide inflation rate will only by chance coincide with a country's desired trade-off between seigniorage and tax revenues. On the other hand, differences in spending targets may also be a source of gains depending on the country's position in the distribution of spending targets. More specifically, a government with a relatively high spending target may get additional benefits from participating in a monetary union with more fiscally conservative neighbors (i.e. countries with lower spending targets) because the latter will exert restraining pressures on the central bank. From the point of view of big spenders, that "imported" monetary restraint represents an extra disciplinary benefit that partly addresses the inflationary bias they face under autonomy. By contrast, the small spenders will incur additional losses stemming from the excessive demands of the big spenders for monetary financing, pushing them further away from the low inflation equilibrium. As the model assumes that the pressure exerted by a country on the central bank is proportional to its size, the country-sizes and spending targets are critical influences on the feasibility of monetary unions: countries with low fiscal distortions will not agree to a monetary union with large undisciplined neighbors.

Third, the model captures the essence of the OCA theory with respect to asymmetric shocks. It assumes that the union-wide inflation target of the common central bank will only accommodate the common component of supply disturbances, that is the average shock across the countries in the union. In our empirical work, these shocks are identified with terms of trade disturbances, consistent with much evidence of developing countries' vulnerability to these largely exogenous shocks. The fact that the central bank cannot tailor its monetary policy to different shocks facing each country makes abandoning an independent monetary policy in the face of country-specific shocks costly, and underscores the role of the joint distribution of supply disturbances in influencing feasible monetary unions.

The calibration of the model to African data is described in the Appendix to this chapter. Essentially, we use the available data for 1995-2000 on African countries' government revenue,

spending, and inflation to fit the model and estimate its parameter values. The comparison of outcomes for these variables across countries with independent currencies and those in monetary unions helps pin down the disciplining effect of a common currency (through its reduction of the temptation to produce inflation and depreciation). Though limited by data problems, the results of this exercise are broadly supportive of the model. Inflation depends positively and significantly on the size of spending targets, and negatively on the extent of trade that is internal to the monetary union. Thus, this empirical application of the model to historical data gives us some confidence that it may shed some light on the economic advantages of monetary union projects. We recognize that this leaves open some of the political motives behind these projects, and we discuss them on a case-by-case basis in the chapters that follow.

Appendix: Calibration of the Model

The main elements of the model (described in Debrun, Masson, and Pattillo, 2002, abbreviated DMP) are a Barro-Gordon supply equation or expectations-augmented Phillips curve extended to include international spillovers from neighbors' monetary policies; the government's budget constraint; and an assumed objective function for the government. Governments exert control over the central bank, so that the former jointly chooses the monetary and fiscal policy instruments to maximize an objective function that depends linearly on higher output, and negatively on squared deviations of inflation from a target that reflects supply shocks, of government spending from its target, and of tax rates. In a monetary union, the central bank is assumed to maximize a weighted average of the member countries' objective functions (where weights reflect relative GDP), while each government chooses its own fiscal policy. In each case, governments satisfy a one-period budget constraint that forces spending to be financed either by taxes or by the country's share of seigniorage (again, in a monetary union this is assumed to be divided up using GDP shares).

The building blocks of the model are thus the following equations:

Supply equation

$$y_i = c\left(\pi_i - \pi_i^e - \tau_i\right) - \sum_{k \neq i, k=1}^{n} \theta_{i,k} c\left(\pi_k - \pi_k^e\right) + \varepsilon_i \ , \ i = 1,...,n \qquad (1)$$

where y is output, τ a tax rate, π is inflation, and ε a supply shock.

Government budget constraint

$$g_i = \mu \pi_i + \tau_i \qquad (2)$$

where g_i is the ratio of government spending to GDP and μ is the inflation tax base.

Government Objective function

$$U_i^G = \frac{1}{2}\left\{-a\left(\pi_i - \tilde{\pi}(\varepsilon_i)\right)^2 - b\tau_i^2 - \gamma\left(g_i - g_i\right)^2\right\} + y_i \qquad (3)$$

where $\tilde{\pi}, \tilde{g}$ are targets for inflation and government spending, respectively.

A monetary union affects the scope for monetary expansion to stimulate output, since one channel for its effect, namely depreciation of the exchange rate, is limited because countries cannot depreciate against other members of the union. Thus, the proportion of trade that is internalized by the monetary union is an important parameter: the greater it is, the lower is the incentive to stimulate output beyond its potential through monetary expansion. As in the Barro-Gordon model, this temptation is self-defeating since its systematic use produces needless inflation without stimulating output. However, we retain a *stabilization* role for monetary policy, so that there is some value to retaining monetary policy discretion—it is not always better to tie

the hands of the monetary authorities, as in a monetary union. Secifically, we assume $\tilde{\pi}(\varepsilon) = -\eta\varepsilon$, i.e, that the inflation target is affected by the supply shock.

A key linkage in the model is the effect of spending targets on inflation and taxes, since higher spending needs to be financed one way or the other. Membership in a monetary union moderates the influence of a country's spending target on inflation relative to having an independent currency. In reality, spending (as ratio to GDP) differs across countries for various reasons. Countries with higher per capita incomes can generally afford to offer more government services, as both revenues and spending rise in tandem, and this component causes no problem for inflation. Thus, we estimate the relationship to per capita income of spending and revenues together, and evaluate spending at an *average* level of per capita GDP (across all African countries in our sample). However, a second force tending to increase spending targets is the attempt by governments in power to reward their supporters—that is, it is a symptom of cronyism or corruption. We argue that this component of spending targets is a form of distortion; moreover, it is unlikely to be matched by higher tax revenues so that it would put pressure on the central bank to generate higher inflation and seigniorage.

The model implies that inflation π and tax revenues τ (as a ratio to GDP) will be determined differently in countries with independent currencies compared to those that are members of a monetary union. In particular, we can summarize the model as

$$\pi_i = \frac{\gamma\mu b}{\Lambda}\tilde{g}_{Ai} + \frac{\gamma(1+\mu)+b}{\Lambda} - \frac{b+\gamma}{\Lambda}\theta_{Ai} - \frac{\eta a(b+\gamma)}{\Lambda}\varepsilon_{Ai} \qquad (4)$$

$$\tau_i = \frac{a\gamma}{\Lambda}\tilde{g}_i + \frac{\gamma^2\mu^2 b}{(b+\gamma)\Lambda}(\tilde{g}_i - \tilde{g}_{Ai}) - \frac{a+\gamma\mu(1+\mu)}{\Lambda} + \frac{\gamma\mu}{\Lambda}\theta_{Ai} + \frac{\eta\gamma\mu a}{\Lambda}\varepsilon_{Ai} \qquad (5)$$

where $\tilde{g}_i$ is country i's own spending target, $\tilde{g}_{Ai}$ is the average over the spending targets for the monetary union of which *i* is a member (and equal to $\tilde{g}_i$ for a country not in a monetary union), θ_{Ai} is the proportion of trade internalized by the monetary union (equal to zero for a country not in a monetary union), ε_{Ai} is the average over the supply shocks in the monetary union (or the country's own shock, if not in a monetary union), a, b, γ, μ, η are positive parameters, and $\Lambda = a(b+\gamma) + \gamma\mu^2 b > 0$. We use the two equations above to derive the parameter values, noting that the third term in the inflation equation, and the second and fourth terms in the tax equation, are zero for countries that are not in a monetary union.

The first step requires an estimate for the spending targets. We note that spending and revenues tend to rise with per capita incomes; since this part does not put financing pressures on the central bank, we remove its effect from both series, by evaluating them at the average (weighted by GDP) per capita income across our sample of 32 countries for which we have complete data (which equaled $1,759 in 1995-2000)[4].

[4] Table III.2 includes data for 34 countries, but Angola and the Democratic Republic of the Congo have poor data resulting from high inflation and periods of civil war, and were excluded from our calibration.

Estimating a quadratic function of per capita income confirms the positive relationship, which flattens out as income rises. The following table gives maximum likelihood estimates of

$$\begin{pmatrix} g_i \\ \tau_i \end{pmatrix} = g_0 + g_1 y_i + g_2 y_i^{\,2} + \begin{pmatrix} u_i \\ v_i \end{pmatrix} \qquad (6)$$

Table III.1. Estimates of Spending and Revenue Ratios as Functions of Per Capita Income

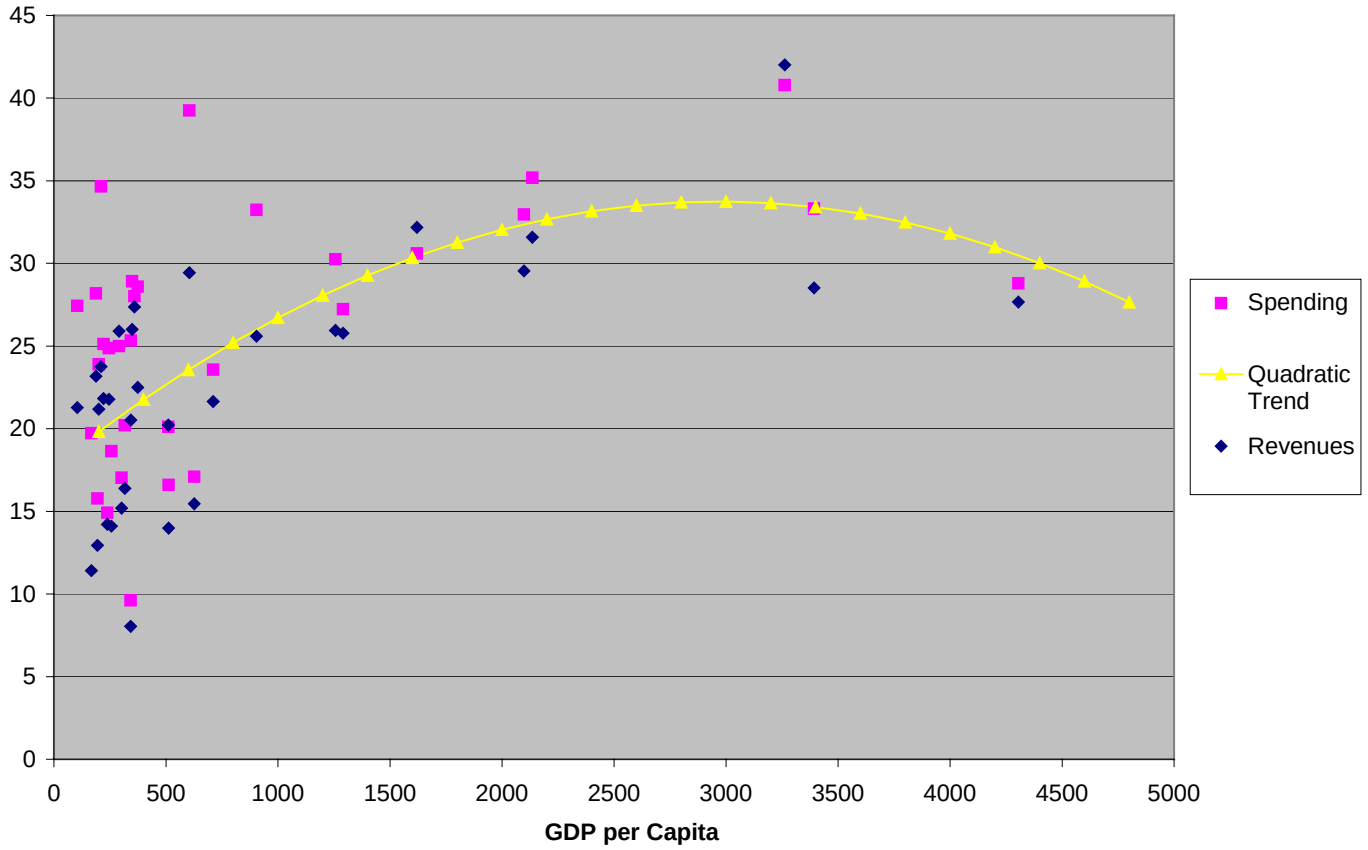
	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
g0						
	.1774154	.0133362	13.30	0.000	.1512769	.2035539
g1						
	.1078046	.0243236	4.43	0.000	.0601313	.1554779
g2						
	-.0181573	.0062355	-2.91	0.004	-.0303787	-.005936
$\log(\sigma_u)$						
	-2.95668	.1313506	-22.51	0.000	-3.214122	-2.699238
$\log(\sigma_v)$						
	-2.765808	.1313506	-21.06	0.000	-3.02325	-2.508365

Spending and revenue ratios are decimal fractions, while per capita income is in thousands of dollars. The quadratic implies that the maximum tax or spending ratio is reached at a per capita income of about $3000 (Chart III.1). We label the spending and tax ratios purged of the per capita income effect, i.e. predicted values at average per capita income $\bar{y} = 1.759$ plus the residuals from the above equations, as $\overline{g_i}$ and $\overline{\tau_i}$, respectively:

$$\begin{pmatrix} \overline{g_i} \\ \overline{\tau_i} \end{pmatrix} = g_0 + g_1 \bar{y} + g_2 \bar{y}^{2} + \begin{pmatrix} u_i \\ v_i \end{pmatrix} \qquad (7)$$

The next step concerns estimating the unobservable component of spending that corresponds to distortions leading to overspending. A practical difficulty in estimating excessively high spending objectives is that politically motivated outlays also *divert* resources from socially desirable projects rather than come on top of socially optimal expenditure plans. As a result, *actual* budget figures are more likely to reflect *underspending* on social priorities such as health and education instead of overspending at the aggregate level. To reconcile this feature of the data with the model's assumption, as in Debrun, Masson and Pattillo (2002) we assume a mapping from the extent of *actual* resource diversion (viewed as underspending on priority sectors) to the overspending bias affecting the model's unobservable *targets*.

Chart III.1 Government Spending and Revenues as Percent of GDP



Source: World Bank Africa Database 2002.

Table III.2. Expenditure on Priority Sectors: Estimates of the Diversion Effect

	ICRG Institutional Quality Index	Health (1999)		Education (1999)		Diversion in Percent of No Diversion
		Actual	No Diversion	Actual	No Diversion	
Algeria	4.88	3.3	4.4	n.a.	n.a.	25.1
Angola	4.20	3.9	5.2	n.a.	n.a.	25.5
Botswana	6.51	2.4	3.3	4.0	4.6	18.3
Burkina Faso	4.31	1.2	2.6	2.0	2.9	42.2
Cameroon	5.09	1	2.4	n.a.	n.a.	57.6
Congo, Dem. Rep.	1.96	1.2	3.3	n.a.	n.a.	63.4
Congo Rep.	4.23	1.8	3.0	6.1	7.0	20.9
Cote d'Ivoire	5.53	1.2	2.3	5.5	6.2	21.5
Egypt	5.61	1.8	2.9	n.a.	n.a.	37.4
Ethiopia	3.56	1.4	2.9	2.7	3.7	37.9
Gabon	4.99	1.9	3.4	n.a.	n.a.	43.4
Gambia, The	5.62	1.6	2.6	2.6	3.2	29.3
Ghana	5.56	1.4	2.7	n.a.	n.a.	47.7
Guinea	4.59	2.1	3.3	1.6	2.4	35.7
Guinea-Bissau	2.59	1.1	2.9	n.a.	n.a.	62.7
Kenya	5.69	n.a.	3.5	n.a.	6.0	19.0
Madagascar	4.95	2.4	2.0	5.3	3.4	31.5
Malawi	4.13	n.a.	4.7	n.a.	3.3	28.9
Mali	3.42	1.1	3.4	2.6	3.2	38.2
Morocco	5.64	3.3	2.7	2.4	5.3	26.0
Mozambique	4.77	1.9	3.0	2.2	2.2	38.9
Namibia	7.07	1.3	4.8	4.6	8.3	9.3
Niger	3.96	1.8	2.8	1.4	n.a.	49.9
Nigeria	4.20	4	2.4	7.8	n.a.	70.6
Senegal	5.27	1.4	3.6	n.a.	4.3	21.6
Sierra Leone	2.98	0.7	2.7	n.a.	2.2	57.6
South Africa	7.07	2.6	3.8	3.6	6.8	9.1
Sudan	2.66	1	2.6	1.1	1.9	67.1
Tanzania	5.14	n.a.	2.3	n.a.	3.4	34.1
Togo	3.41	3.3	2.8	6.3	5.2	34.0
Tunisia	5.53	0.7	3.4	0.8	5.9	21.0
Uganda	4.06	1.1	3.3	2.6	4.4	32.1
Zambia	4.47	1.1	4.5	4.2	3.1	25.9
Zimbabwe	5.60	2.2	4.1	5.2	7.3	16.3

Sources: www.icrgonline.com, World Bank Africa database.

Note: The health expenditure regression includes a constant, the log of GDP per capita at PPP (average 1990–97), an index of institutional quality (simple average of ICRG indices for political stability, democratic accountability and corruption, ranging from 0–10, higher numbers indicating better institutions), a dummy identifying countries with HIV/AIDS prevalence rate above 10 percent, life expectancy and infant mortality. The sample consists of 34 African countries and estimates were obtained by OLS. The education expenditure regression includes a constant, the log of GDP per capita at PPP (average 1984–98), illiteracy and an interaction variable between illiteracy and institutional quality (simple average of ICRG indices for political stability, democratic accountability, corruption, rule of law and bureaucratic quality). Here, the sample only consists of 24 Africa countries due to missing data.

Table III.3 Selected Indicators, Averages 1995-2000
(Percent of GDP, unless noted otherwise)

Country Name	Gov't Revenue[1]	Gov't Spending	Overall surplus/deficit[1]	Inflation[2]	GDP per cap (Cur. US$)	Gov't Spending at average income[2]	Diversion[2]	Spending Target[3]
Algeria	32.18	30.60	1.57	10.4	1621	31.25	25.06	43.78
Angola	44.29	57.12	-12.83	1271.4	586	64.77	25.50	77.52
Benin[4]	19.08	19.48	-0.40	5.6	370	29.09	34.57	46.37
Botswana	42.02	40.79	1.23	9.9	3262	38.29	18.33	47.45
Burkina Faso	21.82	25.12	-3.29	3.1	222	36.16	42.21	57.26
Cameroon	15.45	17.09	-1.64	6.9	626	24.40	57.63	53.21
Congo	25.60	33.24	-7.63	6.2	904	38.32	20.94	48.79
Cote d'Ivoire	21.64	23.58	-1.94	3.9	711	30.18	21.51	40.93
Egypt, Arab Rep.	25.78	27.24	-1.46	5.5	1291	29.70	37.36	48.38
Ethiopia	21.28	27.44	-6.16	3.3	104	39.69	37.91	58.64
Gabon	27.67	28.80	-1.13	2.1	4305	29.38	43.39	51.07
Gambia	20.53	25.33	-4.80	2.6	343	35.19	29.33	49.85
Ghana	22.50	28.60	-6.10	31.8	374	38.17	47.70	62.02
Guinea	13.99	16.60	-2.61	4.5	512	24.90	35.71	42.75
Guinea-Bissau	23.75	34.66	-10.91	27.6	210	45.83	62.68	77.17
Kenya	27.37	28.01	-0.65	6.6	359	37.72	19.00	47.22
Lesotho[5]	46.00	47.00	-1.00	7.8	459	55.78	12.26	61.91
Madagascar	14.11	18.64	-4.53	16.9	257	29.34	31.46	45.07
Malawi	23.17	28.18	-5.01	38.5	187	39.58	28.92	54.04
Mali	21.77	24.88	-3.11	3.4	246	35.69	38.16	54.77
Mauritius[5]	20.81	25.88	-5.07	6.1	3620	24.00	12.26	30.13
Morocco	25.95	30.25	-4.30	2.6	1256	32.92	25.98	45.91
Mozambique	21.18	23.89	-2.71	20.3	200	35.16	38.85	54.58
Namibia	31.58	35.18	-3.59	8.5	2136	33.78	9.34	38.45
Niger	12.95	15.78	-2.83	4.0	195	27.10	49.94	52.07
Nigeria	25.90	25.00	0.90	22.4	290	35.37	70.57	70.65
Senegal	20.21	20.11	0.10	2.6	511	28.43	21.61	39.23
Seychelles[5]	45.11	56.64	-11.53	2.0	7416	89.90	12.26	96.03
Sierra Leone	11.41	19.73	-8.32	22.1	167	31.33	57.61	60.13
South Africa	28.52	33.31	-4.78	7.0	3393	30.98	9.12	35.54
Sudan	8.04	9.61	-1.57	60.7	342	19.48	67.06	53.01
Swaziland[5]	29.89	30.39	-0.50	8.7	1370	32.38	12.26	38.51
Tanzania	14.22	14.91	-0.69	17.5	238	25.80	34.11	42.85
Togo	16.38	20.19	-3.81	4.7	317	30.31	33.99	47.30
Tunisia	29.54	32.97	-3.42	3.7	2098	31.69	20.96	42.17
Uganda	15.19	17.03	-1.84	5.5	302	27.30	32.14	43.37
Zambia	26.00	28.91	-2.91	30.6	349	38.72	25.94	51.69
Zimbabwe	29.44	39.25	-9.81	34.4	604	46.75	16.34	54.92

Source- World Bank Africa Database, 2002 and calculations reported in Table III.2

1/ Including grants

2/ Percent

3/ Government spending at average income plus diversion/2

4/ Diversion estimate for Benin is calculated as the average for other WAEMU countries (excluding Guinea-Bissau)

5/ Diversion estimate for Lesotho, Mauritius, Seychelles and Swaziland is calculated as the average for Botswana, Namibia, and South Africa

A plausible interpretation of that mapping is that politicians perceive the optimal spending target spending target as the "true" socially desirable level to which privately motivated outlays are added.

We proceed in four steps to assess spending distortions in each country. First, we estimate the impact of institutional quality on health and education outlays (socially desirable expenditure), using cross-sectional regressions of the latter on indices of institutional quality and corruption and control variables–including GDP per capita[5]. The corruption and institutional quality measures are taken from other studies[6]. Second, the estimated equations allow us to calculate hypothetical outlays one would observe in the absence of institutional imperfection, that is in the case where institutional indices would be at their maximum value. Third, any underspending bias is interpreted as the amount of resources diverted from socially desirable goals because of "institutional failures". Fourth, we calculate a diversion wedge as the difference between actual and calculated outlays on priority sectors as a percentage of the hypothetical amounts.

Table III.2 presents the estimates of diversion obtained using this methodology, as well as the underlying data on institutional quality. We further assume that diversion is a symptom of too high spending targets, because it aims at unproductive spending that involves corruption and rewarding supporters. Since we do not know exactly by what amount the distortion leads to *diversion* rather than *increases* in spending, we halve the percentage diversion and add this to the residuals from the first step. This gives us our spending targets with systematic effects of per capita income removed. They are reported in Table III.3, along with actual government revenue and expenditure data, rates of inflation, and the calculated values for $\overline{g_i}$ as defined in equation (7). We augment the set of 34 countries with diversion estimates for 5 additional countries which will be important when studying monetary unions, based on figures for neighboring countries with similar rates of inflation. The diversion estimate for Benin is taken to be an (unweighted) average of those for other WAEMU countries, while diversion for Lesotho, Mauritius, Seychelles and Swaziland are all set equal to an unweighted average for Botswana, Namibia, and South Africa.

The estimate of μ, which is the size of the inflation tax base, is important because it affects the ability to finance the government using seigniorage. The budget constraint each country faces is given by (2) above. The model assumes the same parameter for all countries, and we calculate it by a GDP-weighted sum over the 32 core countries in Table III.3:

$$\hat{\mu} = \frac{\sum \omega_i (g_i - \tau_i)}{\sum \omega_i \pi_i} = 0.481. \qquad (8)$$

Another important parameter is the trade that is internalized by the monetary union. The monetary unions that are present in our African data are the two CFA zones and the CMA. The CFA franc zones (WAEMU and CAEMC) have the particularity that their common parity is fixed in terms of the euro (following the replacement of the French franc by the single European currency); this limits the scope for a monetary expansion by the BCEAO or BEAC to stimulate

[5] See Gupta et al. (1997; 2000).
[6] International Country Risk Guide (ICRG), produced by PRS Group (www.icrgonline.com); Kaufman et al. (1999).

output, since the exchange rate cannot depreciate against the euro[7]. Our parameterization is based on the amount of trade that is conducted at the CFA franc's fixed parity: the high value for the ratio of exports to both CFA franc zones and to the euro zone as a ratio of the region's GDP, θ_A, implies limited scope for monetary independence. It can be seen that for both WAEMU and CAEMC, exports to CFA franc/euro zone countries divided by GDP exceed one-eighth. The CMA, in contrast, is based on a floating rand; therefore, its value for internalized trade is much lower. Estimates are given in Table III.4.

Table III.4. Values for θ_A

WAEMU	.1256
CAEMC	.1652
CMA	.0605

Sources: IMF Direction of Trade Statistics, International Financial Statistics, for year 2000.

With these preparations, we can use equations (4) and (5) above to estimate the other parameters. In particular, we estimate for the 32 countries for which we have spending targets

$$\pi_i = a_0 + a_1 \bar{g}_{Ai} + a_2 \theta_{Ai} + \varepsilon_{\pi i} \qquad (9)$$

$$\bar{\tau}_i = b_0 + b_1 \bar{g}_i + b_2 \theta_{Ai} + b_3 (\bar{g}_i - \bar{g}_{Ai}) + \varepsilon_{\pi i} \qquad (10)$$

Estimates of coefficients accompanied by t-ratios, obtained by using "seemingly unrelated regression" (or SUR), are given in Table III.5. Consistent with the model, spending targets (purged of the systematic part related to per capita income, and averaged over members of a monetary union) have a strong impact on inflation (a_1), while being a member of a monetary union significantly reduces inflation (a_2). Estimation of the tax equation, equation (10), also gives results that are consistent with theory (the constant terms in each case are dependent on normalization of revenues and spending and hence need not have the sign predicted by theory): higher spending targets lead to higher taxes (b_1) while within a monetary union, the higher spending target countries relative to the average show an even higher tax rate. Because the monetary policy reflects the average spending target, inflation is lower than optimum for high-spending-target countries, meaning that tax revenues there need to be increased further. The latter effect (b_3) is not significant, however. The coefficient (b_2) of θ_A, which theory says should be positive, in our estimates is negative.

[7] It is still possible to have a different monetary policy than that in the euro zone, because capital mobility is not perfect, and moreover the French treasury guarantees the parity through the potentially unlimited support provided by its operations account. In practice the scope for monetary independence is clearly limited, and there are institutional checks on that independence when reserves of the CFA franc countries fall too low.

Table III.5. SUR Estimates, Equations (9)-(10)

```
Seemingly unrelated regression
------------------------------------------------------------------------------
Equation           Obs  Parms        RMSE    "R-sq"       chi2        P
------------------------------------------------------------------------------
       (9)          32      2    .1149608    0.2877      12.93   0.0016
      (10)          32      3    .0463683    0.1456       6.92   0.0744
------------------------------------------------------------------------------
      (9)       coefficient  std. err.    t     P>|t|      [95% conf. interval]
      a1     |    .7985308   .2826389     2.83   0.005     .2445687    1.352493
      a2     |   -.4031944   .1980567    -2.04   0.042    -.7913784   -.0150104
      a0     |   -.2301882   .1408816    -1.63   0.102    -.5063111    .0459348
-------------+----------------------------------------------------------------
     (10)
      b1     |    .2016095   .1150248     1.75   0.080    -.0238349     .427054
      b2     |   -.0897106   .0802053    -1.12   0.263      -.24691    .0674888
      b3     |    .0415647   .1591399     0.26   0.794    -.2703438    .3534732
      b0     |    .2005066   .0575407     3.48   0.000     .0877289    .3132844
------------------------------------------------------------------------------
```

We use the coefficients with the correct signs in the two equations to estimate the parameters *a,b,* and γ. In particular, equating a_1, a_2, b_1, b_3 to the corresponding expressions in equations (1) and (2), we can derive

$$\hat{a} = -\frac{\hat{\mu}\, a_1 b_1}{a_2 b_3}, \qquad \hat{b} = -\frac{a_1^{\,2}}{a_2 b_3} \quad \text{and} \quad \hat{\gamma} = -\frac{a_1^2}{a_1 a_2 \hat{\mu} - a_2 b_3}.$$

The resulting estimates are given below:

parameter	First estimate	Final estimate
a	4.620711	0.9569204
b	38.0491	7.87973
γ	4.617129	8.623756

The estimates of *a* and *b* are not well determined because the denominator is close to zero. If we increase the value of the coefficient b_3 by one standard error, then the denominator increases away from zero, yielding estimates that seem more sensible and much closer to that obtained using a different methodology (Debrun, Masson, and Pattillo, 2002, Appendix). We adopt them as our final estimates here. In that paper, we also examine the sensitivity of evaluations of the net benefits of monetary union to changes in the parameters, and conclude that those evaluations are reasonably robust to changes within the range of estimates given above.

Finally, the value of η captures the stabilization role for monetary policy. We normalize this parameter to unity, meaning that a negative supply shock (i.e. terms of trade shock) leads to an equal percentage point increase in the target for inflation.

10/14/03

Chapter IV: Lessons from Two African Monetary Unions: the CFA Franc Zone and the South African CMA

It is natural when analysing the prospects for monetary integration in Africa to examine first the two examples of monetary unions on the continent: the CFA franc zone (or, to be more precise, the two regions composing it[1], namely the West African Economic and Monetary Union, or WAEMU, and the Central African Economic and Monetary Community, or CAEMC), and the Common Monetary Area based on South Africa's rand. These monetary unions also have the advantage for our purposes of having been in place for a long time, albeit having evolved somewhat over the course of their existence: monetary union in southern Africa dates back to the early years of the 20th century, while the CFA franc zone was formed at the time of the Second World War. Thus, the effects of monetary union should have shown themselves by now.

As discussed in the previous chapter, some have claimed that monetary union will of itself greatly stimulate trade and will promote fiscal discipline and regional convergence. Data for these monetary unions can help test these hypotheses. Arguably, the experience of these monetary unions will be more relevant to other proposed monetary unions in Africa, than, for instance, data for the EU, because there may be special characteristics and common features that prevail on the continent, including a relatively similar level of institutional development. At the very least, a detailed examination of these cases can supplement a more inclusive but broad-brush econometric analysis of country examples drawn from a global sample.

A. The CFA Franc Zone

As described in Chapter II, the CFA franc zone was created by France during its colonial occupation of Africa, but unlike other regional monetary arrangements imposed by European powers it survived decolonization, thanks to the efforts made by France to maintain it. France continues to provide a guarantee of convertibility of the CFA franc into the euro, at a fixed exchange rate parity. The CFA/French franc exchange rate, which had remained unchanged for almost 50 years, was increased by a factor of two in 1994, helping to resolve a long crisis that was associated with the overvaluation of the CFA franc.

The fixed parity with the euro (before 1999, to the French franc) at a considerably constrains the scope for an independent monetary policy in the CFA franc zone. Accordingly, a key indicator guiding monetary policy is the reserve cover ratio, that is the ratio of foreign exchange reserves to the short-term liabilities of the central bank. When that indicator declines below 20 percent for three consecutive months, then emergency measures must be taken by the central bank to protect the parity: increases in official interest rates and reductions in refinancing ceilings. An agreement with France provides for at least 65 per cent of reserves to be held with

[1] The two regions issue two distinct versions of the CFA franc: in West Africa, it is called the franc of the "Communauté Financière Africaine" and in Central Africa, the franc of the "Coopération Financière en Afrique Centrale." Thus, the two currencies are distinguishable and are not freely exchangeable, and they may face different devaluation risk (Vizy, 1989, p. 50). In fact, the CFA franc zone also includes Comoros, with its own currency and central bank, and France, which guarantees the parities of the 3 currencies against the euro. See the annual report of the *Zone Franc* (Bank of France, 2002).

the French Treasury, in the operations account. I If that account goes into deficit for 30 days, then specific measures are also triggered: reduction by 20 percent of refinancing ceilings for countries in deficit, and by 10 percent for countries whose surplus is less than 15 percent of its money supply. This limits the potential liability of the Treasury and provides an extra rule-based element of credibility to the existing parity.

Reserves for the WAEMU and the CAEMC are pooled at the respective central banks. However, these reserves are attributed to each of their respective member countries, as is the monetary circulation (with a grid used to estimate the shares of each country in the total currency outstanding). Similarly, monetary programming in each of the two regions is built up from country-by-country estimates of GDP growth (leading to an estimate for money demand) and credit demand from the private and public sectors. The latter produces individual country ceilings for central bank credit to the economy. In fact, however, these ceilings are not rigidly enforced (Parmentier and Tenconi, 1996, pp. 133-43). Questions can be raised about whether a country-by-country monetary programming exercise makes sense in an integrated monetary area; if there is a single monetary policy (as is the case for WAEMU and CAEMC separately), the distribution of the money supply across countries should have little importance, and be purely endogenous and demand determined[2]. Similarly, in an integrated banking system it should not matter whether a loan is made from a bank in country A to a firm or individual in country B, nor what proportions of total bank assets are held in each of the two countries.

The two regions composing the CFA franc zone have regional institutions[3] that supervise their respective banking systems, and banks in principle can establish branches in any member country. Banks need only obtain a single banking permit, the *agrément unique*, to operate within either WAEMU or CAEMC. However, in practice banks do not operate across borders, nor does either region have an effective regional money market. In addition to the *agrément unique*, banks need to get the permission of the national finance ministry to set up shop, and this seems to be used to protect local banks. Thus, there are restrictions on the ability of banks to operate in several countries and banks are reluctant to lend across borders in either region (IMF 2002b; Hernández-Catá et al., 1998). Another feature that interferes with creation of a level playing field is the existence of bank reserve requirements that are differentiated by country in WAEMU (but not in CAEMC).

Continued use of a country-by-country monetary programming exercise no doubt in part reflects the reality that neither the WAEMU nor the CAEMC is in fact a perfectly integrated monetary zone. Another factor explaining its existence is that the loans made by the central bank to national treasuries are subject to a ceiling that is equal to the country's fiscal revenues in the previous year. This situation will change with the implementation of decisions made in both WAEMU and CAEMC to eliminate monetary financing of treasuries. Its elimination would make it easier to move to a system in which there was an overall refinancing target for the zone, and lending by the central bank involved repo or other operations with commercial banks, regardless of their location in the zone. In WAEMU, the Council of Ministers decided in September 2002 that the BCEAO would not provide new government financing as of January,

[2] Ndiaye (2000) finds that there is not much heterogeneity across national money demands in West Africa, so that a WAEMU money demand function performs well compared to individual country demand functions.
[3] The *Commission bancaire*, located in Abidjan, for WEAMU, and the COBAC, located in Bangui, for CAEMC.

2003, and that outstanding balances would be repaid over a period of 10 years. The timetable for a similar phase-out in CAEMC had yet to be finalized at time of writing.

Similarly, the constraint on monetary policy that is imposed by the peg to the euro would, in the limiting case of perfect capital mobility (and a perfectly credible peg), imply that the central bank was obliged to follow interest rates set by the European Central Bank. Neither official rates nor money market rates exactly track those in the euro area; in fact, there can occasionally be large discrepancies that persist for months. Though freedom of capital movements between WAEMU and CAEMC, on the one hand, and France (now the euro zone) on the other hand, is enshrined in regulations, in practice there are administrative frictions and de facto restrictions that make capital mobility less than perfect. This, and doubts that the parity will remain fixed forever, help explain the existence of interest differentials. While imperfect capital mobility affords some degree of independence of monetary policy, imperfect credibility puts additional constraints on the central bank, forcing it to maintain higher interest rates than in the euro zone. Moreover, the attempt to exploit systematically any available independence would surely raise questions concerning the commitment of the central bank to the exchange rate parity against the euro, and might provoke much larger capital movements than normal.

1. Other aspects of regional integration

The CFA franc zone regions have also, over time, reinforced other aspects of cooperation among their member countries, in three areas: trade, structural policies, and macroeconomic surveillance. Encouraging regional trade through a free trade area has long been an objective, and each zone has had several trade pacts, which met with mixed success as agreed measures were not always implemented and in practice internal trade was not free of barriers.[4] Regional structural policies and macroeconomic coordination were largely absent during the first 40 years of the CFA franc zone. However, the crisis leading to the devaluation of 1994 reinforced the recognition that monetary union needed to be accompanied by other aspects of regional cooperation. Accordingly, the member countries in each zone agreed to form regional *economic* and monetary unions, creating the existing WAEMU and CAEMC,[5] whose objectives are to promote regional integration and macro-economic policy coordination. Economic integration and coordination are promoted by new supranational institutions (in addition to the existing central banks): a Commission in WAEMU and an Executive Secretariat in CAEMC. In each case, a common external tariff, with 3 or 4 rates ranging up to 30 percent, has been put in place, creating customs unions in the two regions, though consistent application of the tariff rates for imports from outside the region remains to be achieved, and the transition to tariff-free intra-regional trade is not complete. Structural policy coordination has included establishing a common business law, OHADA,[6] and harmonizing indirect taxes, on which however more

[4] In west Africa, a customs union (UDEAO), formed in 1966, had a uniform tariff of 50 percent on all intra-zone trade, and its successor created in 1974, had preferential tariff rates which applied only to a limited number of manufactures. In central Africa, the UDEAC similarly had preferential tariffs, but these were later restricted in scope. See Parmentier and Tenconi (1996).

[5] The WAEMU treaty was signed in 1994, and approved by all member countries in that year. The CAEMC treaty, also signed in 1994, went into effect in 1998, when it replaced the UDEAC.

[6] OHADA stands for Organisation d'Harmonisation en Afrique du Droit des Affaires. The treaty, signed on October 17, 1993 in Port Louis (Mauritius) has been ratified by 16 countries: all the members of UEMOA and CAEMC, Comoros, and Guinea.

progress has been made in WAEMU than in CAEMC. In particular sectors, governments have agreed to joint projects and harmonization, e.g. in the areas of telecommunication, transportation, agriculture, and industrial policy. These various initiatives have as objective to facilitate cross-border linkages and to reduce business costs.

A third important area for cooperation has been regional surveillance over macroeconomic policies. In this regard, member countries have recognized that fiscal policy, if not disciplined, has the potential to interfere with the proper functioning of a monetary union. Indeed, the 1994 devaluation was provoked in part by the fiscal excesses of some of the larger countries, in particular Côte d'Ivoire and Cameroun, which also managed to extract seigniorage through borrowing from the central bank by state controlled banks. In instituting criteria for fiscal policy convergence, the two regions have been guided by the example of the European Union, which has used criteria for the public deficit and debt ratios to GDP as conditions for countries to join EMU,[7] and then as ongoing conditions to be satisfied within EMU, according to the provisions of the Stability and Growth Pact.

The current criteria for regional surveillance are given in Table IV.1. Though initially the two regions' criteria differed somewhat, they are now essentially the same. In each case, the fiscal deficit measure excludes grants, and also spending on public investment that is externally financed. The reason for these adjustments is that including grant revenue may give too rosy a picture of a country's prospects for achieving fiscal policy sustainability. On the expenditure side, projects that are linked to grants may also be associated with temporary, one-off spending, and hence are excluded. Though in practice a distinction should be made between grants and foreign commercial financing, in practice most of the foreign financing for public investment is likely to be on concessional, not commercial, terms. The target for the adjusted deficit is a zero balance.

Table IV.1. WAEMU and CAEMC: Convergence Criteria

Variable	Reference Value
Primary Criteria	
Basic fiscal balance (fiscal position excluding grants and excluding public investment financed externally)	At least 0
External public debt/GDP	No more than 70 percent
Rate of inflation	No more than 3 percent
Payment arrears	No accumulation (and reduction of existing stock)
Secondary Criteria	
Public sector wage bill/government revenues	No more than 35 percent
Government revenue/GDP	At least 17 percent
Domestically financed public investment	At least 20 percent of tax receipts
Current account deficit, excluding grants/GDP	Less than 3 percent

Source : www.ifz.net

A ceiling is also specified for total domestic and external debt, which is not to exceed 70 percent of GDP[8]. The origin of the debt, concessional or commercial, is not specified, though the sustainability of a given debt stock would depend significantly on the rate of interest charged.

[7] And also criteria with respect to the rate of inflation, long-term bond rates, and exchange rate stability.
[8] For most countries, domestic debt is small, given the rudimentary state of government bond markets.

In practice, many of the countries concerned have started from situations of high indebtedness, recently alleviated to some extent by the Highly Indebted Poor Country (HIPC) initiative of the IMF and the World Bank to write down the debt they owe, and by debt forgiveness by G-7 and other industrial countries.

In addition to criteria on the overall fiscal policies of member countries, the two regions have also targeted specific aspects of their fiscal policies. This has included the ratio of fiscal revenues to GDP, considered too low in most member countries; the ratio of public wages and salaries to fiscal revenues, considered too high; and spending on public investment, for which the target is above what most governments spend.

The process of regional surveillance has experienced setbacks in implementation that have hindered achievement of agreed objectives. Difficulties include getting national authorities to produce reliable and comparable data, focusing their attention on the key deficit criterion and away from the multiplicity of secondary criteria, making governments take a serious interest in examining policies in neighboring countries, and creating effective procedures for imposing sanctions in case of noncompliance. In the early years, the central banks in the two regions were the only regional institutions able to marshall data and prepare the necessary documentation for regional surveillance meetings. This responsibility has now passed to the Commission of the WAEMU and the Executive Secretariat of the CAEMC. However, data problems persist. The attention given to regional surveillance has increased as experience has been gained. In 1999, WAEMU countries agreed to the Convergence, Stability, Growth, and Solidarity Pact, which mandated a convergence phase over 2000-2002 and a stability phase starting in 2003 after which countries would be expected to meet the criteria. However, given the difficulties encountered by countries in meeting the criteria, the heads of state and government of the WAEMU decided in January, 2003, to postpone the stability phase until January 1, 2006, after which time all member states should meet the primary criteria. CAEMC countries approved new convergence criteria and surveillance procedures in 2001. The success that countries have had in meeting the criteria is reviewed in section 3 below.

2. Has monetary union been associated with increased trade and growth, and lower inflation?

Adopting a common currency lowers transactions costs for regional trade, since purchasing goods from neighboring countries no longer involves changing currencies. As a result, a monetary union could be expected to increase regional trade, as would forming a free trade area or common market. It may be hard, however, to distinguish the purely monetary union effects from other aspects of regional integration, since the two are often associated, as is described above for WAEMU and CAEMC.

Table IV.2 gives the extent of regional trade within these two CFA franc zone regions, between the two of them, and between them and France. Trade both between the two regions and with France involves a currency exchange, since neither region's CFA franc is legal tender in France. However, such an exchange should in principle be free of commission. Intra-regional trade is modest, especially within CAEMC, and practically non-existent between the two, but very substantial with France.

It is, of course, necessary to have a standard with which to evaluate whether the extent of intra-regional trade is out of the ordinary. This is provided by the "gravity model," which has been tested extensively and seems to capture well the determinants of bilateral trade between countries. It predicts that larger countries exert a greater gravitational pull on imports and push to exports; that richer countries (in per capita terms) also tend to have higher trade; and that trade diminishes with distance. The model, estimated in log form, generally gives a good empirical fit across a range of countries (but as we will see below, does not do a good job predicting CFA trade). See Box IV.1 for the coefficient estimates when the gravity model is applied to Africa; they suggest that membership in the same currency union has a positive effect on trade between African countries, and this effect is very close to the estimates obtained from the global sample.

