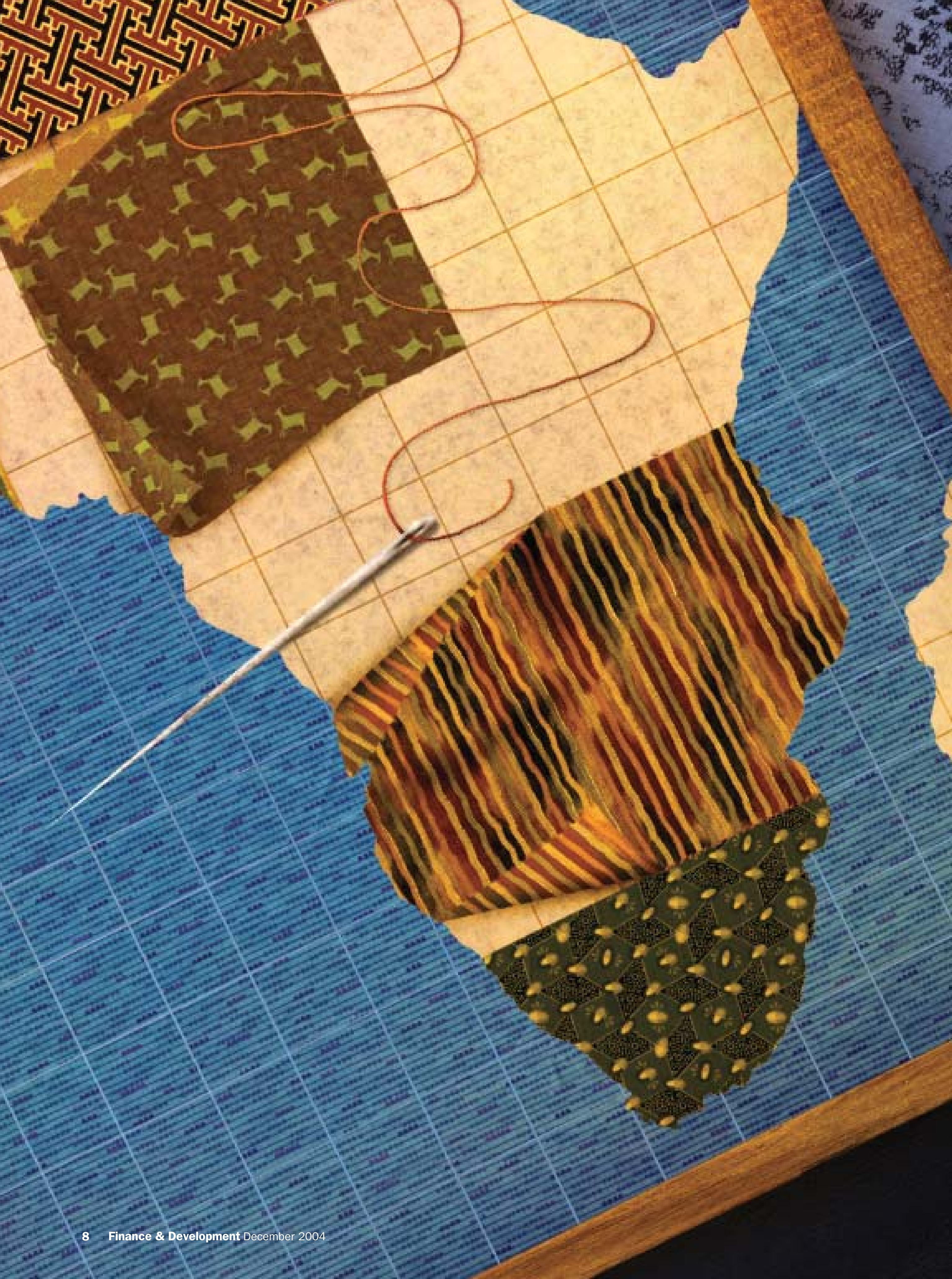


A Single Currency for Africa?

