

Mali
**Achieving Strong and Inclusive Growth
with Macroeconomic Stability**



A Staff Team Led by Christian Josz

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Background and Overview¹

Until the recent security and political crisis, Mali's economy grew rapidly and poverty decreased. Per capita growth averaged 3.2 percent during 2001–10. Over the same period, the share of poor households has declined from 56 to 44 percent. As poverty in Mali is mainly rural, the expansion of agricultural production in the second half of the decade was particularly beneficial to the very poor. Sustaining these gains and ensuring that growth remains inclusive is critical for national reconciliation following the recent political and security crisis.

Macroeconomic stability has been maintained, but structural impediments to growth remain. Mali's economic performance has benefited from policies aimed at overall macroeconomic stability. The peg to the euro in the context of the West African Economic and Monetary Union is the centerpiece of the monetary policy framework, providing an anchor for macroeconomic policymaking. Over the last decade, the viability of the peg has been supported by Mali's prudent fiscal policy, which has kept basic fiscal balance deficits (i.e., the difference between revenue and expenditure under the authorities' control) at low levels. The public debt has remained low (below 30 percent of GDP after the debt relief under the enhanced Initiative for Heavily Indebted Poor Countries in 2001 and the Multilateral Debt Relief Initiative in 2006). However, there are risks to external stability: with its economy little diversified, Mali's balance of payments remains vulnerable to commodity price swings and changes in climatic conditions. The underdeveloped financial sector, poor physical infrastructure, structural bottlenecks, and weaknesses in the overall business environment undermine the country's external competitiveness.

This paper takes a closer look at selected issues that need to be addressed to increase growth, further reduce poverty, and strengthen external stability:

- *Chapter 1 casts Mali's recent economic performance and progress in poverty reduction in a medium-term perspective.* It identifies lack of diversification, structural bottlenecks, and impediments to labor mobility as factors that need to be tackled to ensure sustained inclusive growth.

¹ The chapters of this paper were prepared by a staff team led by Christian Jozs comprising Nazim Belhocine, Salvatore Dell'Erba, Mitra Farahbaksh, Ermal Hitaj, Christina Kolerus, Douglas Shapiro, and Aleksandra Zdzienicka. They were published as Annexes of the Staff Report on the 2012 Article IV Consultation with Mali, posted as IMF Country Report No. 13/44 on the IMF external website (www.imf.org).

- *Chapter 2 discusses the negative fiscal, distributional, and economic efficiency consequences of the government's policy of sheltering domestic consumers from changes in international oil prices.* It explores two alternative price-adjustment mechanisms for refined petroleum products and complementary measures to reform fuel subsidies.
- *Fostering sustained growth and reducing financial sector vulnerabilities* requires further financial sector development and strengthening of the supervision of bank and nonbank financial intermediaries—the subject of *Chapter 3*.
- *Chapter 4 presents an assessment of Mali's external stability* by examining price and nonprice indicators. Although the real exchange rate is broadly in line with fundamentals, lack of diversification and structural bottlenecks need to be tackled by improvements in the business environment to reduce Mali's external vulnerabilities, strengthen its competitiveness, and bolster its export performance.

Inclusive Growth in Mali²

This chapter studies Mali's performance in poverty reduction by analyzing household data from surveys in 2001, 2006, and 2009–10. Mali's share of poor households has decreased substantially during the past decade. While the reduction in headcount poverty was more pronounced from 2001–06, when all sectors of Mali's economy grew at a similar pace, economic growth was mainly beneficial to the very poor during 2006–10, when agricultural production boomed.

Economic Growth was Inclusive during the Past Decade

Fairly high growth led to substantial poverty reduction. After a decade of relatively low per capita growth, real GDP per capita growth picked up and averaged 3.2 percent during 2001–10. Although real GDP growth has been volatile, Mali's share of poor households has decreased substantially from 55.6 percent in 2001 to 43.6 in 2010 taking into account the national poverty line.³ Also in comparison with other countries, Mali's poverty reduction was remarkable. While per capita growth was comparable in Mali and sub-Saharan Africa during 2001–10, poverty reduction was significantly stronger in the former. This is also shown by higher elasticity of poverty reduction relative to GDP growth in Mali than in comparable countries (Figure 1).

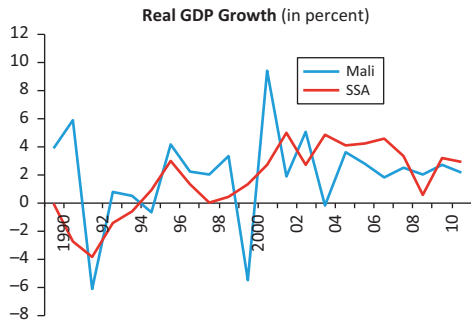
Growth in economic activity has been largely inclusive, meaning that it has not been associated with an increase in inequality (Rauniyar and Kanbur, 2010) or with a reduction in the share of the bottom quintile of the income distribution (International Monetary Fund [IMF], 2010). During 2001–10, the growth incidence curve—depicting the changes in household consumption according to consumption percentiles—features a clear downward slope, implying an increase in the consumption of poorer households relative to richer households. Real

²Prepared by Christina Kolerus and Mitra Farahbaksh.

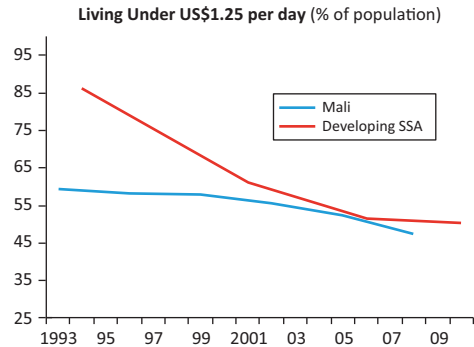
³The national poverty line lies at CFAF 453 (about US\$1) per day of household consumption.

Figure 1. Inclusiveness of Growth in Mali

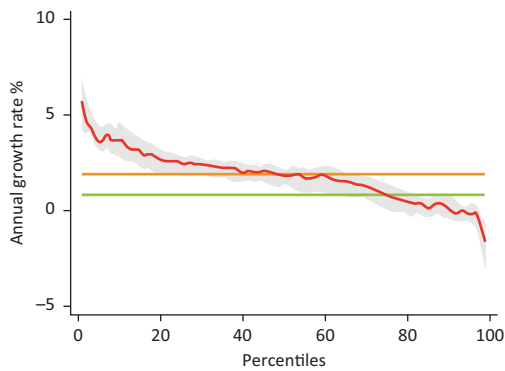
Growth was volatile but relatively high from 2001 to 2011...



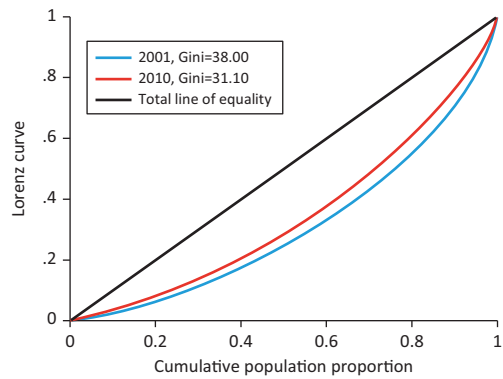
... and poverty has been reduced substantially.



Mali's economic development was inclusive: poorer households experienced higher consumption growth...

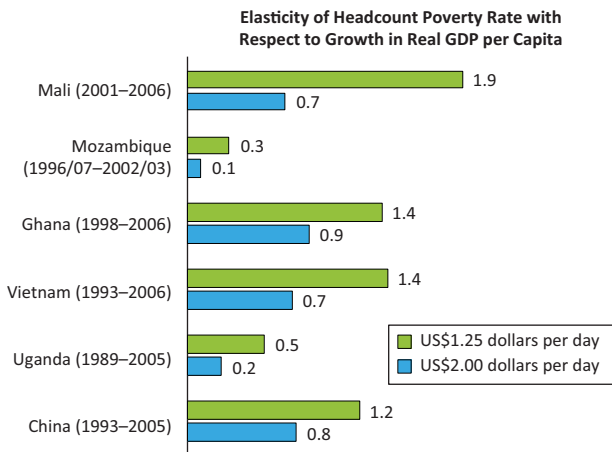


...and inequality decreased.

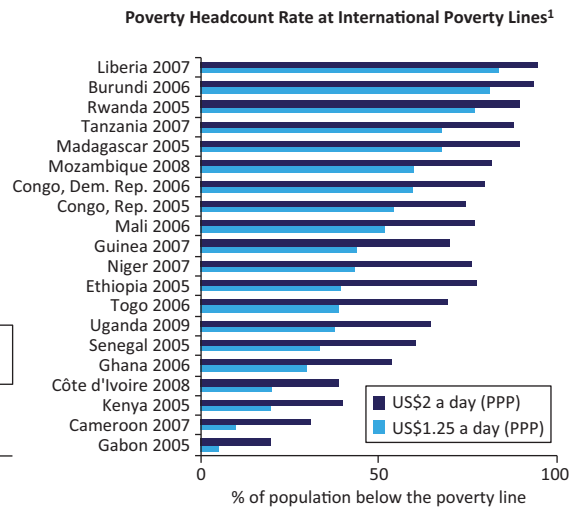


Sources: World Bank, staff calculations
Note: The shaded area depicts the 90 percent confidence interval.

GDP per capita growth was more inclusive than in other comparable countries...



...but Mali is still one of the poorest countries.



¹Latest available year after 2005

Sources: IMF staff estimates, Malian authorities, World Bank staff estimates, World Development Indicators, and World Economic Outlook database.

Note: SSA = sub-Saharan Africa.

consumption for households below the poverty line increased by 25 percent (“pro-poor growth”), while average consumption grew by 7.5 percent.

Poverty in Mali is mainly rural and concentrated among farmers. The results from a regression analysis pooling data of three household surveys (2001, 2006, and 2010) suggest that being a farmer implies a lower consumption by 33 percent (Table 1); in 2010, this effect was less pronounced, at 24 percent, reflecting an overall improvement of farmers’ consumption relative to the rest. Subsequently, urban poverty has increased in the second part of the decade, mainly because of migration to Bamako (Figure 2). Further, a higher number of household members and an older age of the household head affect consumption negatively, while civil servants are clearly better off than others. The results of Table 1 are broadly similar to regression analyses performed on comparable sub-Saharan countries (IMF, 2011). However, the rural-urban divide seems more pronounced in Mali, and household size and age have a positive influence in other countries studied in IMF (2011) as opposed to a negative effect in Mali. The latter might be partially explained by Mali’s higher population growth and children per household than in comparator countries.

Table 1. Mali: Determinants of Household Consumption

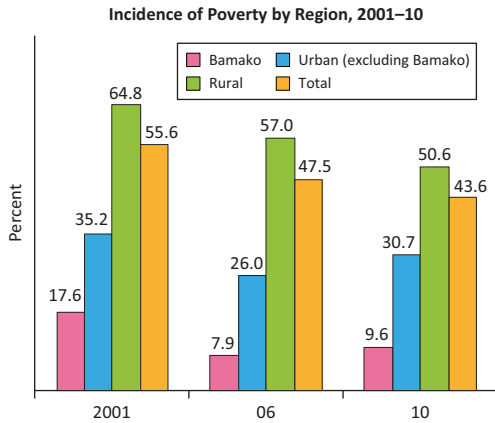
| | (1) | (2) | (3) |
|----------------|------------|------------|------------|
| Household size | -0.0161*** | -0.0161*** | -0.0161*** |
| Age | -0.0587*** | -0.0629*** | -0.0632*** |
| Sex | -0.00994 | -0.00725 | -0.00403 |
| Urban | 0.284*** | 0.283*** | 0.284*** |
| Farmer | -0.279*** | -0.327*** | -0.282*** |
| Civil servant | 0.299*** | 0.307*** | 0.297*** |
| Self-employed | 0.0203 | 0.0244 | 0.0194 |
| Unemployed | -0.0714*** | -0.0659*** | -0.0676*** |
| Year 2006 | 0.0337*** | -0.00283 | 0.012 |
| Year 2010 | 0.171*** | 0.116*** | 0.191*** |
| Farmer*2006 | | 0.0553*** | |
| Farmer*2010 | | 0.0868*** | |
| Urban*2006 | | | 0.0805*** |
| Urban*2010 | | | -0.0879*** |
| Constant | 12.33*** | 12.37*** | 12.34*** |
| Observations | 18,454 | 18,454 | 18,454 |

Sources: IMF staff calculations and Malian authorities.