Table IV.2. CFA Franc Zone: Intra-Regional Trade and Trade with France, (actual and predicted by gravity model, as a percent of total trade in 1997-98)

Region	**WAEMU**	**CAEMC**	**CFA 1/**
Actual trade			
Intra-regional	9.4	2.8	7.8
With France	43.4	32.9	38.7
Predicted trade with currency union dummy			
Intra-regional	2.5	2.5	2.2
With France	42.7	38.2	41.2
Predicted trade without currency union dummy			
Intra-regional	1.3	1.0	1.2
With France	41.0	36.5	39.5

Sources: Actual data from DOT, IFS; predictions using estimated coefficients from Box IV.1.
1/ excluding Comoros

It is also of interest to look at the effect of currency union on trade in specific regions. Table IV.2 also gives the predictions of the gravity model with respect to the CFA regions' internal trade. It can be seen that though intra-regional trade in WAEMU is considerably greater than predicted by the gravity model (with or without the currency union dummy), the same is not true of the CAEMC which actually trades about what the model with the currency union dummy would have predicted. Trade with France is also roughly as predicted by the gravity model. The WAEMU results for internal trade are surprising, since the second panel of Table IV.2 incorporates the effect of a dummy variable that implies that trade within a currency union is multiplied by about 3 relative to what it would have been.[9] Thus, it seems that WAEMU has

[9] Rose (2000). See also the comment by Nitsch (2001) and Tenreyro and Barro (2003).

been successful in furthering regional integration beyond what would be the case in the usual currency union, while the same is not true of CAEMC.[10]

The evidence is mixed on whether monetary union provides an important stimulus to growth. Evidence from WAEMU and CAEMC initially suggested a positive impact relative to the rest of sub-Saharan Africa (Guillaumont and Guillaumont, 1984; Devarajan and de Melo, 1987). It has also been argued (Vizy, 1989, p. 136) that the existence of France's guarantee of convertibility embodied in the Operations Account has cushioned the effects of negative shocks, by reducing the risk countries would face a flight from their currency and drying up of access to foreign exchange, which could bring the economy to a halt.[11] However, the CFA franc zone severely underperformed during 1986-93, as the overvaluation of the CFA franc contributed to a persistent economic downturn, and adjustment of the exchange rate was difficult given the institutional structure which requires unanimity among member countries for a parity change. The problem of CFA overvaluation may recur, if domestic inflation cannot be kept to levels in the euro zone, especially during periods when the euro is strong against the US dollar.

In contrast, the CFA franc zone has unambiguously delivered better price performance than floating rate or crawling peg regimes in Africa (Masson and Pattillo, 2001). Inflation is lower in CFA franc zone countries than in the rest of sub-Saharan Africa, helped no doubt by the peg to the French franc, which has anchored the monetary policies of WAEMU and CAEMC. A supranational central bank may also deliver lower inflation in the absence of a peg if it is more independent of national treasuries, as discussed in Chapter III.

3. Per capita income convergence

Another objective of regional integration, and one advanced by creating a monetary union, may be to achieve convergence of income levels by stimulating growth in the poorer countries. It is plausible that this would result from increased trade, and hence is subject to the above mentioned uncertainties about the effect of a common currency on trade. Related initiatives to liberalize factor movements would also favor growth by allowing capital and labor to move to the locations where they are most productive.[12]

There is an extensive literature testing for convergence, which suggests that it has not operated when all the countries of the world are included. However, there seem to be "convergence clubs," such as the OECD, where convergence operates strongly (Baumol et al., eds, 1994). Jenkins and Thomas (1996) assert: "There is a growing consensus that 'convergence

[10] The estimated equation also includes a dummy variable for common colonial links with the former metropolitan power, and arguably this effect could be expected to be much stronger for former French colonies than others in Africa, for reasons discussed in Chapter II. But given the common experience of WAEMU and CAEMC, neither former colonial links nor common language is likely to be the explanation for the high level of WAEMU internal trade. A complicating factor, however, is oil: the CAEMC countries trade little among themselves because they export crude oil, which mainly goes to refineries outside of Africa.

[11] The recent political crisis and civil unrest in Côte d'Ivoire may be an example of this, since the economic impacts, though serious, have not been as dire as in other African countries facing similar situations.

[12] However, equalizing effects on incomes are not unambiguous, since monetary union might lead to agglomeration as businesses migrate to the major metropolitan centers. Tenreyro and Barro's results (op. cit.) suggest that currency unions lead to greater specialization.

clubs' exist, where countries with a lower GNP per capita grow more rapidly because they are members of a trade group, or because domestic policy gains credibility by being tied to the domestic policy of a country with a better economic reputation." The precise reasons for the apparent convergence among such groupings are unclear, but since the OECD includes a number of European countries with strong linkages resulting from common membership in regional organizations (the European Union, the European Free Trade Association, etc.), it is of interest to test whether the CFA franc zone also constitutes such a "convergence club."

Figures IV.1 and IV.2 show the evolution of per capita incomes within the two regions of the CFA franc zone over the past few decades[13]. There seems to be no evidence of convergence. The cross-sectional coefficient of variation of per capita GDP confirms this (Figure IV.3). WAEMU countries are more homogeneous than CAEMC countries, with little trend either upward or downward in their cross sectional variation. CAEMC countries exhibited widening disparities in the late 1970s and early 1990s, only partially compensated since then. For comparison, the coefficient of variation across all Sub-Saharan African countries is also plotted. That variable indicates divergence during 1970-2000, with a similar pattern in the 1970s to that exhibited by the CAEMC: this probably reflects increased inequality between oil producing and oil importing countries, brought about by the rise in the world oil price.

4. Success in meeting fiscal convergence criteria[14]

As discussed above, an outcome of the 1994 devaluation was greater attention to the need to coordinate macroeconomic policies, in particular fiscal policies. Accordingly, the countries in both WAEMU and CAEMC put in place a regional surveillance procedure that aimed to restrict fiscal deficits and limit public debt. These criteria were buttressed by secondary criteria that aimed to raise government revenues as a fraction of GDP, stimulate investment, and limit the government's wage bill. In addition, since payment arrears are a disguised way of financing deficit spending—one that is especially pernicious—governments agreed also to a criterion that requires reducing or at least not increasing payment arrears. Furthermore, there are criteria that relate to the rate of inflation and to the current account deficit as a ratio to GDP.

Table IV.3 presents recent outcomes for the convergence criteria that relate to fiscal policy for the countries in WAEMU. The key deficit criterion in 2002 is only satisfied by two countries out of 8, Côte d'Ivoire and Senegal. As detailed in Doré and Masson (2002), after an initial period (1995-98) during which considerable progress was made in achieving the convergence criteria, the subsequent period (1999-2001) saw either stagnation or backsliding with respect to the criteria. Côte d'Ivoire would seem to constitute an important exception, since it turned a fiscal deficit (defined in terms of the basic balance) of 0.3 percent of GDP into surpluses of 1.7 and 0.3 percent of GDP in 2001 and 2002, respectively. However, as argued in Doré and Masson (2002), this country's fiscal performance can hardly be attributed to increased resolve to achieve fiscal discipline, much less to the regional surveillance criteria of basic budget

[13] Nominal incomes are converted to US dollars using market exchange rates, and divided by the US GDP deflator. An alternative measure would use real per capita incomes, converted to dollars using estimated PPP exchange rates. The latter estimates are subject to considerable uncertainty, and estimated dispersion would only be affected to the extent that market exchange rates do not reflect purchasing power parities, and the difference between the two measures changes over time.

[14] This section draws on Doré and Masson (2002) and IMF (2002b).

balance. Instead, during 2000-2002 Côte d'Ivoire was gripped by a severe political crisis which led to a drying up of its external sources of funding. As a result, the country was forced to live within her means, and to cut back severely on discretionary government spending. Capital expenditure was reduced from 26.7 percent of government revenues to 8.8 percent in 2001-02. A similar situation of political crisis prevailed in Togo during 2000-2001, so that it is dangerous to rely on averages across WAEMU countries (especially given the large weight of Côte d'Ivoire) to evaluate the success of regional surveillance.

Table IV.3. WAEMU: Convergence Criteria Values, Estimates for 2002

Country	*Basic fiscal balance 1/*	*Public debt 1/*	*Inflation rate*	*Arrears*	*Wage bill 2/*	*Public investm. 2/*	*Govt. revenue 1/*	*Current account 1/*
Benin	-0.2	59.8	2.5	Decr.	32.7	22.0	14.3	-8.2
B. Faso	-4.5	66.6	2.4	Decr.	41.1	43.4	12.8	-13.7
C.d'Ivoire	0.3	107.7	3.0	Incr.	44.5	10.6	15.9	-1.0
G-Bissau	-7.3	396.4	3.3	Incr.	94.6	5.3	7.5	-21.1
Mali	-1.5	88.3	5.1	--	27.0	22.3	14.3	-8.1
Niger	-2.1	91.4	2.8	Decr.	35.9	14.0	10.7	-9.7
Senegal	1.6	69.2	2.4	--	29.9	21.7	18.3	-6.2
Togo	-1.0	123.2	3.5	Incr.	46.0	9.1	12.6	-14.8
# meeting target	2	3	5	5	3	4	1	1

Source: Commission de l'UEMOA, *Rapport semestriel d'éxecution de la surveillance multilatérale*, December 2002. 1/ as percent of GDP 2/ as percent of government revenues

Factors outside countries' control also affect the recorded deficit and can complicate an evaluation of the success of regional surveillance. Since many of the countries concerned are highly dependent for their export revenues and tax receipts on primary commodities whose prices are beyond their control, it is natural to relate the fiscal deficit to changes in a country's terms of trade, as well as to a measure of the cyclical position of the economy. An estimated equation regressing the overall budget balance as a ratio to GDP for WAEMU (*OB*) on the output gap (*YGAP*) and the terms of trade (*TOT*) yields the following[15]:

$$OB = \underset{}{-6.3} + \underset{(2.24)}{0.293}YGAP + \underset{(2.68)}{0.075}TOT + \varepsilon$$

where the t-ratios are in brackets. Since these movements are largely exogenous to the countries concerned, it is important to account for the cycle and movements in the terms of trade when evaluating macro-economic policies in WAEMU. If one sets the variables *YGAP* and *TOT* to

[15] The overall balance was used in preference to the basic balance because of a longer availability of data.

their 1994 values and uses the above equation to generate a corrected deficit figure, the budget balance can be shown still to improve over 1995-98, and to deteriorate subsequently, when one excludes Côte d'Ivoire and Togo (Doré and Masson, 2002, Figure 5).

The contrast between raw data and a corrected deficit figure is even starker, but goes in the other direction, for the CAEMC, since 4 of the 6 countries (Cameroon, Congo, Equatorial Guinea, and Gabon) have substantial production of crude oil and are highly sensitive to changes in the world price. Chad will be in this position also in a few years. For these countries, though unadjusted data from the post 1996 period seem to indicate greater budgetary discipline and reinforced regional surveillance--4 countries out of 6 meet the deficit criterion in 2002 (Table IV.4)--that impression is dissipated once account is taken of movements in the terms of trade, for example by using a constant world oil price based on a decade average to calculate government revenues. On the contrary, recent years have seen a deterioration of the underlying fiscal position, calculated in this fashion, so that countries such as Gabon and Equatorial Guinea are highly vulnerable to a decline in the world price for oil, despite apparently favorable fiscal positions.[16]

Table IV.4. CAEMC: Selected Convergence Criteria, Estimates for 2002

Country	*Basic fiscal balance 1/*	*Inflation rate*	*Current account 1/*
Cameroon	1.3	4.5	-7.2
Central Afr. Rep.	-5.6	2.5	-4.8
Chad	-22.3	3.0	-59.6
Congo	2.2	3.6	0.3
Eq. Guinea	11.4	6.0	0.1
Gabon	9.0	1.5	-1.8
# meeting	4	3	3

Source: BEAC, *Notes de conjoncture*, posted on izf.net, February, 2003.
1/ in percent of GDP

In sum, the experience with regional surveillance over fiscal positions has been mixed. While an attempt to exert peer pressure over neighboring countries undoubtedly can have positive effects, that pressure has to date been very light. Future developments may lead to a reinforcement of the process, and a willingness to consider sanctions and apply them in cases where overshoots of criteria were the result of policy errors or lack of political will rather than external factors beyond countries' control. Effective surveillance should attempt to distinguish the effects of policy from external forces, especially as concerns the terms of trade. Otherwise

[16] See discussion in Wiegand (2002).

governments will easily meet the criteria in times of favorable world market conditions, but have little chance of succeeding when times are bad.

There is little evidence that monetary union in itself automatically provides the "agency of restraint" that would discipline fiscal policies (Masson and Pattillo, 2002). This conclusion also results from a detailed historical look at the period leading up to the devaluation of 1994. Guillaume and Stasavage (2000) document that even the rules on monetary financing were undermined by successful attempts to exert pressure on state-controlled banks to borrow in order to finance government deficits. This was especially true for large countries (Côte d'Ivoire in WAEMU, Cameroun in CAEMC) whose governments could influence the decisions of the central bank.

5. Costs of Monetary Union

Joining a monetary union has costs that are to the result of asymmetries across countries: these asymmetries would make a common monetary policy inappropriate for all or some of the potential member countries. In these circumstances, as discussed by Mundell (1961) in a seminal article, and by many economists since then, separate currencies and flexible exchange rates may be desirable.

It is difficult to assess asymmetries without some standard of comparison. In a later chapter, we will analyze proposals for a monetary union that would apply to the whole of West Africa, namely the members of ECOWAS (the Economic Community of West African States). In that chapter, we show that correlations of shocks to either the terms of trade or to real GDP are considerably higher among the WAEMU countries than with their non-WAEMU neighbors in ECOWAS. Table IV.5 summarizes the correlations among WAEMU, CAEMC, and all Sub-Saharan African countries, by presenting the proportion of the regional variance of the change in the log of the terms of trade or real GDP accounted for by the first principal component[17]. Each of the two regions composing the CFA--WAEMU and CAEMC--exhibits a higher common variation than the rest of Sub-Saharan Africa, and therefore would, other things equal, be a better candidate for a monetary union than others in the region.[18] The higher correlations could of course be caused by the very existence of the monetary union, as countries may have become more similar and their fluctuations more highly correlated (Frankel and Rose, 1998). However, this is unlikely to apply to terms-of-trade correlations, since the choice of which primary commodities to produce would plausibly not have been influenced by the monetary regime, nor are the terms of trade endogenous to a small, open economy. Note that if one combines all the CFA countries, they are much less similar than they are separately, and the correlation for the terms of trade resembles that for the rest of SSA. This illustrates the fact that CAEMC is an exporter of oil, while WAEMU is an importer.

[17] Principal components decomposes the total cross-country variance into orthogonal components that are linear combinations of the underlying data. The first principal component is constructed to maximize the explained variance.

[18] Fielding and Shields (2001) however identify groupings of CFA franc zone countries where correlations are highest and suggest reorganization of the CFA to reflect those groupings might be appropriate.

Table IV.5. Percent of Variation of Changes in the Terms of Trade and Real GDP within Regional Groups Accounted for by First Principal Component

	WAEMU 1/	CAEMC 2/	CFA 2/	SSA 2/ 3/
Terms of trade	0.43	0.41	0.34	0.27
Real GDP	0.34	0.34	0.30	0.18

Source: World Bank Africa Database 2002; UNCTAD and World Bank (see Cashin et. al, 2003) Sample is longest available.

1/ 1981-1999 2/ 1986-1999 3/ 45 countries

Another aspect of asymmetry, which we have discussed in Chapter III, is differences in government spending propensities. This is important for potential monetary unions because monetary policy is likely to be influenced by the need to provide seigniorage to finance government spending—unless central banks are functionally independent and are prohibited from providing monetary financing to treasuries, which may be difficult to enforce in practice. Thus, fiscal asymmetries should make independent currencies more attractive than membership in a common currency area. Again, this is an issue that can only be evaluated by comparison to other sets of countries. We show in Chapter VI that differences in spending propensities, and in estimates of spending distortions, are less pronounced among WAEMU countries than in ECOWAS as a whole.

Finally, potential costs from asymmetries can be mitigated by wage/price flexibility, fiscal transfers, and factor mobility between countries of a monetary union. More data is needed to give a definitive answer, but migration between countries of WAEMU seems moderately high (World Bank, 2000), even if there are episodes of backlash against immigration. Fiscal transfers among countries are very limited, while wage/price flexibility is no doubt greater than in most industrial countries, especially in the informal sector.

B. The CMA in Southern Africa

The Common Monetary Area, which groups the Republic of South Africa, Lesotho, Namibia, and Swaziland, is characterized by eclecticism and adaptability. As described in Chapter II, it has evolved from arrangements between the Union of South Africa and the British Protectorates in Southern Africa plus the League of Nations mandated territory of South West Africa. The monetary union continued to encompass these countries upon their independence, though Botswana left the CMA 10 years later, and agreements subsequently concluded allowed the smaller members to issue their own currencies. The rand is legal tender in Lesotho and Namibia, but not in Swaziland. All three have their own currencies, which while not legal tender in South Africa circulate to some extent in border areas of that country. Monetary policy is determined by the South African Reserve Bank (SARB) based on domestic South African objectives; since 2000, the SARB targets the rate of inflation. Exchange rates within the CMA are not irrevocably fixed, but the currencies have always exchanged one-for-one. South Africa shares seigniorage with Lesotho and Namibia, to compensate for the circulation of the rand in those countries, but not with Swaziland since the 1986 decision by the latter no longer to accept the rand as legal tender.

The currency area is of interest in part also because Botswana shares many characteristics with the member countries of the CMA, but since 1976 is no longer part of it. It continues to be part of the Southern Africa Customs Union, SACU, which links the 5 countries. Hence Botswana provides interesting evidence on the relative importance of a common currency versus common membership in regional trade pacts in stimulating inter-regional trade[19].

The CMA differs from the CFA franc zone by not having put in place regional surveillance over macroeconomic policies (though a larger grouping that includes CMA members, SADC, is beginning to institute such surveillance—see Chapter VII below). Instead, favorable circumstances or the discipline resulting from the inability of the smaller countries to extract seigniorage by running expansionary monetary policies has led to generally sustainable fiscal deficits and low public debt. South Africa itself, though facing significant problems that include high unemployment, has generally followed conservative macroeconomic policies, helping to provide a pole of monetary stability to the region. Despite this, the rand experienced a trend depreciation against both the dollar and euro until mid-2002, and this allowed CMA countries with higher inflation than South Africa's, in particular Swaziland, to maintain international competitiveness when averaged across all their trading partners, so that deteriorating competitiveness with respect to South Africa was compensated for by increased competitiveness abroad. A period of appreciating rand would make the conditions for achieving growth more difficult for them, and might put strains on the monetary union.

[19] In practice, government revenue from the tariff sharing in SACU has dwarfed any seigniorage received by the smaller CMA countries. The Customs Union Agreement concluded in 1969 provided for a generous share of customs and excise revenues to paid to Botswana, Lesotho, and Swaziland and as a result constituted upwards of 50 percent of government revenues for the latter two countries. Namibia was later included; South Africa received the residual after a complicated calculation that guaranteed certain rates to the BLNS countries. A new agreement signed in October 2002 provides for both more equitable division of revenues, and the creation of institutions for joint decision making and administration of the tariff setting and collection to replace the dominance exerted by South Africa. The new agreement includes a "development component" favoring the smaller countries (except Botswana); that component is initially 15 percent of the excise pool and is distributed inversely to GDP per capita. Customs revenues are paid disproportionately to the BLNS countries, but excise revenues, minus the development component and the costs of funding SACU institutions, are distributed proportionately to GDP. See McCarthy, 2003.

1. The situation of countries in the CMA

Table IV.6 shows the large disparities in size among the member countries of the CMA. The Republic of South Africa, with a population of about 43 million people and the largest economy in Sub-Saharan Africa, dominates its smaller neighbors. Except for Lesotho and to a lesser extent Swaziland, however, the countries are relatively similar to each other in per capita income terms.

Table IV.6. SACU: Selected Indicators
(Average 1998-2001)

	South Africa	Lesotho	Namibia	Swaziland	Botswana
Population (in millions) 1/	42.80	2.15	1.74	1.05	1.60
GDP per capita (current $US) 1/	2,941	417	2,000	1,297	3,299
GDP growth rate	2.1	3.3	3.2	2.7	6.5
Inflation	5.8	7.7	6.2	7.7	7.4
Broad money growth rate	12.3	7.0	8.4	8.2	22.5
Fiscal position 2/	-1.6	-6.4	-3.5	-1.3	2.1
Government Debt 2/	45.5	14.4	…	22.2	9.1
Current Account Balance 2/	-0.7	-16.5	3.9	-4.1	8.7

1/ Using data for 2000 only
2/ As a percentage of GDP

Source: IMF and World Bank Africa Database 2002

The extent of intra-regional trade and labor mobility is high, resulting in substantial integration, especially for South Africa, Lesotho, and Swaziland. Namibia is larger than Lesotho and Swaziland, and trades more with countries outside the CMA. Changes in Namibia's terms of trade are less well correlated with those of South Africa than is the case for Lesotho and Swaziland. Indeed, for this reason, Tjirongo (1995) concludes that remaining in the CMA is not optimal for Namibia. A contrary view of the net benefits of the CMA for Namibia is given by Alweendo (1999), who stresses the advantages of reduced transactions costs and the credibility associated with South Africa's monetary policy.

Data on real per capita income show some evidence of convergence within the CMA, as the coefficient of variation across countries has declined over the past 3 decades (Figures IV.4 and IV.5). Thus, despite large remaining disparities, it may be argued that this region forms a "convergence club" (Jenkins and Thomas, 1996). However, convergence is even more evident when Botswana is included, since that country, initially poorer than South Africa, is now somewhat richer in per capita terms. Botswana's real GDP growth averaged 4.8 percent over 1990-2000, compared to 1.7 percent in South Africa. In any case, convergence in the region does not seem to depend on using the same currency, as Botswana since 1976 is no longer linked one-to-one to the rand.

2. Monetary policies

South Africa has over the past decade moved from a pegged exchange rate, to a monetary policy with explicit monetary growth targets and a managed float of the rand, and finally to a monetary policy based on a target for the rate of inflation and a free float.[20] Monetary growth targets for M3 were pre-announced during 1986-98, but structural changes to the financial system made money demand unstable and altered the transmission mechanism. This led, in March 1998, to their replacement by M3 guidelines accompanied by an informal inflation target of 1 to 5 percent. In order to reap the credibility benefits from increased transparency, South Africa went to a formal inflation target in February 2000; the Minister of Finance announced an inflation target of 3 to 6 percent, to be achieved by 2002. The target is formulated for the rate of inflation excluding mortgage interest costs, the CPIX, in order to remove the direct effects of the SARB's interest rate policy on consumer prices. The SARB benefits from a long history of independence which allows it to use the instruments under its control—principally interest rate policy—to achieve its mandated target. However, South Africa, is a medium-sized, moderately-open economy that is strongly influenced by the external environment, and the SARB may miss its target due to external shocks (to oil or diamond prices, or to international financial markets) as well as domestic shocks (such as drought or rises in indirect taxes). Escape clauses excusing the SARB from reaching the inflation target include a sharp rise in the international oil price and international financial contagion. The effort to lower inflation suffered a big setback in the last quarter of 2001 when the rand depreciated sharply. A range of contributory factors has been cited, including declines in world commodity prices, looser monetary conditions and delays in the privatization program.

Post-1994 South Africa has experienced four periods of unusually severe balance of payments pressure, or currency crises: 1994, 1996, 1998 and 2001. During the first three episodes increases in the Net Open Forward Position[21] (NOFP) played a key role—already at end-1994 it had reached the equivalent of 12 percent of GDP. During the post-1994 period, the rand came under frequent attack, with very large losses and/or forward sales of reserves eroding the progress in lowering the NOFP that had been achieved during calmer periods. Each of the crises, except the last, was characterized by sharp increases in the NOFP, increases in interest rates and sharp depreciations. In 2001 the NOFP was at a substantially lower level than in earlier crises, and it did not increase during the crisis, as the reserve bank refrained from intervening to support the rand.

The different response of the SARB compared to earlier episodes indicates the evolving stance of monetary policy,[22] in particular the increased attention given to the inflation rate rather than to the exchange rate per se (though changes in the latter, if permanent, would feed through into domestic prices). In 2001, the SARB did not raise interest rates as sharply nor intervene in the foreign exchange market. Consequently, growth was not significantly impacted and confidence in the management of the economy remained high, as signalled by a rise in the Johannesburg stock exchange. In 2002, the rand recouped most of its 2001 losses, and after

[20] See Casteleijn (2001) for a detailed discussion.
[21] The NOFP is the central bank's forward liabilities in foreign currency minus its assets.
[22] See the discussion in Box 2, IMF Country Report 02/244.

appreciating further, its dollar exchange rate by March, 2003, was under 8 to the dollar, a value last seen in September, 2001. The appreciation should substantially reverse the inflationary pressures triggered by the earlier crisis.

Exchange rate flexibility has served South Africa well, arguably preventing some of the worst effects of contagion from financial crises in Asia in 1997-98 (Mussa et al., 2000). An exchange rate peg to a major international currency (euro or dollar) might have led to a major crisis hitting South Africa, given the extent of its capital account liberalization and the sophistication of its financial markets. The smaller CMA countries (whose currencies are pegged to the rand) do not however benefit equally from thet flexibility of the rand, since the shocks hitting them are not the same as those impinging on South Africa—the shocks that influence the setting of monetary policy for the CMA by the SARB.

Table IV.7, which reports on the asymmetry of shocks to the terms of trade shocks and to real GDP growth, suggests that these countries behave quite similarly. Table IV.8 gives some evidence on the extent of trade integration within the CMA. Trade with South Africa is obviously very important to the smaller members of the CMA, but the gravity model gives mixed evidence on whether it may have been favored by the currency union. For Swaziland, the gravity model with currency dummies exactly predicts the extent of South African trade, while Namibia's and Lesotho's trade with South Africa is considerably underpredicted. Botswana's trade with South Africa is bracketed by the predictions of the two versions of the model, making it hard to conclude anything about the effect of currency union on trade within the CMA.

Table IV.7. Percent of Variation of Changes in the Terms of Trade and Real GDP within Regional Groups Accounted for by First Principal Component

	CMA 1/	**SACU 1/**	**SSA 2/ 3/**
Terms of trade	0.44	0.36	0.27
Real GDP	0.43	0.37	0.18

Source: World Bank Africa Database 2002; UNCTAD and World Bank (see Cashin et. al, 2003). Sample is longest available.

1/ 1981-1999 2/ 1986-1999 3/ 45 countries

Given the small size of the Swaziland, Lesotho, and (to a lesser extent) Namibia, payments to and from South Africa, including settlements of exports and imports and workers' remittances, are a very large proportion of GDP. Hence the reduction in transactions costs associated with use of a common currency and the absence of exchange rate volatility when converting among CMA countries' currencies likely dominates the potential costs due to loss of monetary policy autonomy. This no doubt provides an explanation for the durability of the relationship among the CMA countries. As noted in Chapter II, the willingness of the Republic of South Africa to accommodate the concerns of its smaller neighbors also is an important part of the story. Cohen (2000) describes the use of the rand in Lesotho and Namibia as a case of 'dollarization', and argues that these countries are willing to make the rand legal tender because of side-payments by South Africa, in the form of offering to stand as lender of last resort to their domestic banking systems, and of providing direct compensation for the seigniorage involved.

Nevertheless, the CMA's durability should not be taken to imply that there are no potential stresses affecting the monetary union. The unemployment rate is high in all of the CMA countries: it exceeds 30 percent in Swaziland, and approaches that level in South Africa. Because inflation has been consistently higher in Swaziland (averaging 8 percent over 1998-2001, compared to 5.5 percent in South Africa), by some measures bilateral competitiveness relative to South Africa has suffered[23]. As noted above, this has been compensated by the depreciation of the rand against major currencies, helping to sustain Swaziland's exports to third countries. If the strength of the rand that prevailed early in 2003 persisted for an extended period, however, the advisability of the link of the lilangeni to the rand might be called into question. South Africa has shown increased attention to the concerns of its partners in the CMA, and the quarterly meetings of the SARB's Monetary Policy Committee are since 2002 preceded by meetings of the Governors of the member countries. However, there are clearly limits to South Africa's willingness to move to a multilateral monetary union: SARB Governor Tito Mboweni is quoted as telling the South African parliament's finance committee: "We have agreed we will do some research on what the feasibility is of a common central bank for South Africa, Lesotho, Swaziland and Namibia. It is not a bad idea -- but I don't think it will fly politically -- it's a dead duck."[24]

Table IV.8. CMA and SACU: Trade with South Africa

		CMA		
	Botswana	Lesotho	Namibia	Swaziland
Actual Trade 1/				
Percent of total trade	40	85	55	70
Percent of GDP	42	104	47	112
Prediction of Gravity Model 2/				
(percent of total trade)				
Without Currency Variable	45	38	18	47
With Currency Variable	39	64	39	70

1/ For 2001. Source: IMF Country Report 03/21, Box 4

2/ Predictions for 1997, using estimated coefficients from Box IV.1.

3. The case of Botswana

Botswana, almost a decade after achieving independence in 1966, created its own currency and central bank, and, unlike its neighbors, decided to break the exchange rate link with the rand.[25] Botswana has strong trade links with South Africa, though linkages are somewhat

[23] However, the relative CPIs may not be a good measure of competitiveness, since they include the price of nontraded goods which evolve differently from either traded goods prices or labor costs.

[24] "S.Africa's Mboweni-regional cbank idea 'dead duck'" Reuters North American Securities News, June 24, 2003.

[25] The Bank of Botswana commenced operations on 1 July 1975, and the new currency, the pula, was introduced in the course of 1976. The history of this period and the background to the decision to introduce the pula (whose name means "rain" or "blessings") are described by the Bank of Botswana's first Governor in Hermans (1997). He notes

lower than for the CMA countries—Lesotho, Namibia, and Swaziland—that retained the one-to-one parity (Table IV.8). As noted above, the gravity model does a good job in bracketing the extent of trade between Botswana and South Africa, with the model without the currency variable giving the more accurate prediction. As is true of its neighbors, Botswana also has a relatively high correlation between its terms of trade and those of South Africa. Botswana's mining sector accounts for about 35 percent of GDP, and diamonds (also important for South Africa), account for about three-quarters of total exports (OECD, 2002). In contrast, South Africa is much more dependent on manufacturing exports.

The objectives of Botswana's exchange rate policy are to maintain exchange rate stability and to achieve low inflation. Exports of diamonds, because they are priced in dollars, are not sensitive to the exchange rate of the pula, but the authorities fear the effects of the "Dutch disease," namely that diamond exports would crowd out the development of other export sectors. The pula is pegged to a basket, with the peg adjusted from time to time. By keeping the nominal effective exchange rate roughly constant and keeping the rate of inflation equal to that of trading partners, the authorities hope to keep the real effective exchange rate constant, thus helping to insulate the rest of the economy from movements in the price and volume of diamond exports. A further benefit of the adjustable peg is that it diminishes the impact on the pula of rand volatility against other currencies. Accordingly, Botswana introduced a peg to a basket consisting the SDR and the rand in June 1980.[26] Since then, the pula has been revalued and devalued several times against the basket. By the end of 2002, however, the pula had appreciated by about 60 percent against the rand.

Botswana, as mentioned above, has been very successful in stimulating growth (indeed, it was the fastest growing country in the world in the two decades after independence), and though its inflation rate has on average exceeded that of its main trading partners, it has been roughly the same as South Africa's in recent years (Table IV.6). Unlike many other central banks in Africa with independent currencies, the Bank of Botswana has not resorted to accelerating monetary expansion and continual depreciation. Its success had been due to the fact that the Government has run persistent budget surpluses, making it unnecessary for the Bank to provide monetary financing. On the contrary, Botswana has used the adjustable peg to maintained international competitiveness on average.[27] Responsibility for setting the framework for how the external

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that the IMF strongly warned against creating a separate currency because holding the necessary reserves would be too costly, given Botswana's "poor long-term economic prospects" (quoted by Hermans, 1997, p. 180). Fears that the population would not be willing to exchange their rand for a new, untested currency proved groundless, and by the end of 1976 the Bank of Botswana had a comfortable cushion of reserves, as a result of foreign currency credited to the new central bank by the Reserve Bank of South Africa in exchange for the rand currency withdrawn from circulation (Hermans, 1997, p. 187). The reserve position was strong enough that the Botswana authorities could revalue the currency in 1977 by 5 percent against the US dollar (to which the rand was also pegged). As the then Governor describes it with apparent glee: "The revaluation was greeted with disbelief in South Africa. The Governor of the South African Reserve Bank, Dr. T. De Jongh, who had advised so strongly against Botswana's withdrawal from the Rand Monetary Area, was speechless when he was informed, as a courtesy, by the then Governor of the Bank of Botswana. The IMF also expressed surprise when it was officially informed of the change." (Hermans, 1997, p. 208).

[26] The weights in the basket are undisclosed, but roughly reflect trade weights. They are reviewed when circumstances make it desirable to do so.

[27] Estimated interest rate reaction functions show that official rates respond positively to domestic inflation, but not to the real exchange rate (Bleaney and Lisenda, 2001).

value of the pula is determined is given to the President, but the latter has in this regard typically followed the advice of the Bank of Botswana and the Minister of Finance, whom he is required to consult (Hermans, 1997, p. 197). These developments have not led to speculative attacks (or strong pressures to revalue), probably because the economy does not have well developed financial markets, in particular instruments allowing investors to take positions with respect to the currency or domestic assets (see IMF Country Report 02/244). The credibility of the peg has been enhanced by large foreign exchange reserves, which are a multiple of the domestic money supply (M2).

Because of persistent budget surpluses, capital inflows have not been able to take advantage of a large or deep market for government debt. Moreover, the short-term monetary instrument that is used to mop up liquidity, the Bank of Botswana Certificate, cannot be acquired by non-residents. Sterilization of foreign exchange reserves has also been facilitated by the fact that the reserves have grown hand-in-hand with government deposits with the central bank, the latter corresponding in large part to government revenues from diamond sales, which, due to budget surpluses, have not all been spent domestically; a portion has been saved. Given its large fiscal surpluses and foreign exchange earnings, Botswana is unlikely to be a model for other Sub-Saharan African countries, which face greater demands on limited resources. It is also questionable whether Botswana can maintain a strict basket peg, as financial markets become more developed and the strong growth in diamond revenues levels off. It seems likely that at some point in the future Botswana may be forced to evolve away from its current exchange rate regime, as financial markets become more developed and open to outside investors. In such an environment, strong pressures to revalue or devalue the pula might at times develop. Exchange rate regimes with more flexibility or even greater commitment to fixity would be better able to contain such pressures. The two likeliest alternatives would be an inflation target associated with a free (or managed float), or a move to a monetary union with her neighbors, in the context of SADC or the CMA. This is discussed further in Chapter VII.

C. Conclusions

The experience of the CFA and CMA is varied, but it seems difficult to conclude that the existence of a monetary union per se has been associated with a dramatic increase in regional trade and policy coordination. In the CFA zone, monetary union in the first three decades after independence was accompanied by relatively little coordination of other policies. Free trade areas did not take hold, and there was no attempt at regional surveillance over fiscal policies or common banking supervision. It took the severe crisis of the late 1980s and early 1990s to spur a major effort at regional integration, leading to new supranational institutions and greater inter-governmental cooperation. Even here, despite being governed by the same monetary arrangements, the two regions of the CFA franc zone evolved somewhat differently, with greater progress made in the WAEMU than in the CAEMC. Similarly, the extent of intra-regional trade differs substantially in the two regions, the former trading more than predicted by the basic gravity model, the latter about the same as predicted.

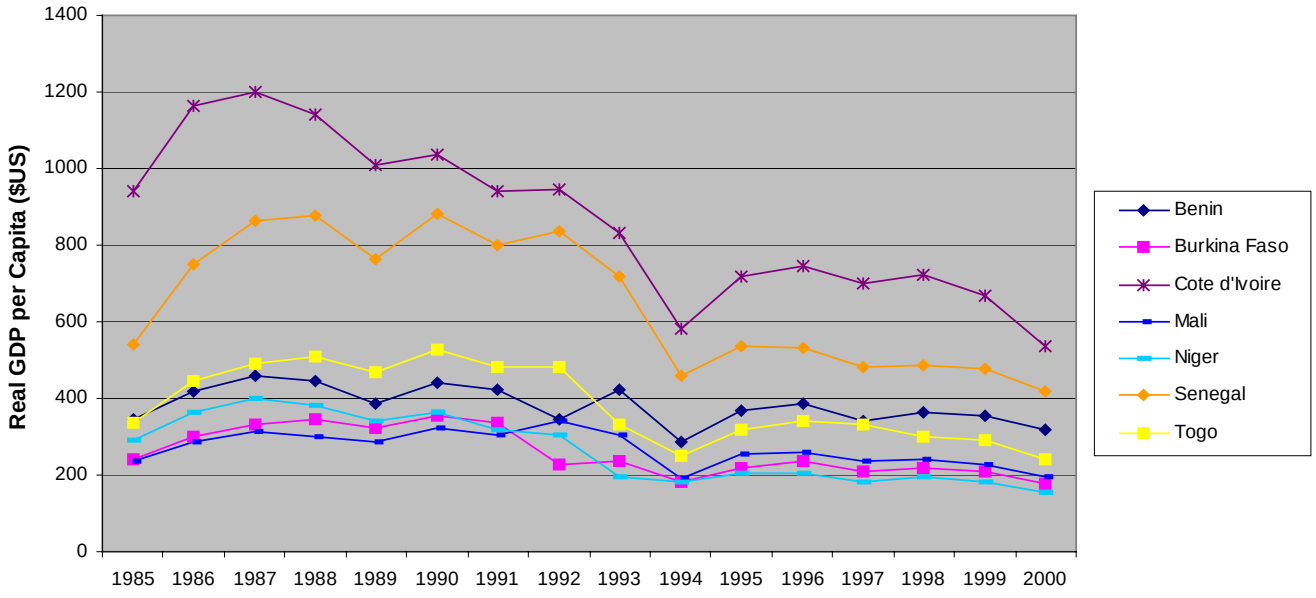
The CMA (with its predecessors) constitutes an even older monetary arrangement that ties the smaller countries to the rand, with asymmetry in size giving South Africa the power to set the monetary policy for the region. Lesotho, Namibia, and Swaziland thus delegate their monetary policy, even if they have their own currencies. Aside from the monetary arrangements,

there is no other macroeconomic coordination, such as limits on fiscal deficits, there there is close contact in a number of areas (including as concerns the customs union). Thus, monetary union does not inevitably lead to, or require, regional macroeconomic surveillance.

The continued existence of both unions is due to special political circumstances as much as economic imperatives. Without the active encouragement by France of its former colonies to remain in the CFA franc zone, and sanctions on non-compliers, it is likely that the monetary unions in West and Central Africa would have dissolved, like those in the former British colonies. In southern Africa, sharing the currency of an important neighbor with a credible monetary policy made economic sense. Given the importance of their trade with South Africa and the restricted domain for the circulation of their currencies, losing the possibility of an independent monetary policy was not a great loss for Lesotho, Namibia, and Swaziland. However, it is likely that even that monetary union might not have survived without the willingness of South Africa to adapt the arrangements to the needs of her neighbors, including compensating them for seigniorage and offering lender of last resort facilities.

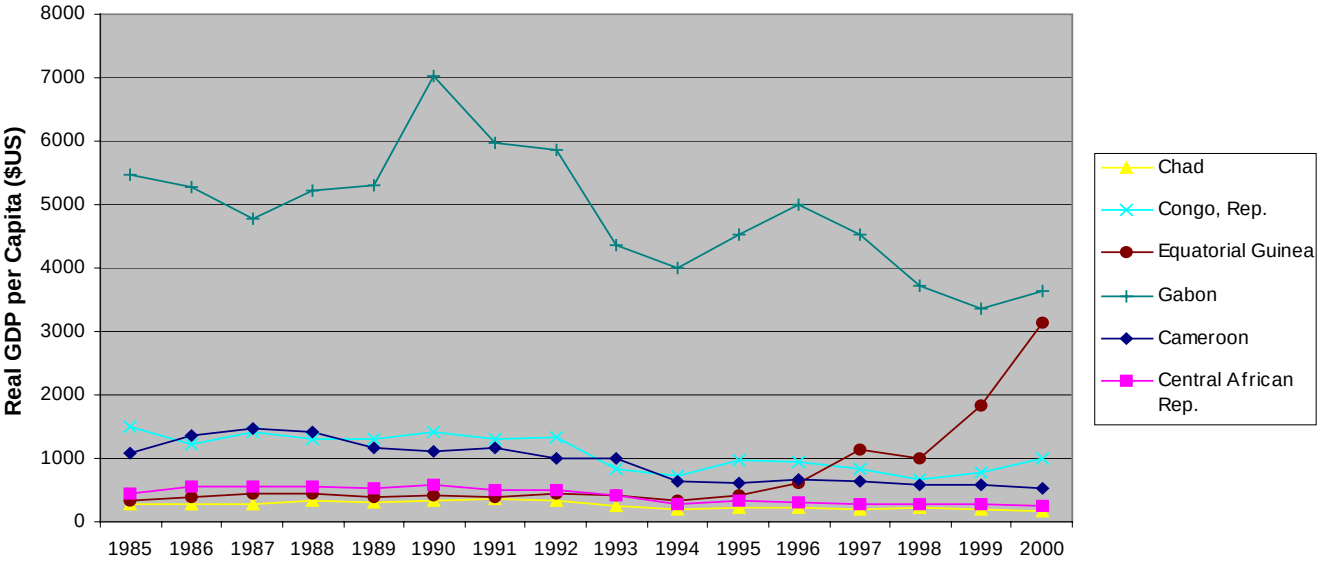
It may be difficult, given the existence of relatively few monetary unions and the special features of each, to resolve conclusively the question of whether creating a monetary union elsewhere in Africa can be expected to stimulate trade significantly. WAEMU and the CMA on the one hand, and CAEMC on the other, provide opposing indications. In any case, based on the predictions of the gravity model, trade cannot be expected even in favorable circumstances to be as large as with richer countries in Europe or elsewhere. Thus, stimulating regional trade probably should not be a preponderant argument in favor of creating currency unions in Africa.

