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CHAPTER

1 Introduction

Following a decade of economic decline and hyperinflation during 2007–08, Zimbabwe's economy has started to grow. The nascent economic recovery has been supported by a significant improvement in economic policies, but important policy challenges and significant vulnerabilities remain to be addressed. A collection of three papers presents current pressing economic issues and possible options for their resolution.

Chapter 2 reviews the pros and cons of alternative monetary regimes for Zimbabwe to succeed the current multi-currency system, which the authorities consider a temporary arrangement. The analysis suggests that some form of official dollarization has significant advantages. Arrangements with the Zimbabwe dollar as sole legal tender could be unstable in the absence of a sufficiently long track record of sound policies.

Chapter 3 assesses competitiveness and external sustainability in debt-distressed Zimbabwe. Although the country may be rich in mineral resources, significant problems with the business climate make it difficult to accelerate their extraction. Staff estimates indicate that the net present value of both net mining export receipts and resource-related budget revenues are not sufficient to resolve external payments arrears. Thus, bringing resource revenue forward (e.g., by mortgaging the future resource cash flow) would not by itself eliminate debt overhang.

The paper has benefited from comments by officials in Zimbabwe and South Africa, as well as Xavier Debrun, Alexandre Chailloux, Sharmini Coorey, Mark Horton, Michael Moore, Carel Oosthuizen, Catherine Pattillo, Rodney Ramcharan, Nikki Sodsriwiboon (all IMF); and Praveen Kumar, (World Bank); and editorial assistance from Colin Brewer, Karen Coyne, Jenny Di Biase, and Breda Robertson. The authors would also like to thank Paul Masson for sharing his Gauss programs, Gian Maria Milesi-Ferreti for updating the NFA data for Zimbabwe to 2008, and the Zimbabwe Chamber of Mines for useful information on the mining sector. The authors are responsible for any errors.

Chapter 4 makes a case for creating fiscal space for growth and development in post-hyperinflation Zimbabwe. The analysis indicates that a combination of revenue-enhancing measures and wage restraint could generate fiscal space of about 5 percent of GDP, which would help improve delivery of public service and rehabilitate infrastructure.

CHAPTER

2 Choosing a Monetary Regime[1]

Background

In late 2008, hyperinflation led to abandonment of the Zimbabwe dollar in transactions and de facto widespread dollarization. The official recognition of the demise of the Zimbabwe dollar took place in February 2009, when authorities established a multicurrency system. Under this system, transactions in hard foreign currencies are authorized, payments of taxes are mandatory in foreign exchange, and the exchange system largely is liberalized.[2] Since the abolition of all surrender requirements on foreign exchange proceeds on March 19, 2009, there has not been a functioning foreign exchange market for Zimbabwe dollars. Bank accounts denominated in Zimbabwe dollars (equivalent to about US$6 million at the exchange rate of Z$35 quadrillion per US$1) are dormant. Use of the Zimbabwe dollar as domestic currency has been discontinued until 2012.

While five foreign currencies have been granted official status, the U.S. dollar has become the principal currency. 3 Budget revenue estimates and the budget expenditure allocations for 2009 were denominated in U.S. dollars, and the subsequent budget for 2010 was also denominated in U.S. dollars. For noncash transactions, the market is exhibiting a strong preference for the U.S. dollar: banks estimate that some four-fifths of all transactions are taking place in U.S. dollars, including most wage payments. Furthermore, stock

[1]Prepared by V. Kramarenko, African Department (AFR), E. Oppers, Monetary and Capital Markets Department (MCM), W. Coats (Consultant), L. Engstrom, and G.Verdier (both AFR).

[2]All but one exchange restrictions for current account transactions have been abolished, and the capital account largely has been liberalized.

[3]Taxes and other public liabilities can only be paid in one of the five foreign currencies (the U.S. dollar, the South African rand, the euro, the pound sterling, and the Botswana pula). The Short-Term Emergency Recovery Program (STERP) adopted by the Inclusive Government in March 2009 presented the rand as Zimbabwe's "reference currency," (Paragraph #310 of the STERP document) but both the government and the private scetor have shown strong preference for the U.S. dollar.

exchange trading takes place in U.S. dollars, the payments systems operate in U.S. dollars, and the banking system and the Reserve Bank of Zimbabwe (RBZ) maintain accounting in U.S. dollars. In cash transactions, the U.S. dollar is the currency of choice, but the rand is prevalent in the South of the country, and it also circulates in the rest of the country, in particular coins. Wider circulation of the rand is prevented by South Africa's capital account controls (Appendix II–2, Box II–2.1). Currencies other than the U.S. dollar and the rand have limited circulation in Zimbabwe.

The multicurrency system has provided significant benefits. In particular, it fostered the re-monetization of the economy and financial re-intermediation, helped enforce fiscal discipline by precluding inflationary financing of the budget, and brought greater transparency in pricing and accounting after a long period of high inflation. As a result, the price level in U.S. dollars declined during 2009, while the economy started to recover.

The multicurrency system also poses a number of challenges. First, prices and wages are usually agreed and quoted in U.S. dollars, while South Africa is Zimbabwe's main trading partner and country of origin of capital inflows. Movements in the U.S. dollar/rand exchange rate therefore have considerable effects on Zimbabwe's competitiveness and international investment position. Second, shortages of small-denomination U.S. dollar banknotes and coins pose difficulties for retailers. Third, some politicians have expressed concern that loss of the national currency and seigniorage is an undesirable erosion of sovereignty and monetary independence.

The government considers the multicurrency monetary regime a temporary arrangement until 2012 at least. Therefore, the pros and cons of maintaining the multicurrency regime indefinitely are not discussed in this paper. Despite the remaining challenges (see above), the multicurrency regime could continue to operate with certain improvements until a new regime is chosen. The necessary improvements include aligning legislation, including the RBZ Act, with the prevailing practice of use of multiple currencies, making exchange controls more transparent, and facilitating the supply of coins, possibly with an agreement with South Africa.

This paper presents the pros and cons of various alternative monetary regimes to assist the government in making an informed choice of a future monetary regime (see Box II–1).[4] This paper does not provide detailed guidance on transition issues from the multicurrency regime to various alternative regimes.

[4]In this paper, dollarization is shorthand for use of any foreign currency. Full official dollarization is considered as the extreme variant of a hard peg.

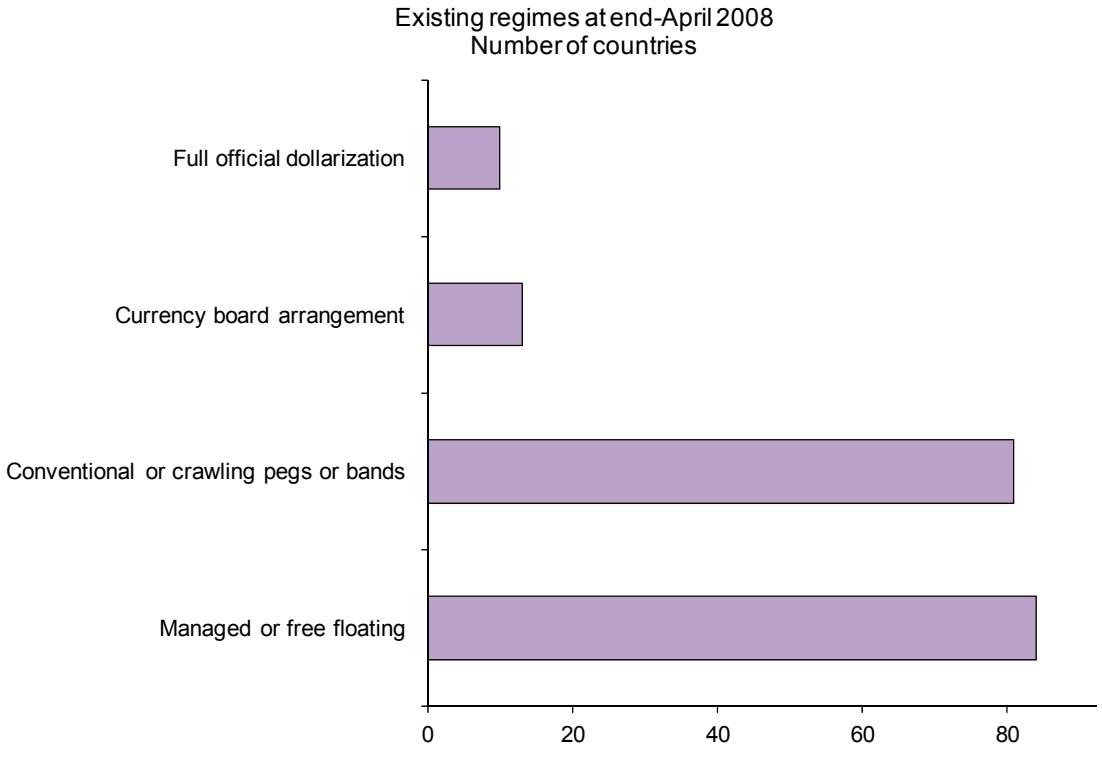
Box II–1. Various Alternatives for Monetary Regimes

Hard pegs

- **Full official dollarization**
  - U.S. dollar as sole legal tender
  - Rand as sole legal tender (with or without CMA participation)
- **CMA participation with parallel circulation of the Zimbabwe dollar**
- **Currency Board arrangement**
  - Peg to the U.S. dollar
  - Peg to the rand without CMA participation

Intermediate and floating regimes

- **Conventional or crawling pegs or bands**
- **Managed or free floating with a clearly defined nominal anchor**



Source: Annual report on Exchange Arrangements and Exchange Restrictions 2009.

Zimbabwe would need a monetary regime that provides an appropriate and credible nominal anchor and reduces the risk of destabilizing speculative attacks. These requirements are particularly important for Zimbabwe, which has monetary and fiscal institutions with low credibility due to a long history of poor governance, weak macroeconomic management, and a recent episode of unprecedented hyperinflation.

Hard Pegs

Benefits and Costs of Hard Pegs

All hard peg arrangements have common benefits and costs. Key *benefits*—low inflation, deeper financial intermediation, and ultimately better growth performance—would materialize only under certain credibility-enhancing institutional conditions. The latter include strong fiscal and monetary institutions that deliver fiscal discipline, and flexible goods and labor markets.[5]

Key *costs* of hard pegs include loss of an autonomous monetary policy, possibly unfavorable exchange rate movements, and limited ability for the central bank to act as lender of last resort:

- Loss of an autonomous monetary policy and the risk for unfavorable exchange rate movements would become main concerns if Zimbabwe adopted the currency of a country that did not meet the conditions for an optimal currency area. (That said, an autonomous monetary policy is beneficial only if supported by the appropriate institutional framework, which, considering previous hyperinflation, may take many years to establish in Zimbabwe.)
- The central bank's ability to act as lender of last resort and extend emergency liquidity assistance to the banking system would be subordinate to the primary objective of keeping the hard peg.

Anchor Currency

The key decision under any fixed exchange rate regime, including official dollarization, is the choice of the anchor currency. The benefits and costs of a specific currency will depend on whether Zimbabwe and the anchor-currency country meet the criteria for an optimal currency area:

[5]Flexible wages and labor markets play an essential role in reducing the output cost in case of an adjustment to unfavorable shocks. The adjustment could become protracted and costly with large, persistent output gaps, if wages react only gradually to increasing and long-lasting unemployment.

- **Trade within the region.** Countries that trade more with each other stand to gain more from a fixed exchange rate. The economic effects could be significant.[6]
- **Shocks affecting the region.** The cost of losing monetary independence is reduced if the countries are affected by symmetric shocks (that is, synchronized shocks).[7]
- **Labor mobility within the region.** This includes the physical ability to travel (visas, workers' rights, and so forth), lack of cultural barriers to free movement (such as different languages), and institutional arrangements. Labor mobility mitigates the cost of losing monetary independence, as it gives the unemployed an opportunity to move from a country in recession and apply for jobs in a growing country.
- **Fiscal transfers within the region.** Fiscal transfers to countries affected by an adverse shock mitigate the cost of losing monetary independence.

In the case of Zimbabwe, the South African rand and the U.S. dollar have both been considered as possible anchor currencies. An assessment based on the four above criteria suggests the rand has an advantage relative to the U.S. dollar from the perspective of trade integration, labor mobility, and potential fiscal transfers, while evidence is mixed on whether shocks are synchronized between Zimbabwe and South Africa.

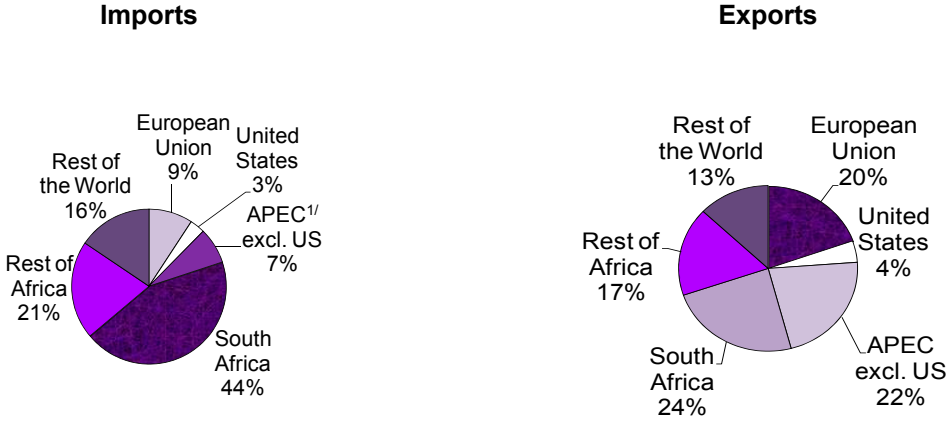
Trade

South Africa is Zimbabwe's dominant trading partner. About 40 percent of Zimbabwe's imports originate from South Africa and about 25 percent of Zimbabwe's exports are delivered to South Africa (Figure II–1). Zimbabwe's trade with the United States is only a small share of total imports and exports. Because of the significance of South Africa, a hard peg to the rand would reduce trading costs and support further trade integration between the two countries. If Zimbabwe joined the South African Customs Union (SACU), a hard peg to the rand would reinforce economic integration with

[6]Frankel and Rose (2000) use a gravity model to argue that countries with currency unions trade two to three times as much with each other as countries with separate currencies.

[7]Frankel and Rose (1998) argue that the correlation of shocks cannot be considered as a given fact that remains constant over time. A monetary union between two countries is likely to boost trade integration and in turn make the business cycles and the shocks affecting both countries more symmetric. As a result, the cost of losing monetary independence would decline over time.