Probably not, but selective expansion of existing monetary unions could be used to induce countries to improve their policies

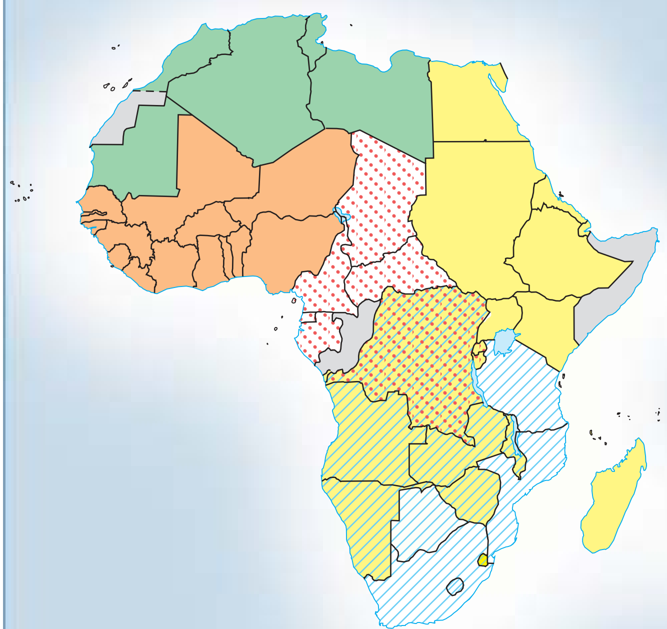
Paul Masson and Catherine Pattillo

THE GOAL 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. Although the prospect of a single African currency had been mooted as a goal of the Organization for African Unity (OAU), created in 1963, the project was given renewed priority in 2001 when the OAU's 53 member states agreed to transform the intergovernmental organization into the African Union (AU)—retaining its predecessor's dedication to political and economic unity while taking on a broader mandate to meet the challenges of globalization. In August 2003, the Association of African Central Bank Governors announced that it would work for a single currency and common central bank by 2021.

The AU's strategy relies on the prior creation of monetary unions in five existing regional economic communities (see Map 1). These regional unions would be an intermediate stage, leading ultimately to their merger, creating a single African central bank and currency. A plan with such widespread economic and political consequences throughout the continent deserves careful examination. However, to date, very little research has been done on its desirability and feasibility. For that reason, we undertook such an assessment, using a unique model that integrates the idea of asymmetry of shocks—shocks that impact a country differently from the other countries in a monetary union—with the absence (due to weak governance) of institutions effectively able to insulate the central bank from pressures to finance deficits and produce overexpansionary monetary policies. Our findings—which appear in a book just published by the Brookings Institution—raise serious questions about the feasibility and desirability of a full African monetary union. However, selective expansion of the existing monetary unions could be used as a means of inducing countries to improve their policies (see Map 2). Employing peer pressure in this

Map 1 Building blocks for monetary union

The African Union's plan for an African-wide monetary union relies on the prior creation of monetary unions in five existing regional economic communities.



Arab Monetary Union (AMU) members:
Algeria, Libya, Mauritania, Morocco, and Tunisia

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

Economic Community of Central African States (ECCAS) members:
Burundi, Cameroon, Central African Republic, Chad, Democratic Republic of Congo, Equatorial Guinea, Gabon, Rwanda, and São Tomé and Príncipe

Economic Community of West African States (ECOWAS) members:
Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo

Southern African Development Community (SADC) members:
Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe

Note: All small island nations are shown in black. Cape Verde is a member of ECOWAS. Comoros is a member of COMESA. Mauritius and the Seychelles are members of both COMESA and SADC. São Tomé and Príncipe is a member of ECCAS.

way is consistent with the principles of the New Partnership for African Development (NEPAD)—adopted in 2001 by AU members with the aims of improving economic policies, stimulating growth, and fostering good governance in African countries—and could augment the effectiveness of this process.

Why the interest in monetary union?

There are two principal reasons for the enthusiasm for African monetary union—both of which transcend the conventional economic aims of higher growth and lower inflation. First, it is clear that the euro's successful launch has stimulated interest in monetary unions in other regions. But it is sometimes forgotten just how long the road actually was for Europe. In Africa, fiscal problems are much more severe and the credibility of monetary institutions is more fragile. If the process of creating appropriate institutions was so difficult for a set of rich countries with highly competent bureaucracies that have cooperated closely for more than 50 years, then, realistically, the challenge for African countries must be considered enormous.