Figure IV.1 WAEMU Countries: Real Per Capita Income in 1995 US dollars (using US GDP deflator)



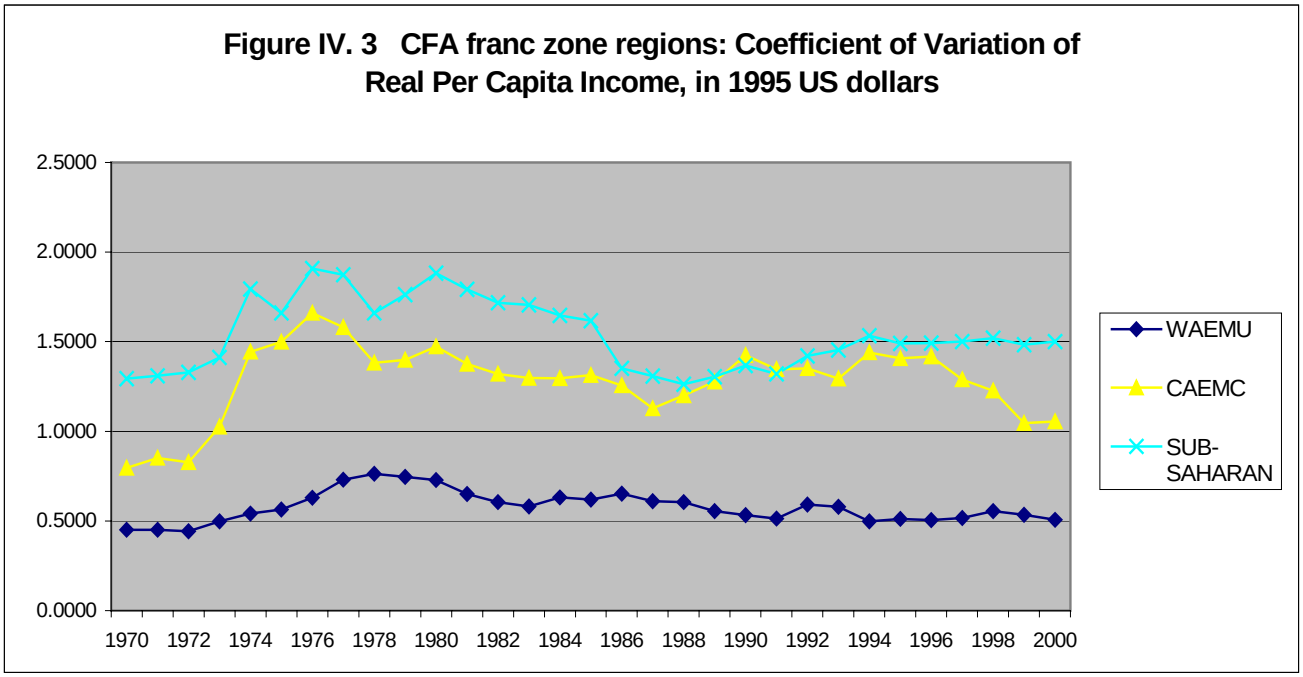
Sources: World Bank Africa Database 2002, IFS 2002

Figure IV.2 CAEMC Countries: Real Per Capita Income in 1995 US dollars (Using US GDP deflator)



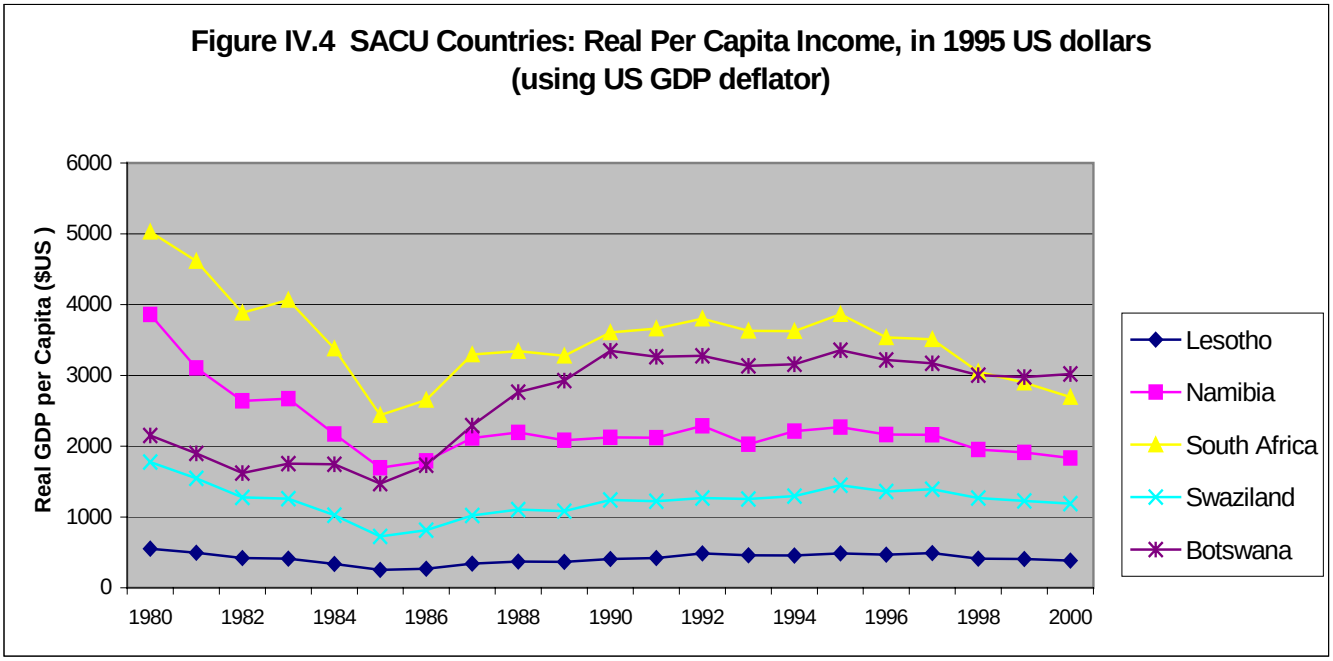
Sources: World Bank Africa Database 2002, IFS 2002

Figure IV. 3 CFA franc zone regions: Coefficient of Variation of Real Per Capita Income, in 1995 US dollars

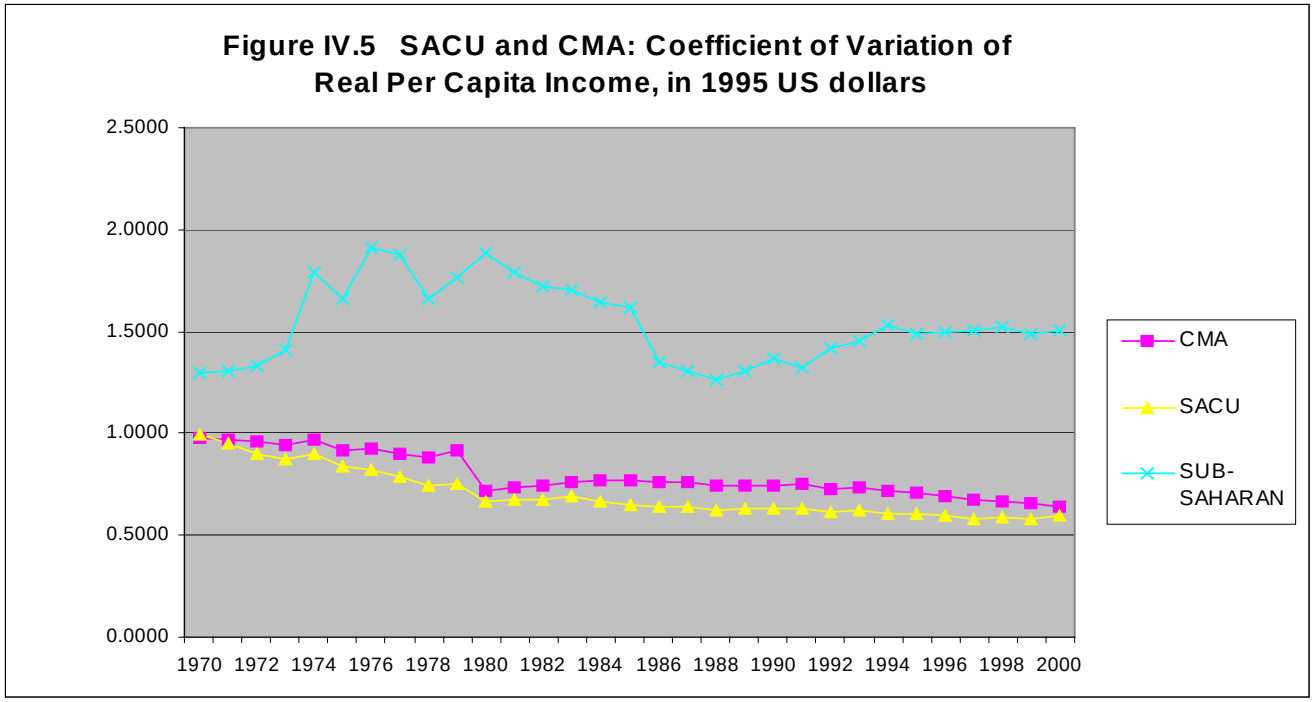


Sources: World Bank Africa Database 2002, IFS 2002, UNCTAD and World Bank (see Cashin et. al, 2003)

Figure IV.4 SACU Countries: Real Per Capita Income, in 1995 US dollars (using US GDP deflator)



Sources: World Bank Africa Database 2002, IFS 2002



Sources: World Bank Africa Database 2002, IFS 2002, UNCTAD and World Bank (see Cashin et. al, 2003)

Box IV.1. The Gravity Model

The gravity model is usually specified to include as explanatory variables the product of the two countries' real GDP, both in levels and per capita, the distance between them, and the land areas of the two countries. In addition, a number of dummy variables are included to capture the possible effects of common features of the countries: membership in a free trade area or currency union, a common language, border, or colonizer, etc. The gravity equation is typically specified in logarithms, so that (time subscripts are omitted)

$$\ln(X_{ij}) = \beta_0 + \beta_1 \ln(Y_i Y_j) + \beta_2 \ln(\frac{Y_i}{Pop_i}\frac{Y_j}{Pop_j}) + \beta_3 \ln(Area_i Area_j) + \sum_{k=1}^{n} \beta_{3+k} D_k$$

where *X* is the bilateral trade, *Y* is real *GDP*, *Pop* is population, *Area* is land area, and the *D* are various dummy variables. The gravity model has been applied to Africa in a number of papers, in particular, to test whether regional trading arrangements have stimulated trade, and to explain why Africa generally trades less than other countries. For instance, Hanink and Owusu (1998) found that membership in ECOWAS had not promoted trade among its members. Foroutan and Pritchett (1993) concluded that the low level of African trade is consistent with the gravity model, and is explained by low levels of GDP and distance. However, a more recent study by Subramanian and Tamirisa (2001) supports the view that Africa has not taken advantage of trading opportunities, and actually is becoming less integrated with the rest of the world.

Of greatest relevance to our study is the effect of membership in a currency union on trade. A widely cited recent paper (Rose, 2000), using a global sample, finds that currency unions increase trade by about a factor of 3. While it is useful to have the widest sample possible if that sample is homogeneous, it may also be the case that there are particularities in a region that make it not comparable to others. Thus, we report below both estimates from the global sample and more limited estimates, restricted to Africa.

	Glick and Rose		**Africa Only with currency union dummy**		**Africa Only w/o currency union dummy**	
Log of Bilateral Trade	Coeff.	t	Coeff.	t	Coeff.	t
Economic Variables, in log form						
Distance	-1.11	-47.28	-1.20	-24.78	-1.25	-25.37
Real GDP	0.93	93.01	1.00	56.89	0.99	56.12
Real GDP per Capita	0.46	30.18	0.39	14.90	0.39	14.96
Land Area	-0.09	-11.27	-0.17	-12.82	-0.16	-12.02
Dummy Variables						
Currency Union	1.30	10.15	1.29	7.88		
Common Language	0.32	7.68	0.11	1.65	0.16	2.36
Common Border	0.43	3.57	1.18	6.68	1.23	6.68
Same Regional Trade Agreement	0.99	7.58	(dropped)		(dropped)	
Number Landlocked (0,1, or 2)	-0.14	-4.21	-0.17	-3.65	-0.17	-3.69
Number Islands (0,1, or 2)	0.05	1.40	-0.17	-2.50	-0.18	-2.53
Common Colonizer	0.45	6.45	0.40	4.17	0.53	5.65
Both are Current Colonies	0.82	3.25	-0.78	-1.89	0.03	0.06
Ever Colonized (or by) Partner	1.31	10.06	2.05	13.71	2.08	14.03
Part of Same Nation	-0.23	-0.22	2.20	5.36	1.98	4.20
Constant	-30.58	-81.16	-30.5	-44.09	-23.48	-43.30
Statistics						
R^2	0.64		0.51		0.51	
No. Obs.	219,558		91,791		91,791	

As noted, the full estimate produces a large, and significant estimate for the effects of a currency union on trade. The estimates in column 1 of the table (which are identical to those in Glick and Rose (2001)) are consistent with the above effect, since a coefficient of 1.3 on a dummy variable that is unity if the two countries are members of the same currency union yields a factor in excess of 3 ($e^{1.3} = 3.67$).

When we estimate the identical model limited to African bilateral trade (including African countries' trade with the rest of the world) , the estimated effect of the currency union dummy is almost the same. Not surprisingly, perhaps, the "Common language" dummy variable becomes less significant (since the monetary unions in the sample are mainly composed of francophone countries). "Common border" becomes much more important, which is consistent with the poor transportation links between many African countries. Other dummy variables change substantially, including the sign of the "Number of islands" and "Current colonies" variables.

Disentangling the effects of currency union from regional integration initiatives such as preferential trading areas is difficult, and the models reported in the table do not include dummy variables for the latter. Though the Glick and Rose study includes dummy variables for regional trading agreements, this dummy is zero for all pairs of African countries because none of these agreements is registered with the World Trade Organization. It would nevertheless be worth exploring the differential effects of the various agreements in Africa, among member countries of CAEMC, COMESA, ECOWAS, SACU, SADC, WAEMU, etc. One of the major problems however is that regional trading agreements overlap with monetary unions, as is detailed in the text discussion of the CFA and CMA: each of the monetary unions is accompanied by free trade areas (though the converse is not true). Another problem is that neither the CMA nor SACU is included in our sample for lack of bilateral trade data among its members.

10/8/03

Chapter V. Experience Of Countries in Managing Independent Currencies

This chapter will describe countries' experience with independent currency regimes, from the 1970s to the end of the 1990s. We consider almost all Sub-Saharan African countries that are not currently members of monetary unions (the CFA Franc Zone or the CMA zone). Countries are grouped into two broad categories; those that have moved to some form of flexible exchange rate system (the majority); and those with continued unilateral pegged (fixed or adjustable) exchange rate regimes. The purpose is two-fold. First, and most importantly, countries currently involved in proposals either to form or to join existing monetary unions have to evaluate the potential desirability of such arrangements against the costs and benefits of the alternative: continued use of independent currencies, in either flexible or fixed rate systems. Specifically, countries planning to form the WAMZ and to revitalize the EAC would all be changing from currently flexible rate regimes, and a potential COMESA or SADC monetary union would involve new monetary union status for both some currently flexible and some currently pegged rate countries. Secondly, by highlighting periods or situations during which exchange rate management became a key macroeconomic issue, we draw out some key areas or "potential fault lines" that exchange rate regimes, including monetary unions, would need to be designed or prepared to deal with.[1] In a few cases, the country vignettes discuss differences of opinion between the International Monetary Fund (IMF) and the country authorities on exchange rate policies. As the IMF is the primary international organization advising on exchange rates, these instances again highlight important, sometimes controversial issues, including the appropriate degree of flexibility, sterilization of capital inflows, controls versus use of other policies in addressing balance of payment pressures, and the appropriate level of the exchange rate for competitiveness.

One preliminary point: our flexible and fixed exchange rate groupings use official classifications published by the IMF, which are "de jure" or based on countries' self-reporting of their regime. Alternative "de facto" classifications based on actual behavior, discussed in Chapter II, show that a number of countries officially classified as managed or independent floaters actually behave more like intermediate regimes (very dirty floats or crawling pegs/bands). The same is true, where data is available, for the smaller number of official unilateral pegs.

To help visualize the set of countries considered, we present a map for SSA (Figure V.1) indicating officially designated flexible exchange regime countries (classified as managed or independently floating) and pegged regimes, excluding monetary unions, as of 2001.

The plan of this chapter is as follows. First, we cover the evolution toward flexible exchange rates, starting with a background overview of the general pattern of post-currency-board exchange arrangements, focusing on a regime characterizing many countries, the controlled economy, with rationing of both goods and foreign exchange. For various reasons,

[1] Of course the experience of African monetary unions discussed in Chapter IV should also inform understanding of these issues.

these countries were not able to sustain their pegs, and began liberalizing payments regimes and some form of market determination of exchange rates starting in the mid-1980s. We describe various countries' experience with flexible exchange rates, highlighting periods during which exchange rate policies were a key macroeconomic issue.[2] Second, country experiences from a few fixed rate countries are presented. A number of assessments arising from the country vignettes follows.

A. Pre-Liberalization Regimes

Many post-independence governments sought to promote development by establishing import-substitution industries. The primary policy instruments were a protectionist trade regime (restricting imports through increasingly cumbersome systems of tariffs, quotas, exchange controls and licensing), and state-owned enterprises. At the root of many of the problems during the 1970s and 1980s were high government deficits, financed by money creation, which led to high inflation. In combination with fixed exchange rates that were not adjusted, real exchange rates became increasingly overvalued. Excessive domestic credit creation and the overvalued exchange rates also spilled over into high import demand. As devaluations were considered politically dangerous to incumbents, countries reacted to balance of payments difficulties by tightening exchange and trade restrictions, leading to large parallel premiums for foreign exchange. Asset motives also generated demand for parallel market foreign exchange, as extremely high financial sector taxation, high inflation, and controlled low nominal interest rates reduced the attractiveness of saving in domestic currency. At some point the authorities began to lose control of a vicious circle. Money financed deficits and foreign exchange controls led to an increase of smuggled or misinvoiced goods (both exports and imports), resulting in declining trade tax revenues which further worsened the deficit and started the cycle again.[3]

The controlled/rationed economy describes the extreme form of these regimes—some African countries exhibited less severe controls, for example in goods markets. In other regimes, while foreign exchange controls existed, the dominant characteristic of the regime was rather the "printing press" where any shocks, fiscal or external, were met with passive monetary accommodation (Zaire, Sierra Leone and Zambia during certain periods) (Honohan and

[2] By focusing on periods on periods when exchange rate management became an important issue or problem, we risk overplaying the downsides of flexible rates relative to their potential benefits. Some additional positive effects are mentioned in the summary assessment.

[3] These rationed economies in Africa have been examined in the literature. One type of analysis contrasts dynamically unstable systems where market interventions and fiscal requirements are not mutually compatible (which eventually must change radically or implode) (for example, Tanzania, Ghana) , with systems that, while grossly sub-optimal, display policies that lead to a sustainable equilibrium (Kenya) (Bevan et al, 1990). Another approach focuses on the rents generated by rationing that lead to the development of parallel markets with market-clearing prices for credit, goods and foreign exchange (Agénor and Haque, 1995).

O'Connell, 1997). Macroeconomic shocks led to almost automatic responses of prices and the exchange rate, as these systems lacked any nominal anchor.

An attempt to change these systems began anywhere from the mid-1980s for some pioneering countries, to the mid- or late 1990s for others. Reforms were often brought about by the presence of a new government (and sometimes a new political ideology), an external crisis, or the combination of an unsustainable balance of payments position and conditionalities from the IMF/World Bank accompanying new adjustment loan programs.[4] Movement toward more market-determined, flexible exchange rate systems became a centerpiece of reform programs in many countries. The reform process has varied substantially across countries, from extremely gradualist to "big-bang" liberalizations. Many countries began with a mega-devaluation, and continued with periodic devaluations, or managed crawls, gradually liberalizing export surrender requirements, and other trade and exchange control regulations, while introducing additional flexible exchange markets such as foreign exchange bureaus, auctions, or interbank markets. Reforms often culminated with the unification of the parallel market and the flexible exchange rate, that is the shrinking of the spread to very small levels. Even in countries where reforms were sustained, however, sizable parallel premiums often reemerged later during periods of macroeconomic instability or increasing effective market segmentation.

Table V.1 indicates the dates when countries adopted flexible exchange rate regimes.[5] These dates often correspond to initiation of a comprehensive liberalization program. The table also shows dates when countries accepted the current account convertibility associated with Article VIII status under the IMF's Articles of Agreement—most, but not all, of these flexible rate countries also have current account convertiblility.

B. Country Experiences with Flexible Exchange Rates

What has been the experience of SSA countries with flexible exchange rate systems? Rather than attempting comprehensive coverage, we will describe several categories of countries that have undergone periods during which, for similar reasons, exchange rate policies were a key macroeconomic issue.[6] Clearly, this categorization is not meant to describe the countries' entire history with flexible exchange rates.

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[4] Early success stories such as Ghana also inspired other countries to undertake difficult reforms previously viewed as politically dangerous and not likely to work.

[5] Most of these regimes are still in existence; footnotes indicate where this is not the case. Also, the footnotes indicate periods of earlier, unsuccessful attempts at flexible regimes.

[6] The only flexible rate countries not covered are selected war-torn countries (Rwanda, Sierra Leone, Somalia), as well as a few others (Guinea-Bissau (flexible from 1983-97 when it joined WAEMU), Malawi, Mauritania, Sao Tome and Principe). South Africa was discussed in Chapters II and IV.

Several themes emerge. Although notionally flexible, the extent to which exchange rates have been market determined under these systems varies significantly. Rates are often heavily managed through central bank intervention, changing rules or regulations in auction or interbank markets, or institution of temporary trade or payments controls to affect the path of the exchange rate. Efficient operation of flexible rate systems is made difficult by underdevelopment of financial markets, and structural conditions such as the extreme seasonality of foreign exchange receipts. Exchange market liberalizations resulted in initial large real depreciations, although in later years real exchange rates have often fluctuated around a constant trend or appreciated. While it appears that real exchange rates have been adjusting to terms of trade movements, with fewer periods of serious misalignment than earlier regimes, adequate adjustment may not have taken place in some countries. During different periods, many countries exhibit "fear of floating" (Calvo and Reinhart, 2002). Fear of depreciation often stems from concerns that rapid depreciation will increase inflation, while fear of appreciation relates to concerns about export competitiveness. In the context of appreciation fears when there are large aid inflows, limited sterilization options can lead to high and volatile interest rates, fiscal pressures, and volatile exchange rates.

1. Continued Severe Macroeconomic Instability, and/or Limited Stop-Start Liberalization

The most extreme example of this pattern is the **Democratic Republic of the Congo (DRC)**. DRC has been technically classified as a floating exchange rate system since it first attempted to float the currency in the context of an interbank market in 1984 (See Table V.1). Although there was some success in narrowing the huge parallel market premium, the central bank came under intense political pressure to slow the speed of depreciation, and so a premium reemerged. The authorities tried floating again in 1991, but the policy was again complicated by anti-depreciation pressure and lack of bank notes, so that a complicated multiple rate system emerged instead. This was the start of the hyper-inflation period of 1990-96, where the cumulative increase in prices was 6.3 billion percent. The primary cause of hyperinflation was the uncontrolled budget deficit financed by money creation, a deficit arising from the breakdown of public administration in the context of political instability, governance problems, civil strife and war (Beaugrand, 1997). Hyper-inflation created a vicious circle of a breakdown in financial intermediation, an uncontrolled spiral of parallel exchange rate depreciation, and increased dollarization, that all further compounded the fall in fiscal revenue. Following a brief respite after 1996, resumption of the war in 1998 led to a similar cycle of budget monetization, high inflation and depreciation, now under a fixed rate system (IMF Country Report 01/123) . In an effort to conserve foreign exchange for official uses, the system was progressively tightened, leading to the banning, in January 1999, of domestic transactions in foreign exchange, and culminating with the banning of domestic holding of foreign currencies. A floating rate was reintroduced in 2001, resulting in a large depreciation and re-unification of multiple rates.

The pattern in **Angola** was similar in many respects. A first attempt at a flexible exchange rate system in 1994-95 made some initial progress in lowering the 9000% parallel market premium, but the very small amounts of foreign exchange allocated to the flexible system, highly over-expansionary fiscal and monetary policies, and external pressures led to large rapid depreciation. The exchange rate was re-fixed in 1996. Subsequently, a number of

currency exchanges (introductions of new currencies involving changes in parity) took place. Another attempt at a float occurred in May 1999, but the very large depreciation, and intensification of the war led back to triple digit inflation in 2000.

Sudan has had a two-decade long history of attempted exchange market reform. One of the main objectives of reforms in the 1980s was to increase the share of remittances (from the sizable community of nationals working abroad) brought through legal channels. The authorities attempted to unify the exchange markets through discrete maxi-devaluations and gradual trade liberalization, but failed, largely due to lack of fiscal reform(Elbadawi, 1997). From 1992-96, the authorities again undertook several unsuccessful reform efforts, now in the context of an exchange rate system classified as flexible. However, attempts were often partial, significant market segmentation continued, and regulations were often changed. Again, lack of supporting fiscal polices and foreign exchange reserves hampered reforms (IMF Country Report 99/53). Another gradual attempt beginning in 1997 achieved unification of exchange markets in 1998; however from 1999-mid-2001, the central bank dictated that the market determined rate had to move in a certain range. A managed float implemented through an auction was introduced in 2001, but the narrow exchange rate band, and the administrative restrictions and accommodation used to respond to the negative terms of trade shock indicated that the system was still heavily managed. The authorities have committed to use newly developed monetary policy instruments in the future to respond to exchange market pressures (IMF Country Report 02/245).

Nigeria began a structural reform program in 1986-90, but since then economic mismanagement, and stop and go policies, particularly regarding the exchange rate, have contributed to high and variable inflation and a generally overvalued RER. In 1994 the government reimposed interest rate ceilings, and eliminated the free market for foreign exchange, pegging the currency at an overvalued rate. Partial deregulation began again in 1995, with the liberalization of exchange rate controls, restoring of foreign exchange bureaus, and introduction of a dual exchange rate regime, with an administratively determined official rate and a flexible auction rate (Moser et. al, 1997). Relatively prudent fiscal and monetary policies during 1996-7 together with high oil prices contributed to reducing inflation from a peak of 77 percent in 1994 to 10 percent in 1997, and increasing average real GDP growth to 4 percent. Economic growth, however, continued to be hampered by fuel, power and fertilizer shortages and political uncertainties.

By early 1998, Nigeria had a multiple exchange rate system: an artificially overvalued official rate for government and oil transactions, an “autonomous foreign exchange market” (AFEM) with a rate administratively determined in a managed float (with reference to the interbank and parallel rate, and supported by net infusions of foreign exchange from oil exports), plus foreign exchange bureaus and an active parallel market. Access to foreign exchange for current account transactions was quite liberal, although some restrictions remained. The Abubakhar administration abolished the official exchange rate in 1998. Some initial progress was made in the face of sharp drops in petroleum revenues, but then large extra budgetary expenditures increased the budget deficit to over 8 percent in the first half of 1999, financed by central bank credit. Although some initial progress occurred with democratically-elected President Obasanjo in June 1999, by 2000 severe macroeconomic imbalances had increased as the deficit surged with pressures to deliver a “democracy dividend”: expenditure dissipated the

large windfall oil gains, inflation accelerated to double digits and instability dominated the foreign exchange market. (IMF Country Report, 01/131). After abolition of the AFEM and successful introduction of the interbank market (or IFEM) in 1999, the central bank prohibited in 2000 the transfer between banks of foreign exchange purchased from the central bank, leading to the segmentation of the IFEM with two distinct rates (one effectively a predetermined rate), and the widening of the parallel market premium. Macroeconomic instability continued and by 2002, facing a rapid decline in international reserves, the authorities were forced to carry out a series of devaluations and later adopted a new Dutch auction system (DAS). The depreciation that occurred helped lower the premium and stabilize the market, although it still remains segmented and excessively regulated (IMF Country Report 03/3).

Lessons: It is difficult to successfully liberalize and make more flexible the exchange regime, when monetary, and particularly fiscal policies, are excessively expansionary. Conditions during hyper-inflation are merely the most extreme example. In addition, stop-start, or extremely gradual liberalizations where there the real objectives of policy-makers are unclear, are less likely to be successful, most likely as agents lose confidence in the credibility of the reform.

2. Poor Management of Fiscal Policies and Large External Shocks

Ghana's 1983-91 reform program achieved initial successes in sharply turning around negative growth, triple digit inflation and parallel market premiums, and a large part of economic activity in parallel markets (Kapur et. al, 1991). Gradual liberalization of the exchange and trade system was the centerpiece of the reform program. Loss of fiscal control after 1992, however, led to high and variable inflation (Pellechio et. al, 2001). In 1999, Ghana suffered a major TOT shock, as world prices for its main exports cocoa and gold plummeted, and oil prices doubled. Neither fiscal nor monetary policies responded appropriately, however. The government maintained too high a cocoa price for farmers that severely compromised revenue from cocoa taxes and borrowed from the banking system to finance the resulting higher deficit. Fearing that rapid depreciation would further stoke inflation, the Bank of Ghana intervened in the foreign exchange market to slow nominal depreciation, resulting in continued real appreciation of the cedi. The central bank was finally forced to abandon this strategy in November 1999 when reserves were run down to dangerous levels (IMF Country Report 01/141).

An initially very high real appreciation followed **Zambia**'s move to a flexible exchange rate system in 1992, in the context of triple-digit inflation, high copper prices, and high interest rates that attracted some private capital flows. The introduction of a cash-budget rule in 1993 succeeded in ratcheting down inflation (Adam and Bevan, 2001).

The stability of the nominal exchange rate since 1996 and the dominant role of the Zambia Consolidated Copper Mines (ZCCM) in the foreign exchange market have raised questions about the true degree of exchange rate flexibility, but the authorities' view was that ZCCM played a stabilizing role. The late 1990s illustrate the volatility Zambia faces. During 1998-99 both copper and agricultural production were depressed, the budget in larger deficit than planned, and the external position had weakened because of uncertainty regarding protracted delays in the ZCCM privatization, donors' withholding of aid, and inappropriate macroeconomic

policies. The currency depreciated sharply and there was a large loss of reserves. The inflationary impact of the steep depreciation complicated anti-inflation policy, and failure to tighten money contributed to continued currency weakness and creeping dollarization. Performance bounced back in 2000-01 given the recovery of the privatized mining sector, as well as manufacturing and services. A sizable appreciation of the real exchange rate ensued. The situation was reversed again in 2002 with the withdrawal of Anglo-American, declining copper prices and drought, which lowered growth and increased inflationary pressures. Although there has been volatility in the real exchange rate, this measure of competitiveness has remained broadly unchanged since the mid-1990s, despite a large deterioration in the terms of trade and persistently large current account deficits.

Lessons: Policy-makers perceive there are conflicts involved trying to both control inflation and maintain a competitive real exchange rate, particularly when the terms of trade are deteriorating. In this environment, losses of fiscal discipline in the face of external shocks can contribute to accelerating inflation and macroeconomic volatility.

3. Challenges in Monetary Management of Recent Large Aid Inflows[7]

Before summarizing country cases, we describe a few common background features relevant to the experience of Uganda, Tanzania and Mozambique in managing large aid inflows during the late 1990s-2002. Each country implemented deep structural reforms, including exchange rate unification (Uganda, 1992, Tanzania, 1994, Mozambique, 1993), achieved consistently tight fiscal positions, and experienced rapid growth during the late 1990s-2002. All three countries emerged from their stabilization phases with very low levels of domestic money demand[8] and of domestic debt and very thin markets in government securities. Against a backdrop of already high aid inflows, there was a surge in new aid starting in the late 1990s—for instance, net donor inflows amounted to 11 % of GDP in Uganda in 2000/2001. Given the strong non-tradable bias in public expenditure, all three countries are generating net domestic liquidity injections from government which are large relative to the existing levels of debt and money. In addition to aid inflows, the countries have also experienced substantial increases in private capital flows.

Uganda's recent aid surge came at a time of a sharp deterioration in the terms of trade, given the world slump in coffee prices. Although the exchange rate was notionally flexible, the Bank of Uganda did not adhere to the strategy of sterilizing the liquidity through sale of foreign exchange proceeds to the private sector (i.e. by letting the exchange rate float)—because of its unwillingness to let the exchange rate appreciate in the face of the TOT deterioration. Instead, the Bank initially attempted sterilization through the domestic debt market, but given the required scale of the sterilization, this led to a rapid increase in domestic interest rates, debt stock and debt service costs-- so rapid, that the Bank reversed its strategy in 2001, although initially without sterilizing through foreign exchange sales (IMF Country Report 03/97). Reserve money

[7] This section draws on Adam et al. (2003).

[8] At the end of the 1990s, reserve money in each country averaged around 4 percent of GDP.

grew much faster than programmed, and the IMF and Uganda's Ministry of Finance pressured the Bank to let the exchange rate float. The episode led to high volatility in interest rates and the exchange rate, but inflation still remained low, and the RER did not appreciate.

In **Tanzania,** motivated by a similar fear of RER appreciation as in Uganda, the Bank of Tanzania responded to the aid surge by, in effect, abandoning its flexible exchange rate, and accumulating foreign exchange reserves in order to target the nominal exchange rate (IMF Country Report 03/2). The shilling first depreciated against the dollar in 1999 and then was held constant for 18 months before depreciating again in 2002. Initially sterilizing the liquidity through domestic debt sales, concerns over interest costs led the Bank to fix bond prices to stabilize yields. With both conventional sterilization instruments now essentially frozen, reserve money grew rapidly. Tensions emerged between the Bank of Tanzania, which argued that the economy was experiencing a structural shift in money demand, so that it was unnecessary and inappropriate to fully sterilize the growth in reserve money, and the International Monetary Fund, which took the position that any increase in money demand was likely running its course and the strategy risked re-igniting inflation (IMF Country Report 03/1). As of February 2003, while the RER had appreciated, there was no evidence of a resurgence in inflation.

A surge in private capital inflows preceded the rapid aid increase in **Mozambique**, and the reserve build up was sterilized through the fiscal channel, by falls in net domestic assets as the government accumulated deposits. But by late 1999 and into 2000, official aid flows had increased, and the previously tight fiscal stance was loosened somewhat, partly due to reconstruction expenditures and lower revenues reflecting a massive flood crisis. Now although the Bank of Mozambique was not attempting to offset an exchange rate appreciation, it was still reluctant to sterilize, arguing as in Uganda, that the increase in reserve money was non-inflationary and reflected a recovery in money demand. (IMF Country Report No. 01/17). In this case, however, there was a sharp increase in inflation.

Lessons: Countries facing large aid inflows face particular difficulties in determining sterilization policies when inflows are likely to be long-lasting. Fear of appreciation limits foreign exchange sterilization (so the exchange rate is managed to prevent appreciation). Thus, domestic bond sterilization must play a major role, but lack of depth in domestic debt markets means that large-scale bond sterilization leads to large increases in domestic interest rates and debt service costs with adverse effects on the deficit. Assessing whether a strategy of letting aid flows increase the monetary base (limited sterilization) will be inflationary is also complicated by uncertainty about the underlying demand for money (and rapidly changing conditions). As for the divergent views of the IMF and country authorities on this issue, to date evidence "on the ground" is mixed. (In Uganda and Tanzania, but not Mozambique, inflation has remained low despite instances of rapid growth in reserve money, suggesting the countries' preferred strategy of limited sterilization is appropriate.)

4. Private Capital Flows

Following a comprehensive liberalization program began in 1991 (with foreign exchange liberalization completed by 1994), but failing to correct an underlying fiscal problem, the **Zimbabwe**an authorities assigned too many objectives to monetary policy: controlling inflation,

managing the exchange rate (attempting a constant RER rule), and stimulating real activity through interest rate policy (Ellyne, 2000). High budget deficits resulted in rapid accumulation of domestic debt, high inflation and correspondingly high interest rates. Private capital inflows from 1993-mid-96 put pressure on the RER. The authorities' response was nominal depreciation, accumulation of reserves, and partial sterilization through treasury bill sales. This led, however, to the classic cycle of higher interest rates, more inflows, and higher budgetary costs. By 1997, it began to be clear that the government had switched to money creation to finance the deficit, while trying to force interest rates lower. With classic signs of an impending crisis (excess money balances, overvaluation, declining reserves) the market looked for signs of a policy reversal in the government's budget for 1997, but saw the opposite, and a currency crisis ensued (IMF Country Report 01/13).

Following exchange market unification in 1993 in **Kenya**, the policy focus was to keep reserve money on its targeted path while intervening in the foreign exchange market to minimize appreciation. Early capital inflows led to a similar scenario as in Zimbabwe: in 1995 the Central Bank of Kenya tried to bring interest rates down, but this led to a big redemption of treasury bills, capital outflow, and pressure for depreciation of the exchange rate. After a successful defense, the Bank returned to a high interest rate policy to stabilize the exchange rate and build reserves (Ndung'u and Ngugi, 1999). Although unlike Zimbabwe, there was not the huge underlying fiscal problem, capital flows again put pressure on the exchange rate in 1996, and led to classic sterilization cycles. The non-bank public also shifted into holding government paper, which may have depressed money demand, and inflation increased. Tables turned, however, when the IMF suspended its program in 1997 because of governance problems, and other donors also pulled out. Following an initial response where investors pulled out of government paper, reserves dropped and the currency depreciated, later a fragile stability returned to the financial markets. In 1999 central bank intervention in the exchange market was limited to achieving the reserve target (replenishing the foreign exchange the government sells to the government to service the external debt, while gradually building reserves) and fiscal steps became the key to avoid pressure on the exchange rate. From 2000-02 the nominal and real exchange rate remained relatively stable, despite worsening of the terms of trade. However, the authorities' view was that exchange rate stability may have reduced currency risk premiums and interest rates over the period (IMF Country Report 02/85).

Lessons: Attempts at targeting the real exchange rate and controlling inflation in the face of significant capital inflows can lead to crises, particularly if the underlying problem—the large budget deficit—is not controlled (Zimbabwe). Trying to target the real interest rate below its equilibrium value can also contribute to loss of confidence in monetary policy. Budget financing becomes sensitive to expectations about policies, when high interest rates associated with sterilization policies lead to significant treasury bill holdings by the bank and non-bank sectors.

5. Notionally Flexible Exchange Rates with a Controlled, Single State-Bank Dominated Financial Sector

After a socialist history of extensive controls, **Ethiopia** liberalized its foreign exchange markets with the introduction of an auction market in 1994. The first test of the system was the 1994/95 coffee boom, where the ability to control monetary and inflationary effects was limited

by import restrictions and the maintenance of 100 percent export surrender requirements, so that exporters could not use foreign exchange to import capital goods, for example. Policy responses were generally in the right direction, but relatively weak. For example, the amount allocated to the foreign exchange auction was increased, but not enough to prevent excess demand for imports and an inflationary increase in net foreign assets. Upward pressure on prices was a disincentive to keep wealth in birr-denominated assets, but as there were no other assets beside foreign exchange, the parallel premium increased (IMF Country Report 96/52).

After some "first-generation" liberalizations, the process stalled and regulations remained burdensome (IMF Country Report 99/98). The nominal and RER were kept quite stable. The institutional structure of the exchange market was changed to an interbank market in 1999, but there has not been much activity. Clearly, it is difficult to have a genuine market when the financial sector is heavily dominated by a single state bank.

Lessons: It is difficult to have a flexible exchange rate system with continued tight trade and payments restrictions and controlled financial markets so that there are no other domestic assets. Demand for foreign exchange for trade and asset motives will continue to encourage the parallel market. Institutional set-ups for generating exchange rate flexibility are severely limited in state-bank dominated financial sectors.

6. Heterodox Trade Liberalization Accompanied by Limited Liberalization of Foreign Exchange Markets

Mauritius has achieved strong export-led growth during the past three decades, notwithstanding the limited liberalization of its foreign exchange markets that took place during its adjustment period 1980-86. Trade liberalization during this period concentrated on institutional reforms to ensure that returns to exporting were high, while the regime remained highly restrictive on the import side (Subramanian and Roy, 2001). Success allowed the authorities to resist the Bretton Woods institutions' calls for further import and exchange liberalization, arguing that reforms would not be sustainable as the balance of payments and budget would worsen (Bundoo and Dabee, 1999). Mauritius waited to liberalize exchange controls in the context of a managed float until 1994, when foreign exchange reserves were steadily rising and it was clear there would not be excess demand for foreign exchange. The exchange rate was managed to ensure some real depreciation. Later, in 1999-2000 the lack of sensitivity of the exchange rate to market pressures meant that the real exchange rate appreciated, perhaps more than necessary. In this instance, the authorities were interested in dampening entrenched depreciation expectations to force the tradable sector to improve competitiveness through cost reductions and productivity improvements. There was some disagreement with the IMF on the authorities' response to the appreciation by providing targeted export subsidies and reimposing surrender requirements, when the appropriate response according to the Fund, was monetary tightening. (IMF Country Report 01/77). The Mauritian position was that interventions were necessary because of the thinness, seasonality, and concentration of foreign exchange suppliers that make the foreign exchange market vulnerable to disruptive movements.

Lessons: Even in very export-oriented markets, thinness of the foreign exchange markets (which are still small) leads to dilemmas regarding whether intervention or monetary policy changes are appropriate responses to excessive appreciations or depreciations. Success with heterodox trade liberalization (selective controls and interventions) may encourage the authorities to pursue heterodox exchange market liberalization, although it is not clear if this strategy works well.

7. Institutional Problems With Operating A Flexible Rate When Financial Sectors are Under-Developed

While the **Gambia**n economy has had its ups and downs since the beginning of the Economic Recovery Program in 1986, the market-based flexible exchange rate is generally viewed as having served the economy well. However, while the system has had some favorable macroeconomic effects, like in many African countries, an underdeveloped financial sector continues to limit efficient operation of the exchange market. We thus use The Gambia to highlight the institutional difficulties of operating a flexible exchange rate system in a financial sector with limited competition and large structural problems. While the system operates through an interbank market, by the late 1990s, activity in the market was still limited as authorized dealers avoided revealing their financial positions to each other and rarely dealt among themselves, preferring instead to deal with the central bank, or sometimes with the parallel market. (Some improvement was registered by 2002). Spreads of 3-5 percent between the interbank and the parallel market (the foreign exchange bureaus that transact mainly in cash) reflected limited competition in the interbank market and the efficiency of the informal market. Although the market has been liberalized, there is a prudential limit on the amount of foreign exchange that commercial banks can hold—which sometimes makes banks dependent on short-term credit from their overseas partners or parents in order to meet the demand for foreign exchange (IMF Country Report 99/71). Foreign exchange transactions costs are high, and banks are not allowed to accept foreign currency deposits, although that policy was under review in 2001. At times of pressures or turbulence in the foreign exchange market, spreads of 10 percent or so often emerge for a period as the parallel market adjusts much more quickly than the interbank market. For example, in 2000/2001 the central bank attempted to meet pent-up demand for foreign exchange in the interbank market using competitive bids (rather than selling at prevailing rates) to reduce spreads that were over 15 percent (IMF Country Report 01/148).

The interbank market in **Guinea** during the 1994-99 period illustrates similar institutional problems. Before September 1999, the foreign exchange market was highly segmented. An official market was dominated by state enterprises and donors, who operated through two large banks, and by large importers. The rest of transactions took place in a so-called parallel market of foreign exchange bureaus, many of which gained official status when licensing was allowed in 1997. The spread between the two rates was between 4-6 percent until mid-1998, when it began widening, as the authorities began propping up the official rate. By early 1999 the parallel market accounted for about 60-70 percent of the foreign exchange market and the spread was 10-15 percent. Market segmentation became more pronounced, with “shortages” while those with access to official rates earned substantial rents. The central bank introduced a weekly auction for foreign exchange in 1999, which helped to reduce the spread significantly (IMF Country Report 00/33). Since then the spread has remained below 2 percent, although with periodic spikes

during periods of central bank interventions to prop up the currency, as for example in the first quarter of 2000. The market is still quite segmented, however, between the auction market (commercial banks, authorized bureaus and the central bank) and the unofficial parallel market (unauthorized agents transacting mainly in cash, but also through off-shore accounts). The parallel market is increasingly involved in transactions of the informal mining sector. There is a general shortage of foreign exchange on the official market, and given the banks' lack of confidence in each other, there are no interbank transactions between auctions (where the bidding does not appear to be purely competitive). In 2001 the central bank progressively lengthened the intervals between auctions in order to try and reduce pressure for depreciation on the exchange rate (IMF Country Report 02/153).