Figure II–1. Geographical Distribution of Zimbabwe's Imports and Exports, Averages 2000-08



Source: Direction of Trade Statistics.

1/ Asia-Pacific Economic Cooperation.

South Africa and the countries whose currencies are pegged to the rand in part owing to the absence of exchange rate fluctuations.[8] This, in turn, would contribute to lower real effective exchange rate volatility.

Shocks

The synchronization of two types of shocks is examined. First, correlations between disturbances to output are analyzed. Second, comovements of terms of trade are studied.

Correlation of disturbances to output (Box II–2). A statistical analysis of underlying output disturbances indicates that shocks to Zimbabwe's economy have not been correlated with those to the United States' economy. Evidence is mixed for correlations of Zimbabwe's output shocks with those for South Africa. No statistically significant correlation of shocks to output appears for the entire period under review (1977–2000). In the 1980s,

[8]Among SACU's five member countries, three members (Lesotho, Namibia, and Swaziland) have their currencies pegged to South Africa (the largest member), while Botswana has a crawling peg to a basket of currencies.

Zimbabwe benefited from rapid post-independence growth, while South Africa under the apartheid government was subject to international

sanctions. However, South Africa and Zimbabwe appear to have had relatively synchronized shocks during the 1990s, when both countries enjoyed a period of relative economic stability.

Correlations of terms of trade (Box II–3). Zimbabwe's terms of trade movements were not synchronized either with the United States or South Africa during 1986–2008. No statistically significant correlation appears between Zimbabwe's and United States' terms of trade. The correlation between Zimbabwe's and South Africa's terms of trade is negative and statistically significant. Although both Zimbabwe and South Africa are major mineral-exporting countries, agricultural exports were more important for Zimbabwe during the 1980s and 1990s. In fact, agriculture (dominated by tobacco) made up more than 40 percent of Zimbabwe's export earnings during the 1980s and the 1990s, while agricultural products represented a small share of South Africa's export. Zimbabwe's agricultural exports have declined rapidly since the late 1990s, which is likely to make Zimbabwe's and South Africa's terms of trade more synchronized.

Labor mobility

Observed actual emigration from Zimbabwe to South Africa is a crucial safety valve, mitigating the social and humanitarian costs of Zimbabwe's economic problems. Zimbabwe's unemployed have been moving to South Africa for more than 10 years. A recent study estimates that about one million Zimbabweans lived in South Africa by the end of 2007.[9] The Zimbabwe-born population is estimated at about 12 million with about 7.5 million in the working-age group of 15–64 years. This suggests that more than 10 percent of the working-age population has moved to South Africa. Most emigrants entered South Africa illegally without the required papers. To regularize an increasingly difficult situation and improve control over migration, South Africa removed visa requirements for Zimbabwean's in April 2009. Zimbabweans are now allowed to enter South Africa for up to 90 days and seek temporary work on a visitor's permit. While there is no statistical information on emigration to the United States, it is clearly much more modest.

[9]Centre for Development and Enterprise (2008). Data on migration is notoriously difficult to collect and understand. Porous borders, corrupt officials, poor record keeping, and migrants who come and go make migration numbers for Zimbabwe and South Africa even more unreliable than normal. Some observers claim that the actual number of migrants is significantly higher. Unverifiable estimates have presented numbers as high as 3 million.

Box II–2. Shocks to Zimbabwe's Economy—A Statistical Analysis

To what extent are shocks to Zimbabwe's economy correlated to shocks affecting South Africa and the United States? A statistical three-step approach used by Bayoumi and Ostry (1994) and Wang et al. (2007) was applied to answer this question.

First, a unit root (Augmented Dickey Fuller) test was carried out on the time series data of the natural log of per capita real GDP for Zimbabwe, South Africa, and the United States for the period 1974–2004. The test confirmed that the time series are integrated of order 1. As a result, the next step used the first difference of the per capita real GDP.

Second, for each country, the change in the natural log of per capita real GDP was regressed upon its first to fourth lags, as described in the following equation:

$$\Delta\left(\frac{y}{l}\right)_t = \beta_0 + \sum_{i=1}^{4} \beta_i \Delta\left(\frac{y}{l}\right)_{t-i} + \mu_t$$

where $\left(\frac{y}{l}\right)_t$ is the natural log of per capita real GDP at period t and μ_t is an error term, capturing the deviations of per capita real GDP from the estimated long-run trend. The residuals from these regressions are estimates of the underlying disturbances affecting each country.

Third, the correlation of the residuals was estimated. If the correlation is positive and significant, we conclude that the countries are affected by symmetric shocks, but a negative and/or insignificant correlation is the result of asymmetric shocks.

The estimates indicate that shocks to Zimbabwe's economy have been asymmetric and uncorrelated to shocks affecting South Africa or the United States during the period 1977–2000. Estimated parameters are low and do not refute the null hypothesis of no correlation. However, for a shorter period covering 1990–98, Zimbabwe and South Africa seem to have been affected by symmetric shocks, as shown by a relatively high correlation.

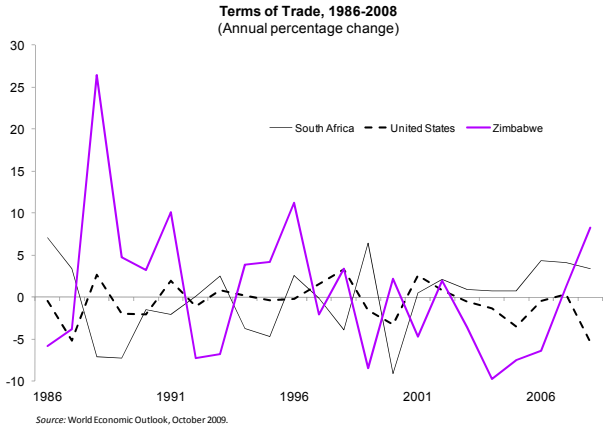
Correlation of Underlying Disturbances, 1977-2000

	Zimbabwe	
	1977-2000	1990-1998
South Africa	0.11	0.61 *
United States	-0.18	-0.26

Source: IMF staff estimates.

Note: * indicates that the correlation is significantly different from zero at the 10 percent level.

Box II–3. Terms-of-Trade—A Statistical Analysis



Correlation of Changes in Terms-of-Trade, 1986-2008

	Zimbabwe
	1986-2008
South Africa	-0.53 **
United States	0.26

Source: IMF staff estimates.

Note:
** indicates that the correlation is significantly different from zero at the 5 percent level.

Fiscal transfers

Fiscal transfers from abroad would mitigate the cost of losing monetary independence. The cost would be reduced, if more fiscal resources became available from abroad in case of a negative shock to Zimbabwe's economy. At present, there are no automatic fiscal transfers between South Africa and Zimbabwe. However, Zimbabwe could potentially join SACU, which as an organization has a revenue-sharing formula favoring poorer member countries. SACU revenue sharing could, therefore, mitigate a

negative shock to Zimbabwe's economy in case of an idiosyncratic shock to its economy.[10]

Full Official Dollarization

Compared with hard pegs, full official dollarization has additional benefits and costs.[11]

Benefits:

- Given the current widespread dollarization and the nonfunctionality of the Zimbabwe dollar, full official dollarization would be the easiest option to implement in the near term operationally and institutionally.
- If credible, dollarization eliminates the risk of future currency crises (in this respect, dollarization is a stronger arrangement than a currency board), thereby reducing market-determined interest rate spreads over the interest rates of the country whose currency is adopted. Credibility can be boosted by political backing of the country whose currency is adopted and an agreement on seigniorage sharing.
- By definitely rejecting the possibility of inflationary finance, dollarization may also strengthen fiscal policy institutions.
- Dollarization would reduce costs of international transactions with the country whose currency is adopted (in this respect, dollarization has more advantages than a currency board arrangement), thereby promoting trade and financial integration.

Costs:

- The loss of seigniorage from issuing domestic currency. This cost can be eliminated or reduced if there is agreement on sharing seigniorage with the country whose currency is adopted as legal tender.
- Even if a national currency is re-introduced at some stage, de facto widespread dollarization will most likely persist.

For Zimbabwe, among potential legal tender currencies, the U.S. dollar and the rand have clear advantages relative to other

[10]As a current member of COMESA (the Common Market for Eastern and Southern Africa), an issue arises whether Zimbabwes membership in this organization would be compatible with joining SACU.

[11]Extensive analysis is provided in Salvatore et al. (2003).

currencies given the established practice. In addition to the previous discussion, full official dollarization with the dollar as sole legal tender brings the following advantages:

- The dollar circulates more widely in Zimbabwe than any other foreign currency, pricing and accounting are predominantly undertaken in dollars, and the payments systems function in U.S. dollars. All these factors would facilitate a smoother transition to full official dollarization with the U.S. dollar as sole legal tender.
- The United States does not impose capital account restrictions, which would facilitate use of U.S. dollars in cash and noncash transactions. However, shipping U.S. dollar coins is cost-prohibitive, which would mean that coins may need to be minted domestically, provided strong accountability and international reserve backing arrangements could be put in place (see the example of Ecuador, Appendix II–1).
- The United States has deeper and more developed financial markets, potentially making it easier for the government and the private sector to benefit from an eventual reduction in interest rate spreads.

The advantages of the rand as the anchor currency presented in the previous discussion remain valid in full official dollarization with the rand as sole legal tender. Any additional advantages from this option can be derived only through the Common Monetary Area (CMA) membership (which is possible without reintroducing the Zimbabwe dollar) or a bilateral agreement on relaxation of South Africa's restrictions on exportation of banknotes and coins:

- Zimbabwe and South Africa can potentially agree on sharing seigniorage similarly to the existing arrangements of South Africa with Lesotho and Namibia in the context of the CMA. The ensuing political backing of South Africa would strengthen the credibility of the new monetary regime in Zimbabwe.
- The rand would also offer more appropriate small denominations, and banknote and coin handling costs would be lower than with the U.S. dollar. Absent CMA membership, this advantage can be realized through a bilateral agreement with South Africa.

CMA Membership with Parallel Circulation of the Zimbabwe Dollar

Under CMA membership with reintroduction of the Zimbabwe dollar, domestic currency would circulate alongside the anchor currency at a one-to-one parity, and reserve money would be fully backed by

Table II–1. Selected Economic Data for CMA and Zimbabwe
(In billions of U.S. dollars)

	CMA	South Africa	Zimbabwe
Nominal GDP, 2009	291.0	277.4	4.4
Broad money, end-December 2009	278.6	272.6	1.3
Stockmarket capitalization, end-December 2009	…	799.0	about 4

Sources: For CMA members: Nominal GDP and broad money as reported in World Economic Outlook, October 2009 and stockmarket capitalization as reported by Haver Analytics. For Zimbabwe: Fund staff estimates.

international reserves in a currency board arrangement. Similar monetary frameworks have been adopted by Lesotho and Namibia (Appendix II–2).

The initial impact of Zimbabwe's CMA membership would most likely be small on the rest of the CMA. Zimbabwe's GDP was less than 2 percent of the CMA total in 2009 and broad money and stock market capitalization were less than 1 percent of the corresponding CMA total at the end of December 2009 (Table II–1).

A model by Debrun, Masson, and Patillo (2005 and 2009) has been calibrated to estimate possible gains to Zimbabwe from CMA membership (Box II–4).[12] The exercise compares CMA membership with a currency regime with some scope for monetary policy discretion (that is, CMA membership is not compared with the existing multicurrency system in place since early 2009). The model predicts that Zimbabwe would gain significantly from CMA membership, while the welfare of existing CMA members would fall marginally. Most of the gain for Zimbabwe would come from increased fiscal discipline. In other words, the model predicts that CMA membership is better than an independent currency, as Zimbabwe would benefit from the credibility of the CMA framework.

The CMA was established to promote "sustained economic development" of its members—currently Lesotho, Namibia, Swaziland, and South Africa—and to "encourage the advancement of the less developed members of the Common Monetary Area."[13] If

[12]The calibration of the model is summarized in Appendix II–3.

[13]CMA Agreement, Article 2.

Box II–4. How Large are the Gains from CMA Membership?

The model by Debrun, Masson and Patillo (2005, 2009) offers a framework to quantify gains from CMA membership. In the model, countries that consider entering a monetary union differ along three dimensions: size, distortions affecting fiscal policy, and random supply shocks. The model features the classic Barro-Gordon inflationary bias: monetary authorities want to increase output through unexpected increases in inflation, but the public anticipates the central bank's actions and the resulting higher level of inflation. In a monetary union, the common central bank faces a steeper Phillips curve as it receives a lower benefit from any particular monetary injection. The slope of the new Phillips curve is a function of trade linkages across member states.

In the model there are three sources of net welfare gains from membership in a currency union:

- **Monetary externality:** This externality results from lack of policy coordination. With independent currencies, countries have an incentive to engage in beggar-thy-neighbor policies which result in excessive inflation. The higher the intensity of trade linkages across member countries, the greater the gains—in terms of lower inflation—stemming from monetary unification.
- **Fiscal externality:** Government spending can be financed by the inflation tax or through taxation. However, each government loses revenues through inefficiencies (for example, tax collection costs) or by spending on socially detrimental projects (for example, corruption). If financing needs are too high to cover both socially beneficial spending and institutional deadweight loss, the inflation rate will be positive. Gains from unification arise from the fact that the level of inflation now reflects the average level of financing needs across members. Countries joining a union with less profligate members will benefit from the fiscal restraints of their counterparts.
- **Terms-of-trade asymmetry:** A potential loss of welfare may arise from the fact that the common central bank can modify policy only imperfectly in response to country-specific shocks.

Net Welfare Gains from Zimbabwe CMA Membership
(in percent of own GDP, unless otherwise indicated)

Lesotho	-0.28
Namibia	-0.27
South Africa	-0.35
Swaziland	-0.35
Total (percent of CMA GDP)	-0.35

	Total	Monetary externality	Fiscal externality	TOT asymmetry
Zimbabwe	24.2	4.5	20.9	-0.6

The model is calibrated to Zimbabwe and current CMA members. It predicts that existing members' welfare would fall marginally, by about 1/3 of 1 percent of CMA GDP. Zimbabwe, however, would gain over 24 percent of GDP with most of the gain stemming from the fiscal externality.

A word of caution: this result is based on very strong assumptions about the value of calibrated parameters and functioning of monetary and fiscal policy. In addition, the exercise compares CMA membership to monetary policy with an independent and free-floating currency, though the multicurrency system has been in place since early 2009.