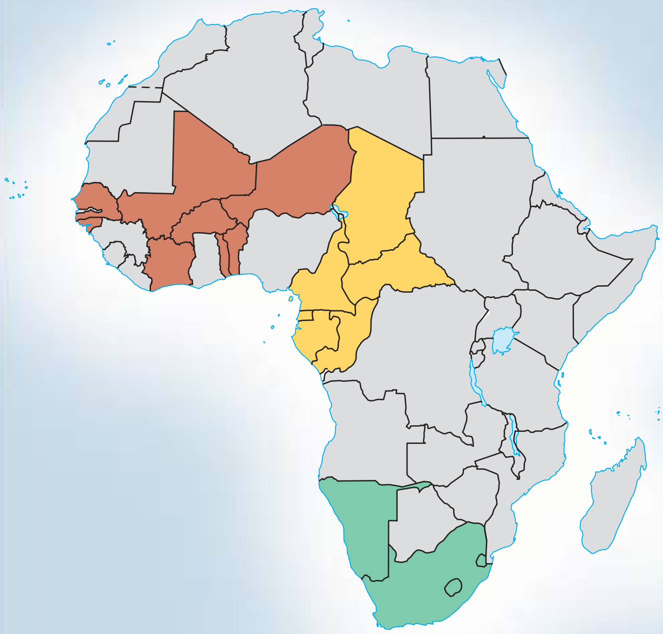
Second, African monetary union has been motivated by the desire to counteract perceived economic and political weakness. For example, regional groupings could help Africa in negotiating favorable trading arrangements, either globally (in the World Trade Organization context) or bilaterally (with the European Union and the United States). While the objective of regional integration seems well founded, it is unclear whether forming a monetary union would contribute greatly to it. 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.

What does the economic literature, derived largely from Robert Mundell's seminal 1961 article setting forth the "theory of optimum currency areas," have to say? In a nutshell, a common currency can save on various types of transaction costs, but a country abandoning its own currency gives up the ability to use national monetary policy to respond to asymmetric shocks. These costs, in turn, can be minimized by greater flexibility of the economy. That is, a country relinquishing its national monetary sovereignty may nevertheless be able to adapt to these shocks, mainly through labor mobility, wage and price flexibility, and fiscal transfers. The likelihood of a country experiencing asymmetric shocks depends on how similar its production and export structures are relative to its partners in the monetary union.

Euro-area countries have much better communication and transportation links than African countries, so Africa may not expect the same gains from economies of scale and reduction of transaction costs, even in proportion to its economic size, that are expected to result from Europe's monetary union. Because they are highly specialized, African countries suffer large terms of trade shocks, which often do not involve the same commodities and hence do not move

Map 2 Existing regional monetary unions

Selective expansion of existing regional monetary unions—CMA, CAEMC, and WAEMU—could be feasible.



Common Monetary Area (CMA) members:
Lesotho, Namibia, South Africa, and Swaziland

Economic and Monetary Community for Central Africa (CAEMC) members:
Cameroon, Central African Republic, Chad, Republic of Congo, Equatorial Guinea, and Gabon

West African Economic and Monetary Union (WAEMU) members:
Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo

Note: CAEMC and WAEMU are two subzones of the CFA franc zone.

together. Neither structural features of the economy nor available policy tools hold much promise for facilitating adjustment to these shocks. Labor mobility in some African regions is higher than in Europe but is still limited and politically sensitive. And currently little scope exists for intra-African fiscal transfers.

The analysis, when applied to Europe, usually has assumed that institutional design issues have largely 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, although the euro zone's Stability and Growth Pact was aimed at minimizing that danger. Considerable controversy surrounds the effectiveness of the pact—in part because several governments have breached the deficit ceiling—but there is no immediate concern that the European Central Bank's independence is in peril.