Lessons: Efficiency of interbank markets is limited when structural problems in the financial sector and lack of information inhibit banks dealing with each other, or the market is highly segmented to include only a few large banks and other players. These problems led Guinea to change to an auction market, an arrangement which relies less on well-functioning financial markets, but is subject to other difficulties. Generalized excess demand for foreign exchange on official markets may lead authorities to manipulate institutional arrangements to ease depreciation pressure.

8. Summary of Performance in Pre-Flexible and Flexible Periods[9]

How have the countries that have moved to flexible exchange rate systems performed in terms of key macroeconomic indicators? Table V.2 summarizes average performance across these countries during their flexible periods, as well as two pre-flexible periods: the 5 years and 10 years prior to changing to a flexible rate system.[10] (See Appendix Table V.1A-1C for the country specific averages and time periods covered). War-torn countries are excluded as economic performance is heavily dependent on the effects of the conflict, and this exclusion significantly affects the overall averages. First, following Calvo and Reinhart (2001), an exchange rate flexibility index is calculated, as the ratio of the variance of monthly percent change in the exchange rate to the sum of variances of monthly percent change in the exchange rate and reserves. According to this index, exchange rate regimes in these countries have indeed become more flexible in the de jure declared flexible periods, although the size of change in the average index is not extremely large.

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[9] In addition to these groups of countries above, the case of Madagascar warrants mention. Monetary nominal anchors have not succeeded well there in controlling inflation, and the problem does not seem related to underlying losses of fiscal control (Azam, 2001). The adjustment of inflation to disequilibria in the money market is relatively slow, there is high pass-through from the exchange rate, and inflation inertia is quite strong (Sacerdoti and Xiao, 2001).

[10] Countries included in the averages table are those covered in the vignettes (Ethiopia, Ghana, Guinea, Kenya, Madagascar, Mauritius, Mozambique, Nigeria, South Africa, Sudan, Tanzania, The Gambia, Uganda, Zambia, and Zimbabwe), as well as additional flexible rate countries (Guinea-Bissau, Malawi, Mauritania, Sao Tome and Principe) but excluding war-torn countries (Angola, Burundi, Democratic Republic of Congo, Liberia, Rwanda, Sierra Leone, Somalia).

Next, we look at a number of macroeconomic indicators. The idea is not to argue for causal relationships--in examining unconditional changes across periods, clearly factors other than changes in the exchange regime could be driving differential performance. In general, macroeconomic indicators have improved in the more recent flexible exchange rate period for these countries. Growth in both real GDP and real GDP per capita is on average higher. Inflation and black market premiums are generally lower. Appendix Tables V.1A-1C show a significant degree of variance across the countries, however: the average black market premium in flexible periods would be substantially lower excluding Nigeria, and inflation falls more excluding Sudan and Zambia, two very high inflation countries.

Table V.2 also indicates that real effective exchange (REER) rates have depreciated on average, during these countries' flexible periods, after appreciating during the pre-flexible periods. Figure V.2 graphs the country-specific REERs, with a vertical bar in each panel indicating the year of movement to a flexible regime. One of the most important fundamentals associated with the real exchange rate, a real commodity price index (see Cashin et al, 2002), is also shown, to illustrate the extent to which movements in the REER are influenced by commodity prices, in the pre- and post-flexible periods. For most of the countries, the graphs show that the movement to a flexible exchange regime was accompanied by a large depreciation of the REER. On average, REERs remain more depreciated in the flexible period, and for a number of countries, exhibit a continual depreciating trend after the adoption of flexible rates.

Finally, the last column shows that fiscal deficits are on average very similar during these countries' pre-flexible and flexible exchange rate periods. Thus, we have little evidence on whether fixed or flexible rates are associated with greater fiscal discipline. In any case, causality is an important question here. It could be that progress on fiscal discipline contributes to the ability to maintain some degree of fixed or flexible rates, or that fixed or flexible regimes help support fiscal discipline.

C. Country Experiences with Fixed or Adjustable Pegs

As noted above, the alternatives for countries which are not currently members of currency unions (CFA franc zone, or CMA) are a continuation of their existing flexible or fixed exchange rate systems, or forming/joining monetary unions. We complete the description of experience with existing regimes by considering countries (outside the CFA or CMA) with fixed rate systems: single or basket pegs, both fixed and adjustable. By the late 1990s-2002, there were actually only a very few countries having such arrangements. A number of these countries are considering joining various monetary union projects. Unfortunately, since several of these countries were also war-torn (Burundi, Liberia, Eritrea), economic performance was dominated by the wars, and not exchange rate or other policies. It is useful, however, to describe the interesting and unique monetary experience of Liberia largely before the onset of the civil war. It is also difficult to generalize from Zimbabwe's case, which moved back from a flexible to a fixed rate system (notionally adjustable, but very rarely changed) in 1999, since that country has been in the midst of a severe general economic crisis and large contraction, accompanied by a cut-off in external assistance and capital flows. The four other Sub-Saharan African countries currently with some (as of 2001) form of peg are Botswana (see Ch. IV) and three small islands

or city-states, which are more dependent on services (Djibouti), tourism and maritime activities (Seychelles), or remittances (Cape Verde), rather than the commodity exports that dominate most African countries' structures. However, these three countries' experience is also instructive, to some extent.

1. Description of Fixed Rate Systems in War Countries

During the 1980s-1993, the **Burundi**an Franc was pegged to the SDR, with the peg adjusted several times by the authorities in order to maintain competitiveness. The real exchange rate depreciated from 1985-92. Burundi began a comprehensive reform program in 1991, but the government's priorities were soon dominated by the outbreak of civil conflict in 1993. The peg was changed to a weighted basket of principal trading partners' currencies and adjusted periodically, but the real exchange rate appreciated by 33 percent during 1993-97 and parallel market spreads of over 50 percent began to emerge (IMF Country Report 97/114). A fragile peace was achieved in 2000. The new government moved from a peg to a managed float, managing the exchange rate to limit the spread between the official and parallel rate (IMF Country Report 02/242).

Eritrea's record with a fixed rate system is too short to analyze. For the record, we describe briefly how the country moved to a peg. The Ethiopian birr (flexible rate) was adopted starting from independence in 1993, originally with an official rate that applied to transactions between the two countries, and a preferential rate for private imports and all exports. The two rates were unified in April 1997, and Eritrea introduced its own currency, the nafka, to replace the birr at a one-to-one parity in November 1997 (IMF Country Report 97/88). A war between the two countries broke out it May 1998. Throughout the war, which ended in December 2000, Eritrea's exchange rate was market-determined. With reserves nearly depleted and the authorities worried about the effect of rapid depreciation on inflation, exchange controls were implemented in July 2000 and the exchange rate fixed. Although the controls were later repealed in 2001, the rate had barely moved (the system is essentially a fixed rate, although notionally flexible) by end-2002. The essentially fixed rate, precarious reserve position, and extensive restrictions on current account payments have led to a parallel market premium of around 60 percent, encouraging rent seeking and fraud. (IMF Country Report 03/165).

Liberia is an interesting case because of its long history as an independent country using the US dollar, and more recent experience with the circulation of competing currencies.[11] From 1944 the U.S. dollar was legal tender and the Liberian dollar was held at a fixed one-for-one parity until August 1988 when the rate became market determined. Liberia's economic situation began deteriorating in the early 1980s following terms of trade declines, economic mismanagement, and mounting arrears that lead to a break down of relations with creditors and donors. By the mid-1980s, the U.S. dollar-based financial system was near collapse. Although

[11] Founded as a colony to serve as home for liberated American slaves in 1821, it became independent in 1847. US notes and coins circulated as currency from the first, while British West African Pounds were also legal tender until 1944, when Liberia issued the Liberian dollar, which was linked at par to the US dollar.

the traditionally circulating medium was both U.S. and Liberian dollars, starting in 1985 a parallel market for foreign exchange emerged, with the Liberian dollar trading at a discount, reaching Liberian $2.30 per US $1 by 1989. The 1989-97 civil war brought most economic activity to a virtual standstill. When the war broke out 5 dollar banknotes with the portrait of JJ Roberts (Liberia's first president) were issued in areas controlled by rebels led by Charles Taylor. In 1991, "Liberty" banknotes where issued in areas controlled by ECOWAS's military forces (ECOMOG). The competing currencies were exchanged at various rates that differed from their official parity with the US dollar. With the winding down of the civil war and election of Charles Taylor president in 1997, the currency was once again unified. However, parity with the US dollar was not reestablished, and the currency quickly depreciated to over 50 to the US dollar (IMF Country Report 00/50).

2. Other Fixed Rate Systems as of 2001

Two-thirds of **Djibouti**'s population live in the capital, and the rest lead a poor pastoral existence in the desert.[12] The economy was traditionally based on services for the substantial presence of French military and dependents, offshore banking, and the port. The Djibouti franc is freely convertible, and has been pegged at an unchanged level to the U.S. dollar since 1973, although most trade is conducted with Europe. The central bank operates a currency board, with francs in circulation covered by U.S. dollar deposits. Up until the early 1990s, the currency board and fixed exchange rate appeared to have contributed to Djibouti's development as a regional trade and financial center, although the external position was chronically weak. Even in the second half of the 1980s, however, economic performance had begun to weaken. Real GDP declined by 1 percent annually from 1984-90, following the end of a real estate boom and a drop in public investment, as well as deterioration in neighboring countries. In 1991, an ethnic based conflict broke out. Deterioration of the fiscal position was the key economic issue throughout the 1990s. In the first half of the decade, budget deficits grew with the effect of conflict, unstable regional politics, declining aid, the heavy weight of the government wage bill, and poor fiscal discipline. IMF staff reports assessed that the sustainability of the exchange rate regime required substantial fiscal tightening. Although some on-again off-again adjustment did take place in the second half of the decade under IMF programs, by the late 1990s, there was substantial concern about competitiveness and the strain on the exchange rate, also considering the real appreciation (about 55 percent over the decade) stemming from the U.S. dollar peg. IMF staff have argued that the deterioration in competitiveness, suggested by overvaluation and very high real wages, is a major factor behind sluggish growth and persistent balance of payments pressures, and that an exchange rate devaluation should be seriously considered. The authorities also recognize that improvements in competitiveness are critical for growth.

[12] Djibouti also has had an interesting monetary history. Djibouti, also known as French Somaliland, was a colony of France until 1946 when it became an overseas territory, known as Afars and Issas. Upon independence in 1977, it became known as the Republic of Djibouti. From 1885 until 1943, Maria Theresa Thalers, French Francs, and Indian Rupees all had legal tender status, though as of 1907 the Banque de l'Indochine also issued a Franc note for Djibouti. Djibouti was part of the CFA Franc Zone at its formation in 1945, but in 1949 it left the zone and pegged its currency to the US dollar.

Seychelles is a small open economy, dependent on tourism and maritime activities, with a traditionally large role of the public sector in economic activity and employment. The Seychelles rupee was pegged to the SDR until 1996, followed by a peg to a basket, with changing weights. Substantial social progress was recorded from independence in 1976, with per capita GDP rising from $800 to $7000 in 1998. However, rising macroeconomic imbalances during the 1990s seriously affected efficiency and competitiveness, such that the average growth rate declined during this period. At the outset of the decade there were no exchange controls, although significant import and price controls. That system was disrupted by external difficulties during the Middle East crisis of 1991, and external payments restrictions and surrender requirements were reinstated, although they did not prevent accumulation of external arrears. A small parallel market was in existence by 1993 with a spread of 7-10 percent. Monetary developments during 1994-96 were dominated by shortages of foreign currency and commercial payments arrears. The central bank introduced a pipeline scheme (or queuing) for the allocation of foreign exchange, and a system for the allocation of foreign exchange to seven categories of expenditure.[13] (IMF Country Report 00/142). At the root of the external pressures during the second half of the decade was the rising fiscal deficit (14 percent of GDP during 1996-99), fueled by the expanding welfare system, rising wage bill, transfers to parastatals and a big capital spending program. The authorities responded to balance of payments pressures with further tightening of trade and exchange restrictions in 1998 and 2001. Since this time, IMF staff reports have been pushing for the dismantling of price, trade and exchange controls. While real GDP fell more than 15 percent from 1998-2001, and the current account deficit averaged 17 percent of GDP during 1999-2001, there was a massive accumulation of external debt and arrears, and falling reserves. There is anecdotal evidence that the rupee seems far overvalued. The authorities current program focuses on the resolution of the large monetary overhang resulting from the excessive public financing.

Cape Verde operated a basket peg until 1998. Although central planning and an economically dominant public sector determined strategy from 1975-91, relatively prudent policies (and large foreign transfers) allowed solid economic growth through the 1980s. Toward the decade's end, however, the government did not respond to declining aid and remittances by cutting large expenditures, but used bank credit to finance deficits. Unemployment and inflation rose, and official reserves fell. An adjustment program starting in 1992 restored reasonable growth, with significant contributions from services and foreign investment in export-oriented manufacturing. Until 1997, however, fiscal policies were unsustainably lax, leading to accumulation of domestic debt and depletion of foreign exchange reserves (IMF Country Report 99/58). Rapid progress was made under the precautionary arrangement begun with the Fund in 1998: real GDP growth increased to 8 percent in 1998-99, and inflation was halved from 8.6 percent in 1997 to 4.3 percent in 1999. Current account and capital transactions were liberalized in mid-1998, policies aimed at ensuring the escudo's convertibility. In order to signal a commitment to low inflation and macroeconomic stability, the basket peg was replaced with a fixed link of the Cape Verdean escudo to the Portuguese escudo, and, since the replacement of

[13] The pipeline scheme requires rupee deposits, which queue for forex allocation, while the allocation system by categories does not require previous deposits in rupees.

the latter by the euro in 1999, a peg to the EU's common currency, the euro. Overly expansionary fiscal policies in 1999, however, partially financed by credit from the central bank and a credit line facility from Portugal (designed to ensure convertibility between the two countries' currencies), led to a widening current account deficit (14 percent of GDP). The authorities responded to the pressure on reserves by temporarily introducing foreign exchange rationing.[14] Fiscal deterioration worsened in 2000, however, in the run-up to elections, endangering the peg to the euro. With limited statutory independence, the central bank was unable to prevent monetization of the deficit, financed also by accumulation of domestic and external arrears. The balance of payments deteriorated, reflecting lower FDI and the suspension of aid. In particular, since they had not repaid the credit line with Portugal by previous year's end, access to this facility was supposed to be blocked, raising further questions about the sustainability of the peg.[15]

D. Assessment of Country Experiences

A number of lessons or patterns can be drawn from the brief country narratives above. We present a few general assessments of country experiences under fixed or adjustable peg systems, followed by assessments of experiences with flexible exchange rate systems.

1. Fixed or Adjustable Pegs

- Adjustable pegs have contributed to low or moderate inflation and periods of strong growth.
- When concerns have arisen about the sustainability of pegs, the underlying problem has usually been overly expansionary fiscal policies. The scope for macro policies is constrained by very high degrees of openness, the fixed exchange rate, and free flows of capital. Demand management must rely heavily on budgetary, and in some cases, wage policies. This situation is most stark in the case of Djibouti's currency board, but is also true for the other countries.
- When the authorities respond to the balance of payments pressures with trade and foreign exchange restrictions (preventing pressures from affecting the exchange rate), macro-imbalances continue to build, and competitiveness and efficiency decline precipitously as the real exchange rate becomes overvalued.
- Central bank independence from pressures to monetize large fiscal deficits is also important in these regimes in order to maintain adequate reserve cover and the viability of the peg.
- Close relations with an industrial country can help in critical situations, but have downsides also. For example, while Cape Verde's drawing on the credit line with Portugal in

[14] By year's end, however, inflows of foreign direct investment, related to privatization, and aid inflows, turned the overall balance of payment into surplus.

[15] The credit line was subsequently reopened in 2001 when Cape Verde and Portugal agreed to transform the outstanding payments into a long-term bridge loan.

2000 even though it was officially blocked (because of previous non-compliance with the rules) helped sustain the peg at that time, the expectation of future "bail-outs" may not contribute to maintenance of fiscal discipline.

- Ongoing adjustments of the peg are important to prevent the emergence of large misalignments. When delayed such that a mega-devaluation is probably warranted, countries resist, concerned about potential costs.
- In contrast to the three countries above, Botswana has successfully managed its basket peg system generally to maintain competitiveness and support growth. An important part of that success has been maintenance of fiscal discipline, liberalized exchange control system, some degree of central bank independence, and occasional adjustment of the exchange rate.
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2. Flexible Rate Systems

General Patterns following Reforms

- Moves to market determined rates in the contexts of floats, auctions, and inter-bank markets that made significant progress in unifying official and parallel rates did not lead to immediate large increases in the level of inflation, as had been feared.
- Reforms have been successful to a large extent, in eliminating the corruption and inefficiencies associated with non-market allocation of foreign exchange. Many previous huge overvaluations of official RERs that constituted large implicit taxes on the tradables sector, and corresponding subsidy on the consumption of imports have been corrected.
- The extent to which exchange rates are currently market-determined varies significantly. Central banks often intervene heavily to manage the exchange rate.
- Thin markets can lead to excessive volatility of the exchange rate with negative consequences for real sector activities. Central banks often currently state that they are intervening only to smooth fluctuations and achieve reserve targets—although this designation could be interpreted quite broadly to mask other types of intervention.

Institutional and Structural Difficulties with Operating Flexible Exchange Rate Systems

- Many countries have progressed to market determined rates and foreign exchange allocation through the creation of interbank markets. The development of efficient interbank markets, however, has been hindered by structural problems in the financial sector (small market size, limited competition among banks, government involvement or management of banks, limited financial instruments, solvency and liquidity problems). In some cases countries have switched back to auction markets, which do not require well-functioning financial markets. Auctions, however, can be manipulated by the government, and impose uncertainty about pricing and delivery of foreign exchange to participants.
- In addition to financial market underdevelopment, other structural conditions make efficient operation of flexible exchange rate systems difficult in SSA. First, foreign exchange receipts are extremely seasonal or lumpy, given export structures dominated by a few commodities, providing motivation for extensive intervention to smooth predictable exchange rate cycles. Second, the foreign exchange market is often dominated by a few big

players: large companies or marketing boards on the export side, and aid agencies and large trading companies on the import side. Third, there are few (or no) private speculators engaging purely in foreign currency trading.

Real Exchange Rates, Terms of Trade and Inflation

- Most countries adopting reform programs achieved significant depreciations of the real exchange rate. In recent years, however, real exchange rates have either fluctuated around a constant trend or appreciated implying that for some countries competitiveness has been eroded.
- More flexible exchange rate arrangements seem to have allowed adjustment of real exchange rates to TOT movements with fewer periods of serious misalignment than in the earlier pre-liberalization, fixed exchange rate experiences of these countries.[16]
- Since the exchange rate is no longer the nominal anchor for price stability, governments have chosen various forms of monetary nominal anchors. The root causes of losses of control over inflation, however, have come from the inability to shield the central bank from weak fiscal discipline, or from losses of fiscal control in the face of shocks.

"Fear of Floating"

- There appears to be some "fear of floating" (Calvo and Reinhart, 2002), including, in different countries and at different times, fear of depreciation and fear of appreciation.
- Fear of depreciation often relates to concerns that rapid nominal depreciation will ignite inflation. The higher costs of servicing external debt are another factor, although much less so given large debt relief. There is often no effective domestic lobby for depreciation to ensure competitiveness, as export sectors are often comprised of enclaves or rural smallholder producers. In contrast, urban consumers and import-substituting manufacturing sectors can be vocal lobbies for cheap imported final and intermediate goods.
- Fear of appreciation often stems from government concerns about competitiveness of the export sector, both traditional commodity exports, and sometimes non-traditional exports. Thus, authorities facing rapid increases in aid often eschew the option of foreign exchange sterilization. Difficulties with domestic bond sterilization, however, can lead to high and volatile interest rates, budgetary pressures, and changes in policy direction that make it difficult for the market to determine the objectives of foreign

[16] The question of whether RERs in developing countries adjust more to TOT shocks under flexible rates is not settled in the literature. Broda's (2001) evidence says yes, while Calvo and Reinhart (2000) suggest no. For SSA, Hoffmaister, Roldos, and Wickham (1998) find, paradoxically, that RERs in CFA countries respond more to TOT shocks than in non-CFA countries. Cashin et al. (2002) find a long-run relationship between real commodity prices and the RER in a number of countries, and find that both some fixed and some flexible exchange rate SSA countries can designated as commodity currencies.

exchange and interest rate policy. Uncertainty about the underlying demand for money complicates determining whether limited sterilization, or a policy of letting the aid inflows increase the money base, will be inflationary.

F. Conclusions

Countries contemplating joining or forming monetary unions must compare the costs and benefits against the alternative of continued use of independent currencies, in either flexible or fixed rate systems. Currently, de jure flexible rate systems are much more prevalent in SSA (outside the CFA and CMA zones). Historically, the move of many of these countries to flexible rates was an important part of the liberalization/reform process of the 1980s and 90s. Collier and Gunning (1999) argue that it would have been very difficult for a liberalizing government to be credible if it maintained a fixed exchange rate regime, as the maintenance of the overvalued fixed regime had been at the centerpiece of the control regime (foreign exchange rationing, import licensing, price controls), with its associated corruption and inefficiencies. Also, flexibility was important to help determine the appropriate level of the exchange rate—a difficult process during periods of transition.

Currently, what is the relevance to SSA of exchange rate flexibility? For Latin America, some have argued, (Hausman et. al, 2000) that exchange rate flexibility and independent monetary policies have been misused, and have typically just produced inflation. Is the same true for Africa? Flexible exchange rate regimes in Africa have successfully reduced corruption and inefficiencies associated with non-market allocation of foreign exchange, dramatically lowered or eliminated parallel market spreads, reduced large initial real exchange rate overvaluations and, by allowing some adjustment to terms of trade shocks, have cushioned some of the negative effects on output. The designation of some of these regimes as flexible, however, is questionable, as rates are often heavily managed. However, management has sometimes not been disciplined resulting in high inflation and exchange rate instability.

In addition, as our country reviews indicate, operation of truly flexible exchange rate regimes requires efficient financial markets. However, financial markets in most African countries are plagued by structural problems and underdevelopment.

Finally, it is also clear from our review of country experiences that successful use of independent currencies requires fiscal discipline, which although improving, is still a major issue in many countries. Central bank independence is the other major pillar for having independent currencies. Except for South Africa, the degree of central bank independence is extremely low.

From the experience of the small number of non-war or crisis countries with fixed or adjustable pegged regimes, however, it is clear that neither the fixed or flexible system option is without pitfalls. Adjustable fixed rate systems have contributed to low-to-moderate inflation, stability and periods of strong growth. Botswana, in particular, has been well served by its adjustable basket peg. In other cases, however, losses of fiscal control and restoration of exchange controls have led throughout the 1990s to deteriorating competitiveness and/or severe concerns over the viability of the peg.

These costs and benefits of current regimes will need to be weighed against potential outcomes with monetary unions, discussed in later chapters. The current experience with flexible and unilateral fixed rates has also highlighted important issues that any future monetary and exchange rate systems will likely confront. These include the crucial requirement to maintain fiscal discipline, associated importance of central bank independence, development of efficient financial systems (for operating flexible rates or facilitating domestic bond markets for government financing), and the need for real exchange rates to adjust to terms of trade shocks and generally to maintain competitiveness.

Table V.1 Exchange Arrangements

Country	Most recent and sustained flexible exchange rate[1]	Accepted IMF Article VIII
Angola	1998	
Burundi	1999	
DRC	1983	
Ethiopia	1993	
Ghana	1986	1994
Guinea	1986	1995
Guinea-Bissau	1983	1997
Kenya	1993	1994
Liberia	1997	
Madagascar	1994	1996
Malawi	1994	1995
Mauritania	1995	1999
Mauritius	1994	1993
Mozambique	1992	
Nigeria	1998	
Rwanda	1995	1998
Sao Tome & Principe	1991	
Sierra Leone	1990	1995
Somalia	1990	
South Africa	1979	1973
Sudan	1992	
Tanzania	1993	1996
The Gambia	1986	1993
Uganda	1992	1994
Zambia	1992	
Zimbabwe	1994	1995

Source: IMF Annual Report on Exchange Arrangements and Exchange Restrictions 2002
1/ Prior period in flexible exchange rate, Angola: 1994-1995, Mauritania: 1987-1991, Nigeria: 1975-1993, Sierra-Leone: 1982 and 1986, Uganda: 1981-1985, DRC: 1978, Zambia: 1985-1986. Most recent year that a country went off flexible rate, Namibia: 1992, Guinea-Bissau: 1997, Zimbabwe: 1999.

Table V.2 Average Performance of Flexible Exchange Rate Regime Countries inPre-Flexible and Flexible Periods

	Exchange Rate Flexibility Index	Exchange Rate Volatility	Real GDP Growth	Real GDP per capita Growth	% Change in TOT	Inflation	Black Market Premium	% Change in the REER	Fiscal Deficit as a % of GDP (Including Grants)	Fiscal Deficit as a % of GDP (Excluding Grants)
Period 10 years prior to adopting flexible rate	16.20	0.05	2.14	-0.37	-0.27	34.21	162.58	-2.08	-5.66	-8.62
Period 5 years prior to adopting flexible rate	17.29	0.06	2.60	0.14	-1.03	35.01	203.41	-5.13	-5.56	-9.19
Flexible Period	18.81	0.05	3.39	0.56	-0.13	26.89	62.64	-4.38	-5.57	-10.54

Notes:

1.Averages over the following countries: Ethiopia, Ghana, Guinea, Guinea-Bissau, Kenya, Madagascar, Malawi, Mauritania, Mauritius, Mozambique, Nigeria, Sao Tome and Principe, South Africa, Sudan, Tanzania, The Gambia, Uganda, Zambia, Zimbabwe

2. Excludes war countries: Angola, Burundi, Democratic Republic of Congo, Rwanda, Liberia, Sierra Leone, Somalia.

3. Periods over which averages are calculated are country-specific, depending on the year Flexible exchange rate was adopted. Any subsequent periods where countries were not on flexible regime are omitted from averages (although earlier abandoned flexible rate periods are included in pre-flexible period averages). Appendix Table X provides country-specific data, indicating years comprising the 3 periods.

4. Sources: Exchange Rate Flexibility Index, Real GDP and GDP per capita Growth, Inflation: International Financial Statistics, IMF. % Change in TOT: See Cashin and Pattillo (1999); Black Market Premium: Reinhart and Rogoff (2002); REER: Information Notice System, IMF; Fiscal Deficits: African Development Indicators, World Bank.

Appendix Table V.1A Performances of Countries During Flexible Exchange Rate Regime

Country	Type	Year	% Chg in TOT	Real GDP Growth	Real GDP per capita Growth	Inflation	Black Market Premium	CR1 variance based	Exchange Rate Flexibility Index	Fiscal Deficit as a % of GDP (Excl. Grants)	Fiscal Deficit as a % of GDP (Incl. Grants)	% Change in the REER	Exchange Rate Volatility
Angola	flexible	1998-2000	0.93	4.40	1.45	232.70	…	18.23	32.40	-10.11	-1.10	-0.04	0.16
Burundi	flexible	1999-2000	1.69	-1.53	-2.49	13.85	…	30.24	32.16	-6.65	-3.60	-0.07	0.05
DRC	flexible	1983-2000	-0.91	-3.04	-6.64	2263.47	13,214,286	34.52	37.61	…	…	-0.03	0.17
Ethiopia	flexible	1993-2000	2.95	5.76	2.84	3.36	71.81	3.27	10.84	-9.41	-6.31	-0.11	0.01
Ghana	flexible	1986-2000	-1.83	4.47	1.99	28.15	17.91	12.20	19.58	-7.65	-4.20	-0.10	0.04
Guinea	flexible	1986-2000	-1.30	4.26	0.46	…	8.53	0.32	4.10	-6.81	-3.62	-0.02	0.08
Guinea-Bissau	flexible	1983-1996	2.04	2.92	0.83	51.18	…	11.29	24.81	-31.45	-14.16	-0.06	0.06
Kenya	flexible	1993-2000	1.36	2.07	-0.99	14.11	16.75	15.14	26.20	-2.80	-0.78	0.03	0.04
Liberia	flexible	1997-2000	1.01	…	…	…	2384	36.92	45.34	…	…	…	0.29
Madagascar	flexible	1994-2000	-0.10	2.98	-0.18	20.06	8.11	24.36	32.28	-8.85	-5.12	0.00	0.06
Malawi	flexible	1994-2000	0.95	3.80	2.15	38.41	9.25	19.55	24.45	-13.95	-6.78	-0.05	0.06
Mauritania	flexible	1995-2000	1.52	…	…	5.20	4.85	0.85	9.71	1.32	3.08	…	0.02
Mauritius	flexible	1994-2000	0.06	2.36	-0.07	20.21	113.87	11.33	17.28	-5.11	-4.90	0.01	0.02
Mozambique	flexible	1992-2000	0.30	5.81	3.47	32.65	…	6.07	18.64	-13.88	-3.10	-0.02	0.02
Nigeria	flexible	1998-2000	1.10	2.25	-0.53	7.96	317.29	0.00	0.00	-4.87	-4.87	-0.19	0.14
Rwanda	flexible	1995-2000	-2.23	14.05	5.54	11.36	…	16.83	23.91	-10.48	-2.87	-0.04	0.04
Sao Tome & Principe	flexible	1991-2000	-7.42	1.77	-0.86	…	…	5.70	14.87	-50.97	-31.20	-0.10	0.03
Sierra Leone	flexible	1990-2000	0.37	-6.37	-8.18	41.67	37.92	12.57	19.25	-10.13	-8.59	-0.03	0.06
Somalia	flexible	1990-2000	-0.18	…	…	…	…	…	…	…	…	…	…
South Africa	flexible	1979-2000	-0.26	1.65	-0.69	11.98	278.20	6.71	14.38	-5	-6	0	0
Sudan	flexible	1992-2000	-2.48	…	…	76.92	…	31.93	33.16	-3.91	-3.91	-0.19	0.12
Tanzania	flexible	1993-2000	1.84	3.65	0.78	18.88	4.58	6.26	15.94	-3.56	-0.49	0.07	0.02
The Gambia	flexible	1986-2000	-0.29	3.77	-0.06	10.34	7.18	6.47	19.36	-6.82	-0.47	-0.02	0.03
Uganda	flexible	1992-2000	-0.49	6.62	3.59	11.13	14.16	16.99	27.41	-8.35	-2.81	0.00	0.03
Zambia	flexible	1992-2000	-2.84	0.00	-3.14	86.00	19.52	19.22	25.04	-10.03	-3.69	0.02	0.10
Zimbabwe	flexible	1994-1998	1.17	4.38	1.03	23.37	10.54	6.40	16.22	-8.44	-6.98	-0.03	0.05
Average			-0.12	3.00	0.01	137.41	73,4312	14.13	21.80	-10.33	-5.31	-0.04	0.07

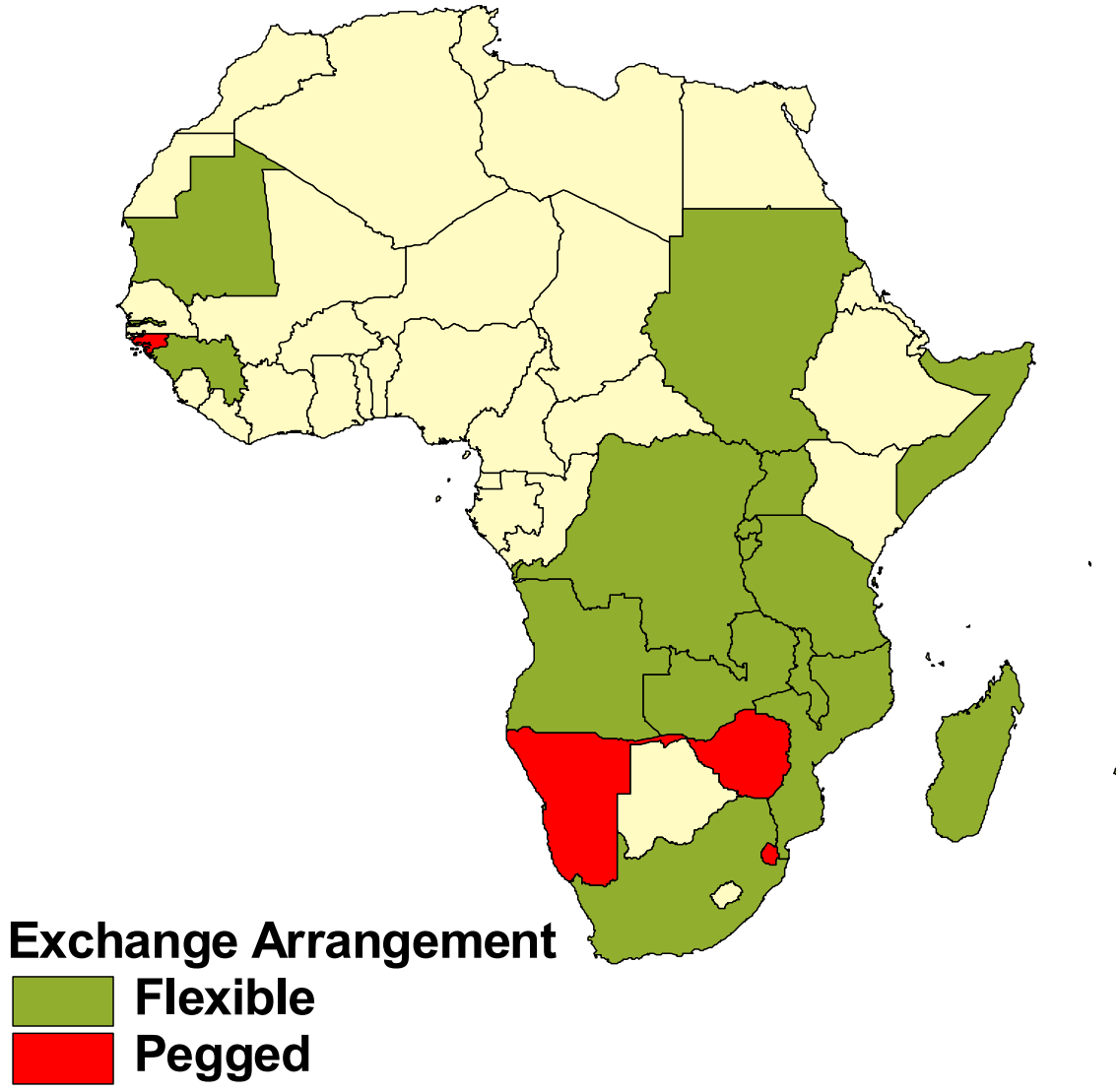
Appendix Table V.1B Performances of Countries Five Year Prior to Flexible Exchange Rate Regime													
Country	Description	Year	% Change in TOT	Real GDP Growth	Real GDP per capita Growth	Inflation	Black Market Premium	CR1 variance based	Exchange Rate Flexibility Index	Fiscal Deficit as a % of GDP (Excl Grants)	Fiscal Deficit as a % of GDP (Incl Grants)	% Change in the REER	Exchange Rate Volatility
Angola	5 years before	1993-1997	2.39	1.36	-1.59	1872.88	…	38.25	40.78	-27.34	-27.34	0.50	0.35
Burundi	5 years before	1994-1998	1.89	-2.89	-4.58	20.83	36	49.50	47.15	-6.57	-4.11	0.05	0.03
DRC	5 years before	1978-1982	-6.18	0.25	…	53.71	28,000,000	17.98	24.20	…	…	-0.07	0.08
Ethiopia	5 years before	1988-1992	-7.11	-2.08	-4.01	13.26	217	7.74	8.29	-10.48	-7.28	0.03	0.05
Ghana	5 years before	1981-1985	-8.86	-0.36	-3.88	62.33	1052	22.89	27.07	-3.57	-2.66	-0.13	0.16
Guinea	5 years before	1981-1985	-4.25	2.02	…	…	660	…	…	…	…	…	0.01
Guinea-Bissau	5 years before	1978-1982	11.82	1.85	-0.24	…	…	…	…	0.00	0.00	…	0.02
Kenya	5 years before	1988-1992	-4.03	3.11	-1.55	18.25	16	0.90	8.02	-6.44	-4.20	-0.02	0.02
Liberia	5 years before	1992-1996	-2.10	…	…	…	2,338	0.00	0.00	…	…	…	0.00
Madagascar	5 years before	1989-1993	-2.86	0.84	-2.24	10.78	13	5.68	19.91	-7.45	-3.94	0.00	0.03
Malawi	5 years before	1989-1993	-1.66	3.63	0.29	16.68	31	4.99	16.27	-8.52	-5.32	0.00	0.04
Mauritania	5 years before	1990-1994	0.19	…	…	7.17	129	9.33	18.32	-7.77	-3.98	…	0.02
Mauritius	5 years before	1989-1993	2.63	5.74	4.67	9.66	6	31.24	41.18	-2.56	-2.37	0.00	0.03
Mozambique	5 years before	1987-1991	2.59	7.06	6.64	52.25	…	…	…	-14.34	-5.50	-0.30	0.14
Nigeria	…	…	…	…	…	…	…	…	…	…	…	…	…
Rwanda	5 years before	1990-1994	-5.51	-11.13	-8.23	17.36	…	16.94	22.23	-13.56	-7.10	-0.03	0.05
Sao Tome & Principe	5 years before	1986-1990	10.88	-1.16	-3.57	…	…	…	…	-37.16	-14.52	0.14	0.08
Sierra Leone	5 years before	1985-1989	-3.14	0.56	-1.59	86.25	346	17.03	28.68	-14.81	-14.22	0.35	0.16
Somalia	5 years before	1985-1989	-2.98	…	…	…	…	…	…	…	…	…	0.12
South Africa	5 year before	1975-1978	-6.12	…	…	11.68	45	7.50	7.96	-5	-5	…	0
Sudan	5 years before	1987-1991	3.34	…	…	68.14	…	14.27	17.40	-13.43	-13.43	-0.07	0.17
Tanzania	5 years before	1988-1992	-3.02	3.87	0.94	28.68	70	7.05	15.05	-1.73	1.13	-0.13	0.04
The Gambia	5 years before	1981-1985	3.98	4.16	-0.17	13.57	10	1.25	7.87	-13.39	-9.93	0.01	0.04
Uganda	5 years before	1987-1991	-15.44	6.59	5.05	103.75	224	27.49	25.16	-5.94	-3.81	-0.26	0.12
Zambia	5 years before	1987-1991	4.69	1.17	0.71	84.34	331	16.76	21.14	-10.37	-6.85	0.09	0.13
Zimbabwe	5 years before	1989-1993	-5.32	2.55	-0.64	24.65	43	0.94	8.44	-7.69	-6.44	-0.08	0.03
Average			-1.37	1.36	-0.78	128.81	1,555,865	14.89	20.26	-10.41	-7.01	0.00	0.08

Appendix Table V.1C Performances of Countries Ten Year Prior to Flexible Exchange Rate Regime

Country	Description	Year	% Chg in TOT	Real GDP Growth	Real GDP per capita Growth	Inflation	Black Market Premium	CR1 variance based	Exchange Rate Flexibility Index	Fiscal Deficit as a % of GDP (Excl Grants)	Fiscal Deficit as a % of GDP (Incl Grants)	% Change in the REER	Exch Rate Vol
Angola	10 years before	1988-1997	0.11	0.75	-2.06	1392.44	…	38.25	40.78	-25.37	-25.37	-0.10	0.20
Burundi	10 years before	1989-1998	-2.50	-0.98	-3.59	14.33	36	33.00	37.57	-8.40	-3.41	0.00	0.03
DRC	10 years before	1975-1982	-4.86	0.25	…	55.82	26,500,000	13.10	18.47	…	…	-0.07	0.08
Ethiopia	10 years before	1983-1992	-2.24	0.19	-2.31	8.09	166	3.87	4.15	-10.13	-7.14	0.00	0.03
Ghana	10 years before	1976-1985	-0.04	-0.36	-3.88	66.18	744	17.83	18.17	-3.57	-2.66	-0.07	0.10
Guinea	10 years before	1976-1985	-1.86	2.02	…	…	391	…	…	…	…	…	0.01
Guinea-Bissau	10 years before	1975-1982	7.14	1.85	-0.24	…	…	…	…	0.00	0.00	…	0.02
Kenya	10 years before	1983-1992	-3.99	3.44	-0.69	13.71	14	1.97	11.06	-6.58	-4.53	-0.03	0.02
Liberia	10 years before	1987-1996	-1.19	…	…	7.91	1433	0.00	0.00	…	…	…	0.00
Madagascar	10 years before	1984-1993	-1.67	1.36	-1.42	13.07	17	16.62	24.93	-3.41	-1.33	-0.08	0.04
Malawi	10 years before	1984-1993	-2.14	3.27	0.00	18.71	31	4.73	14.46	-9.37	-6.05	-0.01	0.04
Mauritania	10 years before	1985-1994	-0.81	…	…	7.30	143	8.85	18.83	-9.14	-5.36	…	0.03
Mauritius	10 years before	1984-1993	4.19	6.31	5.35	7.37	5	18.77	28.93	-3.30	-2.74	-0.02	0.03
Mozambique	10 years before	1982-1991	0.19	0.49	-0.91	58.72	…	…	…	-13.64	-8.28	-0.04	0.07
Nigeria	10 years before	…	…	…	…	…	…	…	…	…	…	…	…
Rwanda	10 years before	1985-1994	-5.27	-5.15	-5.38	9.55	…	18.03	25.46	-12.73	-7.62	-0.01	0.03
Sao Tome & Principe	10 years before	1981-1990	4.67	-1.36	-3.77	…	…	…	…	-25.02	-7.43	0.16	0.05
Sierra Leone	10 years before	1980-1989	-2.79	0.73	-1.28	62.95	346	10.52	19.26	-14.81	-14.22	0.35	0.10
Somalia	10 years before	1980-1989	-1.65	…	…	…	…	…	…	…	…	…	0.10
South Africa	10 years before	…	…	…	…	…	…	…	…	-6	-6	…	0
Sudan	10 years before	1982-1991	-0.40	…	…	50.10	…	15.68	16.54	-12.16	-12.16	0.13	0.08
Tanzania	10 years before	1983-1992	-3.32	3.48	0.38	30.23	177	8.50	15.72	-5.11	-2.41	-0.14	0.05
The Gambia	10 years before	1976-1985	-0.26	4.16	-0.17	11.91	10	2.77	11.29	-13.39	-9.93	0.01	0.04
Uganda	10 years before	1982-1991	-3.84	4.10	2.09	95.35	172	16.44	19.66	-4.92	-3.53	-0.11	0.14
Zambia	10 years before	1982-1991	0.98	0.30	0.71	79.59	188	10.40	17.59	-12.64	-9.87	-0.04	0.13
Zimbabwe	10 years before	1984-1993	-1.25	2.86	-0.35	18.61	57	1.32	9.23	-8.53	-7.29	-0.07	0.03
Average			-0.95	1.39	-0.97	101.10	1,559,055	12.67	18.53	-9.90	-7.00	-0.01	0.06

Figure V.1

Exchange Arrangements for Countries listed in Table V.1 (as of December 2001)