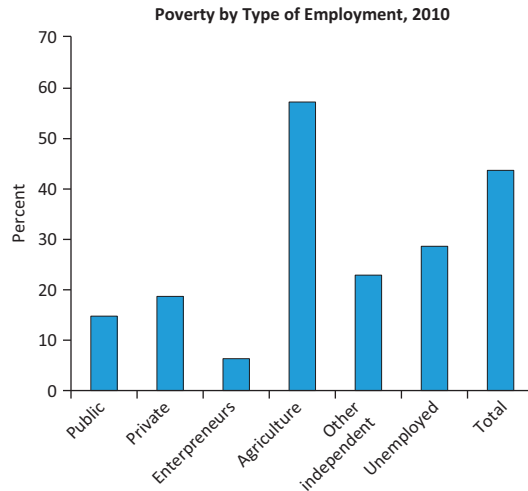
Note: *, **, and *** indicate statistical significance at the 90, 95, and 99 percent confidence intervals, respectively.

Figure 2. Mali: Patterns of Poverty, Poverty Reduction, and Obstacles

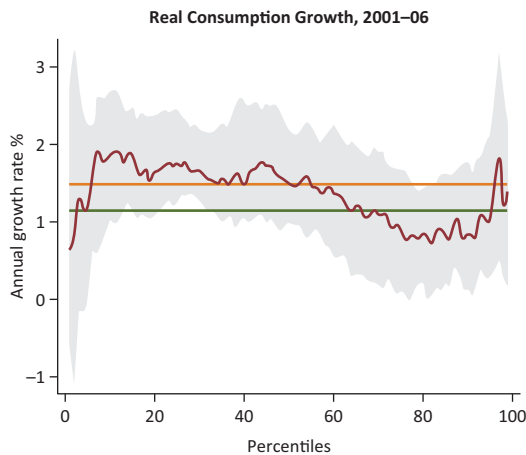
Poverty has declined in rural areas but increased recently in urban areas.



Poverty is most pronounced among agricultural workers.

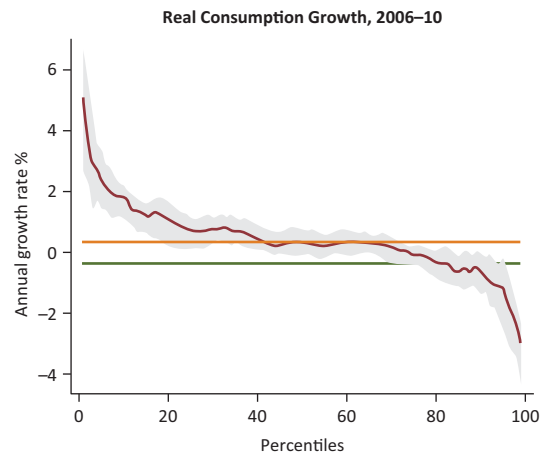


While consumption growth was slightly higher for the bottom half of the population from 2001 to 2006...



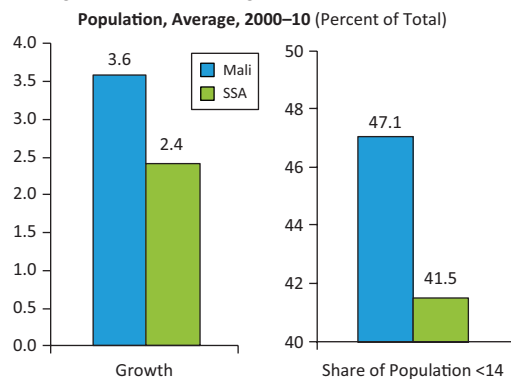
Sources: Worldbank, staff calculations

...it was it was mainly beneficial to the very poor from 2006 to 2010.

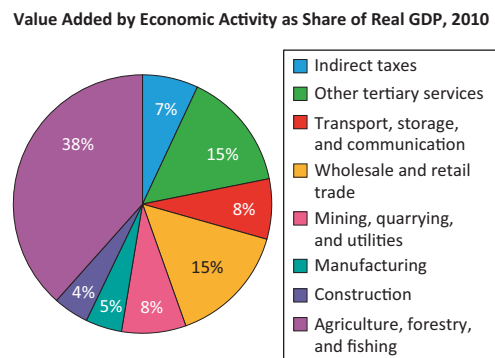


Sources: Worldbank, staff calculations

High population growth and demographics pose a huge challenge to maintain inclusive growth...



...as well as the reliance on subsistence agriculture.



Sources: IMF staff estimates, Malian authorities, and World Development Indicators.

Note: SSA = sub-Saharan Africa.

Agricultural Growth Helped the Very Poor, while Balanced Growth in All Sectors Reduced Overall Poverty

Poverty reduction was higher in the first part of the decade (2001–06) than during the second part (2006–10). While the magnitude of real GDP growth was broadly comparable throughout the decade, the number of households below the poverty line decreased more strongly during the first part. This is also reflected in a higher elasticity of poverty reduction to economic growth (Table 2). Moreover, in the first part of the decade Mali made more substantial progress toward achieving the Millennium Development Goals than in the second part of the decade.

The consumption of the poorest rose and inequality decreased more strongly during 2006–10. As depicted in the growth incidence curves in Figure 2, the slope of the 2006–10 curve features a pronounced downward slope with steepening tails. Hence, the poorest quintile of the population benefited most, while the richest quintile lost relative to the rest of the population. The growth incidence curve of 2001–06 still implies higher consumption growth for the bottom half of households, but it is flatter and the poorest households are not better off than the average.

Table 2. Mali: National Accounts and Household Survey Data

| | 2001 | 2006 | 2010 |
|--|--------------------------------------|-------|-------|
| <i>National accounts</i> ¹ | (period average annual growth rates) | | |
| Real GDP | 5.1 | 4.9 | |
| Real GDP per capita | 2.6 | 2.3 | |
| Real agricultural output | 4.6 | 8.2 | |
| Real industry output | 5.9 | -1.9 | |
| Real services output | 5.7 | 5.7 | |
| <i>Household surveys</i> | (in percent) | | |
| Poverty incidence (national poverty line) | 55.6 | 47.4 | 43.6 |
| Elasticity of poverty w.r.t growth | | -1.8 | -1.5 |
| <i>World Development Indicators</i> ² | | | |
| Mortality rate under-5 (per 1,000) | 217.3 | 199.5 | 191.1 |
| School enrollment primary (% net) | 44.4 | 63.1 | 72.9 |

Sources: IMF staff, Malian authorities, and World Development Indicators.

¹ The national accounts number reflect the averages between 2001 and 2006 and between 2006 and 2010, respectively.

² School enrollment in 1999 and 2009; mortality rate in 2009.

During 2001–06, the economy grew at an equal pace in all three sectors, while manufacturing contracted and agricultural production boomed during 2006–10. Particularly good weather conditions helped agricultural output in 2006–10 to increase by 8 percent on average per year. As the very poor are mostly farmers, their consumption basket expanded during this part of the decade. But as most farmers produce on a subsistence level, these gains in agricultural production could not be translated into an overall increase in production and employment elsewhere. Hence, the impressive growth in agriculture during 2006–10 allowed the very poor to improve their lives relative to the rest of the population, but the balanced growth during 2001–06 helped more households to escape poverty.

Policy Implications

Improving agricultural production is key to helping the poorest of the poor. Given the current opportunities—high commodity prices, urbanization with increasing demand for food and a move away from subsistence, climate change, and Mali’s potential of irrigated land—investments in agriculture can diminish the poverty gap and promote poverty reduction. Possible measures include (IMF et al., 2011):

- Building and maintaining irrigation infrastructure (less than 15 percent of potentially irrigated land is actually irrigated)
- Modernizing family farming and subsistence agriculture to agribusinesses and food processing
- Making public sector support for agriculture more efficient
- Improving access to finance

Balanced and diversified growth, however, is key to sustained inclusive growth and overall poverty reduction. To achieve sustained growth, Mali’s infrastructure bottlenecks need to be removed and urban employment and labor mobility enhanced. As productivity in urban areas is usually higher than in rural areas, some studies suggest building geographical clusters and focusing on a few urban centers with pilot policies (Otsuka and Sonobe, 2011). Further, an important challenge remains the two-dimensional diversification of exports: the export base—from mainly gold and cotton to mangos, cereals, and cattle—as well as export directions, expanding from local to urban and regional markets.

References

- International Monetary Fund, 2010, *Regional Economic Outlook: Asia and Pacific, Consolidating the Recovery and Building Sustainable Growth* (Washington, October).
- International Monetary Fund, 2011, *Regional Economic Outlook: Sub-Saharan Africa, Sustaining the Expansion* (Washington, October).
- International Monetary Fund, et al., 2011, *March, Conference on Challenges and Opportunities of Mali (Bamako)*. Available via Internet: <http://www.imf.org/external/french/np/seminars/2011/mali/index.htm>.
- Otsuka, Keijiro, and Tetsushi Sonobe, 2011, “A Cluster-Based Industrial Development Policy for Low-Income Countries.” Policy Research Working Paper WPS5703 (Washington: World Bank, June).
- Rauniyar, Ganesh P., and Ravi Kanbur, 2010, “Inclusive Development: Two Papers on Conceptualization, Application, and the ADB Perspective.” Working Papers 57036, Department of Applied Economics and Management (Ithaca, NY: Cornell University).

Reforming the Mechanism of Domestic Petroleum Price Setting in Mali⁴

Fuel tax revenues in Mali have been shrinking since 2009 following the government's policy of not adjusting retail prices to changes in international oil prices. This chapter discusses the available options to align domestic fuel price changes with international oil price variations, while striking a balance between preserving fiscal revenues and avoiding large changes in domestic fuel prices. It also provides a roadmap of supporting measures and effective public campaigns, with examples implemented in middle- and low-income countries, to build public consensus for adjusting domestic oil prices.

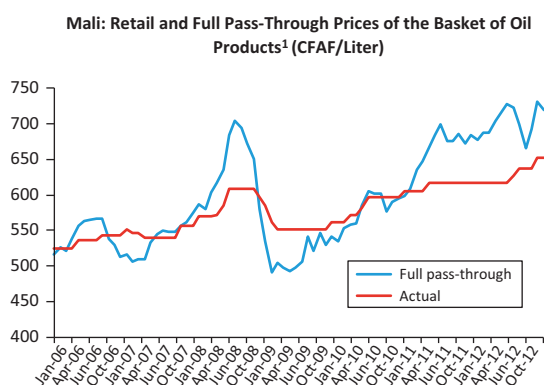
Background

Mali's current domestic oil pricing policy weighs negatively on the budget while benefiting mainly the well-off (Figure 3). Taxes on oil have been used in Mali as a buffer to limit the extent of international fuel price pass-through, even more so than in other countries of the West African Economic and Monetary Union. As international import prices increased rapidly in 2008, and subsequently in early 2010, domestic retail prices were held fixed for extended periods through a reduction of fuel taxes.⁵ As a result, the net fiscal contribution of fuel taxes has decreased from 2.2 percent of GDP in 2006 to a low of 1 percent of GDP in 2011, depriving the budget of sizable resources that could have been used for growth-enhancing or poverty-reducing policies. Fuel tax revenue is set to increase again in 2012 because the authorities have raised prices by 5.6 percent since March. In addition, the current domestic oil pricing policy does not benefit the poor, as oil products carry a very small weight in the consumption basket of low-income groups; 43.5 percent of these lost fiscal revenues accrue to the top quintile, nearly four times the

⁴ Prepared by Nazim Belhocine and Salvatore Dell'Erba.

⁵ As the rates of fuel taxes are set at the level of the West African Economic and Monetary Union, the Malian authorities reduce fuel prices by lowering the fuel excise tax at customs and at times by decreasing the tax base for petroleum products.