> **"A critical question for Africa is whether the creation of a regional central bank can be a vehicle for solving credibility problems that bedevil existing central banks."**

In Africa, however, the institutional challenges are much greater. Existing national central banks generally are not independent and countries with their own currencies have often suffered periods of high inflation because the central banks were forced to finance public deficits or other quasi-fiscal activities. A critical question for Africa is whether the creation of a regional central bank can be a vehicle for solving credibility problems that bedevil existing central banks. If so, establishing a central bank that is more independent and exerts greater discipline over fiscal policies than national central banks do may enable it to become an "agency of restraint" (in the words of Paul Collier, a prominent economist who has worked on a wide range of economic topics concerned with African development). However, history tells us that such an agency of restraint requires other institutional buttresses and does not emerge directly from monetary union alone.

In fact, the experiences of Africa's two long-standing monetary or formal exchange rate unions—the CFA franc zone (comprising two regions, the West African Economic and Monetary Union and the Central African Economic and Monetary Community) and the Common Monetary Area

(CMA) based on South Africa's rand—do not suggest that the existence of a monetary union per se is associated with a dramatic increase in regional trade and policy coordination. The extent of intraregional trade is greater than predicted by the basic gravity model in the West African Economic and Monetary Union (WAEMU) and the CMA, while this is not the case for the Central African Economic and Monetary Community (CAEMC). In the CFA franc zone, it took the severe crisis of the late 1980s and early 1990s to spur a major effort at policy coordination, leading to new supranational institutions. In the CMA, asymmetry in size gives South Africa the power to set monetary policy for the region. Explicit macroeconomic coordination is less necessary as the smaller CMA countries—Lesotho, Namibia, and Swaziland—do not have access to monetary financing from the South Africa Reserve Bank.

In terms of macroeconomic performance, while the CFA franc zone has unambiguously delivered lower inflation than other currency regimes in Africa, the evidence on growth is mixed—depending on the period under consideration. However, the success and endurance of the zone is also partially due to the special circumstances of French support, particularly the French Treasury's guarantee of convertibility embodied in the operations account. The CMA countries have also generally benefited from low inflation and there is evidence of per capita income convergence in the union.

A unique model

To evaluate African monetary union projects, we developed a model that integrates the idea of asymmetric shocks with the absence of institutions effectively able to insulate the central bank from pressures to finance deficits and undertake over-expansionary monetary policies (see box). Monetary unions do reduce somewhat the bias toward monetary expansion because fixing the exchange rate between monetary union members reduces the scope for any one member to employ beggar-thy-neighbor monetary policies. However, the composition of the monetary union is crucial. A country would not want to join a monetary union with another country facing very different external shocks—for example, to its terms of trade—at least if that country was large enough to matter. A country also would

A model for monetary union

The model that we use to analyze monetary unions is based on the optimum currency area literature, but identifies another important asymmetry: political distortions affecting fiscal policy decisions. The model highlights the monetary impact of country-specific differences in government financing needs and differences in distortions affecting fiscal policy. The regional central bank is assumed not to be fully independent, but to set monetary policy to reflect *average* conditions (including financing needs) in the region. As a result, countries that are very different with respect to fiscal distortions would be unattractive partners for a monetary union, because the central bank would produce undesirable outcomes for some, or all, of them.

The main elements of the model (described in Debrun, Masson, and Pattillo, 2002) are an 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 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. Governments exert control over the central bank and, 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 monetary financing.

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. Spending targets are unobservable, however, and 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. However, a second force tending to increase spending targets is the attempt by governments in power to reward their supporters—which is a symptom of cronyism or corruption. We get a handle on this component by using indices of corruption and institutional development and measures of diversion of spending away from health and education toward less crucial uses.

The calibration of the model uses the available data for 1995–2000 on 32 African countries' government revenue, spending, and inflation to fit the model and estimate its parameter values (see Appendix A of *The Monetary Geography of Africa,* by Masson and Pattillo). 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. Although limited by data problems, the results of this exercise are broadly supportive of the model. Inflation depends positively and significantly on the size of financing needs, 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 confidence that it may shed some light on the economic advantages of monetary union projects, as follows.