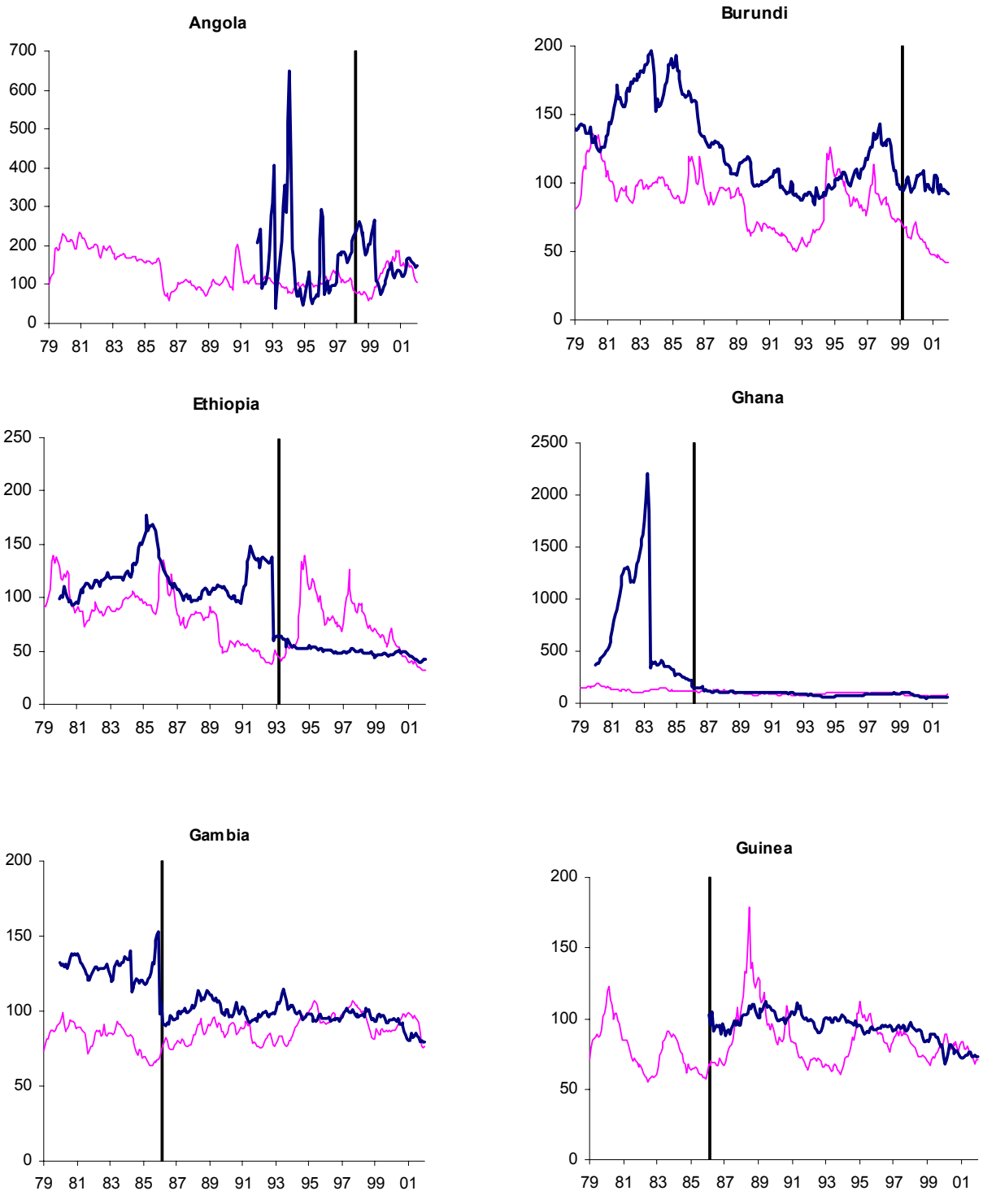


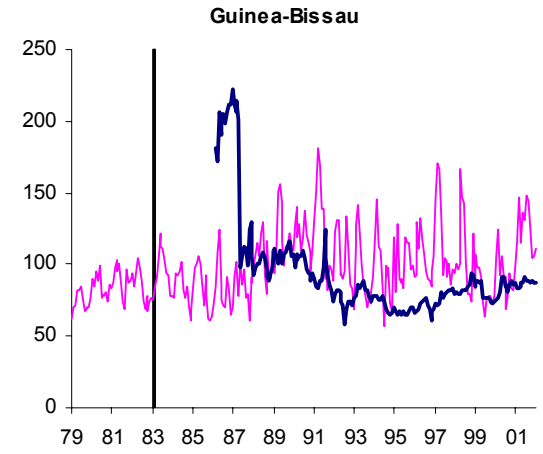
Source: IMF Annual Report on Exchange Arrangements and Exchange Restrictions 2002

Figure V.2 Real Effective Exchange Rate and Real Commodity Prices, 1979:1-2001:12

Real Commodity Price
Real Effective Exchange Rate (1990 =100)

Vertical Bars indicate the year in which countries adopted flexible exchange rate regimes

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200
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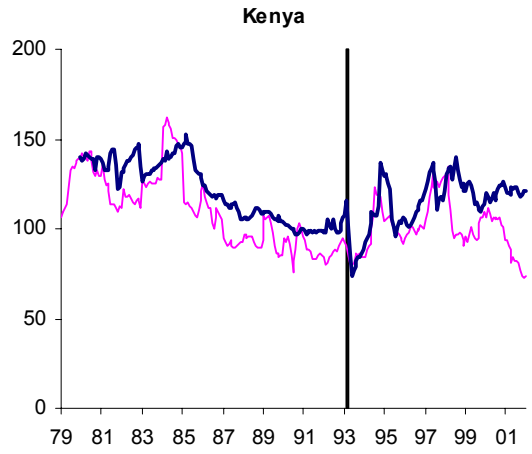
100
50
0
79 81 83 85 87 89 91 93 95 97 99 01


Kenya
200
150
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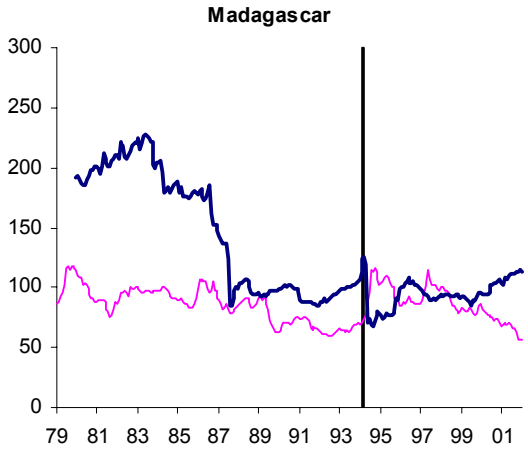
79 81 83 85 87 89 91 93 95 97 99 01


Madagascar
300
250
200
150
100
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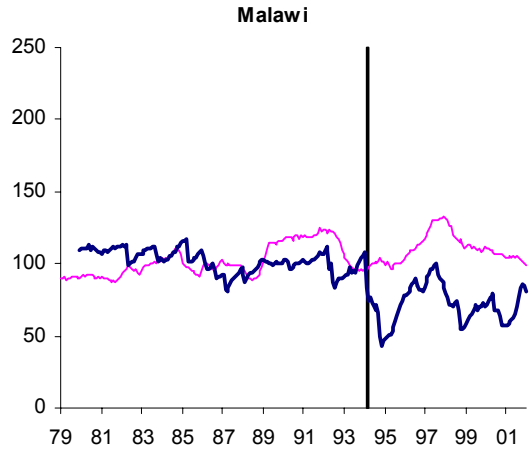
79 81 83 85 87 89 91 93 95 97 99 01


Malawi
250
200
150
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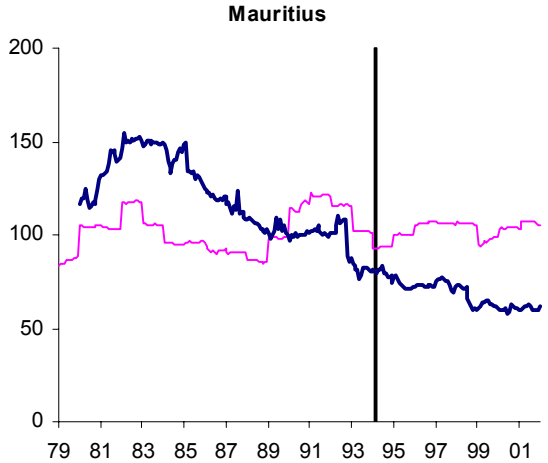
79 81 83 85 87 89 91 93 95 97 99 01


Mauritius
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150
100
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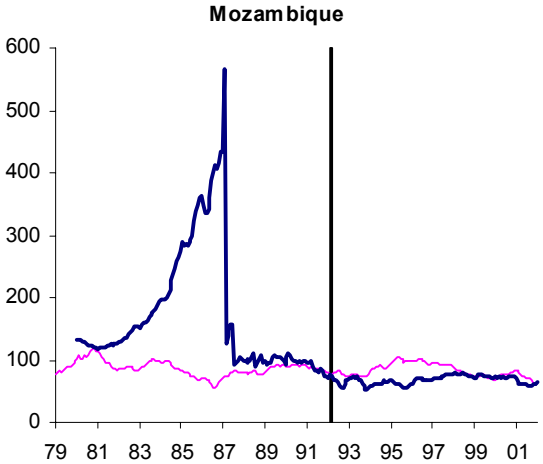
0
79 81 83 85 87 89 91 93 95 97 99 01


Mozambique
600
500
400
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200
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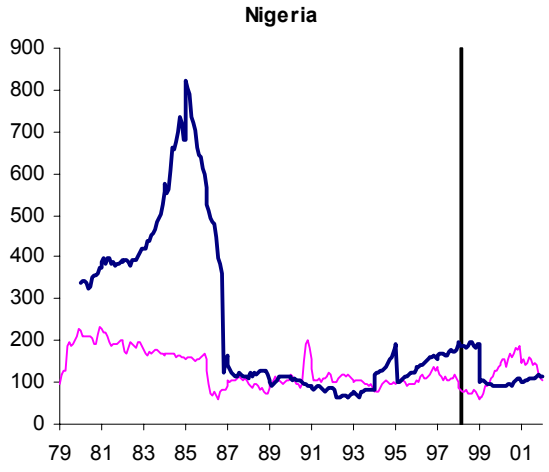
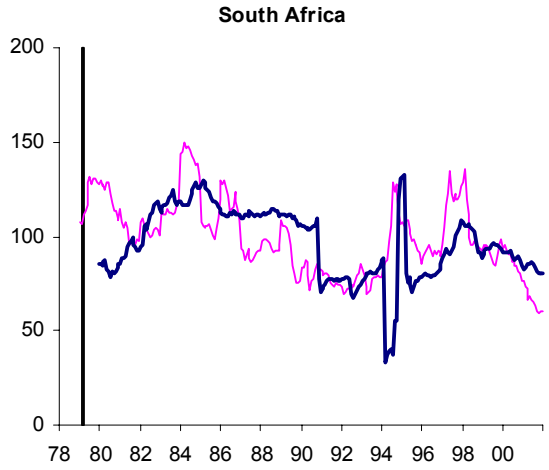
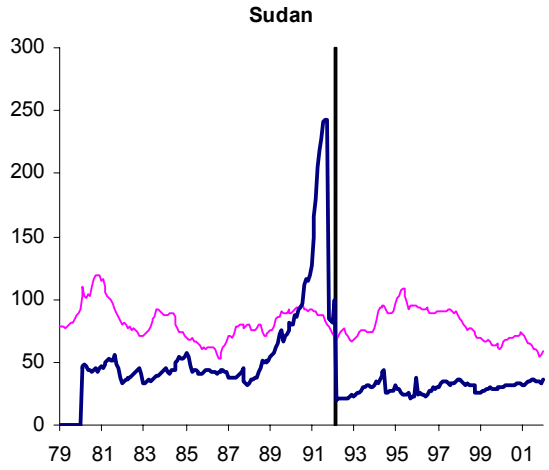
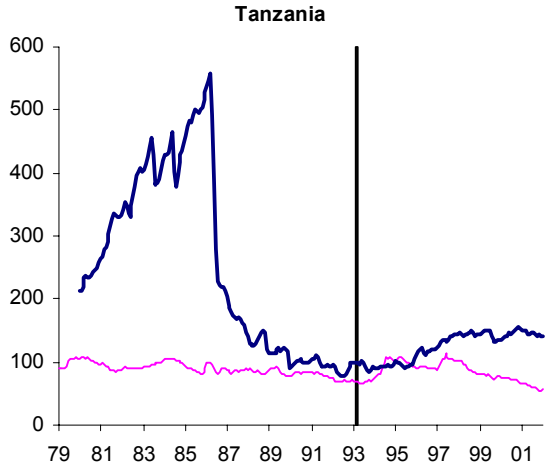
79 81 83 85 87 89 91 93 95 97 99 01

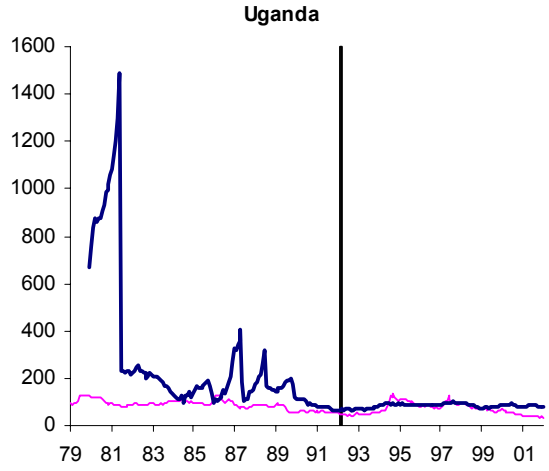


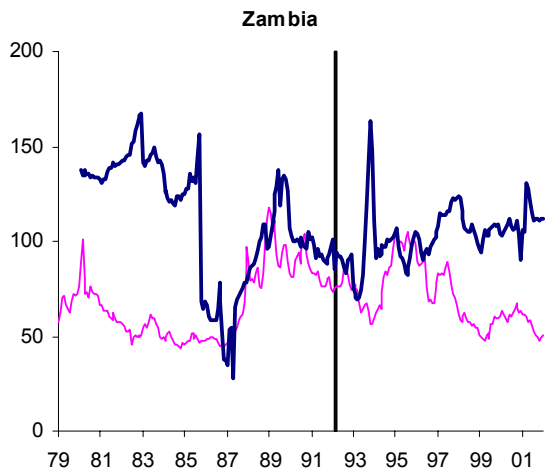
Note: Flexible exchange rate for entire period except 1994-1997










Zambia
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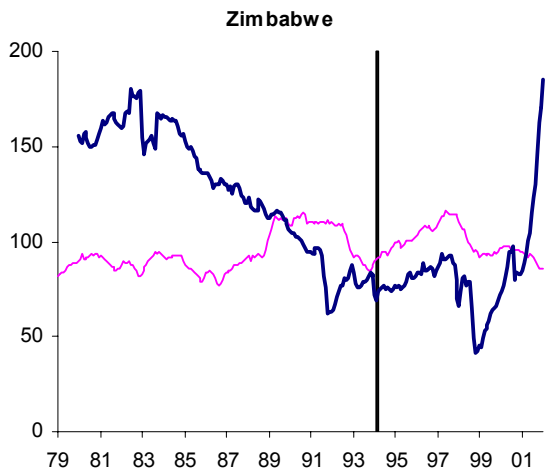
Zimbabwe
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Chapter VI. Monetary Union Projects in West Africa for the WAMZ and ECOWAS

On April 20, 2000 in Accra, Ghana, the leaders of six West African countries[1] declared their intention to proceed to a monetary union, the West African Monetary Zone (WAMZ), by January 2003, as a first step toward a wider monetary union including all the ECOWAS countries in 2004. The leaders committed themselves to lowering central bank financing of budget deficits to 10 percent of the previous year's government revenue; reducing budget deficits to 4 percent of GDP by 2003; creating a Convergence Council to help coordinate macroeconomic policies; and setting up a common central bank. The declaration states that, "Member States recognise the need for strong political commitment and undertake to pursue all such national policies as would facilitate the regional monetary integration process."

The goal of a monetary union in ECOWAS has long been an objective of the organization, going back to its formation in 1975, and is intended to accompany a broader integration process that would include enhanced regional trade and common institutions. Although there have been attempts to advance the agenda of ECOWAS monetary cooperation, political problems and other economic priorities in several of the region's countries have to date inhibited progress. The initiative to create a second monetary zone was bolstered by the election in 1999 of a democratic government and a leader committed to regional integration in Nigeria, the largest economy of the region, raising the hopes that the long-delayed project could be revived. Since 2000, however, it has become clear that the timetable was too ambitious (as argued, for instance, by Masson and Pattillo, 2001), and countries have made little progress in achieving macroeconomic convergence. Therefore, ECOWAS heads of state in December, 2002, decided to postpone the introduction of a single currency for the WAMZ until July, 2005, while the target date for merger with WAEMU has not been set.

The plan to create a second monetary union (in addition to that constituted by WAEMU), as well as a full ECOWAS monetary union, raises a number of questions about the advantages and disadvantages of various alternative arrangements and strategies. There is clearly an important political dimension behind the recent initiative, but it is nevertheless important to carefully examine the economic benefits and costs. We quantify the net benefits using the model introduced in Chapter III and calibrated there to Africa-wide data. In considering the possible net economic benefits of monetary union, the model uses data on the strength of trade linkages, and on the degree of symmetry in terms of trade shocks and in fiscal policies of potential members. In fact, there are major differences among the West African economies. In particular, Nigeria, a major oil exporter, faces a very different pattern of terms of trade shocks from the other economies of the region. It has also had relatively

[1]The meeting was attended by three heads of state, Presidents Olusegun Obasanjo of Nigeria, Jerry Rawlings of Ghana, and Lansana Conté of Guinea, as well as representatives from Liberia, Sierra Leone and the Gambia. Cape Verde, the remaining non-CFA ECOWAS member, has a currency peg to the euro with the support of Portugal, and was not a signatory of the "Accra Declaration on a Second Monetary Zone." Liberia has not actively participated in subsequent preparations for the WAMZ.

undisciplined fiscal policies. Moreover, existing trade among the region's countries is quite low, although there is no doubt considerable informal trade which is not recorded. Of course, one of the reasons for proceeding to monetary union quickly is to promote improvement in macroeconomic policies and to enhance prospects for other aspects of regional integration, including regional trade. As discussed above (Chapter IV), the empirical literature suggests some boost to the trade among members of a monetary union.

In addition to the advisability of a monetary union, there are important institutional issues that must be faced. The first choice is that of a central bank for the monetary union. Unfortunately, none of the WAMZ countries has a central bank with a track record of currency stability and low inflation. Nigeria, which accounts for more than half the population of ECOWAS and 75 percent of the GDP of the six countries proposing an initial monetary union, would be a natural candidate to provide the nucleus of a regional central bank, but Nigeria has a history of high inflation, and the Nigerian currency is inconvertible.

The second stage also raises the issue of whether the French Treasury's guarantee of convertibility of the CFA franc to the euro, at a fixed parity, would continue, and, if not, what would guide the region's monetary policy. A second choice associated with a full monetary union is therefore whether the region's common currency(ies) should have an external exchange rate anchor, such as a peg to the euro. A peg to the euro would provide exchange rate stability with the 12-member euro area and with the neighboring six-member Central African CFA zone (CAEMC). Such a peg would however not have the credibility of the WAEMU peg, in the absence of the French guarantee. Choosing instead to peg to a basket rather than to a single currency, would permit some insulation from the fluctuations among major currencies, in particular the dollar and the euro. An alternative monetary framework would be to forsake an external target and to key monetary policy onto a domestic objective, such as inflation.

These issues are discussed below.

A. Linkages and Asymmetries among West African Countries

An important advantage of a single currency is the saving of transactions costs involved in regional trade. However, as Table VI.1 shows, the trade among WAMZ countries is much lower than among WAEMU countries, despite the fact that the GDP of the former is greater than that of the latter. WAEMU trade, as we saw in Chapter IV, is in fact greater than can be explained by a traditional gravity model, suggesting that there may have been a boost to WAEMU trade as a result of decades of economic cooperation and of sharing of the same currency. Therefore, the low level of WAMZ trade may not be a bar to considering a monetary union among those countries. The second stage, a full ECOWAS monetary union, would internalize a greater fraction of the region's trade than is the case for WAEMU—even without allowing for the possibility that trade might increase endogenously in response to the creation of a monetary union. Hence WAMZ might make sense as a means to an end—the ECOWAS monetary union; we will examine that possibility below.

Table VI.1. ECOWAS: Patterns of Trade, 2002

ECOWAS	Exports (Percent of Total Exports)	Imports (Percent of Total Imports)
ECOWAS	11.0	10.1
European Union	35.1	40.4
Rest of the World	53.9	49.5
WAEMU		
WAEMU	12.7	8.9
WAMZ	7.6	9.7
European Union	45.1	42.8
Rest of the World	34.6	38.6
WAMZ		
WAMZ	3.6	4.6
WAEMU	4.2	3.4
European Union	28.0	42.2
Rest of the World	64.2	49.8

Source: IMF, Direction of Trade Statistics, July 2003 Online Version

A second important factor influencing net benefits is the degree of symmetry of the shocks that affect the region's economies. Table VI.2 indicates that there is a major problem of asymmetry as concerns Nigeria, a country facing terms of trade shocks that are negatively correlated with those of some of the other economies of the region. This applies both to WAEMU and to Nigeria's potential WAMZ partners. The source of this asymmetry is clear: Nigeria's exports are mainly crude oil, while other countries of the region are oil importers. While they too typically export primary commodities, the prices of the latter do not move together with the world oil price. Thus, the terms of trade of Nigeria and the other ECOWAS countries behave quite differently. Moreover, not only are the correlations low or negative, but also the variability of Nigeria's terms of trade shocks is large—the standard deviation of yearly changes in the terms of trade equal 21.5 percentage points, higher than that of any of the other countries in the region—making it an unstable partner whose size might induce undesirable movements in the region's real exchange rate. In contrast, as is evident from Table VI.2, the correlations of terms of trade shocks are higher among WAEMU countries than between them and WAMZ countries, or among WAMZ countries, suggesting that WAEMU forms a more desirable currency area. Forming a larger currency area might dilute WAEMU's advantage in that regard.

Table VI.2. Openness, Standard Deviation and Correlation of Terms of Trade Shocks

	Openness[1]	Standard Deviation of TOT shocks		Correlation of Terms of Trade Shocks											
		Unscaled	Scaled[2]	Benin	Burkina Faso	Cote d'Ivoire	Mali	Niger	Senegal	Togo	Gambia	Ghana	Guinea	Nigeria	Sierra Leone
Benin	61%	0.178	0.109		0.56 *	0.22	0.43 **	-0.03	0.46 **	0.28	0.14	0.33	-0.19	0.07	0.19
Burkina Faso	43%	0.072	0.031	0.56 *		0.06	0.94 *	-0.02	0.57 *	0.11	0.37	0.16	0.26	0.02	0.06
Cote d'Ivoire	82%	0.063	0.052	0.22	0.06		-0.01	-0.40 **	0.59 *	0.52 *	0.36	0.75 *	-0.16	-0.23	0.65 *
Mali	63%	0.051	0.032	0.43 **	0.94 *	-0.01		-0.06	0.48 *	0.07	0.26	0.08	0.32	0.01	-0.05
Niger	47%	0.064	0.030	-0.03	-0.02	-0.40 **	-0.06		-0.57 *	-0.41 **	-0.31	0.05	-0.13	-0.17	0.06
Senegal	67%	0.065	0.043	0.46 **	0.57 *	0.59 *	0.48 *	-0.57 *		0.49 *	0.62 *	0.28	0.33	0.09	0.15
Togo	76%	0.081	0.062	0.28	0.11	0.52 *	0.07	-0.41 **	0.49 *		0.03	0.14	0.07	0.27	0.26
Gambia	154%	0.186	0.286	0.14	0.37	0.36	0.26	-0.31	0.62 *	0.03		0.17	0.54 *	0.06	0.17
Ghana	62%	0.111	0.069	0.33	0.16	0.75 *	0.08	0.05	0.28	0.14	0.17		-0.41	-0.54 *	0.62 *
Guinea	39%	0.073	0.029	-0.19	0.26	-0.16	0.32	-0.13	0.33	0.07	0.54 *	-0.41		0.59 *	-0.44
Nigeria	71%	0.215	0.152	0.07	0.02	-0.23	0.01	-0.17	0.09	0.27	0.06	-0.54 *	0.59 *		-0.38
Sierra Leone	45%	0.063	0.028	0.19	0.06	0.65 *	-0.05	0.06	0.15	0.26	0.17	0.62 *	-0.44	-0.38	
Average All				0.19	0.24	0.18	0.19	-0.15	0.27	0.14	0.19	0.13	0.06	-0.02	0.10
Average WAEMU				0.32	0.37	0.16	0.31	-0.25	0.34	0.17	0.21	0.26	0.07	0.01	0.19
Average Non-WAEMU				0.08	0.13	0.20	0.09	-0.07	0.21	0.11	0.16	-0.03	0.05	-0.05	0.00

Source: Calculated from the Terms of Trade Index (1987=100,US$-based), World Tables (World Bank).
Openness calculated from Balance of Payments Yearbook 2001, Direction of Trade Statistics 2001, and International Financial Statistics.
* Significant at 5% level.
** Significant at 10% level.
[1/]Calculated as the sum of exports and imports as a percent of GDP
[2]/ Scaled by openness

Third, an important aspect of asymmetry that can interfere with the success of a monetary union when a central bank is not insulated from fiscal pressures is the degree of fiscal (in)discipline. A key aspect of the model discussed in Chapter III lies in the extent to which government spending *objectives* exceed the socially optimal levels. Of course, goals are generally unobservable. However, reasonable estimates of the cross-country differences in spending targets can be obtained by looking at the determinants of political distortions. From "white elephants" to pervasive inefficiencies in the provision of priority services like health and education, socially wasteful outlays often originate in corruption. Table VI.3 compares corruption measures for the ECOWAS countries with the average for the rest of Sub-Saharan Africa (SSA), as well as a global sample. African countries perform significantly worse than other regions. Most importantly for our analysis, there are also large differences in the scores across the ECOWAS countries, with Niger and Nigeria emerging as the most affected by corruption while the Gambia is very close to the World average.

Other aspects of a country's institutional environment may distort expenditure policies. Using International Country Risk Guide (ICRG) data, we calculated an institutional quality index, which combines equally weighted indices of democratic accountability, corruption, government stability, bureaucratic quality and rule of law.[2] This broader index is similar to those used in the literature on institutions and growth (see e.g. Hall and Jones, 1999 or Easterly and Levine, 2003). Table VI.3 shows that the average institutional quality index for both WAEMU and WAMZ member states is lower than the average for SSA. The Gambia, Ghana, Côte d'Ivoire and Senegal have the highest indices for the countries considered, while Sierra Leone, Togo and Mali are at the low end of the scale.

[2] A score of 10 is the maximum and indicates the highest institutional quality.

Table VI.3. Corruption and Institutional Quality Indices		
	Corruption[1/]	**ICRG Institutional Quality Index[2/]**
Gambia,The	-0.02	5.62
Ghana	-0.30	5.56
Guinea	-0.85	4.59
Nigeria	-0.95	4.20
Sierra Leone	-0.02	2.98
WAMZ average	-0.43	4.59
Benin	-0.78	
BurkinaFaso	-0.37	4.31
Côte d'Ivoire	-0.08	5.53
Mali	-0.48	3.42
Niger	-1.57	3.96
Senegal	-0.24	5.27
Togo	-0.24	3.41
WAEMU average	-0.54	4.32
Sub Saharan Africa	-0.48	4.68
The whole sample	0.00	

Sources: Corruption scores from Kaufman et al. (1999); International Country Risk Guide (ICRG) from PRS Group, www.icrgonline.com.
1/ Scores range from -2.5 to 2.5, with higher numbers indicating less corruption.
2/ ICRG index is average of scores for measures of democratic accountability, corruption, government stability, bureaucratic quality, and rule of law. Scores range from 0 to 10, with higher numbers indicating better institutions.

Using the methodology described in the Appendix to Chapter III, we find that estimated diversion wedges vary substantially across the region, ranging from 21 percent of actual expenditure in Côte d'Ivoire and Senegal to more than 70 percent in Nigeria (Table VI.4). We need to make a further calculation to obtain spending *targets*. In particular, we note that actual spending may vary because of other reasons related to the extent of development: countries with higher per capita incomes have a higher tax capacity, which permits them to offer greater social services to their citizens. While doing so may have ancillary costs, such as the reduced incentives to work associated with higher taxes, nevertheless this choice is quite separate from issues of corruption or of pressures on central banks to finance deficit spending. Thus, as described in the Appendix to Chapter III, we remove the systematic effect of per capita income on both expenditure and revenues (as ratios to GDP), and only consider spending evaluated at the average level of per capita income for Africa *plus* the government spending residual, i.e., the extent that countries spend more than predicted by their level of income. We then add this to a fraction (half) of the diversion wedge described above[3], to get the estimate of the component of

[3] Only a fraction is added to allow for diversion of spending as well as a higher spending target. We have no firm evidence of their relative importance, so we choose equal proportions.

the spending target that is likely to put pressure on the central bank to monetize deficit spending—we term them "distorted spending targets." These figures, which are reported in Table VI.4 for ECOWAS countries (a more complete set of data is in Appendix of Chapter III), indicate higher distorted spending targets for Nigeria, Ghana, and Sierra Leone than for the remaining ECOWAS countries. WAEMU countries all have lower ratios, though Burkina Faso and Mali have considerably higher values than Senegal and Côte d'Ivoire.

Table VI.4 Selected Indicators for ECOWAS Countries*, Averages 1995-2000
(Percent of GDP, unless noted otherwise)

Country Name	Gov't Revenue[1]	Gov't Spending	Overall surplus/deficit[1]	Inflation[2]	GDP per capita (Cur. US$)	Gov't Spending at average income[2]	Diversion[2]	Spending Target[3]
WAEMU								
Benin[4]	19.08	19.48	-0.40	5.6	370	29.09	34.57	46.37
Burkina Faso	21.82	25.12	-3.29	3.1	222	36.16	42.21	57.26
Cote d'Ivoire	21.64	23.58	-1.94	3.9	711	30.18	21.51	40.93
Mali	21.77	24.88	-3.11	3.4	246	35.69	38.16	54.77
Niger	12.95	15.78	-2.83	4.0	195	27.10	49.94	52.07
Senegal	20.21	20.11	0.10	2.6	511	28.43	21.61	39.23
Togo	16.38	20.19	-3.81	4.7	317	30.31	33.99	47.30
WAMZ								
Gambia	20.53	25.33	-4.80	2.6	343	35.19	29.33	49.85
Ghana	22.50	28.60	-6.10	31.8	374	38.17	47.70	62.02
Guinea	13.99	16.60	-2.61	4.5	512	24.90	35.71	42.75
Nigeria	25.90	25.00	0.90	22.4	290	35.37	70.57	70.65
Sierra Leone	11.41	19.73	-8.32	22.1	167	31.33	57.61	60.13

Data- World Bank Africa Database 2002 Edition and calculations by author (see Table III.3)
* Excluding Cape Verde, Liberia and Guinea-Bissau
1/ Including grants
2/ Percent
3/ Government spending at average income plus diversion/2
4/ Diversion estimate for Benin is calculated as the average for the other WAEMU countries

B. Model Evaluations of the Net Benefits of Monetary Unions

We first consider whether the existing WAEMU is better than floating exchange rates for the countries concerned. Table VI.5 gives the result of that exercise (Guinea-Bissau was not included, because of data problems and also the fact that it has been a member of WAEMU only since 1997). To help in understanding the results, the various columns of the table present respectively the country shares of the GDP of the union, the net welfare gain or loss (if negative) to the country, the correlation of its terms of trade shocks with the union's average shock, and the ratio of the average spending target to the country's own value. The table suggests that WAEMU is indeed beneficial for all countries, essentially for two reasons: 1) the monetary union fixes the exchange rate for a substantial proportion of trade (within the region or to the euro zone or rest of the CFA franc zone), and 2) the asymmetries between countries, either due to low correlations of shocks or very different government spending targets, are not so large as to make the monetary union unsustainable. To be sure, there are differences across countries, and Côte d'Ivoire and Senegal are estimated to gain the least from membership because their spending targets are lower than those of other members.[4]

Table VI.5. Costs and Benefits of WAEMU

	Share of GDP	Net gain or loss	Correlation of shocks	Ratio of average to own spending target
Benin	0.0824	0.0827	0.6911	0.9377
Burkina F.	0.0985	0.1543	0.6009	0.7920
C. d'Ivoire	0.4137	0.0192	0.7737	1.1080
Mali	0.0987	0.1373	0.4905	0.8282
Niger	0.0729	0.1159	-0.3161	0.8711
Senegal	0.1816	0.0020	0.8331	1.1561
Togo	0.0521	0.0778	0.5628	0.9588
	Decomposition of Net Gains			
	Net Gain	Externality	Fiscal Asymmetry	Shock Asymmetry
Benin	0.0827	0.0617	0.0303	-0.0053
Burkina F.	0.1543	0.0617	0.1090	-0.0008
C. d'Ivoire	0.0192	0.0617	-0.0479	-0.0004
Mali	0.1373	0.0617	0.0885	-0.0006
Niger	0.1159	0.0617	0.0650	-0.0020
Senegal	0.0020	0.0617	-0.0674	-0.0003
Togo	0.0778	0.0617	0.0198	-0.0011

[4] The notion that these two countries are more disciplined flies in the face of the experience of WAEMU before the devaluation of 1994, when the two larger countries exploited the lax enforcement of rules on monetary financing of deficits (see Stasavage, 1997). It seems that the reinforced fiscal surveillance that emerged from the devaluation crisis has helped to produce greater fiscal discipline in these two countries.

The bottom panel decomposes the gains into three components: those due to externalizing the monetary policy externality (i.e., lowering the temptation to create monetary expansion to stimulate output), gains or losses due to fiscal asymmetries, and losses due to asymmetric terms of trade shocks[5]. It can be seen that the monetary policy externality is the source of large gains, while fiscal asymmetries give large gains for the less disciplined countries and substantial losses for the more disciplined ones. In contrast, asymmetries of terms of trade shocks seem to have only small costs.

We then proceed to evaluate the proposal for a full monetary union among ECOWAS countries. At this stage, we do not call into question the link to the euro that is associated with the French guarantee of convertibility—though, as discussed below, that would be a major issue should WAEMU be expanded in that way or merged with another monetary union. Instead, we assume that monetary union would simply add to the trade that was internalized by the monetary union, as well as changing the monetary policy settings by modifying fiscal pressures and introducing new shock asymmetries.

Table VI.6 presents the result of creating a full ECOWAS monetary union (again, omitting Guinea-Bissau, and also Cape Verde and Liberia). For countries currently operating an independent, and at least partially floating, currency, monetary union is compared to a regime of monetary independence. For the WAEMU countries, however, the relevant comparison is not to floating but to their existing institutional framework, namely a monetary union among themselves. Hence, for those countries, the welfare gain or loss is calculated accordingly. Simulation results suggest that only the WAMZ countries would gain from an ECOWAS monetary union, and even among them not all would gain[6]. In particular, Guinea, with its low spending target would not gain from a monetary union that included a large, undisciplined country like Nigeria[7]. Similarly, if WAEMU countries' were allowed to choose between their current monetary union and a larger, ECOWAS arrangement, they would clearly prefer the former. The advantages of the existing WAEMU is its membership composed of fairly homogeneous countries. In ECOWAS, the large size of Nigeria—assuming that it had a corresponding influence over the union's monetary policy—would produce higher inflation in response to Nigeria's higher spending target and a monetary policy that was affected by a very different terms of trade shock, dominated by Nigeria's export dependence on oil. Correspondingly, the correlation between a country's terms of trade and the average for the monetary union (reported in Table VI.6) gives a value near unity for Nigeria (since it is a large part of the average) but negative correlations for Ghana and Niger, and only small positive correlations for many of the others.

[5] The components do not sum exactly to the calculated net gains due to interaction effects.
[6] Welfare gains and losses are stated in terms of proportional (log) changes in GDP: for instance, welfare would be lower in Benin by the equivalent of 8.24% of GDP in an ECOWAS monetary union than in the current WAEMU.
[7] Nevertheless, its loss is relatively modest, because the loss from fiscal asymmetry is partially offset by the lower incentive to simulate output by causing inflation associated with a regional central bank.

Table VI.6. Costs and Benefits of ECOWAS Monetary Union

	Share of GDP	Net gain or loss 1/	Correlation of shocks	Ratio of average to own spending target
Benin	0.0340	-0.0824	0.2677	1.1865
Burkina F.	0.0406	-0.0662	0.1979	1.0022
C d'Ivoire	0.1706	-0.0957	0.0508	1.4021
Mali	0.0407	-0.0705	0.1523	1.0479
Niger	0.0301	-0.0752	-0.2465	1.1023
Senegal	0.0749	-0.0980	0.3455	1.4628
Togo	0.0215	-0.0831	0.4255	1.2133
Gambia	0.0061	0.0143	0.2277	1.1512
Ghana	0.1078	0.1220	-0.2748	0.9254
Guinea	0.0597	-0.0542	0.5914	1.3425
Nigeria	0.4037	0.1799	0.9429	0.8123
S Leone	0.0104	0.1104	-0.1986	0.9545

1/ relative to retaining the existing WAEMU for WAEMU countries, relative to independent floating for others.

Even if a full monetary union of all ECOWAS countries would not seem to be desirable for the WAEMU countries—at least on the purely economic grounds included here--one can consider a more limited extension of WAEMU through adding new members. Rather than examining all the combinations, we simply consider whether a single country would find it in its interest to join, and conversely, whether that country would be an attractive partner for the existing members of WAEMU. Barring any overriding political motive, a sustainable monetary union would have to be incentive-compatible from the point of view of all potential and current members—that is, would not decrease welfare compared to their current arrangements.

Table VI.7. Net Benefits of Adding Countries Individually to WAEMU

	Share of GDP	Net gain or loss 1/	Correlation of shocks	Ratio of average to own spending target
Benin	0.0812	-0.0003	0.6808	0.9390
Burkina F.	0.0971	-0.0002	0.6058	0.7932
C. d'Ivoire	0.4077	-0.0004	0.7735	1.1096
Mali	0.0973	-0.0003	0.4921	0.8294
Niger	0.0719	-0.0003	-0.3251	0.8724
Senegal	0.1790	-0.0004	0.8459	1.1577
Togo	0.0513	-0.0004	0.5497	0.9602
Gambia	0.0145	0.0933	0.4915	0.9111
Benin	0.0653	-0.0244	0.6104	1.0090
Burkina F.	0.0781	-0.0195	0.4780	0.8523
C. d'Ivoire	0.3280	-0.0285	0.8416	1.1924
Mali	0.0783	-0.0209	0.3691	0.8912
Niger	0.0578	-0.0223	-0.1956	0.9374
Senegal	0.1440	-0.0298	0.6869	1.2441
Togo	0.0413	-0.0252	0.4436	1.0318
Ghana	0.2072	0.1665	0.8466	0.7870
Benin	0.0720	0.0027	0.6335	0.9308
Burkina F.	0.0860	0.0025	0.6426	0.7863
C. d'Ivoire	0.3614	0.0035	0.7206	1.1000
Mali	0.0862	0.0027	0.5478	0.8221
Niger	0.0637	0.0029	-0.3366	0.8648
Senegal	0.1587	0.0038	0.8844	1.1477
Togo	0.0455	0.0031	0.5644	0.9519
Guinea	0.1265	0.0394	0.2176	1.0533
Benin	0.0416	-0.0921	0.2246	1.1964
Burkina F.	0.0498	-0.0744	0.1548	1.0106
C. d'Ivoire	0.2090	-0.1070	-0.0539	1.4138
Mali	0.0499	-0.0791	0.1201	1.0567
Niger	0.0369	-0.0844	-0.2394	1.1115
Senegal	0.0918	-0.1094	0.2764	1.4751
Togo	0.0263	-0.0928	0.3939	1.2234
Nigeria	0.4947	0.1765	0.4947	0.8191
Benin	0.0804	-0.0040	0.6861	0.9452
Burkina F.	0.0961	-0.0031	0.5931	0.7984
C. d'Ivoire	0.4035	-0.0046	0.7825	1.1170
Mali	0.0963	-0.0033	0.4809	0.8348
Niger	0.0711	-0.0035	-0.3090	0.8781
Senegal	0.1771	-0.0048	0.8245	1.1654
Togo	0.0508	-0.0040	0.5622	0.9665
S. Leone	0.0247	0.1697	0.5075	0.7604

1/ relative to WAEMU for WAEMU countries, relative to independent floating for others.

Table VI.7 suggests that each of the WAMZ countries would want to join (including Guinea, contrary to the ECOWAS case), in order to benefit from the larger monetary area and a more disciplined monetary policy However, only Guinea would be an attractive candidate from the point of view of existing WAEMU members, because the generally higher government spending targets of the WAMZ countries, which would lead to a more inflationary monetary policy than desired by WAEMU. Again, the problem is compounded in the case of Nigeria by very asymmetric terms of trade shocks.

C. Endogenous Adjustment of Countries' Economic Structures

While the analysis discussed above has taken existing economic structures as given, there are reasons to believe that they might evolve over time. Such evolution might modify the negative conclusion concerning the scope for creating or extending incentive-compatible monetary unions. A **first reason** for being less pessimistic has been suggested in the context of European integration: monetary union may modify the correlation of fluctuations affecting economies, making them more similar. For instance, Frankel and Rose (1998) find evidence that business cycles tend to become more synchronized as trade increases. Since the latter can be expected to rise with the creation of a monetary union, it may be misleading to look at the initial correlation of fluctuations to assess the desirability of entering a union. Thus, it is argued, monetary union may be attractive to a wider set of countries than would be appear from a static application of OCA criteria.

While this argument may have some validity for industrial countries, it is much less plausible for African countries, since their production is still heavily weighted toward primary commodities. This production structure is largely influenced by climate and resource endowments, and price shocks to the economies are largely exogenous—unlike the case of differentiated manufactured goods where the exporting country is likely to have some market power. While over time a monetary union may allow development of manufacturing sectors to serve the larger regional market, this is unlikely to make a large difference to the economies' aggregate fluctuations or terms of trade shocks for a number of years. In West Africa's case, it is highly improbable that Nigeria will substantially reduce dependence on oil exports, or that other countries will follow suit and begin exporting oil—as a result of membership in a monetary union.

A **second reason** concerns the prospects that regional surveillance may enhance fiscal discipline, so that membership in a monetary union would result in much lower government spending for the initially undisciplined country joining. A careful analysis of the experience in Africa suggests that monetary unions *per se* are not "agencies of restraint" over fiscal policies (Masson and Pattillo, 2002). The CFA franc zones both ran into major banking crises and extended economic downturns in part because their fiscal policies were not disciplined—despite having benefited from a common monetary policy and an unchanged exchange rate peg for about 40 years. Instead, that experience shows that some other mechanisms have to be put in place—such as institutions performing regional surveillance over fiscal policies—that are effective in enhancing discipline. While there is no silver bullet, it seems as though progress has been made along these lines since the 1994 devaluation in both WAEMU and CAEMC. As discussed in

Chapter IV above, peer pressure operates to some extent to limit governments' tendencies to exceed the ceilings for government deficits and debt. However, it is clear that further reinforcement of the effectiveness of the process is needed, since countries face essentially no economic sanction if they miss their targets.