Figure 3. Mali: Background on Developments in Oil Pricing



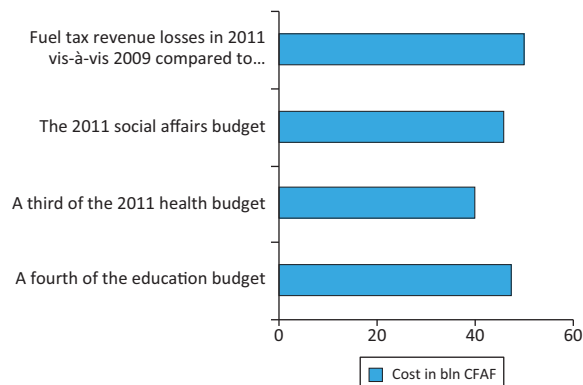
WAEMU: Fuel Price Pass-Through Rates in 2008–11²
(in percentage)

| | Gasoline | | Kerosene | | Diesel | |
|----------------------------|----------|---------|----------|---------|--------|---------|
| | 2008 | 2010–11 | 2008 | 2010–11 | 2008 | 2010–11 |
| Bénin | 71 | 71 | 19 | 51 | 84 | 31 |
| Burkina Faso | 20 | 33 | 12 | 0 | 37 | 28 |
| Côte d'Ivoire | 73 | 12 | 101 | 104 | 57 | 3 |
| Guinea Bissau | 78 | 106 | 59 | 122 | 83 | 137 |
| Mali | 24 | 21 | 12 | 13 | 12 | 18 |
| Niger | 32 | 94 | 12 | 63 | 8 | 102 |
| Sénégal | 105 | 111 | 41 | 119 | 81 | 140 |
| Togo | 39 | 22 | 0 | 19 | 38 | 39 |
| WAEMU average (unweighted) | 55 | 59 | 32 | 61 | 50 | 62 |

Mali: Fuel Tax Revenue (in percent of GDP)



Mali: Comparison between Fuel Revenue Losses and Other Budgetary Items (billions CFAF)



Mali: Distribution of Oil Subsidies by Quintile, 2001³

| Quintile | Expenditure in oil products per capita (CFAF thousands) | Subsidy share (%) | | | |
|----------|---|-------------------|----------|--------|------------------|
| | | Kerosene | Gasoline | Diesel | All oil products |
| Top | 316 | 19.2 | 59.0 | 71.1 | 43.5 |
| Fourth | 152 | 22.4 | 18.3 | 17.0 | 19.9 |
| Third | 100 | 23.0 | 8.3 | 2.5 | 14.1 |
| Second | 70 | 17.6 | 7.6 | 3.3 | 11.5 |
| Bottom | 42 | 17.8 | 6.7 | 6.1 | 11.2 |
| All | 136 | 100.0 | 100.0 | 100.0 | 100.0 |

WAEMU: Regional Comparison of Pump Prices, 2012 (CFAF)

| | 2012 | 2012 | 2012 | 2012 | 2012 | 2012 | 2012 |
|----------------------|------|------|------|------|------|------|------|
| | M1 | M2 | M3 | M4 | M5 | M6 | M7 |
| Gasoline | | | | | | | |
| Burkina Faso (super) | 682 | 682 | 682 | 732 | 732 | 732 | 732 |
| Côte d'Ivoire | 774 | 774 | 774 | 774 | 774 | 774 | 774 |
| Mali | 695 | 695 | 695 | 695 | 705 | 715 | 715 |
| Sénégal (super) | 814 | 814 | 814 | 814 | 836 | 814 | 811 |
| Kerosene | | | | | | | |
| Burkina Faso | 460 | 460 | 460 | 610 | 610 | 610 | 610 |
| Côte d'Ivoire | 617 | 617 | 617 | 617 | 617 | 617 | 617 |
| Mali | 510 | 510 | 510 | 510 | 520 | 530 | 530 |
| Sénégal | 739 | 637 | 637 | 637 | 646 | 636 | 588 |
| Diesel | | | | | | | |
| Burkina Faso | 606 | 606 | 606 | 656 | 656 | 656 | 656 |
| Côte d'Ivoire | 615 | 615 | 615 | 615 | 615 | 615 | 615 |
| Mali | 610 | 610 | 610 | 610 | 620 | 630 | 630 |
| Sénégal | 706 | 798 | 798 | 798 | 783 | 789 | 760 |

Sources: IMF staff estimates and Malian authorities.

Note: WAEMU = West African Economic and Monetary Union.

¹ Weighted average of three main oil products.

² Absolute price increase from minimum to maximum as a percentage of the world price increase.

³ Quintiles are based on the national distribution of consumption per adult equivalent.

amount accruing to the lowest quintile. The bottom two quintiles' share of the tax expenditure was 22.7 percent of the implicit subsidy over the past two years, or about CFAF 11 billion (0.2 percent of GDP).

Options for Price Adjustment

The price band and moving averages are two available automatic mechanisms for smoothing the variability of international oil prices. The price band mechanism sets the maximum limit on the magnitude of retail price changes as a proportion of the current retail price or in absolute amounts. For example, at the start of each month, the retail price according to the full pass-through mechanism is determined based on last month's average import cost. If the required retail price hike is above the maximum allowed increase (i.e., the cap), then the maximum allowed increase is implemented. If the implied price increase is below this threshold, then the full adjustment is allowed. On the other hand, the moving average mechanism bases retail price adjustments on changes in the average of past import prices. For example, at the start of the month, the retail price under the formula is calculated using an average of past import prices (say, the average of import prices for the last three months). Retail prices are then allowed to fully adjust to the smoothed import price.

A large number of countries have found it useful to use such mechanisms to adjust domestic oil prices. Given that the full pass-through involved in a liberalized regime of pricing can lead to wide fluctuations in domestic oil prices, many countries have favored the use of automatic oil price mechanisms.⁶ Such mechanisms, when understood and accepted by the population, offer the advantage of removing a politically charged decision from the government's agenda.

Alternative specifications of the two automatic pricing mechanisms in Mali over the past five years would have resulted in lower volatility of taxes compared to the current pricing policy and in lower retail fuel price variability compared to full pass-through. Six smoothing mechanisms are considered: (i) two-month, four-month, and six-month moving averages; and (ii) 3 percent, 5 percent, and 10 percent price bands. These mechanisms are compared to historical (actual) retail prices and to a full pass-through of international oil prices into retail fuel prices.⁷ By definition, all smoothing mechanisms considered would have reduced the volatility of oil prices compared to full pass-through (Figure 4 and Table 3). They also would have reduced the volatility of tax revenue compared to the historical retail prices (Figure 5 and Table 3).

⁶ Recent examples include Jordan in 2008, Gabon in 2009, and Niger in 2011.

⁷ The simulations assume constant margins equal to the average level between January 2006 and December 2009 (i.e., CFAF 78 per liter). Initial net taxes are also set at a level consistent with the average level between January 2006 and December 2009 (i.e., CFAF 151 per liter).

Figure 4. Mali: Prices of the Basket of Oil Products under Alternative Pricing Mechanisms (CFAF per liter)


Sources: IMF staff estimates and Malian authorities.

Table 3. Summary of Prices and Taxes

| | FPT | HIST | MA2 | MA4 | MA6 | PB3 | PB5 | PB10 |
|------------------------------|------|------|------|------|------|------|------|------|
| Standard deviation of taxes | 0.0 | 39.3 | 9.4 | 22.0 | 32.1 | 21.8 | 11.7 | 0.7 |
| Rank | 1 | 8 | 3 | 6 | 7 | 5 | 4 | 2 |
| Standard deviation of prices | 62.5 | 30.5 | 61.3 | 58.7 | 55.5 | 57.2 | 60.6 | 62.5 |
| Rank | 7 | 1 | 6 | 4 | 2 | 3 | 5 | 8 |

Note: Rank of (1) refers to the lowest level. FPT = full pass-through, HIST = historical, MA2 = two-month moving average, MA4 = four-month moving average, MA6 = six-month moving average, PB3 = 3 percent price band, PB5 = 5 percent price band, PB10 = 10 percent price band.

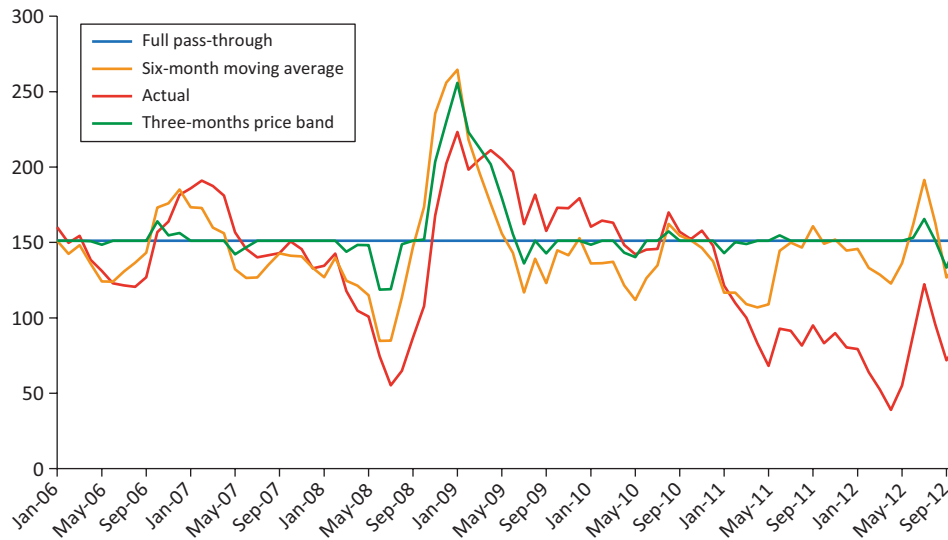
Sources: IMF staff estimates and Malian authorities.

Key Steps to Put a Pricing Mechanism in Place

To begin the transition to an automatic adjustment mechanism, the following steps could be taken:

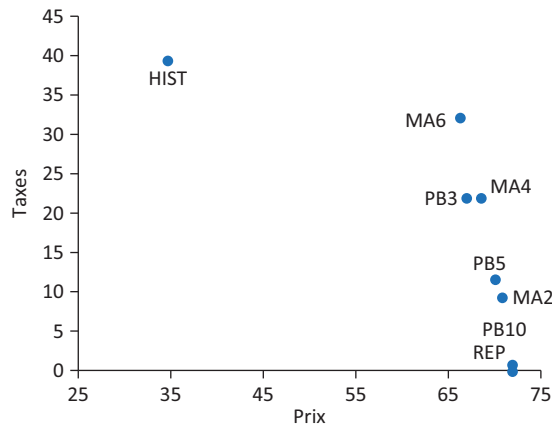
- *Decide on the desired level of fuel taxes and the distributors' components of the price formula.* The tax level on fuels could reflect medium-term fiscal objectives or environmental considerations, which would underscore more generally the total revenue requirements of the government and the importance of indirect taxes in total revenues. The higher the revenue requirements

Figure 5. Mali: Fuel Taxes of the Basket of Oil Products under Alternative Pricing Mechanisms (CFAF per liter)



Sources: IMF staff estimates and Malian authorities.

Figure 6. Mali: Volatility of Fuel Taxes and Prices Measured by the Standard Deviation (CFAF)



Sources: IMF staff estimates and Malian authorities.

from indirect taxes, the higher should be the tax rate on all goods and services, including fuels. On the other hand, import and distribution costs as well as margins should be based on efficient operations by suppliers and set in coordination with these stakeholders.

- *Following a decision on the price components' levels, specify a price structure (i.e., formula) by product.* This structure establishes a clear link between retail prices and international prices based on import costs, distribution

margins, and tax levels. As discussed in the previous section, this decision is based on the desired trade-off between price volatility and fuel revenues volatility.

- *Decide on the timeline for adopting the mechanism and for phasing in the price adjustment.* If the existing tax level is below the desired level over the medium term, then current prices need to be adjusted to achieve the desired level before adopting the mechanism. A gradual adjustment of domestic prices to international price levels, backed by an explicit timeline, is usually warranted if the fiscal needs are not urgent and if the differential between domestic and international oil price levels is very high.⁸
- *Specify a timeline for updating the components of the price structure.* The different components of the price structure should be updated according to an explicit and agreed timeline, which requires specification of the frequency with which the price structure is reassessed. For example, the import cost could be updated on a monthly basis. Distribution costs could be updated semiannually based on a simple rule linked to validated changes in costs such as wages, transport costs, and financing costs. More rigorous updates could be done on a three- to five-year cycle based on a detailed market study. Of course, less frequent adjustments would imply larger price fluctuations.

Impact on Inflation

The potential inflationary impact of implementing a partial pass-through mechanism is estimated to be small as long as the authorities act to prevent secondary round effects. The first round effect is likely to have a small impact on inflation given the small weight of oil products in household budgets, about 3 percent (Table 4), and the fact that the indirect impact of a rise in oil prices is estimated to be double the share of oil products (Kpodar and Djiofack, 2009).⁹ Because the total direct and indirect share of oil in household budgets is 9 percent and given that domestic oil prices are 11 percent lower than what would have prevailed under a full pass-through (Figure 4), inflation would increase by about 1 percentage point if domestic oil prices were increased to pass through the increase of international prices in full since 2009. The authorities should, however, closely monitor potentially larger secondary round effects by refraining from a generalized wage increase

⁸ See, for example, the Nigerian case study in Box 1.

⁹ For example, Gabon excluded kerosene products from the automatic price-adjustment mechanism that it adopted in January 2009.

**Table 4. Mali: Household Budget Shares of Energy Spending by Product
(Percentage of Total Spending)**

| Quintile | Kerosene | Gasoline | Diesel | Charcoal | Electricity |
|----------|----------|----------|--------|----------|-------------|
| Top | 1.5 | 1.4 | 0.1 | 1.6 | 1.2 |
| Fourth | 1.5 | 1.1 | 0.1 | 1.8 | 1.0 |
| Third | 1.7 | 0.7 | 0.0 | 1.8 | 0.8 |
| Second | 1.5 | 0.7 | 0.0 | 1.6 | 0.7 |
| Bottom | 1.7 | 0.6 | 0.0 | 1.2 | 0.8 |
| All | 1.5 | 1.1 | 0.0 | 1.7 | 1.1 |

Source: 2009–10 household survey. Diesel shares are taken from the 2000–01 survey.

in the public sector that would exacerbate the wage-price spiral. At the same time, the authorities should cushion the impact of this price increase on the most vulnerable groups of the population (see the next two sections).