Zimbabwe determined that the benefits of promoting the use of the rand outweighed those of the U.S. dollar, joining the CMA and reintroducing the local currency would have several added benefits, but also at certain added costs.[14]

Additional advantages

- Zimbabwe would be able to issue its own currency under currency board rules (see below).
- Zimbabwe would benefit from stronger confidence in its monetary regime due to external discipline that CMA membership would provide.
- Zimbabwe would receive seigniorage for its use of the rand, and it would be able to derive its own seigniorage from issuance of local currency (Box II–5).
- Institutions in the public and private sector in CMA member countries, subject to relevant financial laws and policies applicable to counterparts in South Africa, have the right of access to the South African capital and money markets.
- The central banks and authorized dealers in foreign exchange in CMA member countries have access to the foreign exchange market in South Africa.
- There are no restrictions on the transfers of rand funds within the CMA whether for current or capital account purposes, except for optional domestic asset requirements for domestic financial institutions.
- While the Reserve Bank of South Africa would effectively determine the monetary policy of Zimbabwe, the arrangements explicitly provide for policy consultation.

Additional disadvantages

- Adoption of the regime requires agreement with CMA members, which may be difficult or time-consuming to obtain.

[14]van Zyl (2003).

Box II–5. Sharing of Seigniorage within the CMA

Seigniorage for the use of the rand is calculated as follows:

$s = (2/3)*(i^{bondyield})*(cu^{R})$, where

$i^{bondyield}$ = annual yield on most recently issued long-term South African government stock

cu^{R} = an estimate of the volume of rand in circulation in Zimbabwe

The 2/3 is a compromise to take account of the estimated interest earned by a portfolio invested in both long-term and short-term assets in the CMA area.

As an example, assuming average bank deposits of US$1,350 million in 2010 and households holding currency equal to 20 percent of total bank deposits, the potential amount of currency in circulation is estimated at US$270 million for 2010. If all currency was denominated in rand and the average bond yield is assumed to be 8.5 percent, the CMA revenue-sharing formula would allocate about US$15 million ((2/3)*0.085*US$270 million) to Zimbabwe in 2010.

Box II–6. Elements of Exchange Controls

	CMA	Zimbabwe
Foreign exchange accounts held domestically	Residents may hold at most R4 million in foreign currency deposits with commercial banks.	No limits on holdings of foreign currency deposits in USD, ZAR, EUR, GBP, and the Botswana Pula.
Credit operations	Residents need prior approval to contract loans with non-residents.	Residents can freely contract loans with non-residents for amounts up to US$5 million.
Investment-related payments	Prior approval is requested for the payment of amortization of loans, depreciation of direct investments, and remittances of profits and dividends.	Prior approval is requested for the payment of interest and amortization of loans, if the amount exceeds US$1.5 million. Payments of dividends, profits, and income from capital as well as payments of depreciation of direct investments do not need prior approval.

- Zimbabwe would be subject to common CMA exchange controls vis-à-vis the rest of the world, which could raise significant transition issues given more liberal capital account controls in Zimbabwe and the current market preference for the U.S. dollar in Zimbabwe (Box II–6).

- If the Zimbabwe government gained access to capital markets, the risk of its borrowing could be potentially mispriced and fiscal discipline weakened due to a possible (unjustified) market perception that Zimbabwe could be bailed out by other CMA members. (The existing CMA framework does not allow for such a bailout).

Currency Board Arrangement

Zimbabwe could issue its own currency as sole legal tender under currency board rules. It would buy or sell its currency in response to market demand in exchange for foreign currency at a legislatively fixed exchange rate, thus automatically insuring 100 percent foreign reserve asset backing. The currency board authority could not borrow, lend, or buy domestic assets other than from capital (or other surpluses).[15]

Additional advantages

- A currency board imposes as much discipline on the monetary authority as does dollarization, provided currency board rules are clearly defined and implemented in practice.
- Under a currency board, a country issues a national currency (a national symbol desired by many countries) and receives associated seigniorage revenue.
- Maintenance of a stock of fit notes and coins would be easier than with a foreign currency.

Additional disadvantages

- Significant time might be needed to garner political support for adopting central bank and fiscal responsibility legislation consistent with international best practice.
- Given a long history of governance problems at the RBZ and high inflation, the credibility of a currency board arrangement without externally imposed safeguards could be low even if new central bank and fiscal legislation were fully compliant with international best practice. Existing banking system vulnerabilities, if not addressed, would further undermine the credibility of a currency board.

[15]For a discussion of currency board rules see Coats (2007).

- Currency boards are vulnerable to speculative currency attacks because they only guarantee 100 percent reserve coverage of base money, and a large share of banking deposits is not covered. Considering the history of Zimbabwe, speculative currency attacks would most likely represent a major challenge and the currency board could become a succession of fixed but adjustable pegs.[16]

The advantages and disadvantages of the U.S. dollar and the rand as anchor currency are the same as presented for fixed exchange rate regimes in the previous discussion.

Intermediate and Fully Flexible Exchange Rate Regimes

Other options include regimes that could vary from conventionally fixed or adjustable pegs/bands, to crawling pegs/bands, to managed floating or freely floating exchange rates. These monetary policy regimes would increase the degree of monetary policy autonomy. A monetary policy regime without an exchange rate anchor (that is, managed or free floating) requires an explicit and clearly understood alternative nominal anchor to guide monetary policy and to provide a basis for central bank credibility and accountability. Best practice for market-determined exchange rate regimes is "inflation targeting" or, more properly, "inflation forecast targeting." This is the regime adopted by the Reserve Bank of South Africa. In the medium term, Zimbabwe will face significant challenges in implementing intermediate or fully flexible exchange rate regimes because of significant credibility problems associated with the past history of high inflation, governance problems at the RBZ, and fiscal dominance, as well as a low level of financial development and significant weaknesses in statistical databases (both precluding reliable monitoring and forecasting of macroeconomic indicators).

Conclusion

CMA membership would bring significant benefits in terms of regional trade and financial integration and seigniorage sharing. Zimbabwe would also gain from the credibility of a well-established monetary framework while re-introducing its national currency. However, transition challenges, including the requirement to adopt South Africa's more restrictive capital account controls and to promote a wider circulation of the rand, would need to be addressed.

[16]Credibility and resilience of the currency board could be enhanced by a larger than 100 percent reserve coverage of base money, but at a significant fiscal cost.

Full official dollarization with the U.S. dollar as sole legal tender would be the most straightforward option to implement both operationally and institutionally in the near term, as the U.S. dollar has already become the dominant currency in the multicurrency system. However, beyond the short term, there is a disadvantage of belonging to a currency area which is not optimal for Zimbabwe.

A currency board arrangement with the Zimbabwe dollar as sole legal tender would allow the country to collect the full amount of seigniorage, provided de facto dollarization declines, and reassert full sovereignty over the currency and exchange control issues. However, it would be a significant challenge to make this framework credible even if all strict institutional preconditions for the establishment of the currency board are put in place and enacted. The credibility of the currency board could be boosted by more than 100 percent coverage of base money, which would involve significant fiscal costs.

Intermediate and flexible exchange rate arrangements would increase the degree of monetary policy autonomy, but in the absence of a relatively long track record of sound policy implementation under a well established credible institutional framework such regimes could become inherently unstable.

Appendix II–1. Ecuador's Experience with Transition to Full Official Dollarization

There are several examples of full official dollarization. Panama adopted the U.S. dollar as legal tender in 1904 without retaining a central bank (Moreno-Villaz, 2005). **El Salvador,** which had a history of low inflation**,** fully dollarized in 2001, in order to achieve lower interest rate spreads and facilitate closer integration with international financial markets. Other countries and territories, including **East Timor, Montenegro,** and **Kosovo,** also operate dollarized monetary regimes. This appendix presents the experience of Ecuador in its transition to full official dollarization, which was orderly and well designed (IMF, 2000). The analysis of subsequent economic difficulties facing Ecuador goes beyond the scope of this paper.

Transition to New Legal Tender

Following the adoption of a comprehensive stabilization package in early 2000, a number of steps were implemented in Ecuador to adopt the U.S. dollar as legal tender:

- A prohibition on local currency issue (except as fully backed coins).

- An announcement of a fixed conversion rate vis-à-vis the U.S. dollar, which was close to a market exchange rate. The central bank had enough gross official reserves to buy back local currency banknotes and back the remainder of reserve money which is translated into U.S. dollars at the preannounced exchange rate.
- An obligation of the central bank to exchange local currency for U.S. dollars at the preannounced exchange rate and retire from circulation all purchased local currency banknotes.
- An obligation of all economic agents to translate their accounts into U.S. dollars.
- A shift to all budget payments in U.S. dollars at the outset of dollarization and tax collection exclusively in U.S. dollars by the end of the transition period.
- Translation of all local currency-denominated loans and deposits in the banking system into U.S. dollars with a one-time mandated reduction in nominal interest rates.

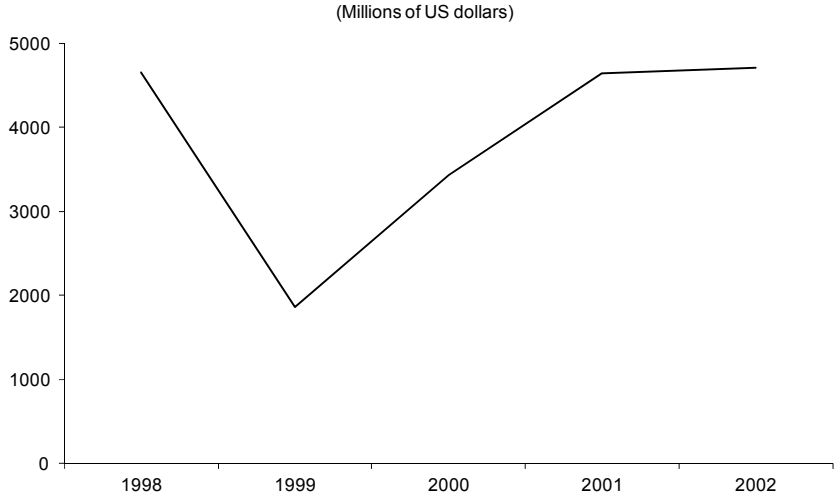
Institutional Changes

Central Bank

Ecuador's central bank retained a number of functions following dollarization in part owing to significant weaknesses in commercial banks, which would have prevented an effective operation of a fully private monetary system such as the one in Panama:

- Liquidity support (through U.S. dollar-denominated liquidity facilities partly financed by international financial institutions); participation in money markets; and, at the initial stage of dollarization, market making in the government securities market.
- Fiscal agent.
- Macroeconomic analysis and research.
- Financial stability and lender of last resort function to the extent of available foreign currency reserves.
- Payment system services.
- Cash handling.

Figure II - 1.1. Ecuador: Banking System Deposits



Source: Internatonal Financial Statistics (IFS) data base.

Financial system

In Ecuador, dollarization has increased confidence in the banking system and has helped financial re-intermediation. Deposits in the banking system increased from US$1.9 billion in 1999 to over US$4 billion in 2001, strengthening the liquidity of the banking system and its lending capacity.

Budget and budgetary agencies

Dollarization in Ecuador had significant implications for fiscal operations:

- All tax obligations and assessments were required to be made in U.S. dollars and settled either in U.S. dollars or local currency during the transition period and only in U.S. dollars thereafter.
- All expenditures items were implemented in U.S. dollars at the outset of dollarization.
- Fiscal adjustment mainly occurred on the revenue side with an improvement in revenue collection by 2 percent of GDP during the first year of dollarization.

Table II - 1.1. Ecuador: Summary of Consolidated Nonfinancial Public Sector Operations
(In percent of GDP)

	1998	1999	2000	2001	2002
Total revenue	19.1	22.5	27.6	24.7	25.9
Petroleum	3.9	6.2	9.2	6.4	5.7
Non-petroleum	15.1	15.6	17.6	17.8	19.3
Operating surplus of public enterprises	0.1	0.7	0.9	0.5	0.9
Total expenditure	24.1	27.1	26.5	25.1	25.1
Overall surplus or deficit (-)	-5.0	-4.6	1.0	-0.5	1.0

Source: IMF (2003).

Appendix II–2. CMA Institutional Framework[17]

Currency Arrangements. Article 2 of the CMA (Multilateral) Agreement gives the three small member countries—Lesotho, Namibia, and Swaziland (LNS)—the right to issue national currencies, and their bilateral agreements with South Africa define principles of bilateral relations with South Africa. The local currencies issued by the three members are legal tender only in their own countries. The South African rand, however, is legal tender throughout the CMA. The bilateral agreements also require the LNS countries to permit authorized dealers within their territories to convert, at par, notes issued by their central banks or the South African Reserve Bank without restriction and subject only to normal handling charges.

Under the Lesotho–South Africa and Namibia–South Africa bilateral agreements, the central banks of Lesotho and Namibia are required to maintain foreign reserves at least equivalent to the total amount of local currencies they issue. Such reserves may comprise the central bank's holdings of rand balances, the rand currency the central bank holds in a Special Rand Deposit Account with the SARB, South African government stock (up to a certain proportion of total reserves), and investments in the Corporation for Public Deposit in South Africa.

Movement of Funds within the CMA. Under the terms of the CMA Agreement (Article 3), no restrictions can be imposed on the transfer of funds, whether for current or capital transactions, to or from any member country. The only exceptions are the member countries' investment or liquidity requirements for financial institutions. The small member countries view the investment and liquidity requirements as a measure of savings

[17]Wang et al. (2007), pages 8–11.

mobilization for development purposes. The regulations requiring the investment of funds by financial institutions in domestic securities or credits to local businesses or individuals are, in effect, minimum local asset requirements. These regulations are meant to address the concern of the three small, less developed CMA members that funds generated in their territories and deposited with local financial institutions tended to flow to the more developed capital markets of South Africa.

Access to South African Financial Markets. The CMA Agreement gives the three small member countries access to the South African capital and money markets, but only through prescribed investments or approved securities that can be held by financial institutions in South Africa, in accordance with prudential regulations in the LNS countries. The terms and timing of such issues are subject to consultation and agreement with the South African government, and the issues have the same rating as South African municipal bonds.

As for the short-term money markets, there are no regular arrangements for the taking up in South Africa of treasury bills issued by the LNS countries. However, the CMA Agreement recognizes the right of the other member countries, in special circumstances, to enter into bilateral negotiations with South Africa to obtain temporary central bank credit.

Gold and Foreign Exchange Transactions. Although the LNS countries have the right to authorize foreign transactions of local origin, and are responsible for doing so, the CMA Agreement (Article 5) requires their exchange control regulations to be—in all material aspects—similar to those in effect in South Africa (Box II–2.1). Gold and foreign exchange receipts of residents are subject to a surrender requirement. There are no exchange restrictions on current international transactions and for nonresidents.