First, if all countries in the region are identical and subject to the same shocks, then a currency union including all countries would be desirable for all. The loss of monetary autonomy would not entail any cost, while all countries would benefit from lower inflation because the common central bank would not want a monetary union with a country that had much less disciplined fiscal policies, because the latter country would cause the common central bank to produce higher inflation, with consequences on the first country's welfare.

As for fiscal discipline, we attempt to evaluate it by using measures of institutional development and the absence of corruption. We find that African countries with their own monetary policies tend to suffer from higher inflation the lower they score on measures that proxy for diversion of spending and taxes to purposes that do not reflect social needs. Instead, these diverted funds may just serve the private objectives of the government in power, which may tolerate corruption as a way of rewarding its supporters, for instance.

Gainers and losers

First, we asked whether the AU's strategy of building on regional economic communities makes sense, using recent historical data for the communities that already have specific projects and timetables. We used two key criteria for success. Prospective members must view the union as desirable and, if a monetary union already exists, then existing members must see it as in their self-interest to admit new members. These two factors may be quite limiting unless the general benefits are very great or there is great political enthusiasm in favor of monetary union, although monetary unions formed in a period of exuberance may not endure if they do not deliver real economic benefits.

"Overlapping memberships in the different regional groupings—and hence overlapping commitments—have resulted in duplication of effort and occasionally inconsistent aims in African regional integration initiatives."

The West African Monetary Zone (WAMZ) is to be created by July 2005, and it is expected to lead to a merger with the West African part of the CFA franc zone (WAEMU) to produce a single currency for the Economic Community of West African States (ECOWAS). Nigeria will make a difficult partner for the rest of West Africa, however, given the country's much greater size, large budget deficit, and lack of evidence of fiscal policy discipline. Moreover, as a major oil exporter, Nigeria's economy differs greatly from its neighbors', which export other primary commodities and are, thus, subject to different shocks. (In general, the correlations of terms of trade shocks are lower between WAEMU and WAMZ countries, and among WAMZ countries, than they are among the WAEMU countries.) Indeed, Nigeria has the potential to influence monetary policies in ways that its potential partners would find undesirable. Our simulations indicate that a full monetary union among either WAMZ or ECOWAS countries would be undesirable for most potential members (see Table 1). In particular, for the CFA franc countries in ECOWAS, the expansion of their long-standing monetary union to include Nigeria would be decidedly inferior to their current situation—unless somehow such a union could be accompanied by effective fiscal discipline in Nigeria.

In Southern Africa, countries that are part of the Southern African Development Community (SADC) intend to form a monetary union, although this is a much vaguer and more distant project. Many SADC members are, in any case, very far from macroeconomic stability. The financial systems of most SADC countries are generally much less developed than those of the southernmost countries—South Africa and its immediate neighbors—and the shares of manufactures in production and exports are low. The correlation of terms of trade shocks is also quite low. A full monetary union of all SADC countries would be undesirable—particularly for the countries already in a currency union centered on the South African rand (the CMA). However, a selective expansion of the CMA might be mutually desirable for existing, and some new, members.

not try to stimulate output in any one country through monetary expansion at the expense of others.

Second, if there are differences in governments' financing needs, the incentives to participate in a monetary union will differ across countries. Big spenders will benefit from the extra discipline afforded by the regional central bank, which partly offsets the inflation bias of their national central bank, while small spenders will incur additional losses stemming from the excessive demands of the big spenders for monetary financing.

Third, the union-wide inflation target of the common central bank will accommodate only the common component of supply disturbances (identified with terms of trade disturbances), and this makes abandoning an independent monetary policy in the face of very different country-specific shocks costly.

In practice, our estimates suggest that the asymmetry of terms of trade shocks makes a relatively small contribution to the net gains or losses of the various monetary union projects, which are dominated by differences in government spending targets. Thus, the problems with the ECOWAS common currency project relate primarily to inadequate fiscal discipline of some of the potential members, particularly Nigeria, and a proposal for an all-inclusive monetary union among SADC countries would founder on the unwillingness of fiscally disciplined countries (for example, South Africa or Botswana) to admit countries that are not. Similarly, at the continent-wide level, fiscal differences among regions would likely make an African currency unappealing for some potential members.