Addressing Social Tensions

Although fuel subsidies are an inefficient and fiscally expensive approach to protecting the poor from rising international fuel prices, eliminating them often causes social tensions. Arze del Granado, Coady, and Gillingham (2010) find that, in the case of Mali, a CFAF 100 per liter increase in domestic fuel prices would decrease household real incomes by 2.3 percent, on average. Therefore, it is important that reform strategies include measures to mitigate this adverse impact on poor households.

Countries have implemented a range of mitigating measures when adjusting oil prices. Compensating the poor for adjusting domestic fuel prices requires a system to deliver compensation to the needy. Because it may not be feasible to quickly put in place efficient safety nets based on targeted cash transfers, a gradual reform strategy may initially be sought. This could include the following steps (see Box 1 for country-specific examples):

- *Temporarily maintaining the implicit subsidies on commodities that are more important in the budgets of the poor:* For example, the Nigerian authorities left kerosene prices unchanged when they recently raised oil prices. Coady, Grosh, and Hoddinott (2004) show that kerosene subsidies are relatively better targeted, although in Africa more than 45 percent of kerosene subsidies accrue to the top two income quintiles (Coady et al. 2010). As shown in Table 4, because the share of kerosene in Malian household budgets is spread equally across quintiles, this policy would still be relatively inefficient at targeting exclusively the lowest quintiles. In addition, there is a limit to how much can be achieved through lower

Box 1. Country Reform Experiences

Niger's explicit subsidy was projected to reach 1.3 percent of GDP in 2010. The government was committed to eliminate these subsidies and implement an automatic price-adjustment mechanism by mid-2011. To mitigate the adverse effect of price increases on the poor, the authorities have used the budgetary resources freed by the elimination of these subsidies to increase funding to the health, education, and rural development sectors. It has also provided direct transfers to public transportation in the capital, which amounted to less than 0.1 percent of GDP, to cushion the impact of the rise in oil prices on fares. In addition, public information campaigns pointed out the drawbacks of the ad hoc pricing policy and linked the savings from petroleum price increases to priority social spending, which helped in overcoming vested interests and gaining support from civil society. As part of raising awareness of the cost of the subsidy, the government initiated the systematic reporting in the budget of the oil tax subsidies.

Ghana's oil subsidy amounted to 2.2 percent of GDP in 2004. As international prices began to increase, an automatic price mechanism was used beginning in February 2005 along with a 50 percent average increase in domestic fuel prices. This was accompanied by a communication campaign explaining the need for price reforms, which emphasized the fact that the richest households gain most from fuel subsidies (Laan, Beaton, and Presta, 2010). In addition, several mitigating measures were implemented, including (i) eliminating fees for attending primary and junior-secondary school, (ii) increasing funds for primary health care programs concentrated in the poorest areas through the existing Community Health Compound Scheme, (iii) increasing investment in the provision of mass urban transport, and (iv) increasing funds allocated to expand a rural electrification scheme. These expenditures were partly financed by an explicit earmarked social mitigation tax incorporated into the pricing formula. Responsibility for implementing the pricing mechanism was given to a new National Petroleum Authority in an attempt to separate the pricing decisions from the government.

Indonesia's fuel subsidy bill amounted to 3 percent of GDP in 2004. In 2005, the government announced price increases and embarked before that in a public information campaign that included newspapers, TV talk shows, village notice boards, and the distribution of pamphlets and brochures (Bacon and Kojima, 2006). In May 2008, the government announced another round of price increases. Some of the budgetary savings from reducing subsidies were reallocated to existing education, health, and infrastructure programs that benefit low-income and middle-income households. The central government also introduced a temporary targeted nationwide cash-transfer program covering more than 19 million poor families, who received a transfer of approximately US\$120 per household per year. These measures were seen as key to minimizing social unrest and political opposition (Beaton and Lontoh, 2010).

Box 1. (concluded)

Jordan's fuel price subsidies amounted to 3.6 percent of GDP in 2004 and were gradually eliminated in 2005. The government used some of the budgetary savings to finance increases in spending on social safety nets and implemented a series of measures to mitigate the impact of price increases, which included (i) cash transfers to low-income households whose head is not a government worker or pensioner, (ii) a one-time bonus to low-income government employees and pensioners, (iii) an increase in the monthly wages of government employees, and (iv) an increase in the budget of the National Aid Fund to finance expanded coverage of transfers to low-income households. In addition, the government maintained an electricity lifeline tariff to households who consumed less than 160 kilowatt per month and exempted 13 essential commodities, energy-saving products, and agricultural production inputs from custom duties (International Monetary Fund, 2010).

Nigeria's fuel subsidy costs reached 4.1 percent of GDP in 2011. On January 1, 2012, the government more than doubled the price of gasoline, while retaining the subsidy for kerosene. Some of the ensuing savings were expected to be used for targeted social safety net programs and key infrastructure projects. The authorities mounted a significant public information campaign. However, the fuel price increase set off widespread criticism and protests across the country, led mainly by labor unions and driven mostly by a fundamental lack of public trust in the government and by the sharp price hike. As a result, the authorities lowered by half the original price increase, adopting de facto a more gradual approach, and began to address issues raised by the stakeholders, such as launching an investigation into possible irregular practices in the petroleum-importing sector. In addition, to address government's credibility gap, the authorities appointed a board made up of government officials and representatives from a wide cross-section of civil society to oversee the calculation of the subsidy saving amounts, monitor the allocation of those funds, and evaluate the execution of the funded projects.

kerosene prices without severe disruption of petroleum product markets (for example, redirection of kerosene from the household sector to the transport sector for mixing with diesel, or cross-border trade).

- *Introducing a package of short-term measures to mitigate the adverse impact of price increases on the poor while preventing social tensions:* For instance:
 - Increase the budget of government programs that benefit mainly the poor, the elderly, and children. These programs manifest themselves through national funds (health care programs in the

poorest areas, etc.) or social sector programs (social housing, microcredit programs, etc.). Examples of countries that have used these schemes include Ghana, Jordan, and Nigeria.

- Provide a one-time bonus to low-income government employees and pensioners, as was done, for instance, in Jordan.
- Subsidize consumption of alternative energies such as water and electricity below a specified threshold. This policy was also pursued in Jordan.
- Subsidize mass urban transport and increase the provision of mass urban transport. Temporary support for public transport via either subsidizing fares or increasing the size of mass urban transport might provide a cushion for urban low-income consumers and ease social tensions, as was done in Ghana and Niger.
- Lower prices of school meals, education, and health user fees. This policy was implemented in the education sector in Ghana.
- *Increasing high-priority public expenditures that benefit the poor:* These include education and health expenditures as well as infrastructure expenditures such as irrigation, drinking water supplies, and rural electrification schemes, which provide alternative energy consumption means and are energy-saving investments. These policies were implemented in Ghana, Indonesia, Niger, and Nigeria.

Over time, the government should improve the design of safety net programs that could be intensified in times of surges in fuel prices. The authorities should aim to improve targeting methods, which include (1) targeting by using socioeconomic and demographic characteristics, such as the elderly, children, or the unemployed (categorical targeting), or those living in specific areas (geographic targeting); and (2) linking subsidies or cash benefits to a self-targeting work or schooling requirement.

Effective Public Information Campaign

Increasing retail prices to reduce fuel subsidies is often a politically sensitive issue that requires an effective public information campaign to gain public support. Informing the potential beneficiaries (consumers and taxpayers) about the drawbacks of existing subsidies and the benefits of reform would help increase public support for the automatic mechanism. Indeed, the recent elimination of oil price subsidies in Nigeria and the ensuing protests highlight the importance of building wide support among the main stakeholders

(political parties, unions, etc.). Successful public campaigns have highlighted the following elements (see Box 1 for specific country examples):

- *Price increases reflect fluctuations in international prices, which are out of the control of the government, and help the economy adjust to shocks.* All importing countries face price fluctuations and need to adjust to this reality. Passing through higher international prices to domestic prices provides the appropriate incentive to consumers to reduce fuel consumption and thus mitigate the adverse terms-of-trade impact on the economy as a whole.
- *Higher-income groups capture most of the benefits from fuel subsidies.* As discussed in the background section, this is due to the low share of fuel products in the budgets of households at the bottom of the income distribution. As shown in Figure 3, the weights of gasoline and diesel consumption, which represent about 95 percent of domestic oil consumption, in the basket of the bottom quintiles are very small. In addition, the indirect effect of rising fuel prices is estimated to be about double the direct effect (see Kpodar and Djiofack, 2009), leading to an overall small impact of a change in fuel prices on the lower quintiles. The emphasis on the fact that the richest households gain most from fuel subsidies was followed by Ghana.
- *Holding domestic oil prices low results in fiscal leaks to neighboring countries.* Citizens in neighboring countries where fuel is more expensive, such as Côte d'Ivoire and Senegal, have an incentive to purchase fuel in Mali (Figure 3). As a result, the current implicit fuel subsidy policy benefits citizens in neighboring countries.
- *Fuel subsidies promote the overutilization of oil, which damages the environment.* The artificially depressed price of fuel stimulates road traffic and the emission of greenhouse gases, which results in excessive pollution and lasting damages to the environment.

References

- Arze del Granado, Javier, David Coady, and Robert Gillingham, 2010, "The Unequal Benefits of Fuel Subsidies: A Review of Evidence for Developing Countries." IMF Working Paper 10/202 (Washington: International Monetary Fund, September).
- Bacon, Robert, and Masami Kojima, 2006, *Coping with Higher Oil Prices* (Washington: World Bank).

- Beaton, Christopher, and Lucky Lontoh, 2010, *Lessons Learned from Indonesia's Attempts to Reform Fossil-Fuel Subsidies* (Winnipeg, Canada: International Institute for Sustainable Development).
- Coady, David, Margaret Grosh, and John Hoddinott, 2004, *Targeting of Transfers in Developing Countries: Review of Lessons and Experience*. Regional and Sectoral Studies (Washington: World Bank).
- Coady, David, Robert Gillingham, Rolando Ossowski, John Piotrowski, Shamsuddin Tareq, and Justin Tyson, 2010, "Petroleum Product Subsidies: Costly, Inequitable, and Rising." IMF Staff Position Note 10/05 (Washington: International Monetary Fund, February).
- International Monetary Fund, 2010, "Jordan Staff Report for the 2010 Article IV Consultation." IMF Country Report No. 10/297 (Washington: International Monetary Fund, September).
- Kpodar, Kangni, and Calvin Djiiofack, 2009, "The Distributional Effects of Oil Price Changes on Household Income: Evidence from Mali." *Journal of African Economies*, Vol. 19 (2), pp. 205–36.
- Laan, Tara, Christopher Beaton, and Bertille Presta, 2010, *Strategies for Reforming Fossil-Fuel Subsidies: Practical Lessons from Ghana, France, and Senegal* (Geneva: Global Subsidies Initiative).

Financial Sector Stability and Development in Mali¹⁰

The financial system in Mali plays an increasing but limited role in supporting economic development. Financial intermediation remains low compared to other countries in the region. At the same time, while the banking sector is well capitalized, the system continues to be burdened with large nonperforming loans (NPLs), and stress tests indicate that credit concentration is an important source of vulnerability. Concerted efforts will be needed to remove both economy-wide and banking sector-specific characteristics that hamper financial deepening and the maintaining of stability. A new program Financial Sector Development Strategy (FSDS) is needed that would build on the authorities' achievements thus far. The authorities should also work with the regional oversight entities to align regulations with the best international practices and improve supervision of both bank and nonbank financial intermediaries.

Background

The financial sector in Mali plays an increasing but limited role in supporting economic development and intermediating resources. The 2008 Financial Sector Assessment Program (FSAP) identified a number of weaknesses, including limited access to financial services, the government's substantial involvement in the banking sector, large NPLs, inadequate prudential regulations, and vulnerabilities to sectoral shocks (Box 2).

In 2008, the authorities developed a three-year FSDS to address shortcomings identified by the FSAP. The FSDS aimed at (i) enhancing the performance and quality of banks and nonbanking institutions; (ii) broadening access to the financial institutions and products, in particular in rural areas and for small and medium-sized enterprises (SMEs); (iii) restructuring and privatizing state-owned banks; and (iv) strengthening the legislative framework (including the land code, civil code, and commercial code) in line with FSAP recommendations.

¹⁰ Prepared by Mitra Farahbaksh and Aleksandra Zdzenicka.