Compensation Payments. South Africa compensates Lesotho and Namibia for forgone seigniorage. Compensation is based on a formula equal to the product of (i) two thirds of the annual yield on the most recently issued long-term South African government stock and (ii) the volume of rands estimated in circulation in the member country concerned. The ratio of two-thirds was established on the assumption that it approximated the yield of a portfolio of reserve assets comprising both long-term and short-term maturities, assuming the average yield would be less than the full long-term yield.

Consultation and Other Provisions. To facilitate implementation of the CMA Agreement, the member countries have established a commission in which each of them has one representative (along with advisors as needed). The commission holds regular consultations—at least once a year—to reconcile the interests of member countries on common issues pertaining to monetary and foreign exchange policies. It also convenes at other times at

Box II–2.1. Elements of Exchange Controls in South Africa

- Residents may hold at most R4 million in foreign currency deposits with commercial banks.
- Residents need prior approval to contract loans with nonresidents.
- Prior approval is requested for the payment of amortization of loans, depreciation of direct investments, and remittances of profits and dividends.
- Residents and nonresidents are allowed to export rand-denominated banknotes up to R5,000.
- From outside the CMA area, residents and nonresidents are allowed to import rand-denominated banknotes only up to R5,000.

the request of a member country. Article 9 of the CMA Agreement provides for establishment of a tribunal to arbitrate disputes that might arise between member countries regarding the interpretation or application of the agreement.

Appendix II–3. The Debrun, Masson, and Pattillo Model

The Debrun, Masson and Patillo (2009) model is based on the following equations:

Phillips curve with regional spillovers	$y_i = y_N + c\left(\pi_i - \pi_i^e - \tau_i\right) - \sum_{k \neq i, k=1}^{n} \theta_{i,k} c\left(\pi_k - \pi_k^e\right) + \varepsilon_i \ , \ i = 1,..., n$
Government budget constraint (no debt)	$g_i = \overline{\rho}_i + \mu \pi_i + \tau_i - \delta_i$
Government's utility function	$U_i^G = \frac{1}{2}\left\{ -a\left(\pi_i - \widetilde{\pi}_i\right)^2 - b\tau_i^2 - \gamma\left(g_i - \widetilde{g}_i\right)^2 \right\} + y_i$
Trade-off between output and inflation variability	$\widetilde{\pi}_i = -\eta \varepsilon_i$ with $\eta > 0$
Supranational monetary policy	
Phillips curve faced by the common central bank for each member of M	$y_i = y_N + c\left(1 - \theta_i^M\right)\left(\pi_M - \pi_M^e\right) - c\tau_i - \sum_{k \notin M} \theta_{i,k} c\left(\pi_k - \pi_k^e\right) + \varepsilon_i \ ,$ $\forall i \in M$, with $\theta_i^M = \sum_{k \in M} \theta_{i,k}$

Key variables and parameters

π_i	Inflation rate in country i. A superscript "e" designates a rationally expected value.
y_i	Logarithm of output in country *i*.
y_N	Logarithm of the natural level of output at zero taxation.
τ_i	Tax revenues in percent of output.
$\theta_{i,k}$	Marginal effect of monetary policy in country *k* on output in country *i*.
ε_i	Terms of trade shock (zero-mean, transitory, and with finite variance).
g_i	Socially beneficial government expenditure in percent of output.
μ	Inflation tax base in percent of output.
$\overline{\rho}_i$	Permanent nontax revenue from natural resource endowment in percent of output.
δ_i	Funds diverted from socially beneficial government expenditure in percent of output.
η	Relative preference for output stability against inflation stability.

Source: Debrun, Masson, and Patillo (2009).

The calibration of the main parameters is as follows:

Parameter	Country variation	Definition	Calibration
Financing needs	Country-specific	Wasteful and socially beneficial spending	"Ideal" revenues estimated as a function of macroeconomic variables and governance
μ	Common	Captures the base for the inflation tax	Average broad money to GDP for SSA, 1994-2005
c	Common	Captures effect of monetary surprises on output	Use estimates of Phillips curve for Africa
Welfare parameters	Common	Utility-function parameters	Estimated from model-derived relationships
θ_{ij}	Country-specific	Trade intensity	Exports of country i to j as ratio to GDP
η	Common	Captures trade-off between variability of inflation and variability of output	Proportional to the ratio between standard deviation of terms of trade shocks and inflation shocks
Shock asymmetry	Country-specific		Correlation of terms-of-trade shocks

Source: Debrun, Masson and Patillo (2009).

Details are available in the Debrun, Masson and Patillo paper.

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CHAPTER

3 Assessing Competitiveness and External Sustainability in Zimbabwe[18]

Introduction

After many years of falling output and hyperinflation, Zimbabwe has been experiencing a fragile recovery since early 2009. During its decade-long economic downturn, Zimbabwe's external position deteriorated sharply, with the country unable to meet many of its external obligations and accumulating arrears. The jump start in growth has so far been consumption-led, but Zimbabwe's export sector, in particular mining, could potentially recover quickly and provide much needed fiscal revenues to a cash-strapped government with large external obligations.

In the staff's medium-term baseline projection (on current policies), Zimbabwe continues to run large current account deficits financed by short-term and volatile capital inflows and accumulation of arrears. Zimbabwe is in debt distress: external debt—of which about 64 percent corresponds to external arrears—is projected to be about 151 percent of GDP by 2015 (Table III–1).

This paper raises three inter-related questions relevant for the analysis of external stability in the context of Zimbabwe. First, to what extent can the country increase exports, including from mining, and attract foreign financing in the medium term to strengthen its balance of payments position?

Second, what is the current stock of Zimbabwe's net foreign assets, including the net present value (NPV) of future mineral exports? And third, is it

[18]Prepared by G. Fernandez, Strategy, Policy, and Review Department (SPR) and G. Verdier, African Department (AFR).

Table III-1. Zimbabwe: Selected Economic Indicators, 2008-15

	Estimated		Projected					
			Baseline					
	2008	2009	2010	2011	2012	2013	2014	2015
Real GDP growth (annual percent change) 1/	-14.5	4.0	2.2	0.0	1.0	1.8	2.0	2.0
Nominal GDP (US$ millions)	3,929	4,397	5,144	5,488	5,845	6,159	6,517	6,892
Consumer price inflation (annual percent change) 2/	6E+10	6.5	5.0	5.0	5.0	5.0	5.0	5.0
Central government (percent of GDP, measured in US$)								
Revenue and grants	3.4	22.2	26.1	26.8	26.4	26.3	26.3	26.3
Expenditure and net lending	6.5	25.0	33.7	30.4	31.7	32.0	32.0	32.0
Of which: Cash expenditure and net lending	3.1	20.9	30.7	26.9	26.4	26.3	26.3	26.3
Employment Costs	1.5	11.8	17.8	19.7	21.2	21.0	21.1	21.1
Overall balance (including quasi-fiscal activity)	-32.1	-3.3	-7.6	-3.6	-5.3	-5.7	-5.7	-5.7
Cash balance	0.3	1.2	-4.5	-0.1	0.0	0.0	0.0	0.0
Money and credit (US$ millions) 3/								
Broad money (M3)	314	1,276	1,511	…	…	…	…	…
Domestic credit	140	602	1,048	…	…	…	…	…
Of which: credit to the private sector	140	684	1,055	…	…	…	…	…
Balance of payments (percent of GDP)								
Current account balance (excluding official transfers)	-24.0	-30.1	-23.0	-13.2	-13.6	-13.6	-13.6	-13.3
Overall balance	-15.9	0.7	-14.1	-8.4	-7.6	-5.8	-5.7	-5.5
Official reserves 4/								
Gross official reserves (US$ millions;end-of-period)	6	312	114	114	114	115	115	115
Gross official reserves (months of imports of goods and services)	0.0	1.0	0.3	0.4	0.4	0.4	0.4	0.4
Total external debt (percent of GDP; end-of-period) 5/	147.5	162.5	149.0	148.3	149.0	150.5	150.9	151.3

Sources: Zimbabwean authorities; IMF staff estimates and projections.

1/ In constant 2009 prices.
2/ For 2008, annual average January–September 2008.
3/ Zimbabwe dollar values converted into U.S. dollars at the UN exchange rate at the end of 2008.
4/ Gross official reserves as reported by the authorities are adjusted for encumbered deposits, securities, banks' Real Time Gross Settlement accounts, and required statutory reserves.
5/ Includes arrears and amounts for unidentified financing.

possible to bring part of mineral revenues forward to settle external payments arrears and achieve a sustainable balance of payments position?

The summary of the findings is as follows:

- The initial conditions in terms of competitiveness are unfavorable for exports and foreign and domestic investments, making it difficult to achieve a rapid increase in exports and FDI, including in mining. Indeed, Zimbabwe performs poorly in terms of competitiveness whether it is measured by governance (including rule of law, property rights, and corruption), investment climate (including enforcement of property rights and infrastructure), or price indicators.

- At the end of 2009, Zimbabwe's net foreign asset position (NFA) was significantly negative. Including the estimated NPV of future mineral receipts under an optimistic scenario in which the competitiveness issues mentioned above are addressed, the NFA position is negative in the order of -63 percent of GDP. This reflects a large debt overhang and infrastructure and regulatory bottlenecks that slow the pace of extracting gold and platinum—key high-value minerals in Zimbabwe—and diamonds. Just maintaining this high level of the negative NFA would

require generating non-mineral primary external current account surpluses whereas this balance now stands at more than -35 percent of GDP. Closing such a large gap without debt relief is not feasible in the foreseeable future, even if the challenges with competitiveness and the business climate are addressed without further delays.

- The present value of the government in-take from mineral resource wealth (based on the current tax system) was estimated at 42 percent of GDP at the end of 2009. This amount is significantly smaller than the size of Zimbabwe's arrears on external public and publicly guaranteed debt (104 percent of GDP). This suggests that bringing forward resource revenues would not provide sufficient financial resources to reduce gross debt, eliminate arrears, or solve the problem of public debt overhang.
- Only a combination of sound policies and debt relief would help achieve external and growth sustainability and increase benefits associated with mineral wealth by accelerating the pace of extraction and providing access to fresh foreign financing at a lower cost.

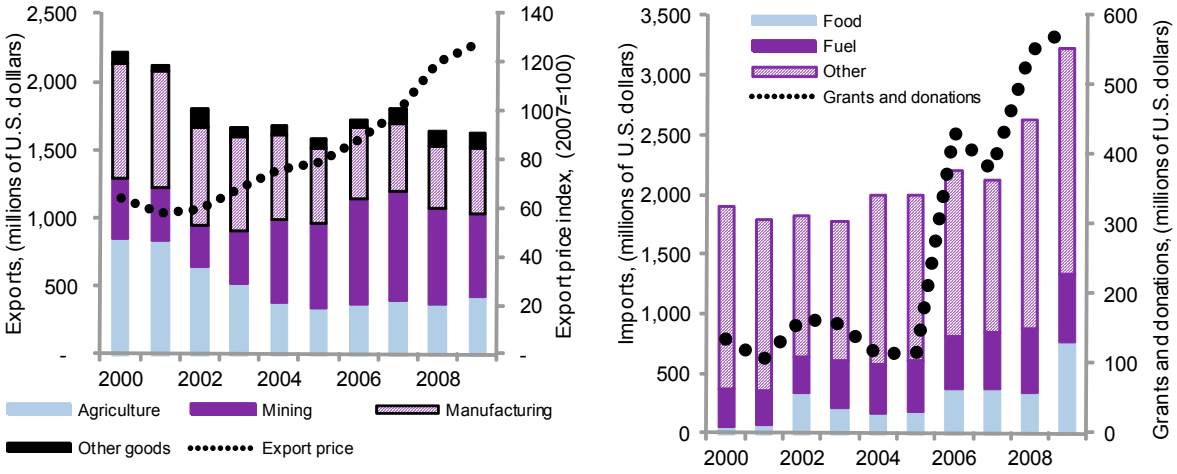
These findings are subject to important caveats. Significant uncertainty exists regarding proven mineral reserves and possible extraction rates in the foreseeable future, as well as extraction costs and investment requirements. Because of these limitations, estimates are tentative. That said, the orders of magnitudes of estimates appear robust for plausible changes in assumptions.

The remainder of the paper is organized as follows. We first describe recent balance of payments developments before reviewing indicators of competitiveness in Zimbabwe in the second section. The last section presents measures of Zimbabwe's external position and an assessment of the economy's external sustainability.

External Sector: Recent Developments

Zimbabwe's external position is precarious. The current account has been in deficit for the past decade. Exports have stagnated over the past 10 years on account of the disruptive economic environment. Investment in key export sectors is handicapped by inadequate infrastructure, high operational costs are exacerbated by wage pressures, and the poor business climate makes Zimbabwe less attractive to investors. Agriculture's share in exports has fallen substantially as continued land redistribution has contributed to large declines in production (Figure III–1). Higher food and fuel prices in 2008, and increases in volumes of donor-financed humanitarian aid, led to a significant rise in imports. Moreover, the tentative 2009 recovery increased import demand, boosted by public spending and the expansion of credit to the private sector (Figure III–1). Staff estimate that in 2009 the current

Figure III-1. Zimbabwe: Exports and Imports of Goods, 2000-2009



Sources: Zimbabwe authorities and IMF staff estimates.

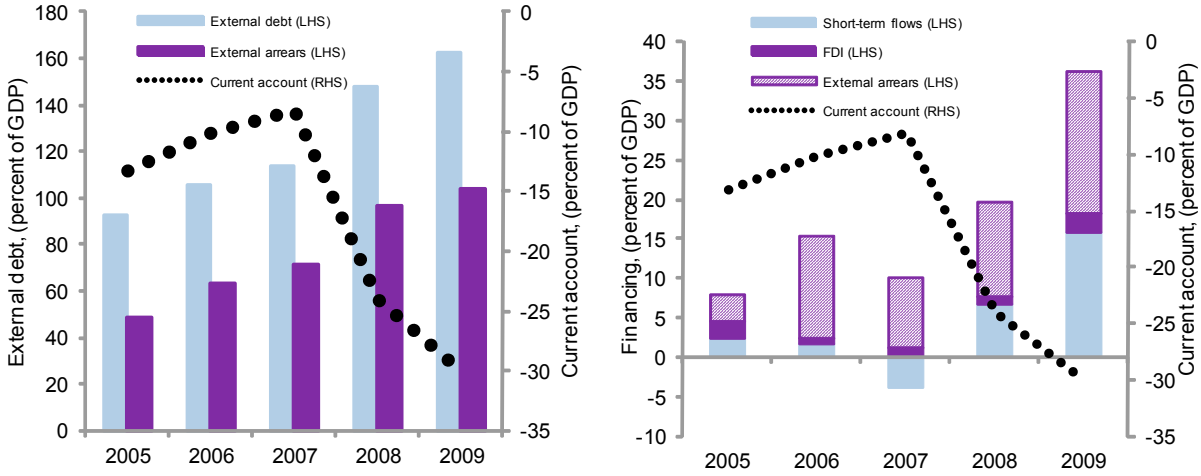
account deficit reached 30 percent of GDP and external debt rose to US$7.1 billion (162 percent of GDP), with external arrears accounting for about 64 percent of external debt.[19] Dependence on donor aid has also increased significantly, with current and capital transfers through NGOs estimated at 12 percent of GDP in 2009. The current account deficit, excluding transfers through NGOs, amounted to 41 percent of GDP in 2009.