Table 1

Weighing individual gains against costs[1]

Some economies would gain and others would lose from the proposed African regional and subregional monetary unions. Full monetary union among either West African Monetary Zone or Economic Community for West African States' members would be undesirable for most members.

	Gainers	Significant losers[2]
Common Market for Eastern and Southern Africa	Angola, Ethiopia, Malawi, Seychelles, Sudan, Zambia, Zimbabwe	Egypt, Kenya, Madagascar, Mauritius, Namibia, Swaziland, Uganda
East African Community	Kenya	
Economic Community of West African States	The Gambia, Ghana, Nigeria, Sierra Leone	Benin, Burkina Faso, Côte d'Ivoire, Mali, Niger, Senegal, Togo
Southern African Development Community	Angola, Botswana, Democratic Republic of Congo, Malawi, Mozambique, Seychelles, Tanzania, Zambia, Zimbabwe	Lesotho, Namibia, South Africa, Swaziland
West African Monetary Zone	Nigeria	The Gambia, Ghana, Guinea, Sierra Leone

Source: Masson and Pattillo (2004).
[1]Influence on decisions is assumed to reflect countries' relative GDP levels.
[2]Welfare losses greater than 1 percent of GDP-equivalent.

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 economies are about as important as those affecting SADC and there is considerable overlap in membership of the two organizations. Indeed, overlapping memberships in the different regional groupings—and hence overlapping commitments—have resulted in duplication of effort and occasionally inconsistent aims in African regional integration initiatives. For example, within the five main regional economic communities associated with the African Union, 10 countries belong to more than one regional grouping, with the Democratic Republic of the Congo holding three memberships (see Map 1). COMESA has the additional drawback that South Africa, the greatest pole of monetary stability in the region, is not one of its members. Thus, our model assessment suggests that full monetary union among COMESA also would not be desirable.

Turning to the possibility of a more limited monetary union, COMESA members Kenya and Uganda, together with Tanzania, plan to revive the East African Community's common currency area, dissolved in 1977. This monetary union would seem to have greater chances of success, although here, too, there is some danger of asymmetry among the countries, with gains accruing mainly to Kenya. (In particular, terms of trade shocks are moderately correlated and do not have much effect on the net benefits of monetary union.) Moreover, this project illustrates the pervasive problem in Africa of overlapping commitments that are not necessarily consistent.

Going for a single currency

Is the AU's strategy of creating a common African currency from regional monetary unions workable and desirable? To answer this, we rationalize the regional economic communities and remove overlapping memberships by assigning each of the 39 countries in our sample to one group or another. In particular, the model maintains intact the existing country memberships in the Arab Maghreb Union (AMU), the Economic Community of Central African States (ECCAS), and ECOWAS. SADC is assumed to keep its current membership, with the exception of the Democratic Republic of the Congo (which is assumed to be solely a member of ECCAS) and Tanzania, which we assign to COMESA to be with its East African Community partners, Kenya and Uganda. The remaining countries are assumed to be members of COMESA. Countries are further assumed to influence the common central bank's monetary policy in proportion to their share of regional GDP. (Neither the ECOWAS monetary union nor the others is assumed to benefit from a guaranteed peg to the euro.)

Would each member country in a regional economic community gain and would the community's welfare increase on average? If decisions require unanimity, the former would be more relevant, while the latter calculation, if positive, suggests that there may be scope for side payments that could induce the participation of all.

The model's simulations of a single currency for Africa suggest that only two of the five communities (ECOWAS and COMESA) would gain on average from a single currency (see Table 2). These are the regions with the largest financing needs in proportion to their GDP. In contrast, the regions with more disciplined fiscal policies (AMU, SADC, and ECCAS) would not gain, on average. Within SADC, South Africa, in particular (with its large share of the region's GDP), would face a significant welfare loss. Adding up the net gains (weighted by each region's share in total GDP) shows that monetary union among the AU members would lead to a small overall net welfare loss. 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-neighbor depreciations would be very limited. In addition, without

> **"Given the widespread lack of both fiscal discipline and stable macroeconomic policies, it is vital to use the goal of monetary union to encourage greater discipline and better governance."**

Table 2

Simulating a single African currency

Only the Common Market for Eastern and Southern Africa and the Economic Community of West African States would gain on average from a single African currency. Regional economic communities with more disciplined fiscal policies—the Arab Monetary Union, the Economic Community of Central African States, and the Southern African Development Community—would suffer net welfare losses on average.