Building on the achievements made thus far and the lessons learned from the March 2011 conference on Mali's challenges and opportunities, the authorities will need to develop a new FSDS in order to complete the implementation of the 2008 FSAP recommendations. In anticipation of the new efforts, the

Box 2. Key 2008 Financial Sector Assessment Program Recommendations and Implementation

| Areas | Recommendations | Status |
|--------------------------------------|---|--|
| Financial sector stability | Ensure that banks have the necessary information to identify, measure, and manage risks during the transition phase leading to the breakup and privatization of the state-owned cotton ginning company (Compagnie Malienne pour le Développement des Textiles). | Ongoing |
| Bank restructuring | Monitor developments in one public bank to ensure that the conditions are right for its successful privatization, and restructure and privatize another as soon as possible. | Completed for one bank and ongoing for another |
| | Study the financial implications of a sustainable recovery of one bank, which may require substantial capital injection. | Completed |
| Cash flow and public debt management | Hold regular meetings of the public debt sustainability monitoring committee. | Ongoing |
| | Improve cash flow planning capacity by consolidating the information necessary for a single Treasury Account and holding buffer funds at the regional central bank (Central Bank of West African States). | Incomplete |
| Access to financial services | Modernize the financial infrastructure to remove obstacles to broader provision of small and medium-sized enterprises and rural finance. | Ongoing |
| Microfinance | Conduct supervision on an individual as well as consolidated basis. | Ongoing |
| | Encourage increased professionalism among microfinance institutions and improvement of their information and management system. | Ongoing |
| Housing finance | Entrust to banks the responsibility for the financing, distribution, and management of loans currently handled by the government through the housing bank and the mortgage guarantee fund. | Ongoing |
| | Strengthen the property title management system and support the establishment of a regional long-term financing system. | Incomplete |
| Legal and judicial | Follow up on cooperation and integration issues related to regional harmonization of the business law. | Not applicable |
| | Review the land code to facilitate access to land titles and credit. | Incomplete |
| | Computerize the credit registry and increase access to information. | Ongoing |

following sections provide an overview of the state of the banking sector and microfinance in Mali as of the end of 2011, and make recommendations for further reforms going forward.

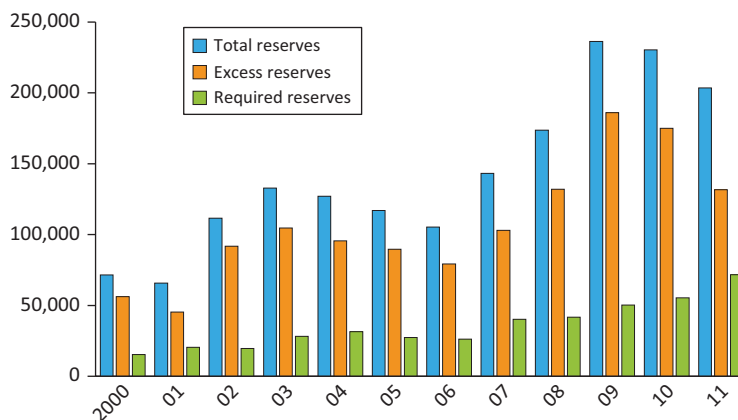
Financial Sector Structure and Performance

Structure and Intermediation

The financial sector is dominated by banks. As of the end of 2012, there were 13 banks, of which 11 were foreign owned, holding over 80 percent of the total sector’s assets. The banking sector is relatively concentrated, with five banks accounting for two-thirds of assets and over 70 percent of deposits. Microfinance institutions (MFIs) are growing (with 1.15 million members in 2011, compared with 0.8 million in 2005) but are not systemically important. Other financial institutions include nine insurance companies, two financial establishments, two life insurance companies, and a pension system comprised of social security, a pension fund for private sector employees, and another for civil servants.

Banks’ resources have been growing but remain insufficiently diversified. While deposits have grown by about 40 percent since 2008, over 60 percent of these are in short-term demand deposits, which are highly seasonal. Banks hold considerable excess liquidity (Figure 7), in part due to the lack of loanable projects and problems with loan recovery.

Figure 7. Mali: Reserves at the Central Bank of West African States, 2000–12
(in millions CFAF)



Sources: IMF staff estimates and Malian authorities.

*At the end of October.

Banks' portfolios are composed mainly of loans to large private and public enterprises specializing in cash crops (cotton), trade financing, and the energy sector. Lending is mostly limited to short-term financing and is geared toward a few large borrowers. Over time, the energy sector, construction, and trade have replaced the agricultural sector as the main destinations of lending (Table 5). Crop loans are mainly extended to the state-owned cotton ginning company (Compagnie Malienne pour le Développement des Textiles), which has led to frequent breaching of large exposure limits, and loans are highly seasonal in nature.

While the public sector's share in banks' capital has declined since 2008, the government continues to play a significant role in the sector. Of the five domestic banks, the government has minority holdings in four and is a major shareholder in the housing bank Banque de l'Habitat du Mali and the development bank Banque Malienne de Solidarité. As of January 2011, the government and public entities held about 30 percent of the total deposits of the banking sector and accounted for 10 percent of total loans granted by banks. The Treasury and the administrative public entities held over 3,400 accounts in the banking system.

Bank intermediation has been increasing but remains low (Figure 8). The ratio of credit to GDP increased from 15 percent in 2000 to 20 percent in 2011. Also, the currency-to-deposit ratio declined from 57 percent to 33 percent during the same period, reflecting financial deepening. Interest rates do not appear to have adversely affected bank intermediation, as they seem to reflect the cost of doing business. At the end of 2011, the average spread between deposit and lending rates was about 4.5 percent (Table 5). Nonetheless, intermediation remains low compared with some other sub-Saharan countries (Senegal, Kenya). Only about 10 percent of the population has bank accounts, and rural populations remain particularly underserved by commercial banks.

Constraints on Increased Financial Intermediation

Economy-wide constraints help explain the slow progress in financial deepening and financial sector outreach. These include weaknesses in the legal framework and judicial system that result in a slowdown in loan recovery, shortcomings in the financial reporting of SMEs, and lack of collateral for bank loans due to problems with land tenure and land registry. Also, poor physical access and infrastructure, including a limited electricity supply, poor road conditions, and distance from central bank offices, which deter rural branch expansion, along with difficulty in finding skilled human resources, increase the costs of extending credit or offering financial services.

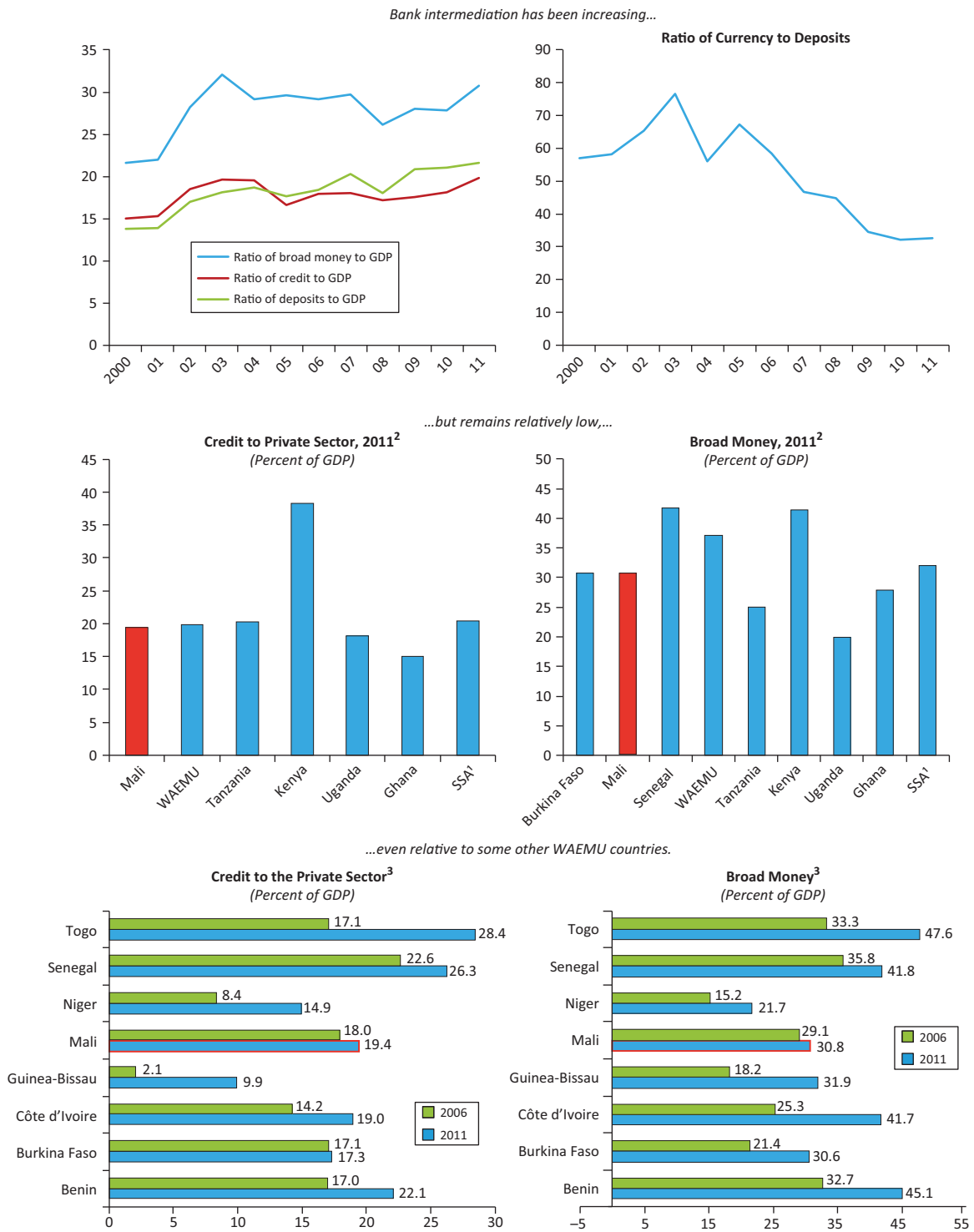
Table 5. Mali: Financial Soundness Indicators for the Banking Sector, 2007–12¹

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 ² |
|--|--------------|------|------|------|------|-------------------|
| | (in percent) | | | | | |
| Capital | | | | | | |
| Capital to risk-weighted assets | 10.8 | 11.4 | 9.9 | 16.9 | 13.4 | 14.8 |
| Tier 1 capital to risk-weighted assets | 9.9 | 10.5 | 9.4 | 15.4 | 11.7 | 13.5 |
| Capital (net worth) in percent of assets | 5.6 | 6.0 | 5.7 | 9.2 | 8.5 | 9.6 |
| Sectoral distribution of credit to the economy | | | | | | |
| Agriculture and fishing | 7.7 | 11.6 | 7.5 | 3.0 | 11.7 | 3.2 |
| Mining sector | 1.0 | 0.1 | 0.1 | 0.3 | 0.1 | 3.5 |
| Manufacturing | 7.6 | 8.0 | 6.9 | 8.0 | 8.0 | 11.4 |
| Electricity, gas, and water | 5.0 | 4.3 | 5.9 | 11.3 | 10.0 | 11.1 |
| Building and construction | 2.0 | 2.0 | 2.4 | 4.3 | 4.5 | 4.9 |
| Wholesale and retail trade, hotels, and restaurants | 43.6 | 40.6 | 43.8 | 42.0 | 43.2 | 41.5 |
| Transportation, warehouses, and communications | 15.0 | 14.7 | 12.7 | 9.0 | 7.2 | 6.5 |
| Insurance, real estate, and services for enterprises | 6.4 | 6.7 | 7.7 | 11.0 | 7.0 | 8.5 |
| Collectives and social services | 2.8 | 3.4 | 4.0 | 5.0 | 3.8 | 3.9 |
| Other activities | 8.9 | 8.6 | 9.0 | 6.1 | 4.5 | 5.5 |
| Asset quality | | | | | | |
| Nonperforming loans to total loans | 25.1 | 25.3 | 21.9 | 21.5 | 18.7 | 19.7 |
| Nonperforming loans to total loans (net of provisioning) | 10.7 | 9.3 | 9.1 | 8.8 | 6.4 | 7.5 |
| Provisions to gross nonperforming loans | 65.5 | 66.9 | 59.5 | 64.0 | 69.4 | 67.3 |
| Provisions to gross loans | 16.1 | 15.4 | 14.8 | 13.5 | 12.7 | 13.3 |
| Earnings and profitability | | | | | | |
| Return on assets | -0.8 | 0.8 | 0.6 | 1.4 | 1.3 | ... |
| Return on equity | -14.0 | 12.9 | 10.0 | 15.2 | 15.6 | ... |
| Liquidity | | | | | | |
| Liquid assets to total assets | 40.7 | 43.8 | 48.9 | 50.6 | 47.4 | 49.1 |
| Liquid assets to short-term liabilities | 81.5 | 84.0 | 61.2 | 92.9 | 89.4 | 88.8 |
| Ratio of deposits to assets | 81.4 | 73.6 | 73.0 | 75.4 | 71.8 | 70.4 |
| Ratio of loans to deposits | 83.7 | 90.7 | 71.1 | 69.8 | 77.0 | 80.7 |
| Memorandum items ³ | | | | | | |
| Deposit rate | 4.8 | 5.0 | 4.7 | 4.9 | 4.9 | ... |
| Lending rate | 10.0 | 9.8 | 9.4 | 9.3 | 9.4 | ... |

Sources: Central Bank of West African States and IMF staff estimates.