In the context of the WAMZ monetary union, similar (though looser) convergence criteria have been put in place. However, countries have made little progress in meeting their targets, starting from initial levels that were far away from them. There seems to be little appreciation of the need to prepare the grounds for entering monetary union by achieving low inflation and fiscal discipline. What would be needed to make an ECOWAS monetary union sustainable, and desirable to WAEMU members, would be to design strict rules that included sanctions for non-compliance. Only then could the creation of monetary union hope to bring about the fiscal discipline that would be required, in particular by Nigeria, for an ECOWAS monetary union. Unless agreement were reached on such mechanisms before countries were given a chance to join the monetary union, its sustainability would be in doubt, since the incentives for countries to agree later would be absent. Countries need to be able to apply peer pressure in order to make adjustment a precondition for joining a monetary union. A mechanism for applying peer pressure has just been created—the APRM of the NEPAD. Though still untested, it aims to produce the necessary improvement in governance that would help solve the fiscal problems; we return in Chapter IX to the issue of whether the application of NEPAD criteria can abet regional integration.

If progress is made in producing fiscal discipline, then as shown in Debrun, Masson and Pattillo (2002), the prospects for a welfare-enhancing monetary union are much better[8]. For instance, in that paper we assume that Nigeria's spending target is brought down to the average level for the rest of ECOWAS. In that case, monetary union becomes attractive for all concerned, including the present WAEMU countries—despite a continued asymmetry in export composition and terms of trade shocks. The challenge will be to create the conditions that achieve such a result.

D. Prospects for Evolution of the CFA Franc Zone

The project to create the ECOWAS monetary union calls into question the continued existence of WAEMU, and hence of the CFA franc zone itself. Though the terms of the eventual merger between WAMZ and WAEMU have not been agreed, the issue of the French guarantee of convertibility of the CFA franc issued by the central bank of the latter—the BCEAO—would necessarily come up for reexamination. Indeed, negotiations prior to the creation of the euro zone raised the question whether France's arrangement with the CFA franc zone constituted a monetary arrangement, falling under the legal framework created by the Maastricht Treaty to be decided by common accord, or instead was a purely budgetary arrangement, with (minor) implications only for France's commitment not to run excessive deficits.[9] Though the latter interpretation was generally accepted, nevertheless France's EU partners insisted that any substantial modification of the arrangements with the CFA franc zone would require their

[8] The earlier paper calibrated the parameters using just West African data, here (as described in Chapter III, Appendix) we use the full sample of African countries for which data were available.
[9] See Gnassou (1999) for a discussion of the legal issues and for details on the European Council's decision.

accord. In particular, a decision of the Council of the European Union of 23 November 1998, requires France to inform European institutions of the operation of the CFA franc zone, and to submit for their approval any proposed changes that would modify the nature or scope of the arrangements. Any such changes would have to be then approved by the European Council, on recommendation of the EU Commission and after consultation with the European Central Bank.

The addition of a single country, especially one of only moderate size, might well not raise objections from the EU, nor imply any major additional demands on the French treasury. However, what is envisioned by WAMZ is a merger of equals with WAEMU, and the new ECOWAS union would have a combined GDP that was more than double that of WAEMU at present. Nigeria alone would constitute 40 percent of the ECOWAS monetary union's GDP (Table VI.6). It is unlikely that France would accept to continue to provide a convertibility guarantee for a monetary union of that size, especially given issues relating to monetary and fiscal discipline of the larger zone. An alternative that might seem attractive to ECOWAS but is unlikely to be agreed by the European Union would be for EU institutions to take over from France in providing for the link to the euro, either through the EU budget or by intervention of the European Central Bank. Currently, the EU has not provided assistance even to countries about to accede to EU membership for them to adopt the euro or to peg to it; the EU is unlikely to do so for ECOWAS countries with which political links are much looser.

If an ECOWAS monetary union went ahead it would likely be as a result of WAEMU countries agreeing to break the existing link with the French treasury's Operations Account. Consequently, ECOWAS would assure the convertibility of the currency by the central bank's own reserves. ECOWAS countries would have to decide, as well, what would be the exchange rate regime of their currency, whether it would be pegged to the euro as is at present the case for the CFA franc, would be pegged to some other currency (or basket of currencies), or would float with or without intervention by the central bank. While these are distant issues they are important for gauging the desirability of a monetary union. If fiscal discipline cannot be enhanced then there is a great likelihood that the new currency, left to its own devices with the loss of French treasury support, would share the experience of independent African currencies described in Chapter V, and would be associated with bouts of high inflation and exchange market instability.

E. Conclusions

An ECOWAS monetary union is an ambitious project driven more by political than economic logic. While there may be some increase in trade resulting from sharing a common currency, asymmetries due to fiscal positions and export composition in the region are great, and the existing trade linkages are small, suggesting that economic net benefits to the countries concerned would on balance be negative. Indeed, our simulations indicate that for WAEMU countries, enlargement to the rest of ECOWAS of their monetary union would not be desirable, and this might well lead WAEMU not to agree to such a union. Most of the WAMZ countries would gain, but they would gain even more from a union of which Nigeria was not a member. Nigeria would produce problems for other countries if it continued to exhibit lack of fiscal discipline. However, if an effective disciplining device were put in place, for instance through institutions of multilateral surveillance able to impose sanctions for non-compliance or an

improvement of governance associated with NEPAD, and as a result Nigeria were able to achieve fiscal discipline on a par with its neighbors (or better), then monetary union might be desirable and sustainable for all concerned.

The creation of a new ECOWAS currency raises other issues related to the exchange rate regime, since the involvement of France in the operations of the WAEMU monetary union would probably cease. The ECOWAS central bank could itself commit to a peg to the euro, the dollar, or a basket of currencies, but this would require an adequate level of reserves and some restrictions on capital movements. While there would be potential advantages of greater flexibility, there would also be dangers that the central bank, subject to pressures by member governments, would not be able to deliver on price and exchange rate stability.

10/14/2003

Chapter VII: Regional Integration in the Southern Africa Development Community

The Southern African Development Community, or SADC, is a grouping of the countries in the region that emerged from SADCC, the Southern African Development Coordination Conference. That organization, which was in existence from 1980 until 1992, excluded South Africa, and had as objectives to contain the apartheid regime and minimize its unfavorable effects on neighboring countries. Following the formation of the ANC government and the dismantling of apartheid, in 1994 South Africa joined a revamped organization whose purposes became to foster harmonization and rationalization of policies and strategies for sustainable development in the region, to achieve peace and security, and to evolve common political values, systems, institutions, and other links among people of the region. It has contributed importantly to political cooperation among member countries and helped to limit regional conflicts, but on the economic policy side its main achievement to date has been agreement on a Trade Protocol, calling for an 85 percent reduction of internal trade barriers over eight years, starting from September 1, 2000. So far progress has been slow in implementing the trade protocol, and it is uncertain whether it will be applied as agreed. It has also put in place the sharing of information, especially in the financial area, through the SADC Committee of Central Bank Governors, and put in place mechanisms for harmonizing financial regulations and improving payments systems in the region.

Monetary union is not yet an objective with an explicit timetable for achievement, but it is an implicit objective, since the African Union aims to build a monetary union for the entire continent in stages starting with each of the sub-regions. Monetary integration in the wider sense has already received considerable attention within SADC. Until 2001, sectoral responsibilities were devolved to the member countries, and South Africa had responsibility for the Finance and Investment Sector. South Africa also chaired the SADC Committee of Central Bank Governors, which is currently entrusted with various projects: to develop a common database of monetary and financial statistics, to develop payment systems in SADC countries, to examine the impact of exchange controls, to coordinate training, and to analyze differences in legal and operational frameworks among central banks. The SADC governments have also agreed to a set of indicators which will allow monitoring of progress toward macroeconomic convergence, focusing in particular on reducing the rate of inflation to low and stable levels, which could lay the groundwork for an eventual common monetary policy.

Moreover, monetary integration is viewed as an important building block for the free trade area. For instance, SARB Governor Tito Mboweni, who is not a proponent of a rapid monetary union, is quoted as saying "One cannot implement free trade in goods and services without having the proper financial systems in place."[1] In the same interview, he is quoted as stressing that monetary union itself is however still a long way off. But politicians have the habit of overcoming the caution of central bankers when high profile political objectives are at stake, such as taking an important step towards regional integration. So the issue of a SADC monetary union needs to be analyzed carefully because it might at some point become an explicit commitment. This is the objective of the current chapter.

[1] "Single currency concept 'a long way away for SADC'", by William Dhlamini, *The Namibian*, August 24, 2000 (www.namibian.com.na/Netstories/2000/August/Marketplace/009C27F854.html)

A. The SADC Countries: Economic Disparities and Weak Linkages

SADC is composed of a range of countries, with a wide disparity in per capita incomes and levels of development (Table VII.1). In particular, South Africa has long been a middle-income developing country with many features in common with the OECD countries. Mauritius, Seychelles, and, more recently, Botswana, have even surpassed South Africa in per capita income, albeit without creating a broad industrial base, while Namibia is also relatively wealthy (see the discussion of the CMA in Chapter IV). In the Indian Ocean, both Mauritius and the Seychelles have prospered from tourism and by the introduction of export processing zones. To the north of SACU, countries are typically much poorer: Malawi, Mozambique, and Tanzania have annual per capita incomes below $200, once prosperous Zimbabwe has faltered while Angola and the Democratic Republic of the Congo have suffered from long periods of civil warfare that have contributed to their impoverishment. The exploitation of oil wealth in Angola has raised per capita GDP, though not appreciably reduced poverty.

Trade and capital flow linkages have until recently been very low between South Africa and the rest of SADC, except for South Africa's close neighbors in SACU. With the end of apartheid, that disjunction can be expected to gradually diminish, and South Africa's trade with its northern neighbors should expand over time; indeed, it will be favored by the SADC Free Trade Protocol. But concern that quick liberalization might benefit South Africa while harming the existing manufacturing sectors in the rest of SADC has led governments to agree to include a provision in the trade protocol that calls for faster liberalization by SACU than by the less-developed SADC members. Table VII.2 gives information about the export flows between pairs of SADC countries, expressed both as percentages of the exporting country's total exports and the importing country's total imports. Other SADC countries constitute only a small proportion of each SADC country's total exports, with a few exceptions. South Africa is an important destination for other countries' exports, as would be predicted by the gravity model, given the size of its GDP and GDP/per capita. And South Africa exports a substantial amount to Botswana. Aside for these important linkages, the export shares constituted by bilateral trade between SADC countries seldom exceed 4 percent. The two exceptions in the table are Mozambique's exports to neighboring (and landlocked) Zimbabwe (9.0 percent of Mozambique's exports), and Zambia's exports to Malawi (4.4 percent of Zambia's exports). On the import side, imports from South Africa are important for most all of the other SADC countries, and imports from Zimbabwe are substantial for Botswana, Malawi, Mozambique, Namibia, and Zambia.

Table VII.3 presents the accumulated stock of South Africa's capital outflows toward SADC and of inflows into South Africa from SADC, compared to South Africa's claims/liabilities on/to the rest of Africa and to the rest of the world. Since the capital flows among other SADC countries are likely to be considerably smaller, this table probably provides a significant part of bilateral claims within SADC. It can be seen that these cumulated flows are quite modest. South Africa's claims on the rest of SADC are concentrated in SACU countries plus Mauritius (the latter is the single largest recipient). Foreign investment into South Africa is overwhelmingly from the four other SACU countries, which constitute 75.8 percent of the SADC total. Moreover, SADC as a whole, even if it provides a very large share of South Africa's cumulated capital flows (either as a source or as a destination) to and from Africa (more than 80 percent), is very small when compared to South Africa's total foreign claims and

liabilities, which are no doubt overwhelmingly with respect to the world's developed economies. It needs to be recognized, however, that the destination of capital flows may not be adequately captured by the data, if, for instance, South African subsidiaries abroad are intermediaries for holdings in other African countries. This would tend to understate South Africa's direct investment in neighboring countries.[2]

The SADC countries differ considerably in their starting points with respect to the common convergence indicators adopted by their governments, in a Memorandum of Understanding on Macroeconomic Convergence (agreed 8th August 2002 in Pretoria). As mentioned above, the primary focus of the regional surveillance over macroeconomic policies is to maintain a low rate of inflation; other indicators are the ratio of the budget deficit to GDP, the ratio of public and publicly-guaranteed debt to GDP, and the balance and structure of the current account. Reference values for the first two of these indicators, as well as two more specifically financial variables, have apparently been specified by the Committee of Central Bank Governors for two sub-periods, to prepare for a possible monetary union in 2013-2015: they are given in Table VII.4.

Table VII.4. SADC Convergence Indicators

	2004-08	2009-12
Inflation	Under 10	Under 5
Budget deficit	No more than 5	No more than 3
Central bank credit to govern.[3]	No more than 10	No more than 5
External reserves	3 months of imports	6 months of imports

Table VIII.5 gives average values over 1995-2000 for the two main macroeconomic convergence indicators, inflation and the deficit, as well as data for 2002 or the most recent year. It was noted several years ago by Jenkins and Thomas (1996), that the distance from the macroeconomic convergence targets is very widely different across SADC countries. While SACU countries have inflation of about 10 percent (which should decline in 2003 due to the appreciation of the rand) and Mauritius, the Seychelles, and Tanzania have single-digit inflation, the remaining countries exhibit persistently high inflation rates. While budget deficit figures are perhaps less reliable or easily compared, the recent data indicate considerably higher figures for Zimbabwe, Mozambique, and Malawi than for the other SADC countries.

B. Factors Affecting the Costs and Benefits of Various Configurations for Monetary Integration

The design of a monetary union will influence the extent that the monetary policy reflects the circumstances of each of the member countries. In one case, a single country may set monetary policy for the others. This would be the case where smaller countries adopt the currency of another, presumably larger, one; this is often called "dollarization" but also applies to the CMA, in which Lesotho, Namibia, and Swaziland issue their own currencies but align

[2] We are grateful to Charles Harvey for this point, which would seem to be increasingly relevant with the recent London listings of major South African companies such as De Beers and South African Breweries.

[3] As ratio to previous year's tax revenues.

their monetary policies to those of South Africa, and allow the rand to circulate within their economies (though it is not legal tender in Swaziland). In these cases, it is the fiscal discipline of the anchor country that determines the monetary policy of the union, if the central bank is not independent of the treasury. Fiscal policies of other countries may influence their ability to maintain their place in the currency area, but do not affect the fundamental properties of the currency[4]. We term this an asymmetric monetary union. For a country considering joining the union, the extent of fiscal discipline of the anchor country that will be important for the stability properties of the currency. For this reason (and also the independence of the Bundesbank), the deutsche mark was an attractive currency on which to center the transition to monetary union in Europe, though with the creation of the euro zone there is now a symmetric monetary union in which monetary policy is based on conditions in the whole of the euro area. Similarly, the rand serves as the anchor of the CMA not only because of the size of South Africa, but also because the rand has not suffered high inflation as a result of fiscal pressures.[5]

In contrast, in a symmetric monetary union all the countries have some influence over monetary policy. Hence, if a country has fiscal objectives that cannot be matched by revenues, it may influence monetary policy in an expansionary direction. Thus the benefits and costs of a symmetric monetary union need to take into account the degree of fiscal discipline of all potential members. Though the problem of governments putting pressure on weak central banks may be partially ameliorated by the existence of a supranational central bank that is in a stronger position relative to any single national government, it is not completely solved: a large country with weak fiscal discipline can adversely influence the actions of the central bank. The resulting monetary expansion and high inflation may make a monetary union unattractive for countries with a less pressing need for monetary financing of government deficits.

As we have argued in previous chapters, these fiscal issues need to be considered alongside the traditional criteria related to optimum currency areas, namely the asymmetry of shocks. Thus, countries that are very dissimilar because they face very different shocks may not find it optimal to share a common monetary policy. In the African context where many countries rely on a few commodity exports whose price is determined in world markets, variations in the terms of trade are a potent source of shocks whose correlation (or lack thereof) is an important potential influence on the desirability of monetary union. Again, one needs to contrast an asymmetric monetary union, where a potential entrant will be concerned only with similarity with the anchor country's shocks, with a symmetric union where the correlation with the average shock across all countries will be important.

Table VII.5 reports estimates for government spending targets, corrected for different levels of per capita income, that include a measure of fiscal distortions (based on the methodology described in the Appendix to Chapter III). We see that CMA countries (aside from Lesotho) and Mauritius have much lower estimates for government spending targets than the

[4] There are other externalities related to fiscal policy, even when central banks do not face direct pressures to finance public deficits, but these are likely to be of second order.

[5] The issue of formal independence of the central bank may also come into play, though it is unlikely that a central bank, even if formally independent, could succeed in the face of fiscal policies that generated continued large deficits.

others, Tanzania and Botswana are somewhat higher, followed by Zambia, Malawi, Mozambique, and Zimbabwe, while at the top end of the range are Angola and the DRC.

Table VII.6 gives the correlations across countries of the percent changes in their terms of trade, to gauge the degree of asymmetry of the shocks that affect SADC economies. It can be seen that over the period 1987-97, which is the longest one for which data exist for all countries,[6] there are numerous negative correlations, indicating severe asymmetries. Some countries, for instance Mozambique and Tanzania, have mostly negative correlations with other SADC countries. In contrast, South Africa is positively correlated with Botswana, Lesotho, and Namibia,[7] which is not surprising given their close links within SACU. Broadly speaking, there seem to be two groups of countries, distinguished by the signs of their correlation with South Africa. On the one hand, South Africa's terms of trade are positively correlated with those of the other SACU countries, Mozambique, Tanzania, Zambia, and to a lesser extent, Zimbabwe. On the other hand, South Africa's terms of trade are negatively correlated with those of Angola, the DRC, Malawi, and the Seychelles.

C. Simulations of Various Monetary Unions

In order to quantify whether the welfare costs of a monetary union due to asymmetries in shocks and fiscal policies are offset by the gains due to limiting tendencies toward over-expansionary monetary policies (through internalizing trade), we draw on the theoretical model and its calibration, described in Chapter III above.

Simulations of the calibrated model were first conducted for the existing asymmetric monetary union, the CMA, assuming that monetary policy is set by South Africa. In fact, the model results indicate that compared to independently floating currencies, the CMA is in the interest of all participants, given their close trade links and the generally large positive correlation of shocks. Each of the CMA countries, namely Lesotho, Namibia, South Africa and Swaziland, would prefer to be a member than to pursue its own, independent monetary policy (Table VII.7). This is true even though we have modeled the monetary policy decision-making as reflecting only South Africa's economic conditions (it is assumed that South Africa does, however, internalize the fact that exchange rates are fixed vis-à-vis its trading partners, hence decreasing slightly the temptation for monetary expansion). If we modeled the CMA as sharing monetary policy responsibility on the basis of relative GDPs, there would be little difference in the results, since South Africa contributes 96 percent of the CMA's GDP. However, all the countries would in fact slightly prefer the current, asymmetric version, because South Africa has the lowestspending target and thus provides a better anchor.

We then consider whether adding other SADC countries individually to the CMA is incentive compatible, both for the new member and for the countries that form the existing CMA (Table VII.8). Again, we assume that the current asymmetric arrangement would continue, namely that South Africa would continue to have sole responsibility over monetary policy. All countries except Mauritius would find joining the CMA in their interest, on the basis of the

[6] Excluding Swaziland, which had only two available observations.

[7] The negative correlation with Swaziland should be ignored, and is probably due to the data problems mentioned in the previous footnote.

economic criteria modeled here. Moreover, the existing CMA members would all gain, if any country (including Mauritius) joined. Mauritius, in contrast, has a sufficiently low government spending target (and the lowest inflation in our sample) that it would not gain by adopting South Africa's monetary policy.

As an illustration of the forces at work, Table VII.9 decomposes the net gains faced by CMA countries if either Mauritius or Zimbabwe were to join (and also the latter countries' net gains). It can be seen that internalizing the monetary policy externality (i.e., lowering the temptation to create monetary expansion by depreciating the rand against the Zim dollar) is a major source of gains for all countries, while in Mauritius' case, the negative effect of lower fiscal discipline of the union offsets the other gains. In both cases, asymmetries of terms of trade shocks diminish the gains only slightly.

Given the results presented in Table VII.8, we simulate a monetary union between the CMA and all SADC countries except Mauritius; this is presented in Table VII.10. However, a larger monetary union, for instance one including most of the SADC countries, would challenge the existence of a monetary policy made in South Africa. Would a symmetric system make monetary union more desirable to the non-CMA countries? Table VII.10 suggests that this is not the case; in fact, only for the Seychelles are the net benefits larger in the symmetric than in the asymmetric case. The Seychelles has a large spending target and would prefer a situation in which monetary policy was easier than that dictated by South Africa. For all the other countries, however, the fact that South Africa's Reserve Bank provided low inflation consistent with its disciplined fiscal policies would make it a more desirable anchor than a multilateral central bank reflecting the average spending target. Thus, economic logic would suggest that the SARB continue to set monetary policy, meaning that a SADC monetary union would be essentially a rand zone.

D. Conclusions

It would seem that there should be the basis for at least some partial SADC monetary union, since an expanded monetary union that retained the existing asymmetric structure would be in the economic interests of SADC's largest economy as well as most of the other members. However, the economic benefits run in the face of the political imperatives for a multilateral monetary union in which monetary policy would be decided in a symmetric framework (though presumably larger countries would have more weight). Indeed, while an asymmetric monetary union with additional members would be desirable to the CMA countries, since it would internalize a larger proportion of their trade without adding to fiscal pressures on monetary policy, the same would not be true of a symmetric monetary union with the rest of SADC, which according to our results would be viewed negatively by the CMA, and in particular by South Africa. However, a monetary union for most of SADC that left monetary policy in the hands of the SARB is likely to be unacceptable to South Africa's SADC partners.

This tension is likely to limit expansion of the CMA in the next decades. The impetus for creating a larger monetary union would doubtless have to come from South Africa, since it is already at the center of a successful monetary union, the CMA. Going to a monetary union with other SADC members is likely to be on South Africa's terms, therefore, since its central bank is (with the exception of Botswana's, which has however a much more recent history of central

banking) the only institution in the region able to provide the credibility and stability that would make a monetary union a success. Hence a limited expansion of the monetary union to include a few SADC countries, with a dominant weight retained by South Africa, and selectivity in the admission of members, seems the likeliest outcome if the CMA were to be expanded or transformed.

In the longer term, fiscal discipline, expanded trade, and greater development of financial systems in the northern countries of SADC could narrow differences and make a symmetric SADC monetary union attractive to all. Only in these circumstances would South Africa be willing to give up control over monetary policy; a common currency would then lead to further expansion of the market for South Africa's exports, without South Africa being forced to adopt an inferior currency. Indeed, this was the strategy in Europe: to make the countries with larger budget deficits and higher inflation converge to the German level before monetary union. SADC thus rightly puts the emphasis on regional surveillance over inflation and fiscal policies as a precondition for monetary union. At the present time, the assessment made by Jenkins' and Thomas of macroeconomic convergence in the mid-1990s and its implications for the feasibility of a SADC monetary union, still seems as valid as when it was originally expressed:

> "In conclusion, the apparent lack of convergence of the Southern African economies over time and the current significant divergence of policy and stability indicators suggests that Southern Africa is not yet ready for regional monetary integration. Premature attempts at monetary integration could have political costs, since a failed attempt at monetary integration can generate political disagreements and recriminations that weaken prospects for coordination in trade, infrastructural development, defence and law enforcement." (Jenkins and Thomas, 1996, p.23)

Table VII.1 SADC Social Indicators
(Averages, 1995-2000)

	GDP per capita (constant 1995 US$)	Life expectancy at birth, years	Population with access to safe water (%)	Literacy Rate (population 15+), %
Angola	488	46	38	...
Botswana	3,653	46	...	75
Congo, Dem. Rep.	119	47	45	58
Lesotho	539	48	91	82
Malawi	164	41	57	58
Mauritius	3,958	70	100	84
Mozambique	172	44	60	42
Namibia	2,307	54	77	80
Seychelles	7,054	72	...	...
South Africa	3,935	54	86	84
Swaziland	1,465	54	...	78
Tanzania	183	47	54	73
Zambia	393	42	64	76
Zimbabwe	656	45	85	87

Source: 2002 World Bank Africa Database

Table VII.2. Bilateral Trade Flows, averages 1995-2000

A. In percent of Country 1's Total Exports

Country 1	**Country 2**													
	Angola	Botswana	Congo, DR	Lesotho	Malawi	Mauritius	Mozamb	Namibia	Seychelles	South Africa	Swaziland	Tanzania	Zambia	Zimbabwe
Angola		…	0.00	…	0.00	0.00	0.00	…	0.00	0.42	0.00	0.00	0.00	0.00
Botswana	…		…	0.09	…	0.01	0.05	0.33	0.00	**13.77**	0.12	0.15	0.89	3.19
Congo, DR	0.00	…		…	0.00	0.01	0.00	…	0.00	2.15	…	0.04	0.22	0.10
Lesotho	…	0.32	…		0.00	0.00	0.00	2.03	…	**85.00**	0.75	0.08	0.03	0.41
Malawi	0.00	0.00	0.16	0.00		0.37	0.76	…	0.01	**14.52**	0.00	0.74	0.79	2.51
Mauritius	0.00	0.01	0.00	0.01	0.13		0.03	0.00	0.32	2.27	…	0.13	0.06	0.59
Mozambique	0.21	0.03	0.02	0.00	3.50	0.39		0.02	0.00	**13.74**	1.13	0.59	0.42	**8.97**
Namibia	…	0.32	…	0.36	…	0.02	0.30		0.01	**55.00**	0.49	0.02	0.33	1.18
Seychelles	0.00	0.00	…	…	0.00	0.39	0.00	0.06		1.81	0.00	0.01	0.09	0.01
South Africa	0.92	**5.63**	0.66	1.18	0.89	1.08	1.97	2.34	0.15		1.17	0.64	1.62	3.52
Swaziland	0.00	0.21	…	0.46	0.00	1.43	3.13	1.68	0.10	**70.00**		3.12	2.01	3.52
Tanzania	0.02	0.08	1.04	0.01	0.85	0.05	0.07	0.01	0.02	0.97	0.02		1.63	0.90
Zambia	0.06	0.34	1.85	0.00	**4.77**	0.01	0.08	0.27	0.00	**6.12**	0.05	1.78		2.61
Zimbabwe	0.33	3.01	0.43	0.02	2.95	0.26	1.79	0.73	0.04	**11.73**	0.05	0.39	3.83	

B. In percent of Country 2's Total Imports

Country 1	**Country 2**													
	Angola	Botswana	Congo, DR	Lesotho	Malawi	Mauritius	Mozamb	Namibia	Seychelles	South Africa	Swaziland	Tanzania	Zambia	Zimbabwe
Angola		…	0.00	…	0.00	0.00	0.00	…	0.00	0.07	0.00	0.00	0.00	0.00
Botswana	…		…	0.59	…	0.00	0.02	0.57	0.00	0.22	0.69	0.04	0.45	0.52
Congo, DR	0.00	…		…	0.00	0.01	0.00	…	0.00	0.10	…	0.03	0.31	0.05
Lesotho	…	0.12	…		0.00	0.00	0.00	1.09	…	0.43	1.30	0.01	0.00	0.02
Malawi	0.00	0.00	0.07	0.00		0.08	0.37	…	0.01	0.24	0.00	0.21	0.41	0.41
Mauritius	0.00	0.06	0.00	0.27	0.35		0.05	0.00	1.43	0.13	0.01	0.13	0.11	0.34
Mozambique	0.02	0.02	0.00	0.00	1.53	0.04		0.02	0.00	0.12	3.49	0.09	0.12	0.81
Namibia	…	0.44	…	2.71	…	0.00	0.17		0.01	1.02	3.16	0.01	0.19	0.22
Seychelles	0.00	0.00	…	…	0.00	0.02	0.00	0.03		0.01	0.00	0.00	0.01	0.00
South Africa	**10.24**	**66.33**	**15.96**	**36.72**	**37.88**	**12.10**	**50.65**	**27.31**	**9.95**		**32.41**	**9.56**	**44.12**	**30.86**
Swaziland	0.00	0.16	…	1.97	0.00	0.20	0.98	1.87	0.08	0.74		0.57	0.67	0.38
Tanzania	0.01	0.14	0.69	0.08	1.00	0.02	0.05	0.03	0.04	0.02	0.19		1.22	0.22
Zambia	0.03	0.80	1.67	0.01	**7.45**	0.01	0.08	0.92	0.00	0.20	0.51	0.98		0.84
Zimbabwe	0.33	**17.27**	0.95	0.50	**11.29**	0.26	**4.14**	**6.05**	0.27	0.92	1.41	0.53	**9.39**	

1/ Bilateral Trade is calculated by averaging exports from 1 to 2, and imports of 2 from 1
Figures over 4 percent are in bold
Sources: DOT, Bank of Botswana, and IMF country reports, … Not Available

Table VII.3 South Africa: Foreign Assets and Liabilities

December 31, 2000 ($US millions)

Assets: Foreign Investment from South Africa into SADC and other Countries

	Direct	Portfolio	Other	Total
Angola	3.1	1.4	2.9	7.4
Botswana	36.4	41.6	81.6	159.6
Democratic Republic of Congo	0.6	0	13.3	13.9
Lesotho	23.4	8.8	207.1	239.3
Malawi	24.6	0.4	16.4	41.4
Mauritius	357.8	66.5	553.4	977.8
Mozambique	505.8	0	73.8	579.6
Namibia	156.8	9.4	140.3	306.5
Swaziland	174.4	9.1	88.3	271.9
Tanzania	10.9	0	11.8	22.7
Zambia	1.8	0	53.6	55.4
Zimbabwe	43.3	2.8	108.1	154.1
Total SADC	1,339	140	1,351	2,830
Other Africa	378.1	6.9	169.3	554.3
Total Africa	1,717	147	1,520	3,384
Total Foreign Assets	34,251	48,141	18,900	101,292

Liabilities: Foreign Investment from SADC Countries into South Africa

	Direct	Portfolio	Other	Total
Angola	1.3	0.3	79.1	80.6
Botswana	11.1	569.0	185.6	765.7
Democratic Republic of Congo	2.2	0	2.0	4.2
Lesotho	2.7	5.9	295.1	303.7
Malawi	3.6	2.2	32.9	38.8
Mauritius	156.9	30.4	481.7	669.1
Mozambique	2.7	0.7	47.6	51.0
Namibia	17.6	1196.9	287.4	1501.9
Swaziland	24.1	8.7	308.0	340.8
Tanzania	1.5	0.14	1.4	3.1
Zambia	2.2	0.56	5.2	8.0
Zimbabwe	16.8	8.7	51.4	76.9
Total SADC	243	1,823	1,777	3,844
Other Africa	76.3	10.4	228.3	315.0
Total Africa	319	1,834	2,006	4,159
Total Foreign Liabilities	46,040	38,743	23,540	108,323

Source: Unpublished data provided by the South Africa Reserve Bank, and SARB Quarterly Bulletin, December 2002.

Table VII.5 Selected Indicators, Averages 1995-2000
(Percent of GDP, unless noted otherwise)

Country Name	Gov't Revenue[1]	Gov't Spending	Overall surplus/deficit[1]		Inflation[2]		GDP per cap (Cur. US$)	Gov't Spending at average income[2]	Diversion[2]	Spending Target[3]
			1995-2000	*2002*	*1995-2000*	*2002*				
Angola	44.29	57.12	-12.83	-3.9[7]	1271.4	105.6	586	64.77	25.50	77.52
Botswana	42.02	40.79	1.23	-3.0	9.9	11.4	3262	38.29	18.33	47.45
DRC[6]	5.26	5.79	-0.53	-1.2[7]	458.8	18.0	125	17.73	63.38	18.05
Lesotho	46.00	47.00	-1.00	-4.5	7.8	11.9	459	55.78	12.26	61.91
Malawi	23.17	28.18	-5.01	-12.6	38.5	14.8	187	39.58	28.92	54.04
Mauritius[4]	20.81	25.88	-5.07	-6.5	6.1	6.4	3620	24.00	12.26	30.13
Mozambique	21.18	23.89	-2.71	-18.0[7]	20.3	21.9[7]	200	35.16	38.85	54.58
Namibia	31.58	35.18	-3.59	-3.8	8.5	9.2[7]	2136	33.78	9.34	38.45
Seychelles[4]	45.11	56.64	-11.53	-9.4[7]	2.0	6.0[7]	7416	89.90	12.26	96.03
South Africa	28.52	33.31	-4.78	-1.0[7]	7.0	10.1	3393	30.98	9.12	35.54
Swaziland[4]	29.89	30.39	-0.50	-5.0	8.7	11.7	1370	32.38	12.26	38.51
Tanzania	14.22	14.91	-0.69	-0.1	17.5	4.6	238	25.80	34.11	42.85
Zambia	26.00	28.91	-2.91	-8.0[7]	30.6	21.0[7]	349	38.72	25.94	51.69
Zimbabwe	29.44	39.25	-9.81	-21.8[8]	34.4	133.2	604	46.75	16.34	54.92
CMA	28.72	33.42	-4.69	-1.1	7.1	10.1	3325	31.22	9.18	35.81
SADC, excl CMA[5]	25.51	29.32	-3.81	-9.6	21.2	37.9	1329	36.19	24.08	48.23

Source- World Bank Africa Database 2002, International Financial Statistics 2003 Online Version, SADC Committee of Central Bank Governors, August 2003 and calculations reported in Table III.2

1/ Including grants

2/ Percent

3/ Government spending at average income plus diversion/2

4/ Diversion estimate for Lesotho, Mauritius, Seychelles and Swaziland is calculated as the average for Botswana, Namibia, and South Africa.

5/ Excluding Angola and DRC

6/ Data for revenue, spending and surplus/deficit, 1995-1997 average

7/ 2001

8/ 2000

Table VII.6. SADC: Correlation of Percent Changes in Terms of Trade, 1987-1999

	Angola	Botswana	DRC	Lesotho	Malawi	Mauritius	Mozam-bique	Namibia	Seychel-les	South Africa	Swazi-land	Tanzania	Zambia	Zim-babwe
Angola	1	0.15	-0.37	-0.19	0.43	-0.06	-0.20	-0.15	-0.45	0.01	0.13	0.04	-0.27	-0.63
Botswana	0.15	1	0.17	-0.21	0.28	-0.36	0.70	0.08	0.38	0.59	0.26	0.07	0.18	-0.43
Congo, DR	-0.37	0.17	1	0.11	0.03	-0.09	0.48	0.67	0.72	0.66	-0.04	0.33	0.84	0.57
Lesotho	-0.19	-0.21	0.11	1	-0.38	0.17	-0.09	0.40	-0.11	0.17	-0.37	-0.19	0.10	0.05
Malawi	0.43	0.28	0.03	-0.38	1	0.47	0.07	-0.18	0.02	0.11	0.72	0.04	0.18	-0.07
Mauritius	-0.06	-0.36	-0.09	0.17	0.47	1	-0.16	-0.11	-0.42	-0.12	0.11	-0.12	0.03	0.06
Mozambique	-0.20	0.70	0.48	-0.09	0.07	-0.16	1	0.33	0.41	0.65	-0.23	0.57	0.33	-0.16
Namibia	-0.15	0.08	0.67	0.40	-0.18	-0.11	0.33	1	0.31	0.65	-0.37	0.30	0.25	0.23
Seychelles	-0.45	0.38	0.72	-0.11	0.02	-0.42	0.41	0.31	1	0.36	0.31	0.14	0.68	0.62
South Africa	0.01	0.59	0.66	0.17	0.11	-0.12	0.65	0.65	0.36	1	-0.12	0.35	0.49	-0.06
Swaziland	0.13	0.26	-0.04	-0.37	0.72	0.11	-0.23	-0.37	0.31	-0.12	1	-0.42	0.23	0.20
Tanzania	0.04	0.07	0.33	-0.19	0.04	-0.12	0.57	0.30	0.14	0.35	-0.42	1	0.04	0.09
Zambia	-0.27	0.18	0.84	0.10	0.18	0.03	0.33	0.25	0.68	0.49	0.23	0.04	1	0.51
Zimbabwe	-0.63	-0.43	0.57	0.05	-0.07	0.06	-0.16	0.23	0.62	-0.06	0.20	0.09	0.51	1

Source: Source: UNCTAD and World Bank (see Cashin et. al, 2003)

Table VII.7. Net Benefits from Membership in CMA

	Share of GDP	Correlation of shocks	Avg/Own Spending Target	Net Gain Rel to float	Net Gain from Symmetric CMA
Lesotho	0.0065	0.1730	0.5784	0.2088	-0.0013
Namibia	0.0242	0.2906	0.9312	0.0366	-0.0026
South Africa	0.9601	0.9965	1.0075	0.0080	-0.0027
Swaziland	0.0092	0.2174	0.9299	0.0373	-0.0026

Table VII.8. Net Benefits of Adding Countries Individually to CMA

	Share of GDP	Net gain or loss 1/	Correlation of shocks	Avg/Own Spending Target
Angola	0.0459	0.2391	0.7749	0.4866
Lesotho	0.0062	0.0003	0.5632	0.6093
Namibia	0.0231	0.0008	0.8901	0.9810
South Africa	0.9160	0.0006	0.5267	1.0614
Swaziland	0.0088	0.0006	0.7176	0.9796
Botswana	0.0336	0.1195	0.4322	0.7628
Lesotho	0.0062	0.0028	0.1946	0.5847
Namibia	0.0234	0.0056	0.3090	0.9414
South Africa	0.9279	0.0059	0.9930	1.0185
Swaziland	0.0089	0.0056	0.2378	0.9401
Lesotho	0.0064	0.0005	0.0949	0.5823
Malawi	0.0133	0.1599	-0.3951	0.6671
Namibia	0.0239	0.0011	0.2519	0.9375
South Africa	0.9473	0.0011	0.9933	1.0144
Swaziland	0.0091	0.0011	0.1581	0.9362
Lesotho	0.0063	0.0005	0.1602	0.5758
Mauritius	0.0281	-0.0496	0.1292	1.1833
Namibia	0.0235	0.0010	0.2515	0.9271
South Africa	0.9332	0.0011	0.9921	1.0031
Swaziland	0.0090	0.0010	0.1916	0.9258
Lesotho	0.0063	0.0010	0.1244	0.5853
Namibia	0.0236	0.0020	0.2649	0.9424
Mozambique	0.0228	0.1653	0.5011	0.6639
South Africa	0.9382	0.0021	0.9877	1.0196
Swaziland	0.0090	0.0020	0.1813	0.9410
Lesotho	0.0064	0.0001	0.1904	0.5822
Namibia	0.0241	0.0001	0.2848	0.9374
Seychelles	0.0039	0.2475	-0.1057	0.3754
South Africa	0.9563	0.0001	0.9961	1.0142
Swaziland	0.0092	0.0001	0.2232	0.9361
Lesotho	0.0061	0.0001	0.0428	0.5840
Namibia	0.0230	0.0003	0.2017	0.9404
South Africa	0.9122	0.0003	0.9823	1.0174
Swaziland	0.0088	0.0003	0.1101	0.9391
Tanzania	0.0499	0.0768	0.7071	0.8438
Lesotho	0.0063	0.0009	0.2858	0.5841
Namibia	0.0237	0.0017	0.3031	0.9405
South Africa	0.9385	0.0018	0.9478	1.0176
Swaziland	0.0090	0.0017	0.2822	0.9392
Zambia	0.0225	0.1412	0.5893	0.6996
Lesotho	0.0061	0.0021	0.1765	0.5961
Namibia	0.0230	0.0042	0.2885	0.9550
South Africa	0.9141	0.0045	0.9960	1.0333
Swaziland	0.0088	0.0042	0.2182	0.9537
Zimbabwe	0.0479	0.1700	0.0989	0.6687

1/ relative to CMA for CMA countries, relative to independent floating for others

Table VII.9. Decomposition of Net Gains for Mauritius or Zimbabwe Joining, relative to independent policies

	Net gain	Externality	Fiscal Asymmetry	Shock Asymmetry
Lesotho	0.2063	0.0091	0.2021	-0.0000
Mauritius	-0.0496	0.0091	-0.0592	-0.0005
Namibia	0.0376	0.0091	0.0293	-0.0002
South Africa	0.0091	0.0091	0.0000	-0.0000
Swaziland	0.0384	0.0091	0.0299	-0.0000
Lesotho	0.2378	0.0125	0.2021	-0.0000
Namibia	0.0408	0.0125	0.0293	-0.0002
South Africa	0.0125	0.0125	0.0000	-0.0000
Swaziland	0.0415	0.0125	0.0299	-0.0000
Zimbabwe	0.1700	0.0125	0.1624	-0.0000

Table VII.10 Net Gain from SADC-wide Monetary Union (Symmetric or Asymmetric)

	GDP Share	Shock Correlation	Avg/Own Spending Target	Net Gain 1/ Symmetric	Net Gain 1/ Asymmetric
Angola	0.0373	0.7192	0.5258	0.2314	0.2409
Botswana	0.0270	0.5729	0.8589	0.0849	0.1266
Congo	0.0307	-0.0267	0.5822	0.2236	0.2411
Lesotho	0.0050	0.5220	0.6584	-0.0191	0.0071
Malawi	0.0105	-0.5195	0.7543	0.1338	0.1685
Mozambique	0.0181	0.2873	0.7468	0.1392	0.1732
Namibia	0.0188	0.8079	1.0600	-0.0368	0.0145
Seychelles	0.0031	0.0129	0.4245	0.2544	0.2440
South Africa	0.7448	0.5609	1.1469	-0.0392	0.0153
Swaziland	0.0072	0.6566	1.0586	-0.0369	0.0144
Tanzania	0.0407	0.0810	0.9512	0.0427	0.0893
Zambia	0.0179	0.4204	0.7885	0.1130	0.1501
Zimbabwe	0.0390	-0.1104	0.7422	0.1428	0.1765

1/ Relative to floating for non-CMA countries, and relative to CMA for CMA countries

10/8/03

Chapter VIII: East African Community and COMESA in East and Southern Africa

Plans for monetary integration in East and Southern Africa are complicated by overlapping membership of countries in a number of regional organizations (including SADC). In this chapter we first consider prospects for monetary integration in a small, three country group--the East African Community, followed by a discussion of a much larger twenty country group stretching from Egypt in the north to Namibia in the South—COMESA.

A. East African Community

The treaty establishing the East African Community (EAC), comprised of Kenya, Tanzania and Uganda, was signed by the three member governments in November 1999. Formally launched in January 2001, the EAC succeeded a 1996 cooperation agreement to revive regional integration which had ended following the 1977 collapse of the original East African Community. The 1999 treaty provides for the formation of a customs union by 2004, to be followed by a common market, subsequently a monetary union, and ultimately a political federation. A Second EAC Development Strategy (2001-5) agreed to by the member governments sets out an action plan for widening and deepening cooperation in a range of spheres including political, economic, social, cultural, research and technology, defense, as well as legal and judicial affairs. The declared vision for regional integration is to create wealth and enhance competitiveness through increased production, trade and investment in the region.

Regarding the monetary union objective of the Community, Article 82 of the Treaty states that the partner states will "co-operate in monetary and financial matters and maintain the convertibility of their currencies as a basis for the establishment of a monetary union." The treaty elaborates that co-operation will be "in accordance with the approved macro-economic policies harmonization programmes and convergence framework of the Community in order to establish monetary stability." (East African Community, 1999).

Monetary union is seen as a rather distant goal, however, and specificities and timetables are not currently under discussion. To date, the priority for the Community has been movement toward a customs union through a program of tariff harmonization, establishment of a common external tariff and elimination of internal tariffs. Progress has been relatively slow, and the partner states are still very actively negotiating over the latter two areas. On monetary union, the strategy is to lay the groundwork by maintaining currency convertibility, harmonizing macroeconomic policies-- particularly exchange rate, interest rate, monetary and fiscal policies, and work toward closer macro-economic convergence. In practice, progress has been made on currency convertibility and sharing of information through the synchronization of budget days in the three countries. But macro-policy coordination or convergence is currently not high on the priority list for policy makers in the region.