	Average net welfare gain[1]	Trade with rest of the African Union[2]	Proportion of countries gaining in regional economic community
Arab Monetary Union	–0. 11	0. 21	0/3
Common Market for Eastern and Southern Africa	3.95	0.28	7/7
Economic Community of Central African States	–1.28	0.86	0/4
Economic Community of West African States	11.25	1.35	13/13
Southern African Development Community	–7.39	0.91	1/12
Overall net gain[3]	–0.45		

Source: Masson and Pattillo (2004).
[1]As a percent of GDP-equivalent.
[2]As a percent of regional economic community GDP.
[3]GDP-weighted sum of regional net gains, as a percent of total African Union GDP.

better 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 or a stable exchange rate. This would make it inferior to some existing currencies, particularly South Africa's rand, the CFA franc, and Botswana's pula.

The way ahead

A major drawback to hinging the goal of a single African currency on first creating new monetary unions spanning predefined regions is that either not all countries will be willing to join, or the countries in each region may have little incentive to adapt their policies to some standard of best practice because it is taken for granted that no country will be denied entry. If the latter, there is a strong likelihood that an unstable and unattractive monetary union would be created. Does this mean that there is no hope for better policies and institutional structures in Africa? We suggest two alternatives that show promise and are worth pursuing.

First, limited expansion of existing monetary unions could be feasible; such expansion would give strong incentives for existing members to scrutinize the policies of potential members. Given the widespread lack of both fiscal discipline and stable macroeconomic policies, it is vital to use the goal of monetary union to encourage greater discipline and better governance. Moreover, success breeds success. As the monetary union grows by adding countries with stable macroeconomic policies, it becomes more attractive for others to join.

Africa's two existing monetary unions—the CFA franc zone and the CMA in Southern Africa—could be selectively expanded, as neighboring countries achieve greater convergence with the countries that already share a common monetary policy and currency. This would build on the credibility of these existing monetary unions by adding countries that have demonstrated their commitment and ability to deliver sound economic policies by satisfying convergence criteria—particularly on fiscal policies—for a significant time. This strategy would not involve destroying existing monetary and exchange rate unions, which have generally contributed to regional stability. However, the scope for expanding the CFA franc zone and the CMA would likely be limited, because not all potential members would be able to demonstrate sufficient convergence.

Second, the AU's NEPAD initiative—a parallel initiative to the monetary union project—recognizes that peer pressure within Africa can help in meeting NEPAD's aims of improved economic growth, governance, and policies. While it is too early to gauge whether NEPAD will be effective, it holds the potential to tackle the most important causes of the failings of African policymaking. Better governance and domestic policies would in turn facilitate regional economic integration, including monetary union. The absence of progress on these issues would almost certainly doom an African monetary union to failure. ■

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References:

Collier, Paul, 1991, "Africa's External Economic Relations, 1960–90," African Affairs, *Vol. 90, pp. 339–56.*

Debrun, Xavier, Paul Masson, and Catherine Pattillo, 2002, "Monetary Unions in West Africa: Who Might Gain, Who Might Lose and Why?" IMF Working Paper 02/226 *(Washington: International Monetary Fund).*

Masson, Paul, and Catherine Pattillo, 2002, "Monetary Union in West Africa: An Agency of Restraint for Fiscal Policies?" Journal of African Economies, *Vol. 11 (September), pp. 387–412.*

———, 2004, The Monetary Geography of Africa *(Washington: Brookings Institution).*

Mundell, Robert, 1961, "A Theory of Optimum Currency Areas," American Economic Review, *Vol. 51 (September), pp. 657–65.*