¹ Ratios calculated on the basis of average stocks of the period.² At the end of June 2012.³ Average.

Figure 8. Mali: Banking Sector Financial Intermediation, 2000–11



Source: IMF staff estimates and Malian authorities.

Note: SSA = sub-Saharan Africa, WAEMU = West African Economic and Monetary Union.

¹ Sub-Saharan Africa oil-importing countries.

² Calculated using the latest available data.

³ Latest available data.

Specific structural characteristics of the financial system also hamper financial deepening. These include (i) limited coverage of SMEs by the credit registry system at the regional central bank (Central Bank of West African States [BCEAO])¹¹; (ii) the underdevelopment of leasing, venture capital, and investment capital, which can provide alternatives to bank financing; and (iii) the continuous availability of large government deposits, which reduces banks' incentives to compete for private sector resources. The latter also does not allow for the development of the interbank market, given that banks are awash in government resources.

Banking Sector Soundness and Stability

Legal Framework and Banking Supervision

Mali is subject to the unified regional prudential system for credit institutions and a single supervisor (Banking Commission-West African Economic and Monetary Union [BC-WAEMU]) with substantial support from the BCEAO. In practice, banking supervision is governed by provisions at the community and national levels, and the implementation is shared among four oversight authorities:

- The Council of Ministers of the WAEMU, which establishes the general regulatory and legal framework applicable to credit activity
- Mali's Ministry of Finance (MOF), which has powers to issue and withdraw licenses for banks and financial institutions and to address their problems
- The BCEAO, whose main powers are to prepare and technically transpose accounting and prudential regulations applicable to banks and financial institutions, and to contribute, through its national directorates, to the supervision of the banking system
- The BC-WAEMU, chaired by the governor of the BCEAO, which is responsible for organizing and supervising banks and financial institutions established in the eight states of the union and has the authority to issue administrative and disciplinary penalties for that purpose

Reforms in banking supervision are needed. According to the 2008 FSAP findings, supervision is broadly based on compliance with the regulations. Accordingly, it lags behind developments in the international prudential

¹¹ International Monetary Fund, et al., 2011, *March, Conference on Challenges and Opportunities of Mali (Bamako)*. Available via Internet: <http://www.imf.org/external/french/np/seminars/2011/mali/index.htm>

approach based on risks and market discipline. The BC-WAEMU does not have complete control in addressing banks' problems, particularly in light of the supranational nature of banking supervision, which means shared authority with the MOF. There is no strong bank crisis resolution mechanism in place. Prudential information submitted periodically by banks is insufficiently automated, and analysis of this information is a source of excessive processing delays. The financial statements produced and published by banks are based on the required chart of accounts implemented in 1996, which has not been updated to reflect recent changes in the international accounting standards. While the regulation provides that banking groups must prepare consolidated accounts, they are not subject to specific supervision, and compliance with prudential ratios is not on a consolidated basis. Finally, forbearance regarding the regulatory and governance environments appears to be high.

Financial Soundness Indicators

Some of the prudential regulations are not in accordance with the international standards (Table 6). Overall, the prudential system is incomplete, as it does not cover market risks, country risk, or interest rate risk. The regulation establishing a ceiling on maximum lending to a given counterpart (75 percent of capital and reserves) is much higher than the limit prescribed by best practices (25 percent) and is a source of excessive risk concentration. Similarly, the regulation on medium- and long-term transformation (the ratio of financing medium- or long-term assets with the same type of resources) is not in line with the best international practices and can hold back the granting of medium- and long-term loans. The portfolio structure ratio is also overly restrictive and may deter bank lending if the BC-WAEMU were to enforce it.¹² Also, according to the 2008 FSAP findings, risk management in banks remains inadequate.

The level of NPLs is likely underestimated (Table 6). According to the WAEMU regulations, loans are classified as nonperforming when they are six months past due, and not three months, which is the international practice. With an average gross NPLs ratio of 18.7 percent at the end of 2011, and increasing to 19.7 percent at the end of June 2012, the quality of bank portfolios varies, with NPLs ratios diverging from low to more than half the portfolio in the case of the housing bank (Banque de l'Habitat du Mali). The provisioning rate, at 67.3 percent at the end of June, remains insufficient and below the WAEMU average. The high level of NPLs is a reflection of the unfavorable business environment and, in particular, of the many difficulties encountered in recovery procedures.

¹² Ibid.

Table 6. West African Economic and Monetary Union: Prudential Ratios

| Requirement | Quantitative Indicator |
|---|---|
| Minimum capital requirement ¹ | CFAF 5 billion (\$10 million) |
| Capital adequacy ratio ² | ≥ 8 percent |
| Limit on lending to single borrower or group | ≤ 75 percent of regulatory capital |
| Limit on loans greater than 25 percent of capital | ≤ 8 times the capital |
| Liquidity ratio ³ | > 75 percent |
| Limit on off-balance sheet fixed assets | ≤ 15 percent of capital |
| Limit on exposure to enterprises' capital | ≤ 15 percent of capital |
| Transformation ratio ⁴ | ≥ 75 percent |
| Limit on fixed assets and equity investment | ≤ 100 percent of capital |
| Limit on insider lending | ≤ 20 percent of total lending |
| Portfolio structure ratio ⁵ | ≥ 60 percent |

Source: Central Bank of West African States.

¹ As of the end of December 2010.

² Regulatory capital/risk-weighted assets.

³ Liquid assets to short-term liabilities.

⁴ Measured as the ratio of medium- or long-term assets financed with the same types of resources.

⁵ At least 60 percent of bank loans should have a positive rating from the Central Bank of West African States.

Banks are well capitalized and appear profitable, but relatively low provisioning remains a problem. With the increase in the minimum statutory capital requirement to CFAF 5 billion at the end of 2010, the sector's capital adequacy ratio remained comfortable at 13 percent at the end of 2011 and has continued to increase to 14.8 percent at the end of June 2012, indicating that all foreign, domestic private, and government-owned bank groups are in a healthy capital position, except for two banks that do not meet the minimum requirement. As of the end of 2011, the average returns on assets and equity were 1.3 percent and 15.6 percent, respectively, yet with significant disparity between banks, as the housing bank's negative results weigh heavily on the sector's average. However, low provisioning inflates profits and is likely to overestimate bank capitalization.

With the establishment of a single Treasury account and the transfer of Treasury deposits to the BCEAO, six banks would be in breach of the liquidity ratio norm. Of these six banks, two are already in breach of this prudential norm prior to the transfer of Treasury deposits. None of the other prudential regulations would be breached with the removal of these deposits.

Stress Test

The stress tests were conducted to apply shocks to the end-of-2010 data of individual banks. The preliminary results are in line with the 2008 FSAP findings:

- Loan concentration continues to be a major source of vulnerability due to the economy's lack of diversification. Banks are highly vulnerable to sectoral shocks, especially in the cotton sector. Loans to CMDT represent 8 percent of total loans, and the default of this single borrower would cause significant damage to the banking system. The banking sector would be severely affected by an increase in the bad debts of its five largest borrowers (among which are Compagnie Malienne pour le Développement des Textiles and the state utility company EDM), who represent more than 30 percent of total loans. This is symptomatic of the very heavy concentration of risks in the banking sector.
- A 50 percent increase in NPLs would have a significant impact on Malian banks, given the already high level of such debt. The system-wide capital adequacy ratio would decline to below the minimum 8 percent requirement.
- Banks are liquid and are resilient to simulated deposit runs.

Microfinance Sector

As of the end of 2012, there were 125 licensed MFIs. These were classified as the mutuals or cooperatives, the associations, and the single ownership societies. As of the end of 2011, the MFIs extended credit equivalent to CFAF 73 billion (1.5 percent of GDP), compared to CFAF 45 billion (1.5 percent of GDP) in 2005 (Table 7). Recent political developments and deterioration in economic activity have significantly affected the MFIs, lowering extended loans to CFAF 68 billion at the end of June 2012.

Despite an improvement in 2011, the quality of the MFI portfolio appears to have deteriorated over time. At the end of 2011, their NPLs had decreased from 7.6 percent in 2010 to 5 percent of total loans. Since March 2012, however, the percentage of NPLs continued to increase and reached 5.3 percent at the end of June. The supervisors in the MOF appear to be

Table 7. Mali: Microfinance, 2005–12

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 ¹ |
|-------------------------------|-------|-------|-------|---------|---------|---------|---------|-------------------|
| Members (in thousands) | 751.3 | 835.1 | 934.9 | 1,006.2 | 1,050.7 | 1,069.4 | 1,071.0 | 1081.0 |
| Deposits (in billions CFAF) | 33.2 | 38.3 | 43.1 | 48.3 | 52.1 | 54.9 | 59.0 | 56.6 |
| Loans (in billions CFAF) | 45.4 | 56.8 | 65.9 | 71.4 | 73.5 | 71.4 | 73.0 | 68.3 |
| NPLs (in billions CFAF) | 2.3 | 2.6 | 3.2 | 4.5 | 4.7 | 5.4 | 3.6 | 3.6 |
| NPL as percent of total loans | 5.1 | 4.5 | 4.9 | 6.3 | 6.5 | 7.6 | 4.9 | 5.3 |

Source: IMF staff estimates and Malian authorities.

Note: NPL = nonperforming loan.

¹ As of the end of June.

inexperienced, and capacity seems low. Thus far, 15 MFIs have been identified as having significant financial difficulties, and 11 were declared bankrupt. The government reimbursed CFAF 1.5 billion in 2010–11.

A new WAEMU-wide microfinance law came into effect in July 2010. All MFIs will have to abide by the provisions of the new law by July 2012. The following are some of the important points of the law:

1. All MFIs are under the licensing agreement of the BCEAO.
2. According to Article 44, any MFI with deposits or assets over CFAF 2 billion in consecutive years will have to be supervised by the BCEAO. There are about 20 such institutions. All other institutions will have to be supervised by the MOF.
3. In response to an application for the establishment of a new MFI, the MOF has three months to verify the application, and the BCEAO also needs to verify it within three months. If no verification is made, the institution cannot be created.
4. Prudential regulations were improved under the law.
5. All institutions with more than CFAF 2 billion will have to provide monthly reports to the BCEAO. Others will have to provide annual reports to the MOF.
6. On-site supervision of the MFIs will need to be done once every three years.
7. A new accounting framework, modeled after that of the banks, will need to be adopted by the MFIs. At this time, the accounting framework used by MFIs does not meet the international accounting standards.

Recent developments have delayed the introduction of the MFI restructuring program. The MOF in cooperation with the MFIs, the BCEAO, and development partners initiated a one-year restructuring program in March 2012. The purpose of the program has been to assess the MFI situation, define restructuring measures, and elaborate a refinancing scheme for the sector.

Reform Strategy Going Forward

Improving financial intermediation and maintaining stability will require concerted and coordinated efforts from both regional and Malian authorities. While changes in the supervision and regulatory framework, including the updating of the prudential norms, will require agreement on the WAEMU level, Malian authorities can take actions to remove impediments to financial intermediation and maintain the stability of the system in a number of areas that fall within their purview.