1. Revival of the "old" EAC

The current EAC is a revival of the "old" East African Community, which included, at some point, a customs and monetary union, and joint administration of taxes and many services. The countries, which shared a common currency under Britain's colonial rule, issued separate currencies after independence, but the 1967 Treaty formally establishing the EAC community specified free exchange at par. The link to sterling was broken following the 1967 sterling devaluation.

Why did the old EAC collapse? The two major contributing factors—namely differences relating to the distribution of benefits, and ideological clashes--were not specific to the monetary integration aspect. Kenya, the more industrialized partner, ran a persistent trade surplus with Uganda and Tanzania. The latter two countries felt that Kenya benefited more from the arrangement in terms of trade and fostering industrial development, and were disappointed that compensating mechanisms (subsidies, concessions from Kenya, or redistribution through the East African Development Bank) did not work. (Goldstein and Ndung'u, 2001). Politically, Tanzania, under President Julius Nyerere, and Uganda, under President Milton Obote, pursued socialist-oriented strategies, while Kenya was more capitalistic. Tanzania did not recognize the Amin government that took power in a 1971 coup in Uganda, precluding summit meetings and contributing to the eventual collapse of the community. Ideological and economic factors also resulted in all three governments extending exchange controls to each other's currencies, culminating in the 1977 collapse (Cohen, 1998). Another contributing factor on the monetary front was the erosion of regional controls on national monetary creation, undermining monetary discipline (Guillaume and Stasavage, 2000).

The three countries agreed to re-launch the EAC in the early 1990s, and set up the EAC Secretariat in 1996. An important step was taken when the agreement was signed as a Treaty in November 1999. Since its inception, the new EAC has achieved a number of its objectives. In the area of monetary and fiscal policy coordination, for example, there is full convertibility of the three currencies in each of the countries, and an agreement has been reached to liberalize capital accounts. Finance ministers hold pre- and post-budget consultations, and the budget presentation days have been synchronized. Other notable achievements include establishment of an East African passport and reductions in border delays, harmonization of customs documentation and execution of a tripartite agreement on avoidance of double taxation (Mkenda, 2001).

Currently, the primary focus of high-level negotiations is movement towards a customs union. Although an initial report on the strategy was adopted by the member states in 1999 (Rajaram et. al, 1999), its findings were not implemented: initially, negotiations towards removal of internal tariffs bore no fruit, and there was no agreement on a common external tariff (CET). Since that time the Treaty has come into force (July 2000), the EAC was formally launched (January 2001) (see EAC Secretariat, 2000) and agreement on a protocol for establishment of a customs union is now expected to be reached in 2003. The three countries are starting from a position where although significant progress on trade liberalization was made in the 1990s, tariffs are still high, and bureaucratic application of rules and regulations still continue to act as

non-tariff barriers. Limited progress in reducing internal tariffs has been achieved recently under both COMESA and EAC. Tanzania's continued low trade with regional partners has contributed to its negative view on regionalism, withdrawal from COMESA, and insistence that cooperation under EAC should be based on the principle of "asymmetry," or ensuring that more developed partners open their markets faster than others (Ng'eno, 2002). While the 1999 report adopted by the EAC Secretariat had recommended that EAC countries adopt the Uganda tariff structure of (0, 7, 15) percent , for primary, intermediate, and final goods, it was unacceptable to Kenya and Tanzania; some simulations have shown that it would result in large revenue losses for these countries (Ng'eno, 2002). Other studies differ, however, indicating that the revenue losses from the range of CET structures under consideration would be quite small for all countries [reference]. The countries are currently negotiating over a (0,10,20) CET, and over the structure of internal tariffs (Kraus, 2003). The real sticking point appears to be the latter; Uganda and Tanzania are reluctant to give up protection against Kenyan imports. Current negotiations aim for agreement to phase out, asymmetrically, internal surcharges over a 5-year period. Going forward, there is need for further work on mechanisms for sharing costs and benefits of regional integration, and on the appropriate application of asymmetry, if the new EAC is to avoid the problems faced by the old EAC.

It is of course, extremely difficult to judge prospects for success in forming a customs union, common market, monetary union, and ultimately a political federation, as envisioned. The key factor, is the always unknowable amount of political will. On the customs union, the difficult issue of distribution of benefits is also raised in a recent paper by Venables (2000), who uses the old EAC as an example of a regional integration agreement likely to fail because it promoted income divergence. Quite slow progress in moving from the cooperation stage to formal negotiations for a customs union protocol is also not a good sign. Institutionally, the political weakness of the EAC Secretariat has hampered timely implementation of agreed measures. Limited institutional capacity may also be spread thin as the Treaty specifies cooperation in such a broad range of areas: political, economic, social, cultural, environmental, research and technology, defense, security, and legal and judicial affairs.

To date, high level discussions on the steps toward or the ultimate form of monetary union do not seem to have taken place. The EAC Development Strategy for 2001-05, agreed to by the heads of state, discusses co-operation in macroeconomic policy as the precursor to plans for monetary union. The importance of maintaining convertibility of currencies is stressed.[1] Macroeconomic convergence indicators are also specified, covering real GDP growth rates, inflation, current account deficits, fiscal deficits, reserve ratios, domestic savings, and external debt/revenue ratios. While written down "on paper" it does not seem, however, that EAC and government officials in the three countries are actually aware of or committed to these convergence goals. It is also not clear what specific progress or plans for capital account liberalization are associated with EAC co-operation efforts.

[1] While the IMF AREAR (2002) notes that currencies are freely convertible, and that excess holdings of partner country shillings are repatriated to the respective central banks for immediate credit in dollars, it is not completely clear how convertibility is operating "on the ground."

The objective of monetary cooperation is to have an East African single currency in place by 2010. No official statements have been made about the form of the exchange rate regime, although some documents do mention the desire to maintain market determined exchange rates and acceptable levels of reserves. The Monetary Affairs Committee of the EAC has proposed that a Monetary Institute be set up to develop and monitor realistic convergence targets, make plans for monetary union, and follow-up on implementation of agreements in this area (USAID, n.d). It does not seem, however, that this proposal is being seriously discussed.

2. The EAC Countries: A Fair Degree of Linkages

Economic disparities across the three countries have narrowed since the second half of the 1990s, as Tanzania and Uganda have pursued macroeconomic and structural reform programs, spurring strong real GDP growth, while Kenya has lagged behind (related also to the suspension of donor aid in 2000 because of concerns about corruption). During 1995-2000, real GDP growth averaged 4 % in Tanzania and 7 % in Uganda, compared to 2 % in Kenya. Kenya is still generally ahead of the other two countries in terms of social indicators (Table VIII.1).

As discussed in Chapter III, the benefits of a fixed rate between countries in a monetary union tend to be greater if countries have substantial intraregional trade, and more symmetric shocks (which is more likely if economic structures are similar).

Internal trade within the region is relatively small, averaging 7 percent of exports and imports (Table VIII. 2). Still, this is close to the level of trade in ECOWAS (much higher than for the non-WAEMU countries) and higher in general than internal trade in SADC, except for South Africa's very high trade with other SACU countries. The pattern of trade is quite uneven, however. For Kenya, the EAC (and COMESA) is an important, and growing export market. Uganda and Tanzania, on the other hand, export very little to their EAC partners (although Tanzania's exports to Kenya are growing). Kenya's imports from the rest of the EAC are insignificant, part of its trend of declining imports from other African countries overall. For Uganda, Kenya is its most important import source, followed by Asia and the EU. In contrast, Tanzania's imports from the rest of the EAC are quite low. (Ng'eno, 2002).

Unofficial cross-border trade, although difficult to quantify, is thought to be considerable, however. One set of surveys done in the mid-1990s, estimated unofficial cross-border trade as highest between Kenya and Uganda at 49 percent of official trade, followed by Tanzania-Uganda trade at 45 percent of official trade, and Tanzania-Kenya cross-border trade of about 12 percent (see references in Mkenda, 2001). In our simulations of currency union, as for the other regions we increase bilateral flows by 25 per cent to account for informal trade.

Terms of trade shocks are the most important source of shocks for primary commodity exporting countries. The correlations of changes in the terms of trade calculated in Table VIII.3 shows that the average of correlation between countries (0.67) is higher than those for the existing monetary unions, WAEMU (0.20) and the CMA (0.37). Coffee is the primary export for both Tanzania and Uganda, which have the highest correlation of terms of trade shocks in the EAC. Following tea, coffee is also the second largest export for Kenya, whose shocks are relatively highly correlated with those in Uganda and Tanzania.

As noted above, macroeconomic convergence indicators and their specific target values do not appear to be firmly agreed to. Table VIII.4 indicates where countries stand relative to indicators specified in the EAC Development Strategy 2001-5 document. Performance on the GDP growth, inflation, and current account deficit indicators appears reasonable, except for Kenya's anemic growth figures. It is not clear whether the 5 percent targets for fiscal and current account deficits as a share of GDP are including or excluding grants. Assuming that the current account target includes grants and the fiscal deficit excludes grants, Uganda is still far off on the fiscal target. Performance is more mixed on the indicators for reserves, domestic savings, and debt service to revenues.

3. Net Benefits from Monetary Union

The appendix to Chapter III discusses calibration of the Debrun, Masson, and Pattillo (2002) model using data on the broadest set of African countries available. As for other planned or existing monetary unions, here we use the common parameters and some region-specific parameters to calibrate the model for the EAC. Recall that the model implies that for any country, the net gains from joining a monetary union depend on: differences in fiscal policy distortions, the negative effect of inflation surprises in one country on neighboring country's output operating through the strength of trade linkages, and the correlation of shocks. Given the relatively strong (compared to other regions) trade linkages and shock correlation, we might expect a monetary union among the three countries to be mutually beneficial. On the other hand, however, Kenya—the country with the largest GDP weight--which in the model implies the largest weight in the common central bank's monetary policy, has the least fiscal discipline, as evidenced by a high government spending target (as well as actual government spending/GDP).

In fact, Table VIII.5 indicates that participation in a monetary union is better than independent monetary policies (and separate currencies) only for Kenya among the EAC member countries. In contrast, both Tanzania and Uganda have small net losses—their magnitudes are will under 1 percent of GDP however, and they could well be offset by other factors (including political ones) that we haven't modeled.

The second panel of the table decomposes the net gains for each country. Internalizing the monetary policy externality—the reduced incentive to boost output through unexpected inflation, or competitive devaluations—provides the largest source of gain, following from the reasonable degree of inter-regional trade. Kenya, with a higher government spending target than the other two countries, gains from a central bank that is more disciplined, while Tanzania and Uganda,, with more conservative government spending targets, show small losses from the excessive monetary financing. Asymmetry of shocks leads to losses, although extremely small ones.

Thus, the DMP model simulations indicate that an EAC monetary union may run into the same asymmetry that contributed to the demise of the old EAC.[2] What are the prospects for successful movement toward monetary integration? East Africa's long history of attempts at forging regional co-operation can either be viewed a bad legacy of failures that are difficult to overcome, or greater experience at regionalism than most other regions in the continent.

The prospects of moving forward depend on whether the first step of forming a customs union proves to be successful. Here, the distribution of trade benefits will clearly be an issue: Tanzania and Uganda continue to be concerned that Kenya will benefit disproportionately. Manufacturers in Kenya have protested that the CET under consideration would leave them unable to compete with import products (Kraus, 2003). The magnitude of potential tariff revenue losses is still not clear and the World Bank is currently undertaking a further study.

The EAC is considering installation of a compensatory mechanism for either countries or sectors that suffer losses from the customs union, an important outstanding issue in the negotiations. Finally, overlapping membership in other regional organizations (discussed below), both creates difficulties for negotiating CET rates, and could provide the EAC countries with "exit options" should the integration process falter.

On the positive side, there appears to be some political momentum to the process. Factors such as a common language, significant donor interest in the project, attention to involvement of the private sector, and a new government in Kenya (where prospects appear brighter for economic reforms and resumption of donor aid), all also auger well for progress on regional integration.

B. The Common Market for Eastern and Southern Africa (COMESA)

In addition to membership in the EAC, Kenya and Uganda are also members of COMESA. Tanzania, concerned about potential harm to its industrial development from a planned zero internal tariff, withdrew from COMESA in 2000, but is reported to be considering re-entry. As the overlapping membership and similarity of some integration objectives affect incentives and prospects for monetary union in the EAC, we briefly review the main objectives and monetary integration plans of COMESA.

COMESA was established in 1994 as a strengthened successor to the Preferential Trade Area for eastern and southern Africa founded in 1981. Twenty countries now make up COMESA: Angola, Burundi, Comoros, Democratic Republic of Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Namibia, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia, and Zimbabwe. COMESA's broad strategy is that in order to attract private investment into the region, the small countries must be able to offer a large single market, leading to a focus on liberalization of the trade and investment environment. (Ngwenya, n.d). Specific objectives include: a full free trade area, a customs union (by 2004), free movement of

[2] In contrast, Mkenda (2001) concludes that the EAC forms an optimum currency area, based on a method that finds cointegration of real exchange rates.

capital and investment, establishment of a monetary union with a common currency, and free movement of persons, including right of establishment by 2025. COMESA's most important achievement has been the formation in 2000 by nine member countries of a Free Trade Area (FTA) which eliminated tariffs and quotas on goods that conform to COMESA rules of origin.[3] Other COMESA countries not yet part of the FTA have reduced tariffs on COMESA-originating goods by between 60 to 80 percent. Member states are still negotiating over the structure of the proposed common external tariff.

Monetary integration planning has been "on the books" for some time. A Monetary Harmonization Programme (MHP) was prepared in 1990 for the then PTA, and this programme was later endorsed in the treaty establishing COMESA. (COMESA, Finance and Economics, n.d). The program envisaged a gradualist approach with several stages: full utilization of the Clearing House's payments mechanism (1992-96); limited currency convertibility and an informal exchange rate union (1997-2000); fixed exchange rates fluctuating within a given margin; central banks remain independent but monetary policy co-ordinated by a common monetary institution (2000-24); the common monetary authority issues common currency (2025 onwards). A 1995 review of the MHP recommended a set of measurable macroeconomic and institutional targets. We review progress towards these targets below, although the extent of high-level official commitment is not clear.

A more recent review of the MHP commissioned by the COMESA Secretariat in 2000 found that while some progress had been made toward the policy and institutional targets, it was the result of individual country decisions or IMF/World Bank conditionality, not in order to meet commitments made to COMESA (BIDPA and CSAE, 2001). The study argued that further progress would require stricter macroeconomic targets. It recommended that countries proceed at their own speed, and that individual countries which have achieved macroeconomic stability could gain credibility by establishing currency boards linked preferably to the euro.

1. COMESA Countries: Weak Linkages

Prospects for trade and monetary integration in the region are complicated by overlapping membership in regional organizations. Nine of the COMESA partner states are also members of SADC[4]. Of these, Namibia and Swaziland are already members of the CMA, with currencies linked to the South African Rand. Kenya and Uganda are members of both EAC and COMESA, and so have conflicting commitments to two different planned customs and monetary unions. Tanzania is the only EAC country that is also a member of SADC.

[3] The FTA members are Djibouti, Egypt, Kenya, Madagascar, Malawi, Mauritius, Sudan, Zambia and Zimbabwe.

[4] Angola, Congo, Malawi, Mauritius, Namibia, Seychelles. Swaziland, Zambia and Zimbabwe.

Similar to SADC, COMESA countries span a wide range of development levels and economic/political conditions.[5] Although promoting trade in the region was the objective of the precursor PTA and COMESA, internal trade remains quite low (Table VIII.6). Exports to other COMESA countries as a share of total exports are most important for Kenya—in fact, the largest intra-COMESA trade is Kenya's exports to Uganda. Egypt imports one of the highest shares from other COMESA countries, which would be expected given the very large size of its market, but the share is still very low. For most other countries, export or import shares constituted by bilateral trade between COMESA countries seldom exceed 4 percent of total exports. Exceptions include substantial trade among neighboring Djibouti and Ethiopia (11 percent of Djibouti's exports go to Ethiopia, and 9 percent of Ethiopia's exports flow to Djibouti); as well as a few other neighbors: six percent of Madagascar's exports go to Mauritius, Zambia exports five percent of its goods to Malawi, and Zimbabwe exports 4 percent of its goods to Zambia.

Given the wide range of export commodities, as expected, the countries in the region face quite asymmetric terms of trade shocks. Table VIII.7 shows that the average correlation of shocks, 0.12, is lower than that for all existing or potential monetary unions that we have considered. The correlation of shocks is negative for a number of country pairs; shocks are negatively correlated on average with the rest of COMESA countries for Angola, Djibouti, and Swaziland. Average correlations are highest for a few countries that primarily export coffee: Burundi, Uganda, Ethiopia, and Rwanda.

As noted above, the degree of official commitment to the targets proposed in the Monetary Harmonization Programme is not clear, and the specific targets are currently under review. Table VIII.8 shows that progress, measured by average levels of the indicators during 1995-2000 as well as the latest year available, is extremely varied across the countries. Performance is clearly worst in the countries involved in wars or severe political crises (Angola, Democratic Republic of Congo, Eritrea, Zimbabwe). On the key indicators of inflation and budget deficits, nine of the twenty countries had average inflation (1995-2000) greater than 10 percent, while seven had budget deficits (excluding grants) greater than 10 percent of GDP.

Lastly, Table VIII.9 provides information on government revenue, spending, and other fiscal indicators utilized in the calibration of the Debrun, Masson and Pattillo (2002) model. Although performance is again varied, one notable feature is that fiscal discipline is quite strong in Egypt, which with a 50 percent share in the GDP of the region would have a large weight in decision-making of a common central bank.

[5] Centre for the Study of African Economies (2001) suggests that sub-groups of COMESA could aim for policy convergence, as an interim step toward monetary integration. Currently, however, he finds no evidence of convergence within these groups: (1) Northern: Egypt, Sudan, Djibouti, Ethiopia, Eritrea; (2) Central: Kenya, Burundi, Comoros, Congo, Mauritius, Rwanda, Seychelles, Tanzania, Uganda; (3) Southern: Zimbabwe, Angola, Madagascar, Malawi, Namibia, Swaziland, Zambia.

2. Net Benefits from a Monetary Union

Table VIII.10 presents the results of simulating a monetary union for COMESA. It can be seen that differences across countries, and in particular, in our measure of fiscal discipline, the government spending target, are large enough so that a number of countries would not gain by being members, compared to retaining their independent monetary policies. Interestingly enough, this includes Kenya and Uganda, whose overlapping project of an EAC currency was analyzed above. The largest economy of the region, Egypt, is also estimated to be a small net loser. Tthe largest gainers are identified as those with the weakest fiscal discipline—Angola, Ethiopia, Seychelles, Sudan, and Zimbabwe.

Unlike SADC, COMESA has no natural anchor country, so we do not simulate an asymmetric monetary union. While Egypt, the largest economy, has generally had low inflation and a stable currency, this was in the context of price controls and obstacles to capital mobility. Nor does its central bank have a tradition of independence that would lend credibility to a regional monetary policy.

C. Conclusions

Of the two projects, a monetary union constituted by the countries of the EAC seems the more viable. First, it is in the context of a serious effort to achieve political and economic integration. Second, the countries have a long, if chequered, history of collaboration. Finally, the economic disparities between the countries are substantial, but not as wide as are faced by the COMESA, which virtually spans the continent from north to south and includes countries with very different levels of per capita income and financial development.

Table VIII.1 EAC Social Indicators
(Averages, 1995-2000)

	GDP per capita (constant 1995 US$)	Life expectancy at birth, total, years	Population with access to safe water (%)	Literacy Rate (population 15+), %
Kenya	338.5	49.2	49	79.7
Tanzania	183.1	46.4	54	72.1
Uganda	327.0	42.6	50	64.5

Source: 2002 World Development Indicators (WDI) and African Indicators database.

Table VIII.2 EAC Bilateral Trade Flows[1]
(Averages, 1995-2000)

	In percent of Country 1's Total Exports		
	Country 2		
Country 1	Kenya	Tanzania	Uganda
Kenya	0	8.46	16.59
Tanzania	4.33	0	2.08
Uganda	0.68	1.03	0

	In percent of Country 2's Total Imports		
	Country 2		
Country 1	Kenya	Tanzania	Uganda
Kenya	0	10.06	38.19
Tanzania	0.92	0	1.65
Uganda	0.10	0.29	0

1/ Bilateral Trade is calculated by averaging exports from 1 to 2, and imports of 2 from 1
Source: Direction of Trade (DOT) Statistics Online, 2003.

Table VIII.3 EAC Correlation of Percent Changes in Terms of Trade (1987-1999)

	Kenya	Tanzania	Uganda
Kenya	1.00	0.56	0.64
Tanzania	0.56	1.00	0.80
Uganda	0.64	0.80	1.00

Source: UNCTAD and World Bank (see Cashin et. al, 2003)

Table VIII.4 EAC Macroeconomic Convergence Indicators and Performance, 2001 (in percent, unless otherwise indicated)

	Target	Kenya	Tanzania	Uganda
Real GDP Growth	7	1.1	5.9	5.0
Inflation	5	5.8	5.1	5.0
Current Account Deficit to GDP [1/]	5	3.2/ 2.4	9.8/2.6	13.1/4.5
Fiscal Deficit to GDP [1/]	5	3.8/2.6	4.5/1.2	11.5/1.6
Reserves (in terms of Months of Imports of Goods & NFS)	6 months	3.6 months	5.1 months	4.9 months
Domestic Savings/GDP		11.0	15.3	14.0
Debt Services/Revenues	15	20.1	27.0	12.8

1/ Excluding grants/including grants
Source: Real GDP growth, Inflation, current account and fiscal deficits, and reserves from IMF Staff Reports, domestic savings and debt service/revenues from the IMF World Economic Outlook (WEO) database.

Table VIII.5. Net Gains from EAC Monetary Union

	Share of GDP	Correlation of shocks	Avg/Own Spending Target	Net Gain From MU
Kenya	0.4247	0.8995	0.9496	0.0378
Tanzania	0.3156	0.8362	1.0465	-0.0060
Uganda	0.2597	0.8889	1.0339	-0.0006
Decomposition of Net Gains relative to independent policies				
	Net gain from MU	Externality	Fiscal	Shock Asymmetry
Kenya	0.0378	0.0145	0.0241	-0.0001
Tanzania	-0.0060	0.0145	-0.0211	-0.0001
Uganda	-0.0006	0.0145	-0.0155	-0.0001

Table VIII.6 Bilateral Trade Flows Within COMESA[1]
(Averages 1995-2000)

A. In percent of Country 1's Total Exports

	Country 2																		
Country 1	Angola	Burundi	Comoros	DRC	Djbouti	Egypt	Eritrea	Ethiopia	Kenya	Madag-ascar	Malawi	Mauritius	Namibia	Rwanda	Seyc helles	Sudan	Swazli-land	Uganda	Zambia	Zimba-bwe
Angola		0	…	0	…	0.00	…	0	0.04	0	0	0	…	0	0	0	0	…	0.00	0.00
Burundi	0.08		…	0.13	0	0.02	…	0	2.97	0.00	0	0	…	2.29	0	0	0	0.28	0.08	0.06
Comoros	0	…		0	0	0	…	…	0	0.50	0	0.06	…	…	0	…	…	…	0	0
DRC	0	0.06	0		0	0.07	…	0	0.08	0.01	0.00	0.01	0	0.37	0.00	0	0	0	0.22	0.10
Djbouti	…	0.10	0.00	0		0.00	…	10.99	0.08	0.02	0.02	0	…	0	0	0	0	…	0.15	0
Egypt	0.01	0.00	0.00	0.01	0.06		0.01	0.09	0.14	0.01	0.00	0.04	0.00	0.00	0.00	0.53	0.00	0.02	0.03	0.02
Eritrea	…	0	0	0	0	0.16		…	1.06	0	0	0	0	0	0	0	0	0.01	0.07	0.2
Ethiopia	0	0	0	0	9.23	2.55	…		0.68	0.00	0.00	0.00	0	0.05	0	0.07	0	0.06	0.01	0.07
Kenya	0.02	0.35	0.18	1.92	0.13	3.83	0.12	1.52		0.08	0.29	0.52	0.00	2.49	0.19	2.02	0.00	16.59	0.17	0.31
Madagascar	0.00	0.00	0.47	0.01	0.01	0.03	…	0.00	0.15		0.00	6.17	0.00	0.00	0.15	0.00	0.00	0.01	0.02	0.07
Malawi	0	0.04	0.00	0.16	0	2.47	…	0.00	0.04	0.00		0.37	…	0.00	0.01	0.01	0	0.30	0.79	2.51
Mauritius	0	0.00	0.08	0.00	0.00	0.00	…	0.00	0.24	2.10	0.13		0.00	0.06	0.32	0	0.00	0.04	0.06	0.59
Namibia	…	…	…	…	…	0.01	…	…	0.01	0	0	0.02		…	0.01	…	0.49	…	0.33	1.18
Rwanda	…	0.98	…	0.86	0	0.02	…	0	0.58	0.00	0	0	…		0	0	0	0	0.02	0.01
Seychelles	0	0	0	…	0	0.00	0	0	0.07	0.25	0	0.39	0.06	0		0	0	0	0.09	0.01
Sudan	0	0	…	0	0	3.10	…	0.18	0.25	0	0	0.00	…	0	0		…	0	0.00	0.00
Swaziland	…	0	…	…	…	0.00	…	0	0.02	0.05	0	1.43	1.68	1.68	0.10	…		0	2.01	3.52
Uganda	…	0	…	0	…	0.44	0.00	0.00	0.52	0.00	0.00	0	…	0.34	0	0.05	…		0.02	0.05
Zambia	0.06	0.71	0	1.85	0	0.20	0.02	0.02	0.29	0.02	4.77	0.01	0.27	0.43	0.00	0.00	0.05	0.19		2.61
Zimbabwe	0.33	0.09	0.00	0.43	0	0.34	0.01	0.01	0.31	0.00	2.95	0.26	0.73	0.03	0.04	0.14	0.05	0.12	3.83	

B. In Percent of Country 2's Total Imports

	Country 2																			
Country 1	Angola	Burundi	Comoros	DRC	Djbouti	Egypt	Eritrea	Ethiopia	Kenya	Madag-ascar	Malawi	Mauritius	Namibia	Rwanda	Seyc helles	Sudan	Swazli-land	Uganda	Zambia	Zimba-bwe
Angola	0	0	0	0	0	0.00	0	0	0.06	0	0	0	0	0	0	0	0	0	0.00	0.00
Burundi	0.00	0	0	0.01	0	0.00	0	0	0.07	0.00	0	0	0	0.57	0	0	0	0.02	0.01	0.00
Comoros	0	0	0	0	0	0	0	0	0	0.01	0	0.00	0	0	0	0	0	0	0	0
DRC	0	0.53	0	0	0	0.01	0	0	0.03	0.01	0.00	0.01	0	1.62	0.00	0	0	0	0.31	0.05
Djbouti	…	0.08	0	0	0	0.00	…	0.97	0.00	0.00	0.00	0	…	0	0	0	0	…	0.02	0
Egypt	0.02	0.02	0.02	0.04	0.46	0	0.05	0.25	0.18	0.05	0.00	0.07	0.01	0.02	0.00	1.45	0.01	0.10	0.14	0.03
Eritrea	…	0	0	0	0	0.00	0	…	0.05	0	0	0	0	0	0	0	0	0.00	0.01	0.01
Ethiopia	0	0	0	0	9.28	0.08	…		0.11	0.00	0.00	0.00	0	0.09	0	0.02	0	0.03	0.01	0.01
Kenya	0.02	4.51	3.81	3.75	0.50	0.49	0.43	2.14	0	0.27	0.98	0.47	0.01	16.85	1.03	2.70	0.02	38.19	0.36	0.22
Madagascar	0.00	0.00	1.72	0.00	0.01	0.00	…	0.00	0.02		0.00	0.93	0.00	0.00	0.14	0.00	0.01	0.00	0.01	0.01
Malawi	0	0.12	0	0.07	0	0.07	…	0.00	0.01	0.00		0.08	0	0.00	0.01	0.00	0	0.16	0.41	0.41
Mauritius	0	0.05	1.36	0.00	0.00	0.00	…	0.00	0.12	6.13	0.35		0.00	0.36	1.43	0	0.01	0.08	0.11	0.34
Namibia	…	…	…	…	…	0.00	…	…	0.00	0	0	0.00		…	0.01	…	3.16	…	0.19	0.22
Rwanda	…	0.65	…	0.09	0	0.00	…	0	0.02	0.00	0	0	…		0	0	0	0	0.00	0.00
Seychelles	0	0	0	…	0	0.00	0	0	0.00	0.05	0	0.02	0.03	0		0	0	0	0.01	0.00
Sudan	0	0	…	0	0	0.15	…	0.10	0.06	0	0	0.00	…	0	0		…	0	0.00	0.00
Swaziland	…	0	…	…	…	0.00	…	0	0.00	0.03	0	0.20	1.87	1.72	0.08	…		0	0.67	0.38
Uganda	…	0	…	0	…	0.01	0.00	0.00	0.08	0.00	0.00	0	…	0.55	0	0.02	…		0.01	0.01
Zambia	0.03	4.23	0	1.67	0	0.01	0.03	0.01	0.08	0.03	7.45	0.01	0.92	1.33	0.00	0.00	0.51	0.20		0.84
Zimbabwe	0.33	1.32	0.00	0.95	0	0.05	0.05	0.02	0.22	0.01	11.29	0.26	6.05	0.19	0.27	0.21	1.41	0.30	9.39	

1/ Bilateral Trade is calculated by averaging exports from 1 to 2, and imports of 2 from 1
Source: Direction of Trade (DOT) Statistics Online, 2003.

Table VIII.7 COMESA Correlation of Percent Changes in Terms of Trade (1987-1999)

	Angola	Burundi	Comoros	DRC	Djbouti	Egypt	Eritrea	Ethiopia	Kenya	Madag-ascar	Malawi	Mauritius	Namibia	Rwanda	Seyc helles	Sudan	Swazli-land	Uganda	Zambia	Zimba-bwe
Angola	1	-0.03	-0.27	-0.37	-0.06	0.82	0.14	-0.11	0.14	-0.05	0.43	-0.06	-0.15	-0.15	-0.45	-0.11	0.13	-0.14	-0.27	-0.63
Burundi	-0.03	1	0.45	-0.06	-0.59	-0.37	-0.32	0.77	0.60	0.88	0.37	0.38	0.06	0.71	-0.25	0.24	-0.02	0.89	-0.29	0.06
Comoros	-0.27	0.45	1	0.28	-0.30	-0.56	-0.56	0.75	0.53	0.64	-0.23	0.27	0.38	0.54	-0.03	0.01	-0.60	0.75	-0.03	0.40
DRC	-0.37	-0.06	0.28	1	-0.05	-0.21	-0.25	0.25	-0.13	-0.07	0.03	-0.09	0.67	0.19	0.72	0.56	-0.04	0.20	0.84	0.57
Djbouti	-0.06	-0.59	-0.30	-0.05	1	0.00	0.33	-0.26	-0.17	-0.47	-0.55	-0.87	-0.13	-0.21	0.35	-0.32	-0.09	-0.47	-0.02	0.03
Egypt	0.82	-0.37	-0.56	-0.21	0.00	1	-0.29	-0.48	-0.38	-0.43	0.54	0.03	-0.33	-0.45	-0.20	0.04	0.40	-0.51	0.13	-0.53
Eritrea	0.14	-0.32	-0.56	-0.25	0.33	-0.29	1	-0.56	0.72	-0.58	-0.89	-0.65	0.28	0.35	0.34	-0.21	0.31	-0.67	-0.42	0.34
Ethiopia	-0.11	0.77	0.75	0.25	-0.26	-0.48	-0.56	1	0.63	0.87	-0.04	0.04	0.34	0.84	-0.03	0.26	-0.50	0.94	-0.09	0.13
Kenya	0.14	0.60	0.53	-0.13	-0.17	-0.38	0.72	0.63	1	0.56	-0.04	-0.11	0.37	0.64	-0.17	0.11	-0.31	0.64	-0.60	-0.09
Madagascar	-0.05	0.88	0.64	-0.07	-0.47	-0.43	-0.58	0.87	0.56	1	0.06	0.35	0.10	0.70	-0.44	0.03	-0.43	0.94	-0.33	-0.04
Malawi	0.43	0.37	-0.23	0.03	-0.55	0.54	-0.89	-0.04	-0.04	0.06	1	0.47	-0.18	-0.01	0.02	0.47	0.72	0.13	0.18	-0.07
Mauritius	-0.06	0.38	0.27	-0.09	-0.87	0.03	-0.65	0.04	-0.11	0.35	0.47	1	-0.11	-0.11	-0.42	0.04	0.11	0.30	0.03	0.06
Namibia	-0.15	0.06	0.38	0.67	-0.13	-0.33	0.28	0.34	0.37	0.10	-0.18	-0.11	1	0.16	0.31	0.32	-0.37	0.32	0.25	0.23
Rwanda	-0.15	0.71	0.54	0.19	-0.21	-0.45	0.35	0.84	0.64	0.70	-0.01	-0.11	0.16	1	0.07	0.43	-0.31	0.76	-0.12	0.07
Seychelles	-0.45	-0.25	-0.03	0.72	0.35	-0.20	0.34	-0.03	-0.17	-0.44	0.02	-0.42	0.31	0.07	1	0.54	0.31	-0.16	0.68	0.62
Sudan	-0.11	0.24	0.01	0.56	-0.32	0.04	-0.21	0.26	0.11	0.03	0.47	0.04	0.32	0.43	0.54	1	0.22	0.23	0.45	0.01
Swaziland	0.13	-0.02	-0.60	-0.04	-0.09	0.40	0.31	-0.50	-0.31	-0.43	0.72	0.11	-0.37	-0.31	0.31	0.22	1	-0.36	0.23	0.20
Uganda	-0.14	0.89	0.75	0.20	-0.47	-0.51	-0.67	0.94	0.64	0.94	0.13	0.30	0.32	0.76	-0.16	0.23	-0.36	1	-0.15	0.17
Zambia	-0.27	-0.29	-0.03	0.84	-0.02	0.13	-0.42	-0.09	-0.60	-0.33	0.18	0.03	0.25	-0.12	0.68	0.45	0.23	-0.15	1	0.51
Zimbabwe	-0.63	0.06	0.40	0.57	0.03	-0.53	0.34	0.13	-0.09	-0.04	-0.07	0.06	0.23	0.07	0.62	0.01	0.20	0.17	0.51	1

Source: UNCTAD and World Bank (see Cashin et. al, 2003)

Table VIII.8 COMESA Monetary Harmonization Program Indicators

	Budget Deficit to GDP		Broad Money Growth		Central Bank Finance of Government Spending (as a % of previous years tax revenue)		Real Lending and Deposit Rates		Debt Services as a % of Export Earnings		Inflation	
Target	10.00%		10.00%		< 10%		Positive		20.00%		10.00%	
	(1995-2000)	Latest	(1995-2000)	Latest	(1995-2000)	Latest	(1995-2000)	Latest	(1995-2000)	Latest	(1995-2000)	Latest
Angola	-12.83	4.93	1015.01	160.59	543.19	1.14	-55.51	-13.93	23.52	26.46	1271.41	344.45
Burundi	-4.26	-0.84	11.74	15.73	54.57	87.85	1.95	3.01	38.81	39.81	19.51	24.30
Comoros	-3.78	-1.91	3.05	46.74	36.63	37.58			3.65	3.58	4.00	2.58
DRC			121.12	1829.36			-33.23	-63.71	1.87	1.73	373.39	550.00
Djibouti	-3.21	-1.79	-2.25	7.53	8.68	15.65		8.74	4.41	5.50	2.95	2.40
Egypt	-1.46	-3.25	9.92	13.22	141.35	212.84	7.59	9.13	10.90	8.89	5.54	2.80
Eritrea	-32.41	-48.23	116.94	222.13	272.11	411.50			0.73	1.96	10.61	19.90
Ethiopia	-6.16	-11.45	8.28	9.79	196.41	171.60	6.46	19.22	18.69	18.67	3.28	4.30
Kenya	-0.65	-2.97	13.66	2.49	46.64	24.56	16.53	7.56	24.42	15.35	6.60	7.80
Madagascar	-4.53	-2.81	15.92	23.83	118.39	70.53	13.39	14.86	14.24	43.27	16.88	11.90
Malawi	-5.01	-5.05	37.80	14.84	34.50	35.94	5.31	23.86	15.39	7.82	38.45	29.60
Mauritius	-5.07	-7.19	13.05	10.93	13.91	10.06	14.16	18.00	9.96	6.90	6.12	4.40
Namibia	-3.59	-2.90	17.09	4.48			9.08	4.88			8.48	9.28
Rwanda	-2.87	0.07	22.38	10.98	180.81	66.57	2.00	4.85	20.79	11.35	8.48	3.90
Seychelles	-11.53	-15.75	19.91	11.99	76.59	69.71	8.78	4.14	5.28	2.64	2.00	2.10
Sudan	-1.57	-0.79	44.42	24.68	145.74	123.86			4.71	2.26	60.66	8.03
Swaziland	-0.50	-1.45	10.25	10.71			5.39	4.46	2.60	2.74	8.70	12.19
Uganda	-1.84	-3.57	17.89	9.22	249.17	171.99	15.31	14.21	18.10	7.39	5.55	6.30
Zambia	-2.91	-6.80	40.44	13.61	496.47	449.47	13.29	17.63	46.25	11.69	30.63	30.10
Zimbabwe	-9.81	-21.35	36.02	128.46	157.21	46.93	9.73	-18.88	25.75	6.83	34.41	55.70

Sources: World Bank World Development Indicators (WDI), African Indicators, and IMF International Financial Statistics (IFS) databases.

Table VIII.9 Selected Indicators for COMESA, Averages 1995-2000
(Percent of GDP, unless noted otherwise)

Country Name	Gov't Revenue[1]	Gov't Spending	Overall surplus/deficit[1]	Inflation[2]	GDP per cap (Cur. US$)	Gov't Spending at average income[2]	Diversion[2]	Spending Target[3]
Angola	44.29	57.12	-12.83	1271.4	586	64.77	25.50	77.52
Burundi	21.21	25.47	-4.26	19.51	133	…	…	…
Comoros	20.72	24.50	-3.78	4.00	403	…	…	…
DRC	5.26	5.79	-0.53	458.8	125	17.73	63.38	18.05
Egypt, Arab Rep.	25.78	27.24	-1.46	5.5	1291	29.70	37.36	48.38
Eritrea	47.49	79.90	-32.41	10.61	165			
Ethiopia	21.28	27.44	-6.16	3.3	104	39.69	37.91	58.64
Kenya	27.37	28.01	-0.65	6.6	359	37.72	19.00	47.22
Madagascar	14.11	18.64	-4.53	16.9	257	29.34	31.46	45.07
Malawi	23.17	28.18	-5.01	38.5	187	39.58	28.92	54.04
Mauritius[4]	20.81	25.88	-5.07	6.1	3620	24.00	12.26	30.13
Namibia	31.58	35.18	-3.59	8.5	2136	33.78	9.34	38.45
Rwanda	17.01	19.88	-2.87	8.48	223	…	…	…
Seychelles[4]	45.11	56.64	-11.53	2.0	7416	89.90	12.26	96.03
Sudan	8.04	9.61	-1.57	60.7	342	19.48	67.06	53.01
Swaziland[4]	29.89	30.39	-0.50	8.7	1370	32.38	12.26	38.51
Uganda	15.19	17.03	-1.84	5.5	302	27.30	32.14	43.37
Zambia	26.00	28.91	-2.91	30.6	349	38.72	25.94	51.69
Zimbabwe	29.44	39.25	-9.81	34.4	604	46.75	16.34	54.92

Source- World Bank Africa Database, 2002 and calculations reported in Table III.2

1/ Including grants

2/ Percent

3/ Government spending at average income plus diversion/2

4/ Diversion estimate for Mauritius, Seychelles and Swaziland is calculated as the average for Botswana, Namibia, and South Africa

Table VIII.10 Net Gains from COMESA monetary union

	Share of GDP	Correlation of shocks	Avg/Own Spending Target	Net Gain from MU
Angola	0.0483	0.7843	0.6446	0.1844
Egypt	0.5482	0.7616	1.0328	-0.0121
Ethiopia	0.0434	0.0702	0.8521	0.0849
Kenya	0.0708	0.0976	1.0582	-0.0251
Madagascar	0.0255	-0.0155	1.1087	-0.0485
Malawi	0.0135	0.7295	0.9247	0.0443
Mauritius	0.0290	0.0724	1.6584	-0.2406
Namibia	0.0243	0.0487	1.2996	-0.1278
Seychelles	0.0040	-0.0313	0.5203	0.2567
Sudan	0.0670	0.4991	0.9426	0.0269
Swaziland	0.0094	0.2923	1.2975	-0.1269
Uganda	0.0433	0.0426	1.1521	-0.0684
Zambia	0.0230	0.1645	0.9667	0.0181
Zimbabwe	0.0504	-0.4301	0.9098	0.0521

10/2/03

Chapter IX. A Single Currency for Africa?

The creation of a common African currency has long been a pillar of African unity, a symbol of the strength that its backers hope will emerge from efforts to integrate the continent. A common currency was an objective of the Organization for African Unity, created in 1963, and the African Economic Community, agreed in 1991. The project is intimately associated with the newly-formed African Union (AU), whose Constitutive Act (which was signed by 27 governments at the OAU/AEC Assembly of Heads of State and Government in Lomé, Togo, on 11 July 2000, and which entered into force on 26 May 2001 with the 36th signature) has superseded the OAU Charter and the AEC Treaty, which were the legal instruments underlying the OAU.

The 1991 Abuja Treaty establishing the African Economic Community (which became effective in May 1994 after the required number of signatures) outlines six stages for achieving an integrated economic and monetary zone for Africa that were set to be completed by approximately 2028. The strategy for African integration is based on progressive integration of the activities of the regional economic communities (RECs), which are regarded as building blocks for Africa. These stages consist of the following steps (the time that each stage was expected to take is given within parentheses)[1]:

- "STAGE 1: Strengthening existing RECs and creating new ones where needed (5 years);
- STAGE 2: Stabilisation of tariff and other barriers to regional trade and the strengthening of sectoral integration, particularly in the field of trade, agriculture, finance, transport and communication, industry and energy, as well as coordination and harmonisation of the activities of the RECs (8 years);
- STAGE 3: Establishment of a free trade area and a Customs Union at the level of each REC (10 years);
- STAGE 4: Coordination and harmonisation of tariff and non-tariff systems among RECs, with a view to establishing a Continental Customs Union (2 years);
- STAGE 5: Establishment of an African Common Market and the adoption of common policies (4 years); and
- STAGE 6: Integration of all sectors, establishment of an African Central Bank and a single African currency, setting up of an African Economic and Monetary Union and creating and electing the first Pan-African Parliament (5 years). "

It can be seen that the proposed creation of the African common currency is left to the end, the sixth stage which was intended to occur during the period 2023-2028. However, the September, 1999 Sirte (Libya) Declaration proposing the establishment of the African Union called for shortening implementation periods and the speedy establishment of the institutions provided for in the Abuja Treaty, in particular the African financial institutions. Article 19 of the Constitutive Act of the AU calls for the creation of the

[1] See "African Economic Community," South Africa Department of Foreign Affairs, 28 May 2001, http://www.dfa.gov.za/for-relations/multilateral/aec.htm.