Zimbabwe faces significant capital account vulnerabilities. Given Zimbabwe's large current account deficit and its inability to meet its external financial obligations, external arrears account for a large portion of its external financing (Figure III–2). Moreover, Zimbabwe has been unable to attract large long-term capital flows, relying instead on short-term flows which are more vulnerable to sudden stops.[20] More recently, the government has started converting a one-time SDR allocation (US$410 million) to finance budgetary expenditures, which is contributing to a rapid depletion of international reserves. As a result, Zimbabwe is particularly vulnerable to adverse shocks to its balance of payments. In early 2010, increased uncertainty about indigenization legislation slowed capital inflows and deteriorated investors' confidence, which has added further pressure to the already vulnerable external position.

[19]External arrears include principal and interest obligations in arrears and estimated penalties on interest and principal arrears.

[20]Long-term flows include long-term capital and foreign direct investment whereas short-term flows are comprised of portfolio investment, capital transfers and short-term capital (e.g., changes in banks' net foreign assets).

Figure III-2. Zimbabwe: External Financing, 2005 - 2009



Sources: Zimbabwe authorities and IMF staff estimates.

Measuring and Assessing Zimbabwe's Competitiveness

This section analyzes non-price measures of Zimbabwe's structural competitiveness and shows that Zimbabwe is one of the worst performers relative to comparator countries. An analysis of non-price measures could help in assessing a country's relative competitiveness and identify areas where reforms are most needed to address binding constraints on growth. We consider the most widely used indicators: (i) the Global Competitiveness Index of the World Economic Forum; (ii) the World Governance Indicators of the World Bank; (iii) the Doing Business Report indicators of the World Bank; and (iv) the Corruption Perception Index of Transparency International. In addition, we also look at other measures of competitiveness, such as business startup costs, wages, and access to basic infrastructure.

Zimbabwe performed poorly on structural competitiveness indicators across all dimensions relative to comparator countries, which means it is less competitive in the global market place. Table III–2 provides a summary of the relative position of Zimbabwe compared with PRGT-eligible and HIPC countries. According to *the Global Competitiveness Index*, which captures the set of policies, institutions and factors that determine the level of productivity of a country, Zimbabwe ranks 132 among 133 countries surveyed. *The World Governance Indicators* reflect survey opinions across several dimensions: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. Again, Zimbabwe's score fell well below the average scores in PRGT-eligible and HIPC countries across all dimensions, with regulatory quality and rule of law having the lowest

Table III-2. Summary Indicators of Structural Competitiveness

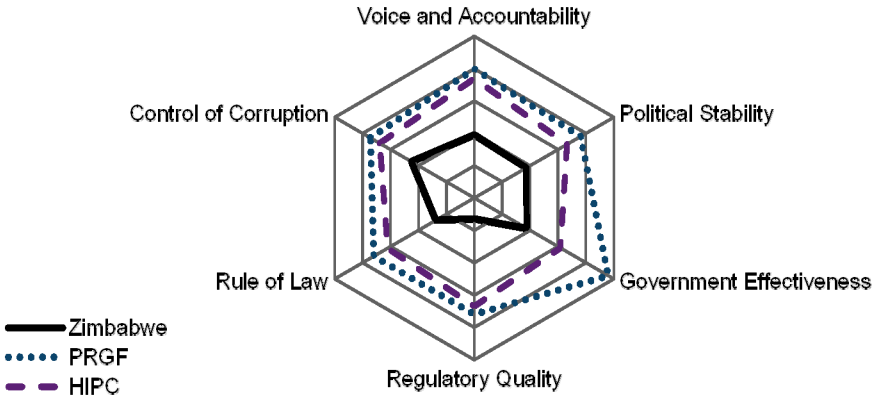
Indicator	Zimbabwe	PRGT	HIPC	Range of values	Interpretation
Global Competitiveness Index	2.8	3.5	3.4	1.0-7.0	higher value is better
World Governance Indicators	-1.7	-0.5	-0.8	-2.5 - +2.5	higher value is better
Ease of Doing Business	159.0	125.1	146.1	1-183	lower ranking is better
Corruption Perception Index	2.2	2.7	2.5	0-10.0	higher value is better

Sources: Global Competitiveness Report (2009-2010), World Economic Forum; Ease of Doing Business Report, World Bank (2010); World Governance Indicators, World Bank (2008); and Transparency International's Corruption Perception Index (2009). IMF staff calculations.

scores (Figure III–3). The World Bank's *Doing Business Report* ranks Zimbabwe 159th out of 183 countries studied. By component, although Zimbabwe has done better than most of its comparator countries in the areas of registering property and enforcing contracts, it has done worse than most countries in terms of starting a business, dealing with construction permits, getting credit, protecting investors, paying taxes, and closing a business. Finally, Zimbabwe is perceived to have more corruption relative to comparator groups.

Business costs in Zimbabwe are higher relative to comparator countries. Table III–3 shows that it takes more time and costs to start a business in Zimbabwe compared with other countries in the region. Indicators of wage costs are also higher compared to most countries in the SSA region (Figure III–4). Finally, the level of access to most basic infrastructure in

Figure III-3. Zimbabwe: Components of World Governance Indicators, 2008



Source: World Bank World Governance Indicators (2008)

Table III-3. Zimbabwe: Starting a Business Indicators

Country	Procedures (number)	Time (days)	Cost (percent of income per capita)
Zimbabwe	**10**	**96**	**499.5**
Angola	8	68	151.1
Botswana	10	61	2.1
Lesotho	7	40	27.0
Namibia	10	66	20.4
South Africa	6	22	5.9
Swaziland	13	61	33.9

Source: Doing Business 2010 in Zimbabwe, World Bank.

Table III - 4. Comparative Infrastructure Indicators, 2008

Indicators	Zimbabwe	Angola	Botswana	Lesotho	Namibia	South Africa	Swaziland	Sub-Saharan Africa Average	Low income Countries	Lower middle income Countries	Upper middle income Countries
Access to electricity (% of population)	40	12	22	5	34	66	..	27	26	67	84
Electric power consumption (kwh per capita)	831	109	..	..	..	3860	..	719	642	929	2566
Improved water source (% of population with access	81	53	95	79	87	88	62	65	63	83	92
Improved sanitation facilities (% of population with access)	53	31	42	37	25	65	48	37	38	68	84
Total telephone subscribers per 100 inhabitants	8	11	54	17	31	82	23	19	9	37	85

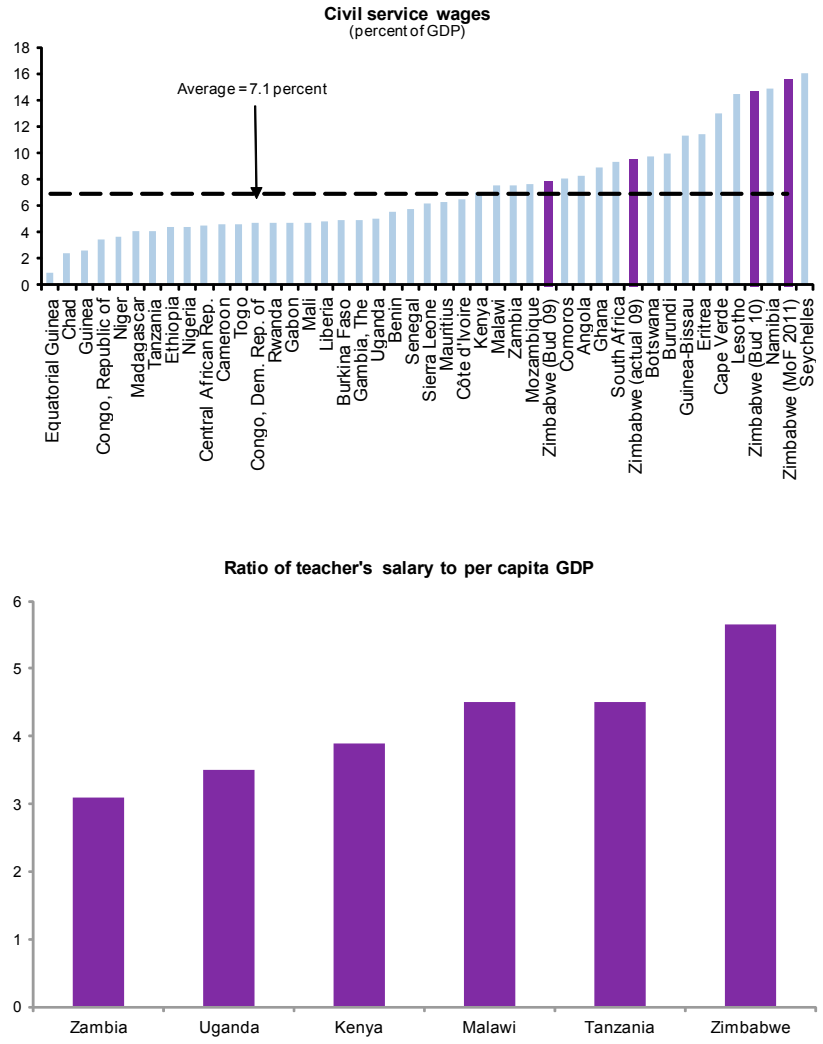
Source: Private Participation in Infrastructure (PPI) Project Database, World Bank.

Zimbabwe (for 2008) falls between those in low-income and lower middle-income countries (Table III–4), except for the proportion of telephone subscribers to the population, which is lower than the average in low-income countries. Infrastructure, however, has recently deteriorated, and related services have declined in Zimbabwe.

Measuring and Assessing Zimbabwe's Net External Position

In this section, we estimate the NFA position based on the sum of two components: a backward-looking component —Zimbabwe's NFA (financial) position—and forward-looking component based on the NPV of Zimbabwe's mining receipts. Subsequently, we provide a qualitative assessment of the implications of the NFA position, including estimates of the NPV of mining receipts, for assessing Zimbabwe's potential to outgrow the existing debt overhang.

Figure III-4. Zimbabwe: Civil Service Salaries



Source: World Economic Outlook (October 2009); and IMF staff estimates.

Estimates of Zimbabwe's NFA (Financial)

In light of significant data limitations, we will rely on two different methodologies to estimate Zimbabwe's NFA at the end of 2009. Both methodologies produce estimates of the back-ward-looking measure of the NFA of a similar magnitude.

The first methodology is based on the updated External Wealth database constructed by Lane and Milesi-Ferretti (2007), containing information on the value of external assets and liabilities for 145 countries between 1970 and 2008. The stock measures are based on cumulative flow data with valuation

Table III-5. Zimbabwe, External Position, 2007-09
(in billions of U.S. dollars; unless otherwise indicated)

	Estimated		
	2007	2008	2009
External position based on			
External Wealth	-5.8	-6.3	-8.2
Public and private net assets	…	-7.2	-8.1
of which: Public and publicly guaranteed debt	…	-5.5	-6.4
	(in percent of GDP)		
External position based on			
External Wealth	…	-160	-186
Public and private net assets	…	-182	-184
of which: Public and publicly guaranteed debt	…	-139	-146

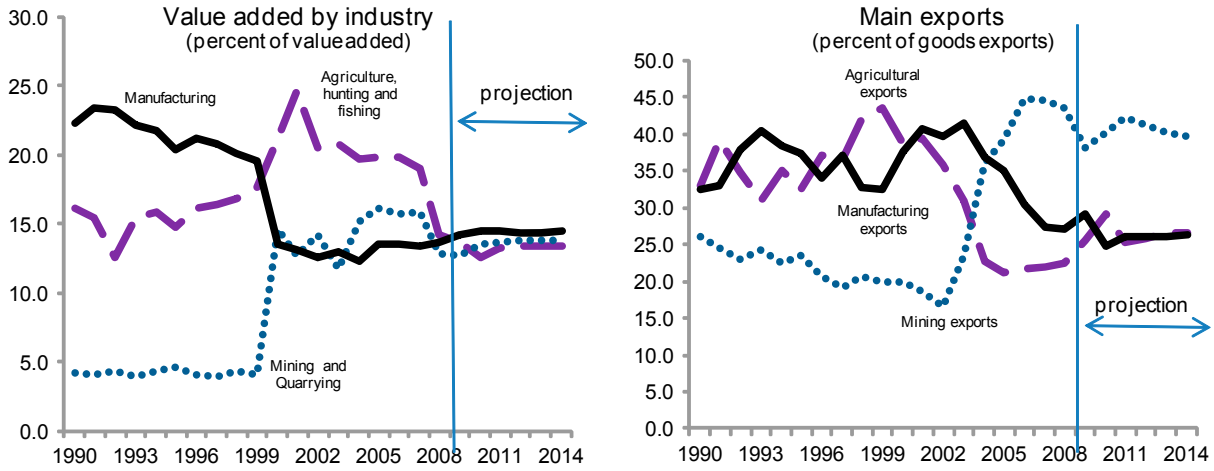
Sources: External Wealth of Nations Database; IMF staff estimates and projections.

adjustments complemented by stock data wherever available. We extend the series for Zimbabwe by adding the current account deficit for 2009 to the NFA stock for 2008 provided in the updated External Wealth database. [21] As shown in Table III–5, Zimbabwe's external position stood at -US$8.2 billion (-186 percent of GDP) by the end of 2009. Staff projections for the balance of payments imply that the country's NFA will be -176 percent of GDP by 2015 on current policies.

The second methodology to derive Zimbabwe's NFA is based on existing public debt data complemented with estimates of private net assets. We obtain estimates of private assets and liabilities using additional information from the Joint BIS-IMF-OECD-World Bank Statistics on External Debt Database, which contains estimates of cross-border deposits of and loans to banking and non-banking institutions in Zimbabwe with/from banks reporting to the Bank for International Settlements (BIS) at the end of the second quarter of 2009. With external public and publicly guaranteed debt at US$6.4 billion and gross international reserves at US$0.3 billion at the end of 2009, we estimate that Zimbabwe's NFA stood at about -US$8.1 billion dollars (-184 percent of GDP). Table III-5 summarizes the results.