A new FSDDS is needed to build on the achievements of the last FSDDS and complete the implementation the remaining agenda, including the 2008 FSAP recommendations, taking lessons learned from the March 2011 conference on Mali's challenges and opportunities. Some of the reforms that can be implemented by the Malian authorities in the near future include:

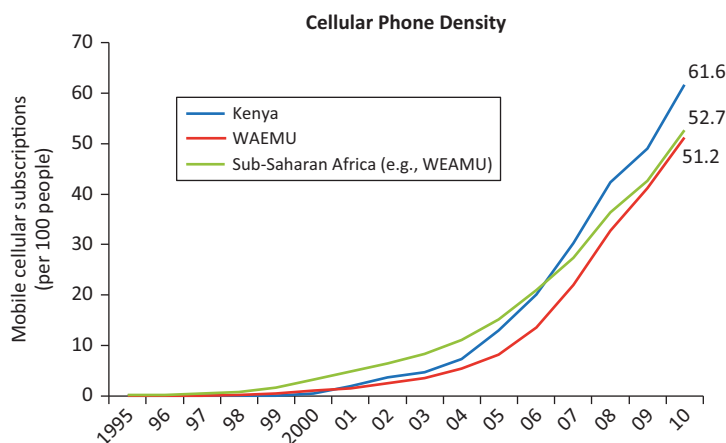
- *On the legal front:* (i) Reviewing the land code and improving the land tenure and land registration regime, with a view to establishing land titles that could be used for obtaining bank loans; (ii) adopting a financing reporting legislation, covering all regulatory aspects of accounting and auditing; (iii) enacting legislation to promote leasing, venture capital, and investment capital, which can provide alternatives to direct bank lending; (iv) adopting regulations that require banks to implement international accounting standards; and (v) enhancing the capacity of the courts.
- *On the institutional infrastructure and provision of better information:* (i) Improving the scope of the credit information at the BCEAO to cover a greater range of information and potential borrowers, particularly the largest SMEs; and (ii) creating a registry for bank guarantees that can be accessed by all and can serve as a tool to facilitate the speedy realization of guarantees in case of nonpayment of bank loans.
- *On the deepening of financial intermediation:* (i) Strengthening and developing MFIs by improving their monitoring and supervision, requiring improved managerial capacity and governance; (ii) removing government deposits, which reduce banks' incentives to compete for private sector resources; and (iii) increasing access to payment services through facilitating the development of banking services via mobile phones, similar to what is done in Kenya (see Box 3).

The authorities will need to devise a strategy to address shortcomings in banks in the aftermath of transfer of public resources to the BCEAO. One option will be to give banks a grace period to improve their product line and increase their deposit taking to capture private resources to replace the public funds. Banks that will be in breach of the prudential norms after the passage of the deadline would have to come under close supervision of the Banking Commission, and administrative decisions will need to be taken to address the breach of prudential norms.

Finally, completing the privatization of the loss making housing bank Banque de l'Habitat du Mali and development bank BRS as soon as possible will allow the authorities to focus on the remaining large agenda of developing the financial sector. In addition to reforms noted previously, such an agenda should also entail working with the regional oversight authorities on aligning prudential regulations with the best international practices.

Box 3. Kenya: Mobile Money and Financial Sector Deepening¹

- The mobile-banking revolution has accelerated financial deepening in Kenya and can be replicated in the countries of the West African Economic and Monetary Union (WAEMU), including Mali.
- M-Pesa is a mobile phone–based electronic retail payment system that was introduced in Kenya in March 2007 by Safaricom, the largest mobile phone operator in the country. The M-Pesa system allows users to deposit and withdraw cash by exchanging currency for electronic value through its network of retail stores, to transfer funds electronically to other users, and to make payments. In some cases, users can also repay loans made by microfinance institutions and make deposits in their bank accounts. While the M-Pesa system records and stores all transactions electronically, Safaricom deposits the full value of its customers’ balances in the system in pooled accounts in two regulated banks. These deposits do not produce yields for users.



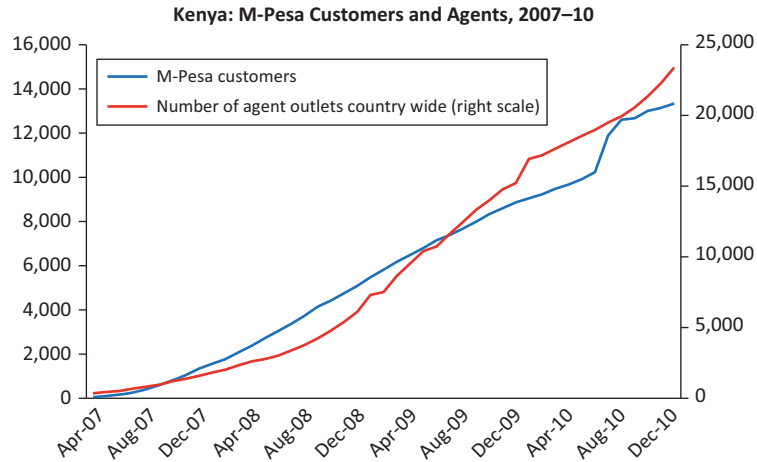
Note: SSA = sub-Saharan Africa; WAEMU = West African Economic and Monetary Union.

- Since M-Pesa’s inception, it has grown to nearly 15 million clients representing more than 30 percent of the country’s population and has a network of close to 32,000 agents, making it the most widely used mobile phone–based money service in the world. Similar schemes have emerged in other countries of the East African Community, including Uganda and Tanzania.

¹ This box is based on the *Regional Economic Outlook, Sub-Saharan Africa, April 2011* (International Monetary Fund, 2011b), *Regional Economic Outlook, Sub-Saharan Africa, April 2011: Recovery and New Risks*. [Washington: International Monetary Fund, April] and a study by Rodrigo Garcia-Verdu (Garcia-Verdu, Rodrigo, 2011, “Financial Development in the West African Economic and Monetary Union (WAEMU) since 2006,” IMF Country Report 12/59 [Washington: International Monetary Fund, February]).

Box 3. (concluded)

- The WAEMU member countries, including Mali, have the necessary basic infrastructure to replicate such a mobile payment system. They have an average penetration of cellular phone subscribers that is similar to that registered in Kenya and the average for sub-Saharan Africa. In 2010, the WAEMU region had a cellular phone density of 51 subscriptions for every 100 people, while Kenya had 62 and the average for sub-Saharan Africa was 53.
- The expansion of mobile banking can be consistent with continued financial stability. The authorities will need to ensure that adequate regulatory and supervisory safeguards, as well as a conducive environment for business (avoiding in particular the dominance of early entrants), are in place. Also, the authorities will need to maintain a close dialogue with the private sector to ensure its active involvement in policy formulation and enforcement.



- Mobile banking offers the possibility of greatly increasing access to a range of payment services at moderate costs, as financial institutions do not need to incur the high costs of building and operating branches. Therefore, it also has the potential to become a convenient savings instrument for low-income households.

External Stability Assessment in Mali¹³

This chapter undertakes an assessment of the external stability of the Malian economy through focusing on price and nonprice indicators. The real exchange rate appears broadly in line with fundamentals, while export performance has been stable; export diversification has decreased due to overreliance on gold, and qualitative competitiveness indicators point to significant structural bottlenecks. Mali needs to improve its business environment in order to enhance competitiveness.

Composition of the Balance of Payments

Mali is a low-income country with a significant current account deficit (excluding official grants) that over the last decade averaged at about 10 percent of GDP (Table 8) and was financed by aid and foreign direct investment inflows, mainly in the gold and telecommunications sectors, resulting in a modest net positive contribution to the foreign exchange reserves of the Central Bank of West African States.

Export Performance

Mali's exports are heavily concentrated on gold and have thus benefited from the rapid gold price increase in recent years (Figure 9). However, despite favorable terms-of-trade change, Mali's share of world exports has remained virtually stagnant over the past decade (Figure 10).

Given the limited gold reserves, Mali's future export performance will depend crucially on export diversification, which is also an important competitiveness indicator. This chapter calculates a Herfindahl-Hirschman Index¹⁴ (HHI)

¹³ This chapter was prepared by Eral Hitaj, with research assistance from Douglas Shapiro.

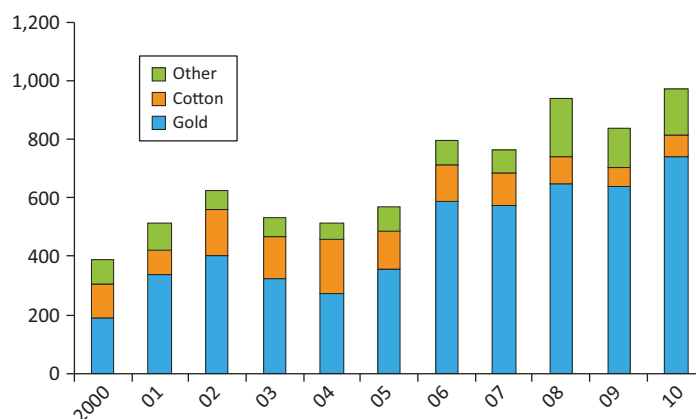
¹⁴ This chapter uses the usual HHI, defined as the sum of the squares of the export shares by sector or country of destination.

Table 8. Mali: Balance of Payments, Selected Items

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| | (In percent of GDP, unless otherwise indicated) | | | | | | | | | | | |
| Current account balance (excluding official grants) | -12.0 | -12.8 | -4.5 | -9.8 | -9.8 | -10.6 | -6.8 | -8.7 | -13.4 | -9.2 | -14.8 | -11.5 |
| Official aid flows (including grants) | 6.8 | 5.7 | 6.0 | 7.3 | 5.1 | 6.2 | 7.1 | 5.3 | 3.8 | 6.7 | 5.4 | 4.5 |
| Capital and financial account (excluding aid flows) | 6.7 | 5.5 | 2.8 | 7.1 | 1.1 | 6.1 | 0.5 | 3.1 | 8.8 | 9.8 | 7.3 | 7.4 |
| <i>Of which:</i> Foreign Direct Investment | 3.0 | 3.4 | 2.2 | 3.1 | 1.8 | 2.7 | 1.2 | 2.3 | 2.1 | 8.4 | 4.2 | 2.8 |
| Change in reserves (–, increase) | -1.5 | 1.6 | -4.3 | -4.7 | 3.6 | -1.7 | -0.8 | 0.3 | 0.8 | -7.2 | 2.1 | -0.6 |
| | (millions USD) | | | | | | | | | | | |
| Imputed reserves | 369.2 | 353.0 | 574.7 | 927.7 | 838.9 | 862.6 | 969.2 | 1070.9 | 1055.9 | 1621.1 | 1298.6 | 1409.3 |

Sources: IMF staff calculations and Malian authorities.

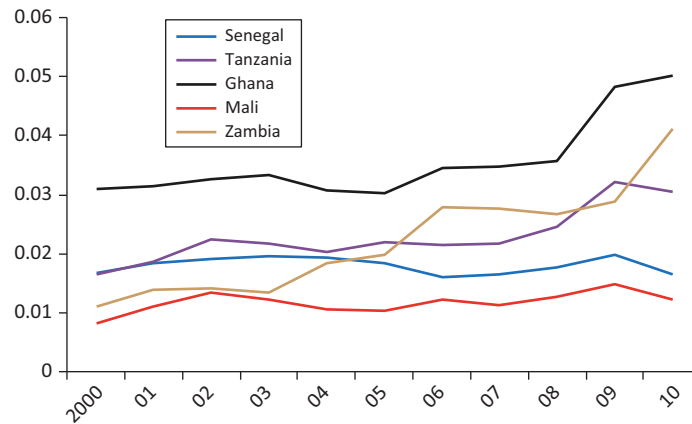
Figure 9. Mali: Export Structure (in billions CFAF)



Sources: Comtrade database and IMF staff calculations.

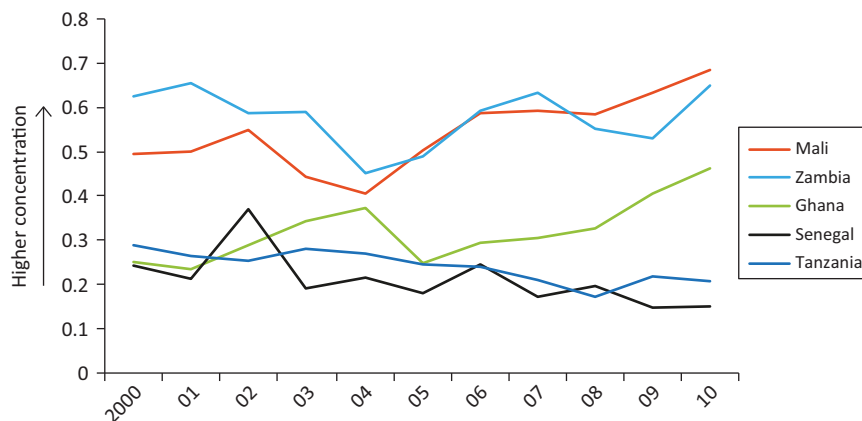
of concentration across sectors and countries of destination for select sub-Saharan African countries (Figures 11 and 12), which shows that Mali has a relatively high HHI of export concentration across sectors as well as destination countries, as most of the gold is exported to South Africa. The increase in export concentration, combined with the stagnant export share, points to a loss of competitiveness, the effect of which will be felt more once the gold reserves start to dwindle. Mali needs to intensify export

Figure 10. Share of GNFS Exports in Selected Sub-Saharan African Countries (as a percentage of world GNFS exports)



Sources: Comtrade database and IMF staff calculations.