African Central Bank, the African Monetary Fund, and the African Investment Bank, with their responsibilities to be defined in subsequent protocols. While the time horizon for replacing national currencies by an African currency is still distant[2], it seems that procedures for countries to bid to host the central bank are soon to be announced, and several countries, including Ghana and Botswana, have already expressed interest in hosting it.

The existing RECs which are viewed as playing the role of building blocks are: AMU, COMESA, ECCAS, ECOWAS, and SADC (see Figure IX.1 for a list of their members and their geographical locations). Thus, the creation of a single African currency relies on plans for creating regional monetary unions, which would be an intermediate stage before their merger into the single African central bank and currency. We have already considered several of these projects in earlier chapters. The likelihood that countries in the regional groupings would all find it in their interest to form a regional currency is slight. Another problem is that these RECs only partially overlap with existing monetary unions, and at least one proposed monetary union (for the EAC overlaps two RECs[3]. The two CFA franc zones, WAEMU and CAEMC, are important components of ECOWAS and ECCAS, respectively, but WAEMU is only about half of ECOWAS, and CAEMC does not include Burundi, the Democratic Republic of the Congo, Rwanda, or Sao Tome and Principe. South Africa and its CMA partners are only 4 of the 14 current members of SADC.

Though there could be ad hoc expansion of the existing currency areas--the CFA franc zone and the CMA--and the creation of a modest new currency union for the East African Community, in our view they are unlikely to span the RECs defined above. Nevertheless, we go on to consider in this chapter whether combining regional currencies in the five major geographical areas would make sense: though they might not themselves constitute desirable currency areas, we assume nevertheless that they have been formed. Then, we look at whether all of the regions would find it incentive-compatible to agree to share a single currency. As was the case within proposed currency areas, we find that there are asymmetries across the regions that would probably inhibit the creation, at a final stage, of a single African currency. In particular, corruption and lack of fiscal discipline are likely to make many African countries poor partners in a monetary union project.

One theme of the book has been skepticism about the effectiveness of monetary solutions for non-monetary problems. In particular, Africa has suffered from decades of decline and marginalization, as the early hopes of rapid development and enlightened government after independence were dashed by poor economic policies, civil wars, and kleptocratic rulers. This tragedy has led, first, to a reexamination of the effectiveness of aid by the major donor countries, and second, a recognition by Africans that they need to take charge of their own destiny. Monetary union in itself would not solve these

[2] The Association of African Central Bank Governors at its August 2003 meeting in Kampala declared that the governors would work for a single currency and common central bank by 2021 (Agence France Presse, 8/20/03).

[3] Kenya and Uganda belong to COMESA, but not Tanzania, which is a member of SADC.

problems. Fortunately a new initiative has emerged, the New Partnership for African Development, or NEPAD, which aims at improving economic and political governance by Africans, and thus of assuring donors (and private investors) that resource flows to Africa would not be wasted. It has the potential for correcting the fundamental problems behind Africa's poor economic performance. If successful, it could create the conditions for African unity, including a single currency.

A. Why the Initiative to Form an African Monetary Union?

There are two principal reasons for the enthusiasm for monetary union in Africa. First, it is clear that the successful launch of the euro has stimulated interest in other regions. From Latin America to the Middle East and East Asia, monetary union is seen as a way of reinforcing regional cohesion and demonstrating a commitment to regional solidarity. However, it is sometimes forgotten just how long the road to monetary union in Europe actually was. The transition was fraught with obstacles and missteps, and even in official circles there were doubts until the ultimate day of the changeover whether the replacement of national currencies by euro notes and coins in January 2002 would go smoothly. Designing new institutions that were able to deliver stability-oriented monetary policy—particularly the European System of Central Banks—was complicated, as was creating the Solidarity and Growth Pact, which provides for regional coordination of fiscal policies. Despite the intense planning process, the institutions are still the object of considerable controversy and contention. In Africa, fiscal problems are more severe and the credibility of monetary institutions is more fragile. If the process of institution creation was so difficult for a set of rich countries with highly competent bureaucracies that have cooperated closely for more than fifty years, then realistically, the challenge for African countries must be considered enormous.

The second important motivation in Africa has been the desire to counteract perceived economic and political weakness by creating regional solidarity and cooperation, of which a common currency and monetary union would be potent symbols. Regional groupings would help Africa in negotiating favorable trading arrangements, either globally (in the WTO context) or bilaterally (with the EU and the US). This objective of regional integration seems well founded, but it is unclear whether forming a monetary union would contribute greatly to it. A common currency may be the symbol of weakness, not strength—as was the case for the ruble in the dying days of the Soviet Union and at the time of the creation of the Commonwealth of Independent States. A currency that is ill-managed and subject to continual depreciation is not likely to stimulate pride in the region or give the member countries any clout on the world stage. Moreover, as Robert Mundell, the 1999 Nobel Prize winner in economics, emphasizes, it is great countries (or regions) that make great currencies. While the countries in the euro zone are important enough economically for the euro eventually to rival the dollar, that is not likely to be the case for an African currency even in the best circumstances. Africa's Gross Domestic Product (GDP) is, and is likely to remain, only a small fraction of that of Europe or the United States—in fact, at present the GDP of all of Sub-Saharan Africa is no more than that of a medium-sized EU country.

B. Strategies for Achieving a Single African Currency

The strategy for forming an African currency relies on first creating currency unions in Africa's regions, then merging them into a single currency area[4]. As discussed in earlier chapters, Africa already has three common currency areas, the two regions in the CFA franc zone and the Common Monetary Area in Southern Africa. In each case, the countries in these monetary unions are members of wider regional organizations which have plans to create their own monetary unions. These would subsume the existing monetary unions. In West Africa, ECOWAS would merge the West African CFA zone (WAEMU) with a projected second monetary zone. Doing so would most likely mean the end of the CFA zone (see Chapter VI). Similarly, SADC and COMESA's embryonic projects for monetary union envisage the creation of new central banks and a symmetric monetary union. If South Africa and the smaller CMA countries were to be a part, the rand area with its considerable track record and credibility would likely disappear (Chapter VII).

The following summarizes the status of the projects for new regional monetary unions.

The **West African Monetary Zone** is to be created by July 2005 and is expected to lead to a merger with the West African part of the CFA franc zone to produce a single currency for **ECOWAS**. However, Nigeria will make a difficult partner for the rest of West Africa. Given Nigeria's much larger size, large budget deficit, generally undisciplined fiscal policies, and an export structure that differs greatly from its neighbors (which export other primary commodities while Nigeria exports oil), Nigeria has the potential to influence monetary policies in ways that potential partners in a monetary union would find undesirable. Without an effective way of disciplining countries' fiscal policies and in the absence of similar shocks to the prices of countries' exports and imports (or "terms of trade"), a single currency for ECOWAS would not seem advisable.

In Southern Africa, countries that comprise the Southern African Development Community (**SADC**) intend to form a monetary union, though this is a much vaguer and more distant project. Many SADC members are in any case very far from macroeconomic stability. The southernmost countries, South Africa and the smaller members of the Southern Africa Customs Union, are reasonably advanced and stable. However, their neighbors to the north include countries with recent or continuing problems of civil unrest (Angola, Democratic Republic of the Congo, and Zimbabwe) as well as some facing severe drought and poverty (Malawi and Zambia, for instance). Their financial systems are generally much less developed than those of the southernmost countries and the shares of manufactures in production and exports are low.

[4] Article 44.2.(g) of the AEC Treaty states: "[Member states shall] Establish an African monetary union through the harmonization of regional monetary zones."

The Common Market for Eastern and Southern Africa (**COMESA**), a group of countries that cuts across two geographical regions, is also developing a monetary union project. Disparities among COMESA countries are about as important as those affecting SADC (and there is considerable overlap in membership of the two organizations); but COMESA's drawback is that South Africa—the greatest pole of monetary stability in the region—is not one of its members. Three countries—Kenya, Tanzania, and Uganda (only two of which are in COMESA)—also plan to revive the **East African Community** and the common currency that were dissolved in the decade following independence. These different projects illustrate a pervasive problem in Africa—overlapping commitments that are not necessarily consistent. Attempts to advance on too many fronts often result in inaction. Within the five main RECs associated with the AU (the three mentioned above along with the **Arab Maghreb Union** and the **Economic Community of Central African States**), ten countries belong to more than one regional grouping, with the Democratic Republic of the Congo holding three memberships (see Figure IX.1).

A **second, and potentially more promising strategy**, and an alternative to creating new, ambitious monetary unions based on the RECs would be to build on the credibility of existing monetary unions (the CFA franc zone and the CMA) by adding to them countries that have demonstrated their commitment and ability to deliver sound economic policies by satisfying convergence criteria for a significant length of time. Unfortunately, the western African CFA franc zone has been hurt by unrest in Côte d'Ivoire and its central African counterpart is composed mainly of oil-producing countries with pronounced terms of trade swings. Extending the CMA, where South Africa is a fairly stable, developed pole, may be a more attractive possibility in the short run. However, its SADC neighbors are, with a few exceptions, too far from the macroeconomic stability necessary to converge with South Africa and share the same currency, so many will not be candidates to join for decades. Thus this strategy, which is more likely to succeed and produce gains for the countries concerned, would however not lead to a continent-wide currency. It would produce some modest gains in the use of the CFA franc and the rand, but not prepare the ground for the adoption of a common currency in all regions.

Another disadvantage to hinging the goal of a single African currency on first creating new monetary unions spanning pre-defined regions is that the countries in each region may have little incentive to adapt their policies to some standard of "best practice," since it is taken for granted that all countries will join. It will be very difficult for countries that have achieved a modicum of fiscal discipline to deny membership to those that have not. Thus, there is a strong likelihood that an unstable and unattractive monetary union would be created. In contrast, adding countries to the existing monetary unions would give strong incentives for existing members to scrutinize potential members. Given the widespread problems of lack of fiscal discipline and stable macroeconomic policies, it is important to use the objective of monetary union to bring to bear pressures for greater discipline and better governance. Moreover, success breeds success; as the monetary union grows through adding countries with stable macroeconomic policies, it becomes more attractive for others to join. Thus, the **path** chosen for creating monetary unions matters. It may be impossible to get all countries to

agree to forming a currency union that spans the continent, but a partial monetary union could be feasible. If combined with stringent entrance criteria, it could provide a potent incentive for improved policies.

A **third strategy** for furthering monetary cooperation would be for African countries to have a common peg to an international currency, and perhaps also a common regional currency board based on it[5]. Such a strategy would have the advantage of providing an external anchor for monetary policy (this is discussed in Chapter X below), and a peg to the euro would produce exchange rate stability vis-à-vis Africa's main trading partner.[6] It would further clearly place the onus on each country to follow appropriate policies to maintain the peg; it would be clear where responsibility lies for doing so. However, the big drawback of such a proposal would be political: unilateral pegs, though they would produce stability between pairs of African currencies as a by-product, would not involve the African institution-building and the creation of a new currency that could serve as symbols of African solidarity. One suspects that they would not be durable either, since no external "agency of restraint" would have been created to modify existing unsustainable fiscal policies.

C. Is a Single African Currency a Good Thing?

We have considered above in Chapter III the factors that influence the benefits and costs from monetary union, highlighting the importance of trade linkages in creating benefits, and of asymmetries in terms of trade shocks and in fiscal discipline in generating costs. The same factors apply at the Africa-wide level; but both benefits and costs are amplified as the potential size of a monetary union is increased. In particular, a monetary union that includes more countries is likely to internalize more trade (and in the limit of a single world currency, all trade becomes domestic trade), but it also tends to include a more heterogeneous group of countries.[7]

An important motivation for monetary union in Europe was to reduce the costs of changing money associated with trade and tourism. We have shown that trade within African regions tends to be a small proportion of total trade (an exception being the CMA), and the same is true even at the continent-wide level. Intra-African trade is modest, so gains for a monetary union deriving from lower transactions costs would necessarily be much smaller than in Europe. Consistent with the gravity model, which posits that a country will trade more with countries that have higher per capita incomes, most African trade is conducted with the richer countries of Europe, North America, and Asia (see Figure IX.2), and will remain so. Thus trade both **within** African regions and **between** them is small relative to their trade with the rest of the world (Table IX.1).

[5] This has been advocated by Honohan and Lane (n.d.) and BIDPA and CSAE (2001).
[6] Honohan and Lane point out that this advantage would be enhanced should the UK join the euro zone.
[7] Thus Alesina and Barro (2002) show that in general neither a world where all countries have independent currencies nor a single world currency is optimal; see also Debrun (2003) for the factors that determine the equilibrium size of currency unions.

A second important reason to create a monetary union may be to improve on the monetary policies provided by national central banks, which have typically fallen prey to pressures to finance government deficits and hence have produced high inflation and depreciating currencies. There may be some advantage to delegating monetary policy to insulate it from pressures to finance governments. However, unless this occurs in the context of a large, stable anchor country (e.g., South Africa) or existing multilateral institutions with a track record of independence and sound policies (e.g., the West African CFA franc zone's central bank), new institutions are unlikely to provide a durable "agency of restraint." Instead, large countries (whose governments exert an important influence over monetary policy actions) will continue to use the central bank as a printing press, directly or indirectly financing their spending. This was the experience before the 1994 devaluation of the CFA franc in both western and central CFA franc zones. Hopefully, reinforced fiscal surveillance and the recent agreement to eliminate completely central bank advances to governments have solved the problem in the CFA franc zone. However, the mere creation of a regional central bank will not ensure its independence from fiscal policy.[8]

Honohan and Lane provide two other reasons in support of the creation of African monetary unions: as a bulwark against contagious speculation and as a way of achieving economies of scale in the financial sector. However, they acknowledge that financial contagion has not been a problem to date because African currencies do not appear on speculators' "radar screens", and perversely the creation of a common currency might attract more speculative attention. As for financial sector economies of scale, the two CFA zones provide a mixed example of this benefit, since even now there is very little cross-border banking or activity on regional money markets. However, since the banking crisis and devaluation of the early 1990s, each zone has created a supranational banking supervisory agency, no doubt achieving some economies of scale in that activity.

We now turn to simulations of the strategy of creating a single currency for Africa from regional monetary unions. Here, in order to rationalize the RECs, we remove overlap by assigning each of the 39 countries in our sample to one or another group. In particular, AMU, ECCAS, and ECOWAS remain with their existing memberships. SADC is assumed to keep its current membership, except for the Democratic Republic of the Congo (which is assumed solely to be a member of ECCAS) and Tanzania, which we assign to COMESA to be with its EAC partners Kenya and Uganda. The remaining countries are assumed to be members of COMESA.

In considering the formation of a larger monetary union from existing ones, it is natural to consider whether each member country in a REC would gain, and also whether on average welfare in the REC would increase. If decisions require unanimity, the former would be most relevant, while the latter calculation, if positive, suggests that there may be scope for side payments that could induce the participation of all. Of course, the model, as described in Chapter III, excludes political considerations, which we have emphasized are likely to be important.

[8] Honohan and Lane (n.d.) acknowledge this point, though they argue that regional monetary unions can in principle provide an agency of restraint.

Table IX.2 gives the results of the simulations of a single currency for the African Union, presenting the proportion of gainers in each REC, the average net welfare gain/loss, the average spending target for the REC, correlations with the AU terms of trade shock, and each REC's trade with the rest of the AU as a ratio to REC GDP. Each of the REC monetary unions is assumed to be symmetric, so that countries influence the REC central bank's monetary policy in proportion to their share of regional GDP[9]. The same is assumed for the AU monetary union, where the region becomes the whole continent.

The estimates of Table IX.2 suggest that only 2 of the 5 RECs—ECOWAS and COMESA—would in fact gain on average from a single currency. These are the regions with the highest spending targets. Even within these regions, there would be some losers as well as gainers. In contrast, the regions with more disciplined fiscal policies—AMU, SADC, and ECCAS—would not gain on average. Within SADC, in particular, South Africa (with its large share of the region's GDP) would face a significant welfare loss as a result of the common currency. For all the regions, trade with the rest of the AU is only a small fraction of GDP—typically less than 1 percent—suggesting that the gains from a common currency resulting from a reduction in the temptation for beggar-thy-nighbor depreciations would be very limited. In addition, absent improvements in fiscal discipline that would make the common central bank less subject to pressures to monetize deficits, the single African currency would not deliver low inflation and a stable exchange rate. Hence it would be inferior to some existing currencies, in particular South Africa's rand.

D. NEPAD

Monetary arrangements cannot provide solutions to the profound development problems facing many African countries. At best, a monetary regime supported by fiscal discipline and good structural policies can provide a framework for low inflation. It cannot guarantee high growth. Thus, monetary union should not be seen as a panacea or be driven by a grandiose political vision that hopes to find a symbol of unity and stability when the reality is quite different.

An parallel initiative to the ambitious monetary union project for Africa is the New Partnership for African Development, or NEPAD. NEPAD, whose goal is to promote economic growth and good governance, emerged from the efforts of President Thabo Mbeki of South Africa (who proposed the Millenium Partnership for the African Recovery Programme), President Abdoulaye Wade of Senegal (Plan Omega), Nigerian President Obasanjo, and Algerian President Bouteflika. The structure of NEPAD consists of an Implementation Committee of Heads of State and Government, a steering committee and a secretariat to oversee the various programs. It starts from the recognition that governance problems are key, that each country must make changes to promote democracy, peace, and stability. Hence it is the responsibility of each African

[9] Neither the ECOWAS monetary union nor the others is assumed to benefit from a guaranteed peg to the euro.

government to put its own house in order—but also peer pressure within Africa can help in that process. NEPAD aims to create the conditions within Africa that would make the continent attractive to foreign investors, and it is hoped that the resulting inflows would help in producing sustained development. The NEPAD initiative has received the support of donor countries, and this support was reiterated at the June, 2003, G-8 summit in Evian, France. NEPAD's objective to become a driving force for promoting economic growth and prosperity across the continent was emphasized at the July, 2003, African Union summit in Maputo, Mozambique.

There are four priority areas where actions by African countries are most essential:

- Stop regional conflicts through regional peacekeeping forces and by making concerted regional efforts to prevent armed involvement and material support of rebels by neighboring countries
- Increase transportation and communication links to stimulate trade and competition and to exploit economies of scale
- Adopt sustainable macroeconomic policies by making currencies convertible and monetary policies consistent with low inflation, reducing budget deficits, and eliminating central bank financing of government spending
- Promote and attract investment in infrastructure, health, and education by convincing donors and private investors of African countries' ability to provide a stable, non-corrupt environment based on the rule of law.

NEPAD must prove itself in the above four areas, and deliver on its peer review mechanism. If it does, and a genuine domestic consensus in favor of sound policies emerges in African countries, Africa can benefit from more generous aid flows from donors. Moreover, monetary union, if viewed as desirable, could "crown" the reality, not just the promise, of African unity. However, if African governments fail to improve governance, they risk getting lower aid flows than in the past, as donors, noting a history of aid ineffectiveness, pull back further. Attempts to forge a grand monetary union would likely produce yet another failure that harms, rather than helps, regional solidarity and integration.

The NEPAD process has just begun. As of May 31, 2003, fifteen African countries have agreed to submit themselves to the African Peer Review Mechanism (APRM), a self-monitoring organization comprised of African Union member states. The purpose of the peer review panel, which will have between five and seven members, is to promote the implementation of policies and standards that will lead to political stability, economic growth, development, and integration on a regional and continent-wide level. How the APRM will be applied, however, has yet to be seen. While signals from heads of state are thus far not promising, the appointment of distinguished and respected individuals to the peer review panel is a good sign. Reviewing of individual countries is scheduled to begin with Ghana and South Africa before the start of 2004.

African leaders must recognize and assume responsibility for their current financial problems in order to pave the way toward regional economic integration. On the contrary, if nations throughout Africa continue to be beset by civil wars, poor infrastructure, unsustainable fiscal policies, and low investment linked to corruption and the absence of rule of law, a monetary union will not be desirable or sustainable[10]. But if NEPAD is pursued consistently, the way would be paved for effective regional integration. Indeed, the principles of NEPAD could—and should—be applied to countries seeking to join a monetary union. Success in achieving NEPAD's goals would go a long way toward solving the problems of fiscal indiscipline that make current projects for monetary unions unviable.

E. Conclusions

Africa, like other regions of the world, is fixing its sights on creating a common currency. Already, there are projects for regional monetary unions, and the bidding process for an eventual African central bank is about to begin. Is it worth the effort, and will it provide an important solution to Africa's problems? Most observers judge that those problems are linked to civil conflicts, corruption, absence of rule of law, undisciplined fiscal policies, poor infrastructure, and low investment—the last of which is due in part to foreign investors' mistrust of African governments. Only if these problems are solved can Africa gain from globalization as an equal partner with the developed world. The countries of the latter must help by providing markets for Africa's goods—in particular, by reducing the subsidies to their own farmers that effectively eliminate the comparative advantage that African farmers would have in production, for instance, of cotton.

Monetary union can in fact address very few of Africa's fundamental ills. At best, it can produce low inflation, but it cannot guarantee growth, and at worst, it can distract attention from essential issues. A more promising initiative is the New Partnership for African Development, through which African countries hope to exert peer pressure to correct governance failures and thus make progress in correcting Africa's problems. It is too early to see how effective that process will be, but if it succeeds, then Africa can benefit from enhanced international trade and foreign direct investment. Moreover, regional economic integration, including monetary union, could build on that achievement. If not, monetary union will almost certainly fail, and highlight Africa's more fundamental policy failures.

[10] This point has been acknowledged by some African policymakers: " … other participants pointed to obstacles in Africa to monetary integration including unrest and a lack of political commitment and of rule of law" ("Africa's bank governors debate monetary integration," Agence France Presse, 8/20/03).

Table IX.1 Bilateral Trade Flows for Regional Economic Communities
Average 1995-2000[1]

(In percent of Group 1's total exports)

	Group 2						
Group 1	AMU	COMESA	ECCAS	ECOWAS	SADC	European Union	Rest of World
AMU	2.74	0.67	0.11	0.45	0.06	71.78	24.19
COMESA	0.77	5.47	0.74	0.19	5.94	41.25	45.64
ECCAS	0.61	0.67	1.89	0.68	0.95	43.76	51.45
ECOWAS	1.01	0.56	1.61	9.08	1.25	37.15	49.34
SADC	0.19	8.28	0.83	0.79	10.28	36.87	42.76

(In percent of Group 2's total imports)

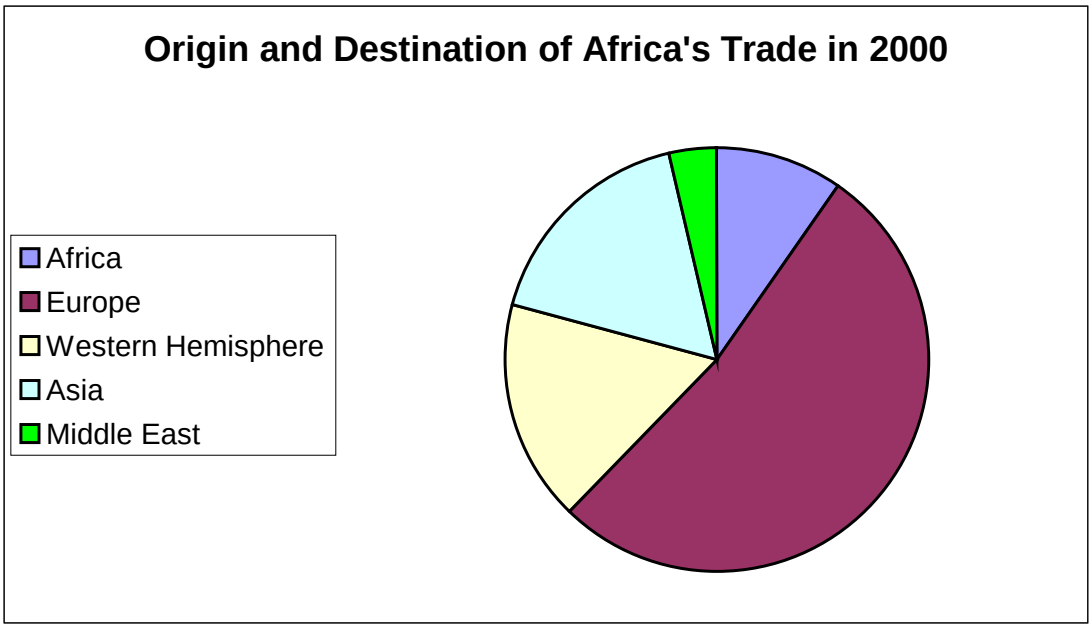
	Group 2						
Group 1	AMU	COMESA	ECCAS	ECOWAS	SADC	European Union	Rest of World
AMU	3.00	0.73	0.74	0.69	0.38	1.29	0.26
COMESA	0.50	3.52	2.95	0.17	23.56	0.44	0.29
ECCAS	0.17	0.19	3.26	0.27	1.63	0.20	0.14
ECOWAS	0.77	0.43	7.46	9.62	5.80	0.46	0.36
SADC	0.22	9.77	6.00	1.32	74.72	0.72	0.49

1/ Regional trade sums up member countries' bilateral trade (including trade internal to the region)
Source: Direction of Trade (DOT) Statistics Online, 2003.

Table IX.2 Net Gains of RECs from Single African Countries to Full AU Monetary Union

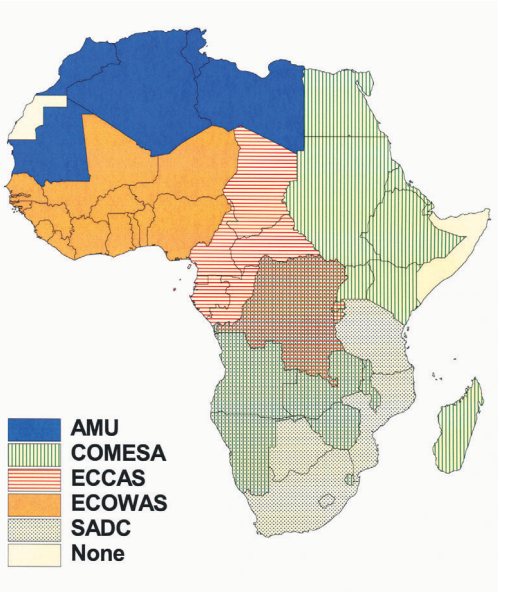
	Average Net Gain	Government Spending Target	Trade with Rest of AU/GDP	Number Gaining/Number in Region
AMU	-0.0011	0.4420	0.0021	0/3
COMESA	0.0395	0.4848	0.0028	7/7
ECCAS	-0.0128	0.4309	0.0086	0/4
ECOWAS	0.1125	0.5920	0.0135	13/13
SADC	-0.0739	0.3948	0.0091	1/12

Figure IX. 2



Using exports + imports from the IMF Direction of Trade Statistics Yearbook 2002

Figure IX.1
Membership in Regional Arrangements



AMU - Arab Maghreb Union
Algeria, Libya, Mauritania, Morocco, Tunisia

COMESA - Common Market for Eastern and Southern Africa
Angola, Burundi, Comoros, Democratic Republic of Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Namibia, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia, Zimbabwe

ECCAS - Economic Community of Central African States
Burundi, Cameroon, Central African Republic, Chad, Democratic Republic of Congo, Equatorial Guinea, Gabon, Rwanda, Sao Tome and Principe

ECOWAS - Economic Community of West African States
Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Gambia, Togo

SADC - Southern African Development Community
Angola, Botswana, Democratic Republic of the Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe

Source: Brookings Policy Brief 121, "Africa's Economic Morass—Will a Common Currency Help?" (Washington, DC: The Brookings Institution, July 2003).

8/29/03

Chapter X. Conclusions : The Likely Evolution of Africa's Monetary Geography in Coming Decades

We began this book by showing, in Chapter II, how different the current monetary geography was when compared to the period around the time of independence, roughly 1960. Some of this difference was accounted for by the change in the international environment, in particular the generalized move to floating currencies in the early 1970s, so that currently the major currencies—in particular, the dollar, the euro, and the yen—fluctuate in value against each other. This has made keeping fixed exchange rates against some external anchor more difficult, though the CFA franc zone is still rigidly fixed against the euro, the successor to the French franc. We end by drawing some lessons from the experience since independence, and presenting our views on how Africa's monetary geography may evolve in future decades. Like all such exercises, this is more akin to crystal ball gazing than scientific forecasting. And we stress that these are our own views and not the hidden agenda of some official institution.

The current vogue for monetary union projects has been a response in Africa to the recognition that many national currencies are not successful at providing good means of payment or stores of value. It has also been driven by political imperatives, in particular to demonstrate regional solidarity in the hope that addressing Africa's serious fundamental problems through regional groupings may provide extra discipline and mutual assistance, for instance through more independent, supranational institutions and through regional peer pressure. The example of Europe is clearly strongly influential, but as we have argued, not really appropriate. The benefits of a common currency in Europe are clearly greater, given much stronger trade linkages, and the extent of regional integration in other domains (including institutions that have functioned effectively for decades) provides much greater support for the European monetary union. Even if a single currency were created for Africa, it would not become an international currency with the same stature and usefulness as the euro.

Just as the example of Europe is of limited relevance, so are the standard analytical tools used to assess the costs and benefits of monetary union. Hence we argued, in Chapter III, that the appropriate framework for considering monetary unions in Africa was one where, in addition to the Optimum Currency Area criteria of symmetry of shocks and factor mobility, the extent to which countries share similar spending targets and are not subject to pressures for spending diversion and corruption makes a big difference for the sustainability of a monetary union. While institutional design is important, it is unlikely that a newly created central bank would be able to assert its independence from fiscal policies; instead, it would be a dependent central bank, even if not as dependent as a national central bank facing just one treasury. In these circumstances, including in a monetary union a country with undisciplined fiscal policies (especially if that country were large) would not be attractive.

We proceeded to use this analytical framework to assess the costs and benefits to countries of various proposed monetary unions, including a single currency for Africa. We concluded that these projects, assuming that they went ahead, would be unlikely to achieve their stated aim of including all countries in a region (or, ultimately, the whole continent). As asserted in the previous paragraph, countries with poor fiscal policies make unattractive partners, and if

admitted to a monetary union, could threaten its continued existence. Unfortunately, in most regions there are countries that fit this description. The idea that the mere membership in a monetary union would curb such fiscal indiscipline is implausible. More promising, however, is the use of membership in a union as a carrot to induce countries to rein in deficits and make fundamental structural adjustments. Such a use of peer pressure is consistent with the principles of NEPAD, and could augment the effectiveness of the latter process. It is however *in*consistent with the idea that creating an inclusive monetary union will induce countries to modify their behavior and "get religion." And strong use of the carrot of membership is almost sure to mean that some countries would not qualify.

If the current projects for monetary unions based on regional economic communities, or RECs, do not bear fruit, nor lead to a single currency by the target date of 2021, what will the monetary geography of Africa look like in twenty or so years? An important issue in this context is whether currencies (national or supranational) are fixed or float, or do something in between. This boils down to a choice between an external anchor or domestic target for monetary policy. As before, the international environment will have an important influence on this choice, and we consider this first. Second, we consider how the domestic context for policymaking may evolve. In particular, the important NEPAD initiative to improve governance—its success or failure—will help dictate the shape of the African currency landscape.

A. The International Environment

For the past thirty years, exchange rates of the major international currencies have fluctuated with respect to each other, generally without much intervention, despite occasional periods of coordination (such as a result of the Plaza Agreement and Louvre Accord in 1985-87). This has made it difficult for countries with trade that is diversified geographically to peg to a single international currency, since fluctuations of dollar, euro, and yen exchange rates have been substantial and have produced large fluctuations in competitiveness for countries with a single country peg. Basket pegs, with weights given to the various currencies that reflect the importance of trade linkages, are a possible solution to this problem, but only an imperfect one: basket pegs are not very transparent and in practice are often changed, so that this regime tends to resemble more closely managed floating than a fixed peg.

It seems likely that this international environment of fluctuations among the major currencies will continue. These three currency blocs are closed enough that they do not suffer too much from exchange rate volatility (induced by speculative shifts, for instance), while they benefit from the possibility of varying their monetary policies to accord with different domestic economic fluctuations. In practice, the inflation pressures and business cycles affecting these economies have not been the same, and hence their central banks have appropriately moved interest rates in ways that have temporarily opened up differentials in favor of one or another bloc, and exchange rates have tended to fluctuate accordingly. Since average inflation has not been very different, however, there has, at least over the last decade and a half, been little trend to their exchange rates.

This feature of the international monetary system argues for some flexibility of African currencies, at least for countries that do not have very strong economic linkages with one or

another of the currency blocs. Though the regions in Africa trade most with Europe, that proportion is typically at most 50 percent or so, leaving them exposed to other currency fluctuations. While the creation of the euro and prospects for its expansion will make a euro peg for a few countries an attractive proposition, this is not true for all. In particular, the oil exporting countries (Angola, Gabon, Nigeria, among others) would probably benefit more from stability against the dollar than the euro, and South Africa, like other "emerging market" economies with a high level of financial development, will continue to benefit from flexibility with respect to all the major currencies.

A second important influence on the future evolution of African currency regimes concerns European attitudes toward the CFA franc zone, and other pegs to the euro. At present, EU countries are reticent, not to say opposed, to committing resources to assist non-EU countries to peg to the euro. The exception is France, which of course continues its involvement with the CFA franc zone[1]. However, if the ECOWAS monetary union goes ahead, then France would need to get the accord of her EU partners to continue to provide overdraft privileges and a convertibility guarantee—assuming that France wanted to do so. If instead a decision were taken by the EU to favor exchange rate stability of African currencies against the euro, the EU institutions could take over from the French treasury in this regard. Doing so would of course favor the continued fixed peg of the CFA franc to the euro, and might also favor the creation of other monetary unions or currency boards with euro pegs.

On balance, this possibility does not seem very likely. Economic advantages to Europe seem small, since trade with Africa is only a small proportion of Europe's exports or imports. While the international use of Europe's currency would be increased somewhat, this is not generally viewed as an objective of policy; on the contrary, Germany and Japan have at times tried to discourage the international use of the deutsche mark and the yen. It is also not clear whether any political benefits (e.g., evidence of Europe's generosity or its larger sphere of influence) would offset political costs (charges of neo-colonialism).

What would this mean for the CFA franc zone? It seems quite possible in our view that in 20 years it will no longer exist in its current form. While there may well be a currency union, perhaps with additional members, it seems more likely that it will not be pegged to the euro with the help of France. This would then raise the issue of what would guide monetary policy in the CFA franc zones—a general issue of the exchange rate/monetary policy regime.

B. "Hollowing Out" of Exchange Rate Regimes

Advocates of the "hollowing out" hypothesis argue that the increase in capital mobility that has occurred as a result of liberalization and technological advances (and by implication, will continue) would tend to make intermediate exchange rate regimes (for instance, adjustable pegs, bands, or dirty floating) disappear, in favor of the polar cases of hard fixes (monetary unions or currency boards) or free floats (Eichengreen, 1994; Obstfeld and Rogoff, 1995; Fischer 2001). They point out that industrial countries have mainly moved to the poles, as the result of speculative crises leading to the breakdown of the Bretton Woods regime of adjustable pegs or the European Monetary System's narrow bands around central parities. These crises have shown

[1] And Portugal assists in the Cape Verde escudo's peg to the euro.

the lack of credibility associated with such pegs, which are not viewed as irrevocable unless institutions are in place to make them extremely difficult to change. The example of Argentina's currency board shows that even that case may not be sufficiently "hard", so the elimination of one's currency by adopting another may be required in order to prove irrevocability[2]. While the EU countries have chosen the "hard" pole, the other industrial countries have mainly chosen to float their currencies with little intervention. The hollowing out hypothesis, if true, would have important implications for the exchange rate regime choice of African countries. It might tend to reinforce the momentum in favor of monetary unions, especially if countries did not want to accept the volatility of freely floating exchange rates (which, as Calvo and Reinhart (2002) show, is evident in the behavior of most developing countries[3]).

However, the implications for Africa are nowhere near that stark. First, as Frankel (1999) has pointed out, while it is generally accepted that financial market integration, monetary independence, and pegged exchange rates are incompatible, it is still possible to trade off *some* monetary independence for *some* exchange rate flexibility, without going to the polar cases. Moreover, countries may choose not to fully integrate into world financial markets: in the presence of imperfect capital mobility, adjustable pegs and other intermediate exchange rate regimes are much easier to maintain. Many African countries, including the most financially developed, South Africa, maintain some sort of capital controls[4]. Speculative capital flows in sufficient volume to swamp countries' foreign exchange reserves require that financial instruments be available to take positions against the currency. Otherwise, capital mobility is limited. Many African countries have very little debt that is traded on financial markets that could be potentially held (and sold) by foreign investors, nor do foreign investors have the possibility of borrowing domestically or trading derivative instruments in the currency. Hence, as Honohan and Lane (n.d.) note, most African currencies (with the single exception of the rand) are not on investors' "radar screens" and have not been affected by the speculative crises affecting other developing countries. Third, some intermediate regimes may be immune even if capital mobility is high, if they do not give "one-way bets" to speculators, e.g. by guaranteeing a rate "come-what-may." For instance, dirty floating, smoothing of exchange rate fluctuations, or adjustable pegs and bands may not exacerbate speculative behavior if the monetary authorities show sufficient willingness to modify their targets for the rate. Of course, such regimes are also unlikely to deliver as much exchange rate stability.

There is in fact little evidence for hollowing out in the data on exchange rate regimes of developing countries—even allowing for the fact that countries' official, or de jure classification, often differs from what they actually do (Masson, 2001). While this may reflect much less advanced financial development than in the industrial countries, so that the changes seen in the latter will affect the former at some later date, it does not seem obvious that this is inevitable. Instead, choices among exchange rate regimes are likely to remain for African countries, at least for the next few decades.

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[2] And in that case, even though the use of another currency might not be irrevocable, financial instruments would not be readily available to speculate against it.

[3] They typically moderate exchange rate volatility through foreign exchange market intervention, rather than floating freely.

[4] Though such controls were not sufficient in South Africa's case to prevent speculation and substantial depreciation of the rand. Consequently, the South African authorities have moved in the late 1990s to a more flexible system, and have also loosened capital controls recently, while the currency has strengthened.

C. Domestic versus External Anchors

An important choice, which we have largely ignored so far, both for countries with independent currencies and for monetary unions themselves, is the choice of the target or anchor for monetary policies. While the CFA franc zone has maintained its external anchor, i.e., its peg to the euro, other countries have, in parallel with moves to greater exchange rate flexibility, shifted to domestic monetary anchors--typically some monetary or credit aggregate (often in the context of IMF-supported programs). While it is beyond the scope of this book to review the use of domestic monetary or inflation anchors in Africa, the experience of other developing countries, as well as industrial countries, suggests that inflation-targeting may be increasingly adopted by African countries. At present, South Africa is the only country that has adopted an explicit inflation-targeting regime for monetary policy, and moreover that adoption was recent and details of its implementation are still evolving (see Chapter IV). It seems likely, nevertheless, that countries with developed financial markets, liberalized prices, and absence of fiscal dominance may want to follow suit (see Eichengreen et al., 1999, for a discussion of the pre-requisites for inflation targeting).

In the CFA franc zone, the peg to the French franc, and now the euro, has been maintained with the financial assistance of the French Treasury. This has helped to assure the permanence of the peg and its credibility in the minds of investors. Given the size of France compared to the CFA franc zone, it is clear that the resources available are sufficient to defend a parity if France is willing to do so, and the 1994 devaluation was only necessary because France had decided that the real exchange rate was severely out of line, and hence maintaining it was harmful for the health of the economies concerned.

We have speculated in earlier chapters on whether France would continue to guarantee the value of the CFA franc. In some circumstances, for instance a substantial enlargement of the West African zone to encompass ECOWAS, we have expressed the view that France would probably not agree to extending its guarantee, nor would the EU take over that commitment from France. CFA franc zone countries might then have to choose between the status quo and extension of regional monetary zones. In the latter case, WAEMU, CAEMC, or both, would have to consider the choice between maintaining the exchange rate peg to the euro through using their own reserves, moving to an intermediate arrangement where the euro peg (or other peg, for instance to a basket) was one (but perhaps not the sole) variable guiding monetary policy, and a domestic target.

Maintaining a rigid peg without other institutional changes might be difficult, even with comfortable reserve cover as is currently the case for the CFA franc zones. Capital mobility is likely to increase in the absence of explicit attempts to limit it, and a currency circulating in a wide area might well appear on the “radar screens” of speculators. An alternative to “harden” the peg would be to create an explicit currency board based on the euro, which would force automatic contraction or expansion of the money supply in response to reserve outflows and inflows. This would give some extra guarantee that monetary policy would be adjusted appropriately for the maintenance of the peg. The case of Argentina shows the limitations of this

approach, however. Without support from other policies, the strain on the parity may be too great to bear.

Given a degree of independence of the central bank from fiscal authorities, as is the case for the BCEAO and the BEAC, a less constraining and more sustainable regime would be an intermediate regime where the value of the currency vis-à-vis a basket of international currencies guided monetary policy, but some weight was also given to domestic inflation and economic activity. A natural basket would give equal weights to the dollar and euro, and such a compromise would facilitate monetary cooperation within ECOWAS, given the extent of Nigeria's dollar-based trade. The commitment to the basket peg could be deliberately vague to remove the perception of one-way bets, and yet considerable attention could still be paid to the external value of the currency. Such a regime might either be a transition to an inflation-targeting regime (as in practice it proved to be in Israel and Chile[5]), or might instead be intended to be permanent.

D. Africa in the Global Economy in 2025

In order to envisage a future that is at all bright, it is necessary to assume that NEPAD succeeds in its objectives of improving governance and growth on the continent. Whether progress is due to NEPAD itself, or more likely to the revised attitudes of individual countries' leaders and citizens, is not important: Africa must succeed in stopping conflicts, promoting the rule of law, reducing corruption, and achieving sustainable macroeconomic policies. If so, one can imagine that Africa develops around some dynamic regional economies: South Africa, Nigeria, Kenya, Algeria, and Cameroon, among others, and that regional integration proceeds to link countries within these regions in a way that exploits economies of scale. What will Africa's trade arrangements be with the rest of the world? It is plausible that as in Asia at a similar stage of development, Africa in 20 years will still try to use trade barriers to protect domestic markets and develop a manufacturing sector. Nevertheless, many countries will use export processing zones as tools for development, plugging themselves into the global economy without being fully exposed to its competitive winds.

What is likely to be the situation for Africa's currencies? In purely economic terms, Africa is unlikely to benefit from having its own, single currency rather than adopting a widely used international currency—the dollar or the euro. When the political enthusiasm for an African currency abates, different regions are likely to choose different solutions. North Africa may well peg to, or adopt, the euro, as ties with the EU will continue to increase. The CFA franc zone will probably not exist in its current form; the countries concerned may move to use the euro, or to be linked to it with EU support—but this will depend very much on Europe. The likelier alternative is a regional currency with a regime of managed floating against the euro or a basket of currencies. The difficult challenge will be to generate enough monetary discipline to ensure that such a currency is stable, as will also be true of East Africa, if a common currency is introduced there. In southern Africa, the area based on the rand, the continent's only floating hard currency, is likely to have expanded. But it will not form the nucleus for a pan-African currency, because Africa is too diverse in its export commodities and financial development. So African economic integration is likely to continue to fall far short of a continent-wide union in

[5] See discussion in Eichengreen et al.(1999).

many dimensions. But this should not inhibit progress in economic development, provided NEPAD delivers on its promises.

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