[21]We follow Lane and Milesi-Ferretti (2000, 2007) by computing net foreign assets as the stock of the NFA in 2008 available in the database plus the cumulative current account between 2009 and 2015. In addition, we make adjustments for capital transfers and for changes in the stock of debt unrelated to annual transactions.

Figure III-5. Zimbabwe: Exports and Value Added by Industry, 1990-2014



Sources: Zimbabwe authorities and IMF staff estimates.

Measuring Mineral Wealth

The backward-looking estimates may, however, understate the true external wealth position of Zimbabwe, which is arguably rich in mineral resources. When GDP is measured in 2009 prices, mining represented more than 13 percent of value added and mining exports accounted for 38 percent of goods exports in 2009 (Figure III–5). In addition, in recent years, more than 30 percent of manufacturing exports were the by-product of mining production (for example, ferro-alloys).

Incorporating measures of mining wealth in estimates of the NFA presents many challenges, mainly related to lack of reliable data on proven reserves and uncertainties related to potential extraction rates and world commodity prices. We estimate the NPV of gold and platinum receipts—the highest value commodities in Zimbabwe. We also estimate the NPV of gem-quality diamond related receipts but treat them separately, given the uncertainties currently surrounding potential future revenues. Our estimates are based on the following assumption:[22]

- **Proven reserves.** Given the uncertainty surrounding proven reserves, we discount flows only for the next 20 years. Based on existing estimates, gold and platinum mineral deposits will not be exhausted by that time based on assumed extraction rates (see below). Because of discounting, at

[22]A similar approach to estimating the NPV of resource wealth is taken in Deléchat and Gaertner (2008).

least 95 percent of the NPV is attained within about the first 20 years of extraction at the assumed discount rates, as shown in Figure III–6.[23] Therefore, truncating the cashflow after 20 years may not understate significantly the present value.

Gold and platinum

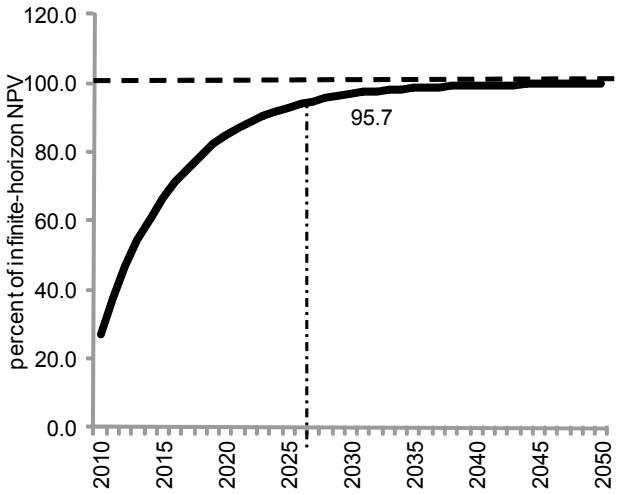
- **Extraction rates.** We consider two production streams: (i) the current staff projection for mining output and (ii) the Zimbabwe Chamber of Mines optimistic scenario for the next five years, which would require timely resolution of issues with the regulatory environment, property rights, and infrastructure bottlenecks. The staff scenario assumes production will reach 5.9 metric tons of gold and 7.1 metric tons of platinum by 2015. The Zimbabwe Chamber of Mines scenario assumes Zimbabwe can produce 35 metric tons of gold and 13 metric tons of platinum by 2015. We further assume that in both scenarios the level of production remains constant after 2015 (Figure III–7).
- **Discount factor.** Income streams are discounted at 15, 17, and 20 percent, mainly reflecting various assumptions about risk premia.[24]
- **Prices.** Although, gold and platinum world prices are at their historic highs (Figure III–8), our calculations assume they remain constant at their current nominal levels: US$1,002 per troy ounce of gold and US$1,269 per troy ounce of platinum.

[23]For constant production levels, one can show that the amount of time n it takes to reach α percent of the net present value computed over *T* periods is

$$n = -\left\{ \frac{\log\left(1-\alpha\left(1-\left(\frac{1}{1+r}\right)^{T}\right)\right)}{\log(1+r)} \right\}$$

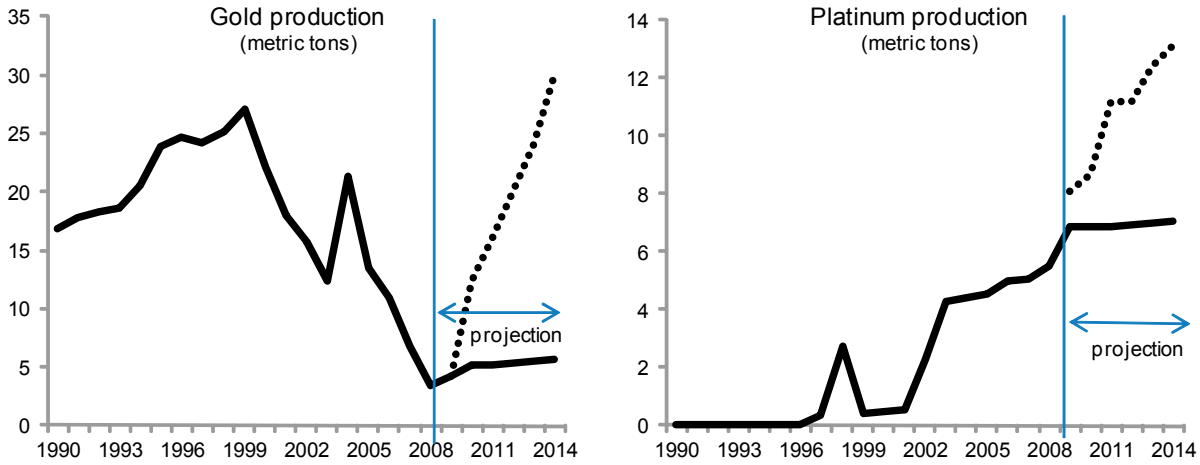
[24]The level of the discount factor fully accounts for the uncertainty associated with the production stream. Using a simplified consumption-based capital asset pricing model, one can show that the appropriate discount rate for a risky asset is composed of a risk-free rate plus a covariance term that captures the premium an investor must be paid for the additional risk. (See Appendix III-1 for details.) The appendix also discusses a range of possible discount rates for Zimbabwe. To check the robustness of our results we also compute wealth with discount rates of 15 and 20 percent. In all likelihood the rates at 20 percent and below underestimate the appropriate discount factor since the sum of standard discount rates for mining projects and country risk premia for countries with low credit ratings could be as high as 30 percent.

Figure III-6. Zimbabwe: NPV of Gold Cash Flows



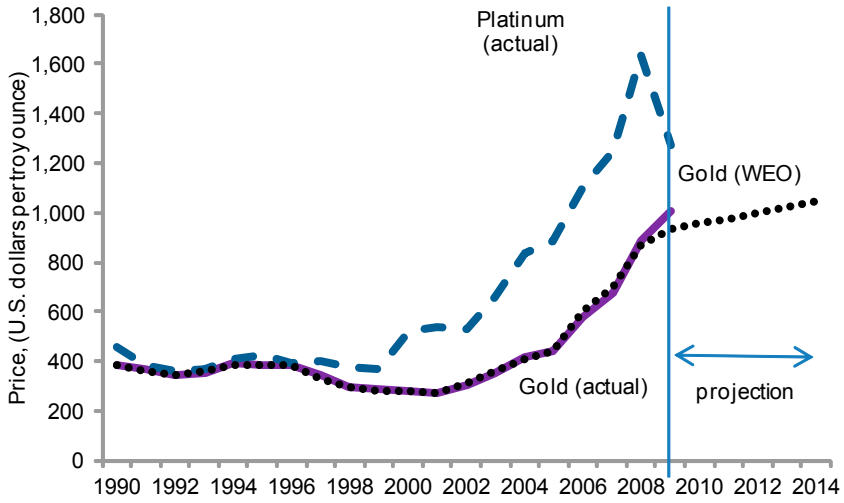
Source: IMF staff estimates.

Figure III-7. Zimbabwe: Gold and Platinum Production, 1990 - 2014



Sources: Zimbabwe authorities and IMF staff estimates and projections.

Figure III-8. Zimbabwe: World Gold and Platinum Prices, 1990-2014



Source: World Economic Outlook (October 2009).

- **Extraction costs.** We use an estimate of extraction costs from the Zimbabwe Chamber of Mines of US$502 per troy ounce. This assumes economies of scale would be realized and per once costs would decline after significant increases in production. At current low production levels, the costs of production in both gold and platinum are significantly higher: US$800 per troy ounce for gold and US$1,000 per troy ounce for platinum.

Diamonds

Diamond mining does not currently generate substantial recorded export cash flows. According to Kimberley Process Rough Diamonds Statistics, Zimbabwe produced 797 thousand carats of gem-quality rough diamonds in 2008, with proceeds of US$44 million dollars. We only include the value of diamonds in our optimistic scenario because large increases in diamond production would depend on Kimberley process certification and substantial improvements in the business climate. We make the following assumptions:

- **Extraction rates.** Zimbabwe authorities estimate production of gem-quality rough uncut diamonds could be as high as 1.1 million carats in 2010 with the potential to reach 2.4 million carats per year in the medium term. We assume 1.1 million carats are extracted in 2010—a substantial increase from the 2008 levels—and production reaches 2.4 million carats by 2012.

- **Prices.** Rough diamond prices depend on a number of factors, including color and size. According to Kimberley Process Rough Diamonds Statistics, Zimbabwe received an average price of US$55 per carat in 2008. The world average price per carat was US$78, but some producers were able to obtain higher prices. The Zimbabwe Chamber of Mines estimates that Zimbabwe diamonds could fetch as much as US$100–US$120 per carat. In the optimistic scenario, we assume Zimbabwe could sell its diamonds for US$100 per carat.
- **Extraction costs.** Diamond extraction costs vary widely depending on the type of mining. The Zimbabwe Chamber of Mines estimates that for a rich alluvial deposit, the cost per carat varies between US$3 and US$10 per carat while for a kimberlitic deposit the costs could be as high as US$50 to US$70 per carat. Because a large share of Zimbabwe's diamond deposits is of the alluvial type, we assume extraction costs of US$10 per carat under the optimistic scenario.

Under a 17-percent discount rate, we estimate the gross present value (GPV) of mineral resource export receipts, including diamond proceeds, at US$9.2 billion under an optimistic scenario and US$3.0 billion under the more conservative staff scenario (Table III–6). Taking into account extraction costs, the net present value (NPV) is estimated at US$5.4 billion under the optimistic scenario and US$1.7 billion under the staff scenario, respectively. (NPV estimates at 15 and 20 percent discount rates are presented in Table III–7.)[25]

External Sustainability Assessment

Under the most optimistic assumptions (the optimistic extraction scenario including diamonds), a 17 percent discount rate, and the lowest measure of the financial NFA, Zimbabwe's NFA, including mining wealth, is about -63 percent of GDP (Table III–7). Just maintaining this level of the negative NFA (which is by no means an equilibrium value) would require generating positive non-mineral primary external current account surpluses of about 0.6 percent of GDP.[26] Because the 2009 non-mineral primary external current

[25]The non-discounted gross value of the minerals that are assumed to be extracted during the next 20 years—over $33 billion or about 650 percent of 2010 GDP— is large, but for the purpose of assessing external stability only the NPV is of direct relevance.

[26] $nxt_t^s = \frac{g_t - r_t}{(1+g_t)} nfa^b$ is the non-mineral primary (non-interest) current account required to keep the ratio of NFA to GDP at nfa^b where g is real GDP growth and r is the real interest rate. We assume that g=7 percent and r=8 percent. See Lee et al. (2008) for details on external sustainability assessment methods.

Table III-6. Zimbabwe: Present Value of Mining Wealth, 2009
(In millions of U.S. dollars; unless otherwise indicated)

	2009
Optimistic	
Gross present value of mining wealth	9,154
Gross present value of gold	4,854
Gross present value of platinum	3,067
Gross present value of diamonds	1,233
Net present value of mining wealth	5,400
Net present value of gold	2,432
Net present value of platinum	1,858
Net present value of diamonds	1,110
Staff projection	
Gross present value of mining wealth	3,037
Gross present value of gold	1,148
Gross present value of platinum	1,889
Net present value of mining wealth	1,720
Net present value of gold	575
Net present value of platinum	1,145
Discount rate for NPV of mining wealth	17%

Source: IMF staff estimates and projections.

account deficit is more than 35 percent of GDP in 2009,[27] the gap between the "norm" and the actual balance is close to 36 percent of GDP. Such an adjustment in the non-mineral primary current account balance is not feasible in the foreseeable future, even if the challenges with competitiveness and business climate are addressed without further delays. This finding is robust to assuming a discount rate of 15 percent. Therefore, sound policies supported by debt relief are the only feasible option for Zimbabwe to re-establish external stability.

[27]In principle, the non-mineral primary external current account balance should exclude mineral-related imports. However, we have little information on the size of imports related to mining. Assuming that all 2009 FDI into mining ($200 million or 5 percent of GDP) are related to the mining sector imports, the non-mineral primary current account balance is still 29 percent of GDP.

Table III-7. Zimbabwe: Net Foreign Assets, 2009

	2009		
Discount rate	**15%**	**17%**	**20%**
Optimistic			
	(bllions of U.S. dollars)		
Gross present value of mining wealth	**10.5**	**9.2**	**7.9**
Gross present value of gold	5.6	4.9	4.0
Gross present value of platinum	3.5	3.1	2.6
Gross present value of diamonds	1.4	1.2	1.2
Net present value of mining wealth	**6.2**	**5.4**	**4.5**
Net present value of gold	2.8	2.4	2.0
Net present value of platinum	2.1	1.9	1.6
Net present value of diamonds	1.3	1.1	0.9
Net foreign assets based on			
External wealth	-2.0	-2.8	-3.6
Public and private debt	-1.9	-2.7	-3.6
Net foreign assets based on	(percent of GDP)		
External wealth	-45.6	-63.3	-82.9
Non-mineral primary current account norm	0.4	0.6	0.8
Gap (Norm- Actual)	35.8	35.9	36.1
Public and private debt	-43.6	-61.3	-80.9
Non-mineral primary current account norm	0.4	0.6	0.8
Gap (Norm- Actual)	35.8	35.9	36.1
Staff baseline			
	(billions of U.S. dollars)		
Net present value of mining wealth	**1.9**	**1.7**	**1.5**
Net present value of gold	0.6	0.6	0.5
Net present value of platinum	1.3	1.1	1.0
Net foreign assets based on			
External wealth	-6.3	-6.5	-6.7
Public and private debt	-6.2	-6.4	-6.6
Net foreign assets based on	(percent of GDP)		
External wealth	-142.4	-147.0	-152.1
Non-mineral primary current account norm	1.3	1.4	1.4
Gap (Norm- Actual)	36.7	36.7	36.8
Public and private debt	-140.4	-145.0	-150.1
Non-mineral primary current account norm	1.3	1.4	1.4
Gap (Norm- Actual)	36.7	36.7	36.7
Memorandum items:			
Years to attain 95 percent of NPV (n)	21	19	16
Long-run interest rate (percent)	8.0	8.0	8.0
Long-run real GDP growth (percent)	7.0	7.0	7.0
Actual non-mining primary current account	-35.3	-35.3	-35.3

Source: IMF staff estimates and projections.