Figure 11. Herfindahl-Hirschman Index of Concentration: Export Sector



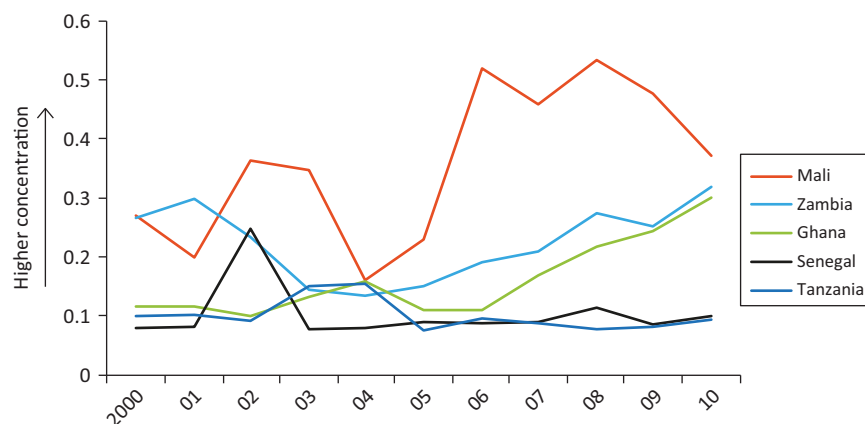
Sources: Comtrade database and IMF staff calculations.

diversification through exporting new products, increasing the share of currently minor export sectors, and exporting to new markets.

Structural Competitiveness Criteria

The challenging business environment is a major impediment to private sector development, which is crucial for product and export diversification away from the gold sector. Survey data collected by the World Bank (2012) and the World Economic Forum (2012) indicate that while the macroeconomic

Figure 12. Herfindahl-Hirschman Index of Concentration: Country of Destination



Sources: Comtrade database and IMF staff calculations.

Table 9. Mali: 2011 Global Competitiveness Index Rankings

(Out of 142 countries, best = 1)

Mali ranks less favorably on health and primary education, and financial market development, but "better" on the macroeconomic environment.

| | |
|-------------------------------|-----|
| Overall ranking | 128 |
| Subcategories | |
| Macroeconomic environment | 66 |
| Innovation | 87 |
| Institutions | 108 |
| Infrastructure | 113 |
| Market size | 117 |
| Technological readiness | 127 |
| Higher education and training | 128 |
| Business sophistication | 131 |
| Financial market development | 133 |
| Health and primary education | 137 |

Source: World Economic Forum.

environment is deemed favorable, Mali's overall structural competitiveness appears relatively low (Tables 9 and 10). Mali's business environment is notably hampered by inadequate investor protection, low financial market development, insufficient access to electricity, difficulties in paying taxes, and low health and education standards. The present political and security crisis, if protracted, is also likely to have a negative impact on the business environment.

Table 10. Mali: 2011 Doing Business Indicators Rankings

(Out of 183 countries, best = 1)

Mali ranks less favorably on paying taxes and protecting investors, but better on registering property and dealing with construction permits.

| | |
|---------------------------|-----|
| Overall ranking | 146 |
| Subcategories | |
| Registering property | 91 |
| Dealing with construction | 95 |
| Resolving insolvency | 111 |
| Getting electricity | 113 |
| Starting a business | 115 |
| Getting credit | 126 |
| Enforcing contracts | 132 |
| Trading across borders | 146 |
| Protecting investors | 147 |
| Paying taxes | 163 |

Source: World Bank.

Alignment of the Real Exchange Rate with Macroeconomic Fundamentals

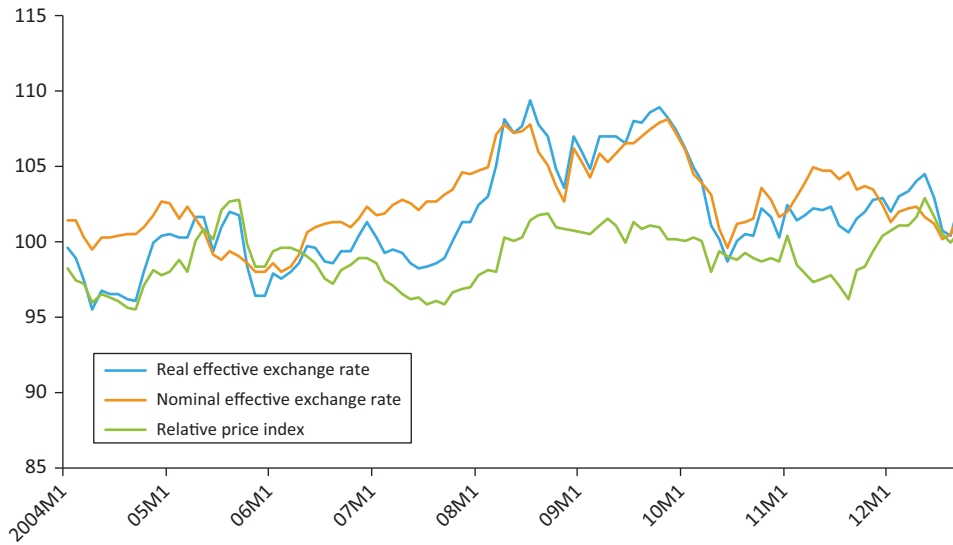
After a sharp depreciation during the first half of 2010, the real effective exchange rate (REER) has been on a slight appreciation trend, which continued into 2011 (Figure 13). While during the second half of the last decade REER appreciation has been caused primarily by the appreciation of the nominal effective exchange rate, relative price increases have had a stronger effect over the last year. The periods when relative price movements have been the driving force behind REER fluctuations have been characterized by sharp changes in food prices due to local and global dynamics, suggesting no evidence of Dutch disease induced by aid inflows or gold export receipts.

REER assessments based on all three Consultative Group on Exchange Rates approaches (Lee et al., 2008) suggest that Mali's real exchange rate is broadly in line with fundamentals (Table 11).

The Equilibrium Real Exchange Rate Approach

The equilibrium real exchange rate approach estimates the equilibrium REER (EREER) as a function of economic variables that cause persistent deviations from long-run purchasing power parity. The coefficients in

Figure 13. Mali: Trends in the Real and Nominal Effective Exchange Rates (Index 2005 = 100)



Source: IMF staff calculations.

Table 11. Mali: Quantitative Exchange Rate Assessment Results

| | Current Account (in percent of GDP) | | Current Account Elasticity ^{1,2} | REER Misalignment ³ |
|-------------------------|--|------------|---|-----------------------------------|
| | Norm | Underlying | | |
| Equilibrium REER | ... | ... | | -5.8 |
| Macroeconomic balance | -4.2 | -6.3 | -0.22 | 9.6 |
| External sustainability | -3.3 | -6.3 | -0.22 | 11.1 |

Source: IMF staff estimates.

Note: REER = Real Effective Exchange Rate.

¹ Current account elasticity = Export elasticity * Share of exports in GDF - ((Import elasticity - 1) * Share of imports in GDP).

² Tokarick (2010) estimates Mali's export and import elasticities as 0.363 and 1.41, respectively.

³ In percentage, the absence of “-” = overvaluation.

equation (1) are obtained using a panel regression on a dataset that includes 22 nonoil-exporting sub-Saharan African countries over the 1990–2010 period.¹⁵

$$EREER = -0.47 + 0.1*LTOT - 0.26**PROD - 0.97***AID, \quad (1)$$

(1.91) (-1.72) (-2.18)

¹⁵ Equation (1) includes only the variables whose coefficients were significant at the 20 percent level or above. The *t*-statistics of the estimators are displayed in brackets. Four, three, two, and one asterisks indicate statistical significance at the 1 percent, 5 percent, 10 percent, and 20 percent levels, respectively.

Figure 14. Mali: Actual and Equilibrium Real Effective Exchange Rate

Source: IMF staff calculations.

Note: EREER = equilibrium real effective exchange rate, REER = real effective exchange rate.

where $LTOT$ denotes the natural logarithm of the terms of trade, $PROD$ denotes relative productivity, and AID denotes aid inflows as a percent of GDP.

Comparing the actual REER with the EREER estimated in equation (1) suggests that Mali's REER has fluctuated around its equilibrium value since the mid-1990s, and at the end of 2011 was modestly undervalued by about 5.8 percent (Figure 14).

The Macroeconomic Balance Approach

The macroeconomic balance approach uses the projected value of economic fundamentals to generate a norm of the current account-to-GDP ratio (current account norm) for the 2012–16 period based on coefficient estimates from Francis Vitek (2012), where aid inflows are included for emerging and developing countries in addition to the explanatory variables used by Lee et al. (2008). The coefficients used to project the current account norm are obtained using a panel regression on a dataset that includes 116 countries over the 1990–2010 period (Table 12). Mali's current account norm is estimated at a deficit of 4.1 percent, whereas the projected underlying current account deficit is 6.3 percent, suggesting a slight overvaluation of the REER. Based on estimates of Mali's trade elasticities by Stephen Tokarick (2010), a real depreciation of about 9.6 percent would be necessary to close the gap between the underlying current account and the norm.

Table 12. Mali: Estimation Results for the Macroeconomic Balance Approach

| | Medium-Term Value [A] | Coefficient [B] | Impact [A]*[B] |
|--|-----------------------|-----------------|----------------|
| Relative old age dependency ratio (in percent) | -7 | -0.14** | 1.0 |
| Relative population growth rate | 2.96 | -0.57* | -1.7 |
| Relative output growth rate | -0.50 | -0.87**** | 0.4 |
| Oil trade balance (in percent of GDP) | -7.97 | 0.29**** | -2.3 |
| Relative fiscal balance (in percent of GDP) | 1.33 | 0.34*** | 0.5 |
| Initial net foreign assets (in percent of GDP) | -21.54 | 0.03**** | -0.7 |
| Aid inflows (in percent of GDP) | 6 | -0.21**** | -1.2 |
| Observations | | 936 | |
| R Squared | | 0.382 | |
| Norm (in percent of GDP) | | | -4.1 |

Source: IMF staff calculations and World Economic Outlook database.

Note: 4, 3, 2, and 1 asterisks indicate statistical significance at the 1 percent, 5 percent, 10 percent, and 20 percent levels, respectively.

The External Sustainability Approach

Under the external sustainability approach, the current account norm is equated to the ratio that stabilizes the medium-run ratio of net foreign assets (NFA) to GDP. This chapter uses the NFA-to-GDP ratio estimated for Mali estimated by Vitek (2012)¹⁶ as the equilibrium NFA ratio. The steady-state relationship between the current account and the NFA ratio is described as (Lee et al., 2008):

$$ca_i^n = \frac{g_i}{(1 + g_i)} nfa_i^n, \quad (2)$$

where ca_i^n denotes a country's steady-state equilibrium ratio of the current account balance to GDP, nfa_i^n denotes the steady-state equilibrium NFA-to-GDP ratio, and g_i denotes the steady-state growth rate of the nominal output, which is estimated at 8 percent for Mali.

The current account norm obtained from this equilibrium relationship is 3.3 percent, which means that the REER would need to depreciate by about 11 percent to stabilize the NFA-to-GDP ratio.

¹⁶ Vitek (2012) estimates the equilibrium NFA ratio as a function of the per capita GDP differential from trade partners and the public debt-to-GDP ratio through a panel regression on a dataset that includes 69 countries over a 31-year period.

Conclusion

This chapter seeks to evaluate the external stability of the Malian economy by focusing on both price and nonprice criteria. The exchange rate assessment suggests that the real exchange rate is broadly in line with fundamentals. Export performance has been stable but overly reliant on gold, and export diversification has decreased. Competitiveness indicators developed by the World Bank and the World Economic Forum suggest that the Malian economy faces significant structural and institutional bottlenecks.

In a context of low inflation and a fixed exchange rate, the burden of enhancing competitiveness rests on Mali's improving nonprice competitiveness indicators. Mali needs to better diversify its exports across products and markets, expand electricity coverage, and improve the business environment by enhancing access to finance, protecting investors, making it easier for businesses to pay taxes, and improving health and education standards.

References

- Lee, Jaewoo, Gian Maria Milesi-Ferretti, Jonathan David Ostry, Alessandro Prati, and Luca Antonio Ricci, 2008, "Exchange Rate Assessments: CGER Methodologies," IMF Occasional Paper 261 (Washington: International Monetary Fund).
- Tokarick, Stephen, 2010, "A Method for Calculating Export Supply and Import Demand Elasticities," IMF Working Paper 180 (Washington: International Monetary Fund).
- Vitek, Francis, 2012, "Exchange Rate Assessment Tools for Advanced, Emerging, and Developing Economies" (Washington: International Monetary Fund, unpublished).
- World Bank, 2012, *Doing Business 2012* (Washington: World Bank).
- World Economic Forum, 2012, *Global Competitiveness Indicators 2012* (Geneva: World Economic Forum).