Table III-8. Zimbabwe: Fiscal Wealth, 2009-10

	2009	2010
	(millions of U.S. dollars)	
NPV of fiscal wealth from mining	1,860	2,030
Public external debt	6,417	6,765
of which: Arrears	4,490	4,948
Government net position	-4,556	-4,736
	(percent of GDP)	
NPV of fiscal wealth from mining	42	39
Public external debt	146	132
of which: Arrears	102	96
Government net position	-104	-92
Overall balance	-2.8	-7.6
Cash balance	1.2	-4.5
Primary balance	0.6	-4.4
Interest payments	3.4	3.1
of which paid	0.5	0.1
Non-mining Primary balance to stabilize debt	1.0	0.9
Memorandum items:		
Long-run interest rate (percent)	8.0	
Long-run real GDP growth (percent)	7.0	
Discount rate (percent)	17.0	
Profit tax (percent)	31.0	
Royalty (percent of production value)	3.0	

Source: IMF staff estimates and projections.

Bringing Budget Mineral Revenues Forward: How Much Can be Mobilized?

Authorities are actively debating an option of bringing forward mining revenues to repay external arrears on public and publicly guaranteed debt and obtain access to new financing. The analysis of external sustainability demonstrated that the economy as a whole would not be able to generate sufficient foreign exchange inflows to attain a sustainable external position without sound policies and debt relief. The analysis of the present value of the government's in-take of mineral export receipts reinforces this finding.

Under the most optimistic scenario and assuming a 17 percent discount rate, the present value of budget mining revenues is US$1.9 billion (42 percent of GDP) in 2009 (Table III–8). Because outstanding government obligations are approximately US$6.4 billion (146 percent of GDP) in 2009, government net wealth (excluding future non-mining revenues which are non-exhaustible) is about -US$4.6 billion (-104 percent of GDP). Government mining wealth would not make a major dent in Zimbabwe's gross public debt or provide sufficient resources to settle external arrears (US$4.6 billion, 104 percent of GDP) even if the government were able to mortgage its future fiscal revenues from mining, for example, by borrowing internationally an amount equivalent to the present value of mining budget revenues. More importantly, the government would not be able to generate significant primary non-mineral surpluses to ensure its intertemporal solvency in the foreseeable future.

Going forward, a strategy focusing on sound policies and debt relief would help achieve external and growth sustainability in at least three ways. First, sound policies would support macroeconomic stability and economic growth and also help Zimbabwe establish the track record needed for debt relief from official creditors. Second, debt relief, in turn, would immediately increase Zimbabwe's net wealth by reducing its debt obligations and increasing the value of mining wealth through a reduction in country risk. Third, the government would have access to fresh financing, at lower costs, which would create room for much-needed public investment, facilitating growth in both mining and non-mining sectors.

Appendix III–1. Optimal Portfolio Choice and the Risk Premium

Consider the following simplified version of a capital asset pricing model in which a representative consumer/investor is optimally allocating his savings between a safe and a risky asset with returns r^f and r_t^r. Then one can show that the Euler equations for the safe and risky assets imply

$$1 + r^f = E_t\left(1 + r_{t+1}^r\right) + \frac{\operatorname{cov}\left(\left(1 + r_{t+1}^r\right), m_{t+1}\right)}{m_{t+1}}$$

where $m_{t+1} = \left(\frac{1}{1+\rho}\right) E_t \frac{u'\left(c_{t+1}\right)}{u'\left(c_t\right)}$ i.e. risky assets have an expected return equal to the risk-free rate plus a risk premium. The higher the covariance of an asset's return with the marginal utility of consumption, the lower is the expected return on the asset. Thus, if we have an estimate of the risk premium, the interest rate we use to discount the net present value of assets will fully capture the riskiness of an asset and investor's risk aversion

(embodied in the marginal utility of consumption).We can rewrite this in the familiar regression format:

$$E_t\left(r^r_{t+1}\right) = r^f + \beta\left(-\frac{\text{var}(m_{t+1})}{m_{t+1}}\right)$$

where $\beta = \frac{\text{cov}\left(\left(1+r^r_{t+1}\right), m_{t+1}\right)}{\text{var}(m_{t+1})}$ is the regression coefficient of the asset return on the m_{t+1}. In the more standard (non-consumption) capital asset pricing model (CAPM), the asset's riskiness is assessed against market return rather than consumption returns.

How can we assess the risk premium for Zimbabwe? In all likelihood, given its recent history of hyperinflation, political unrest, and debt default, Zimbabwe has a high level of country risk. Its December 2009 International Country Risk Guide financial risk rating was the lowest in Africa. Damodaran (2009) provides estimates of country equity risk based on Moody's country rating (http://pages.stern.nyu.edu/~adamodar/). Zimbabwe is not included in the database, but Damodoran estimates that countries with the lowest Moody's ratings have a risk premium of 15 percent over the premium for a mature equity market. This premium should be added to an estimate of the risk premium for an investment in a mature equity market. We consider two possibilities:

- Damodaran (2009) estimates that the historical risk premium over Treasury bonds for the U.S. equity market is 4.5 percent. This would imply an overall risk premium of 19.5 percent for Zimbabwe, if we add the extra 15 percent applied for countries with the lowest Moody's ratings. To obtain an estimate of the discount rate, we should add this premium to a U.S. government bond rate. Since the U.S. 30-year Treasury bond rate was a little more than 4.5 percent at the end of 2009, the resulting discount rate for Zimbabwe would be around 24 percent.
- An alternative is to use the standard discount rate for mining projects which accounts for standard risks in mining (12-15 percent; see Topal [2008]) and add the country risk premium. This would imply a discount rate between 27 and 30 percent.
- Overall, this analysis suggests that the appropriate discount rate should be between 24 and 30 percent. Given the uncertainty surrounding the appropriate discount rate, we use rates between 15 and 20 percent. As a result, our estimates of the NPV of mining cash flows may constitute an upper bound on Zimbabwe's mining wealth.

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CHAPTER

4 Creating Fiscal Space for Growth and Development in Zimbabwe[28]

Introduction

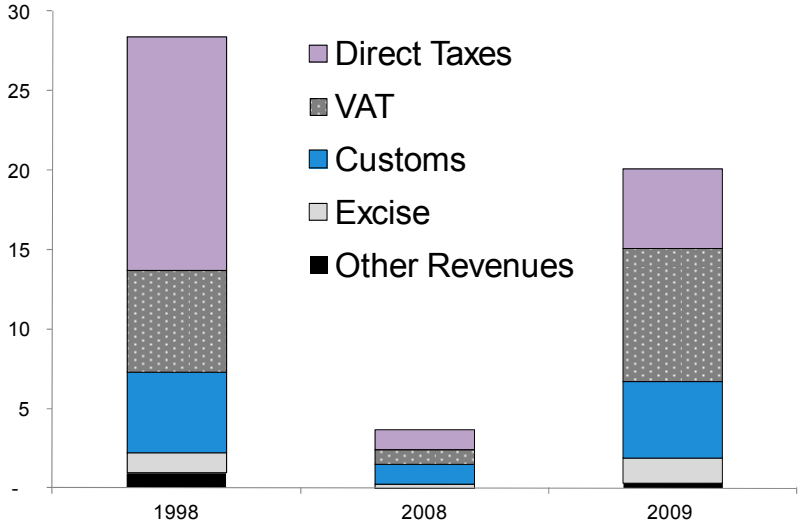
Between 2000 and 2008, spiraling inflation, brought on by quasi-fiscal activities of the Reserve Bank of Zimbabwe, and a 40 percent contraction of output, undermined revenue collection and public service delivery. Largely due to the Tanzi effect (1969), budget revenue fell from more than 28 percent of GDP in 1998 to less than 5 percent a decade later. The result was an almost total collapse in public services. By the end of 2008, most schools and many hospitals had closed, transport and electricity networks were severely compromised, and a water-borne cholera epidemic had claimed more than 4,000 lives.

Following implementation of the government's short-term economic recovery program in 2009, revenues have recovered, although they have not yet reached the levels recorded prior to the decade of the economic decline (Figure IV–1). This recovery in revenues was largely attributable to price stability, a well established revenue administration infrastructure that had existed prior to hyperinflation; along with revenue measures introduced in 2009 (see Appendix Table IV–1.1).

Like many fragile states in Africa, post-hyperinflation Zimbabwe faces the three challenges of rebuilding its public finances, promoting economic growth, and reducing poverty. Going forward, the authorities need to ensure that a sufficient proportion of the resurgent revenues are devoted to supporting growth and improving living standards for all Zimbabweans.

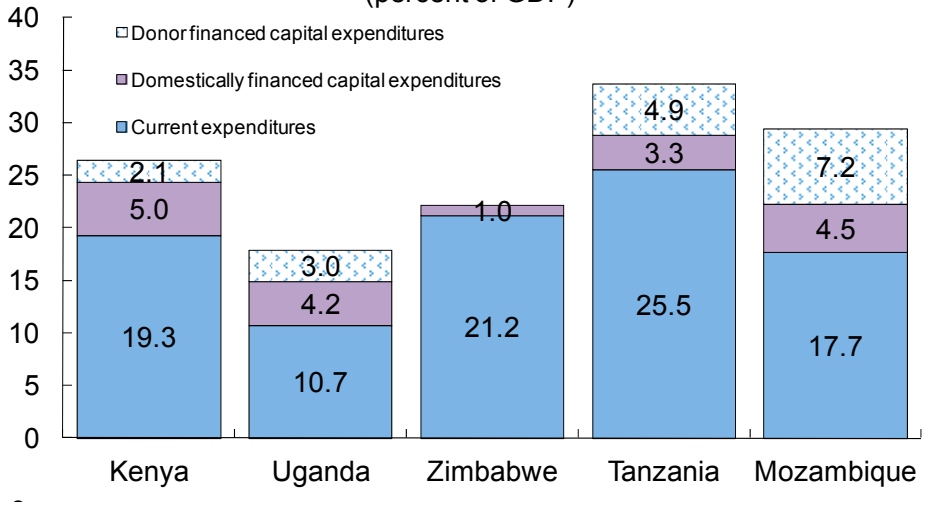
[28]Prepared by R. Hughes and J. McHugh, both Fiscal Affairs Department (FAD).

Figure IV-1. Zimbabwe: Total Revenues , 1998-2009
(in percent of GDP)



Source: Zimbabwe authorities

Figure IV-2. Zimbabwe: Composition of Government Expenditure, 2009
(percent of GDP)



Source: Zimbabwe authorities and IMF staff estimates.

Fiscal Space for Growth-Enhancing Expenditure: Cross-Country Perspective

A large body of theoretical and empirical literature suggests that infrastructure and human capital investment play a central role in fostering and sustaining economic growth. Endogenous growth models developed by Barro (1991), King and Rebelo (1995), and Barro and Sala-i-Martin (2003) emphasize the externalities between expenditures on education, healthcare and core network infrastructures, and increased factor productivity.

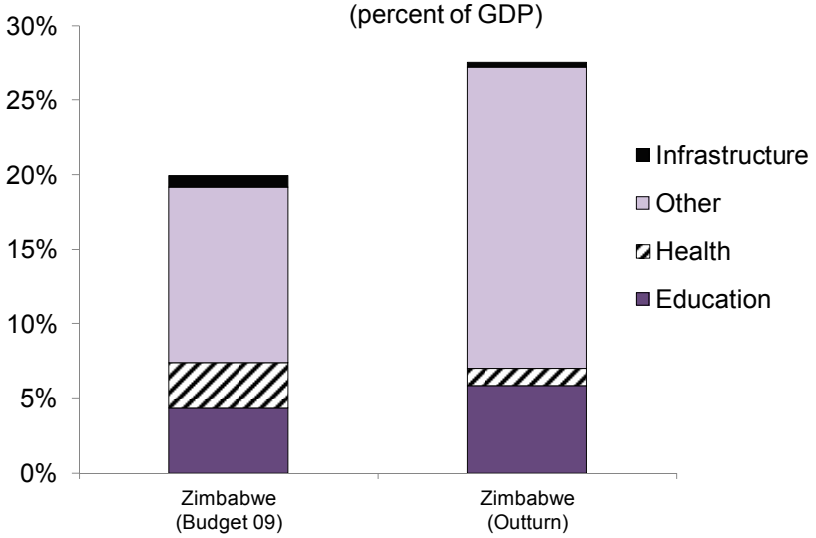
Zimbabwe devotes a much lower share of its resources to these growth-enabling interventions, especially capital expenditure, than other countries in the region (Figure IV–2). In 2009, domestically-financed public sector investment was just 1.0 percent of GDP in Zimbabwe. This is significantly lower than the levels seen elsewhere in Africa. Moreover, more than 60 percent of budgeted capital expenditure in Zimbabwe in 2009 was directed towards the acquisition of buildings, office furniture, cars, and related items.

In many key social sectors in Zimbabwe, donors finance some capital expenditures directly as part of humanitarian assistance. In 2009, donors financed US$156 million (3 percent of GDP) in off-budget capital expenditures, mainly directed towards the health and education sectors. This is somewhat below regional averages.

The legacy of underinvestment in Zimbabwe is acting as a major constraint on the country's growth potential. In the World Economic Forum's most recent Global Competitiveness Report, inadequate supply of infrastructure was the third most frequently cited problem with doing business in Zimbabwe after access to finance and political instability. Of 133 countries surveyed, Zimbabwe's economic infrastructure was ranked 101st with the quality of electricity supply ranking among the five worst in the sample.

In 2009, government expenditure on human capital-enhancing services (health and education) as a share of Zimbabwe's GDP is in line with regional comparators (Table IV–1). However, virtually all budgeted expenditures on health and education are allocated to wages in Zimbabwe. In 2009, the central government budget allocated only US$11 million (1.1 percent of total expenditures) to recurrent non-wage expenditures in health and education. In contrast, donors' contribution to health and education current expenditure is substantial (off-budget current grants of about US$236 million or 5 percent of GDP). This relatively sizeable amount reflects the large extent of humanitarian challenges facing Zimbabwe.

Figure IV-3. Zimbabwe: Composition of Expenditure, Budget versus Out-Turn, 2009
(percent of GDP)



Source: Zimbabwe authorities.

Zimbabwe is ranked near the top third of countries for the quality of its education system. This is attributable largely to the importance granted by the government to education since independence. However, this achievement is now under threat. After many years of declining GDP, the absolute volume of resources devoted to education is much less than it was a decade ago. The large declines in capital investment and nonwage current expenses in education pose serious concerns that the quality of education could quickly decline even further, placing a more binding constraint on growth in the longer term.

To address this legacy of underinvestment, including in social sectors, Zimbabwe would need to bring public sector capital expenditure above the levels found in more development-oriented states in Africa. Increasing domestically-financed capital expenditure from 1.5 percent to 5.5 percent of GDP would align infrastructure investment with that in Kenya and make it slightly above Uganda, Mozambique and Tanzania. This would require Zimbabwe to identify additional fiscal space of 4–5 percent of GDP. The next section of this paper considers a number of options for creating fiscal space of this magnitude.

Table IV-1. Selected African Countries: Public Sector Healthcare and Education Expenditure, 2009 1/

	Health		Education	
	Percent of GDP	U.S. dollars per capita	Percent of GDP	U.S. dollars per capita
Angola	0.9	34	1.2	46
Cameroon	0.7	8	2.6	29
Cape Verde	3.3	112	8.9	306
Ethiopia	0.7	3	1.4	5
Ghana	1.4	9	4.5	30
Guinea-Bissau	0.8	4	3.0	15
Côte d'Ivoire	0.9	9	4.8	50
Kenya	1.7	15	6.1	56
Madagascar	3.6	15	7.1	29
Mali	2.0	13	5.1	33
Mauritius	2.7	183	4.9	333
Mozambique	2.6	12	5.0	23
Niger	2.5	9	4.8	18
Nigeria	3.3	38	3.7	42
Rwanda	1.3	7	3.9	21
Seychelles	2.3	203	3.4	306
Senegal	2.1	21	5.9	59
Sierra Leone	0.8	3	3.7	12
Namibia	2.7	124	5.9	268
Tanzania	0.3	2	0.7	4
Togo	3.8	16	4.9	21
Uganda	0.8	4	2.2	10
Zambia	2.5	27	3.2	35
Zimbabwe 2/	1.2	4	5.8	22
Average	1.9	36	4.3	74
Standard Deviation	1.0	58	1.9	106

Source: IMF African Department Database.

1/ IMF staff estimates; definitions of health and education spending vary between countries.

2/ Excluding off-budget donor financing.

Options for Creating Fiscal Space in Zimbabwe

Broadly speaking, the Zimbabwean government has three options for generating fiscal space of this magnitude over the next few years:

- Mobilizing additional revenues through strengthening revenue administration and eliminating tax expenditures.
- Restraining the cost of the country's relatively expensive public administration; in particular wages.

- Resolving external payments arrears with the support of the international community and gaining access to fresh IFI financing and additional donor support.

Improving revenue performance

Revenue performance could be increased further through strengthening tax administration and eliminating tax exemptions. A decade of high inflation and economic decline weakened many of the key tax administration functions of the Zimbabwean Revenue Agency (ZIMRA) and delayed its modernization. The taxpayer register became outdated, while core audit and investigation activities were made redundant because of rapidly declining real values of corporate balance sheets and incomes under hyperinflation. Persistent economic difficulties and significant restrictions on prices and goods markets that existed prior to 2009 led to widespread informal activity, making it more difficult to collect taxes. Despite recent improvements to tax legislation in line with Fund Technical Assistance (see Appendix Table IV–1.1), the tax regime remains outdated and multiple rates and exemptions make it excessively complex.

The structure and level of customs duties is particularly problematic. Despite recent rate reductions, there are still 17 customs duty bands, ranging from zero to 100 percent. Nevertheless, only 4.3 percent of customs revenues are generated from lines with tariffs of greater than 40 percent. The current structure discourages trade, places impediments upon growth, and creates opportunities for corruption.

Zimbabwe's tax regime is also characterized by significant and widespread tax distortions. These take the form of concessional rates, exemptions, allowances, reliefs, and deductions and rebates for particular activities, goods, or classes of taxpayer. Zimbabwe's Income Tax Act alone itemizes almost 100 different exemptions from the standard definitions set out in the act. There is also a long list of goods that are zero-rated or exempt from the VAT, including most agricultural items, basic foodstuffs, and household commodities. That said, Zimbabwe's VAT, corporate income and PAYE tax rates are broadly in line with the rates prevailing in the region.

There is a large divergence between nominal tax rates and effective rates on all the main taxes. The existing nominal rates, in part, compensate for widespread use of exemptions and weaknesses in tax administration, with the tax burden falling heavily on a comparatively small number of well-established tax payers.

Figure IV-4. Zimbabwe: Nominal and Effective Tax Rates, 2009
(percent)

Source: Zimbabwe authorities.

Table IV-2. Zimbabwe: Customs Duties, 2009
(nominal tariff rates)

Tariff Rate	Number of lines February 2009	Number of lines September 2009	Percent of customs duties collected, February-December 2009		Proposed tariff structure
0.00	471	602	3.4	1/	0
0.05	2,221	2,107	22.0		2,709
0.10	597	1,014	12.6		0
0.15	923	549	14.8		0
0.20	362	321	10.7		1,980
0.25	101	95	5.8		0
0.30	1	1	0.0		0
0.40	1,116	1,102	26.3		1,192
0.45	1	1	0.0		0
0.60	31	31	2.0		0
0.65	8	8	0.2		0
0.70	1	1	0.4		0
0.75	6	6	0.2		0
0.80	16	16	0.5		0
0.85	5	5	0.2		0
0.95	12	12	0.1		0
1.00	9	10	0.6		0
Total	**5,881**	**5,881**	**100**		**5,881**
Memorandum Item					
Percentage of revenues collected on lines with tariff duties greater than 40 percent			4.3		

Sources: Zimbabwe authorities and IMF staff estimates.

1/ Revenues collected on customs lines that were non-zero rated before September 2009.

Table IV-3. Zimbabwe: Measures to Increase Fiscal Space
(in percent of GDP)

	Estimated effective tax rate	Anticipated increase in effective rate	Revenue yield
Revenue measures			**1.9**
Reform tariff structure i) Eliminate zero band; ii) set minimum band of 5 percent; iii) harmonize bands between 10 percent and 35 percent at 20 percent; iv) set a maximum tariff of 40 percent.	7.4	1.1	0.7
Corporate income tax Increase effective rate by one percent by reducing incentives, clarifying rules for claiming deductions of capital allowances, repealing the exemptions for interest income, and taxing all forms of income from capital.	7.3	1.0	0.2
Income tax Increase effective rate by one percent by i) introducing new income tax law based on Fund technical advice; ii) maintaining the income threshold for PIT at its present nominal level; adopting a worldwide taxation of resident individuals.	6.5	1.0	0.6
Domestic VAT collection Increase effective rate on domestically charged VAT by 0.5 percent by reducing the number of zero-rated goods; changing the VAT status of the remaining goods from zero rated to exempt (except for export goods, which should remain zero rated).	4.1	0.5	0.5
VAT collected on imports Increase the effective rate on VAT collected on imports by i) establishing a national post clearance audit office; developing a national anti-smuggling strategy; bringing fuel products into the VAT net.	5.6	0.5	0.3
Expenditure measures			**2.6-4.1**
Limiting central government wage growth i) 10 percent headcount reduction in 2010-11; ii) wage restraint in 2011-14; iii) raise the wage compression ratio from 2.6 in 2010 to 3 by 2015.			2.6-4.1
Additional fiscal space			**4.5-6.0**

Source: IMF staff estimates.

A comprehensive reform package of administrative improvements, streamlined tax exemptions, and a lower number of customs duties tariff bands could yield an additional 1.1 to 1.9 percent of GDP in revenues per year (Table IV–3). The objective of the reform effort is to raise effective rates on the main revenue-raising taxes, such as the VAT, PAYE, and corporate income tax by 0.5 to 1 percent. Regarding tax administration, the creation of a large tax payers unit, IT infrastructure upgrades at ZIMRA, and ongoing preparations to strengthen post clearance audit and investigations at customs should have priority. While these reforms would generate additional revenues, there would also be a potential growth

dividend from simplifying the tax structure and reducing nominal tax rates. The recommended reforms would reduce distortions, improve the business environment, and contribute to higher economic growth.

Restraining the Cost of the Public Service

Based on any standard measure of affordability, Zimbabwe currently has one of the most expensive civil service wage bills in Africa. Zimbabwe historically had one of the more expensive public administrations in Africa. This is, in part, due to high public sector wages within the region, which has created unrealistic expectations. However, the real value of civil service pay was rapidly eroded during hyperinflation that reached its apogee in the latter half of 2008, when the average civil servant salary fell to an equivalent of a few U.S. dollars per month. Nevertheless, public sector pay decisions made since dollarization have returned the civil service wage bill to regional highs:

- As a percent of GDP, the 2010 budget provided for a central government wage bill (including benefits) amounting to 14.2 percent – one of the highest in Sub-Saharan Africa and well above the 7.1 percent average for the region.
- Based on the most recent budget plans, the 2010 central government wage bill will consume about 55 percent of government revenues, the highest in Sub-Saharan Africa; well above the 26 percent regional average.
- In U.S. dollar terms, the typical Zimbabwean teacher earns US$161 per month.[29] This is well above wage rates paid in neighboring countries with similar levels of per capita income (Malawi, Uganda, and Zambia).

The authorities' medium-term projections are even more alarming. The medium-term budget framework sees the wage bill increasing to 15.9 percent of GDP and 59.5 of revenues in 2011 (Table IV–4), and further to 20.8 of GDP and 77.8 of revenues[30] in 2012. This rate of growth is unsustainable and will inevitably crowd out other government expenditures, including public sector investment.

[29]Excluding transportation and housing allowances ($9 per month for both) and a "13th month" annual bonus.

[30]Staff projections of revenues.

Table IV-4. Zimbabwe: Wage Bill Projections 1/

	2009	2010	2011	2012	2013
Authorities scenario					
Wages and benefits (in percent of GDP)	10.0	14.2	15.9	…	…
Wages and benefits (in percent of revenues)	44.9	54.2	59.5	…	…
Active policy scenario					
Wages and benefits (in percent of GDP)	10.0	13.1	12.2	11.6	11.1
Wages and benefits (in percent of revenues)	44.9	48.9	44.1	40.8	38.4
Fiscal space 2/					
In percent of GDP	…	1.2	2.0	2.6	3.2
In percent of revenues	…	5.3	10.1	13.4	15.8

Source: IMF staff estimates.

1/ Wages and benefits include monthly gross salaries, transport and housing allowances, and "13th month" bonus.

2/ Relative to the authorities' 2010 scenario.

A significant reduction in the civil service head count would be a key component of a wage bill reduction strategy. Ghost workers are a widely acknowledged problem in the civil service and grant aided institutions. The authorities are conducting a payroll audit, which could lead to a potential headcount reduction of about 10 percent. Furthermore, termination of temporary contracts and attrition also would reduce headcount. Finally, keeping wage growth rates below nominal GDP growth would gradually reduce wage costs as a percent of GDP. However, a failure to address the rising proportion of public sector wages increases the possibility that wage arrears could occur in the event of negative shocks to revenues.

Potential for Donor Support

Zimbabwe could enjoy significant additional budgetary resources once policies have been strengthened and external payments arrears have been resolved with the support of the international community. This would create "upside" potential, generating further fiscal space for growth-enhancing capital expenditure.

The magnitude and timing of donor financing of capital expenditures is uncertain. However, the experiences of other African countries offer some guidance. As shown in Table IV–5, the magnitude of flows varies, but Zimbabwe could potentially receive flows in the range of 1.5 to 4 percent of GDP in addition to the current off-budget grants of US$156 million (3 percent of GDP). These amounts could be even larger considering the state of disrepair of Zimbabwe's infrastructure after a decade of economic decline.

Table IV - 5. Selected African Countries, Donor Financed Capital Expenditure, 2009
(in percent of GDP)

Ghana	5.2
Kenya	2.1
Malawi	1.4
Mozambique	7.2
Tanzania	4.9
Uganda	1.4

Source: IMF staff estimates

Conclusion

Together, the revenue and wage restraint measures described above could generate about 5 percent of GDP of fiscal space. This would enable Zimbabwe to match levels of domestically-financed infrastructure investment seen in neighboring countries. More than half of these measures could come from restraining civil services salaries. Zimbabwe could also further increase the magnitude of fiscal space by resolving its external payments arrears with the support of the international community.

Appendix IV–1. Zimbabwe: Recent Tax Policy and Administration Measures

Table IV-1.1. Zimbabwe: Recent Tax Policy and Administration Measures

Measure	Implementation date
Introduce a 1 percent withholding tax.	June 2009
Harmonize the excise duty on beer, wine, and spirits at 40 percent. Apply identical rates to both domestic production and imports.	June 2009 and 2010 budget
Limit on the deduction of interest for Corporate Income Tax purposes (thin capitalization rule).	2009
Establish a dedicated risk management unit at each regional customs center.	2009
Remove the discretionary power of exemption from royalties.	2009
Reimpose royalty on gold.	2009
Align the import duties at 40 percent for all types of wine and lager beer.	June 2009
Reduce tariff rates on capital goods, telephones, and computers.	June 2009
Increase the excise duty on cigarettes, and assess it as a specific duty.	September 2009
Repeal the mid-month VAT advance payment requirement.	September 2010
Improve return and document receipt processes to minimize the need to keep stamped duplicates.	2009
Issue tax clearance certificates to compliant only taxpayers.	2009
Change the method for assessing VAT on imports to duty-inclusive basis.	2010 budget
Establish Large taxpayers unit.	April 1, 2010
Reduce the top rate of tax to 35 percent for all income above US$1,000 per month.	2010 budget
Tax rate on business income reduced to 25 percent.	2010 budget
Levy income tax on mining companies at the proposed new general corporate rate of 25 percent.	2010 budget
Introduce a turnover-based tax for traders and service providers below the VAT threshold.	2010 budget

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