



# A shock analysis of Burundi's economy

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The financial crisis and other shocks

September 2009

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*Original : English*  
*Translated by : CLSU*

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## ***Acknowledgements***

This report was prepared by Christian Lim and Leonard Rugwabiza, both economists at the African Development Bank. The team is grateful to the members of the Government of Burundi who took their time to provide information and share thoughts during a visit by the team in June 2009. The methodology benefited very much from the technical expertise of Nooman Rebei, research economist at the Research Department of the African Development Bank. The team also gratefully acknowledges invaluable comments received from the following staff: Appolenia Mbowe, Catherine Baumont, Michel Mallberg and Richard Walker.

## ***Abbreviations***

AfDB	African Development Bank
bn	billion
brl	baril (oil)
Bufr	Burundi Franc
BRB	Central Bank of Burundi (Banque de la République du Burundi)
EAC	East African Community
FDI	Foreign Direct Investment
IMF	IMF
GDP	Gross Domestic Product
lb	Pound (weight measure)
m	million
pp	percentage point
SOSUMO	Société Sucrière du Moso
UK	United Kingdom
VAT	Value Added Tax
WB	World Bank

## *Executive summary*

1. **The primary objective of this paper is to provide first order estimates of the short term sensitivity of Burundi's economy to shocks.** This is measured through elasticities of growth to a broad range of variables. These elasticities provide a tool to assess the relative impacts of shocks, which in particular can be useful to prioritize policy responses.
2. **Second, this paper presents forecasts for growth and the Government budget in 2009,** as well as implications for current reform efforts in Burundi. These forecasts are based on the elasticities calculated in the study and reflect the shocks resulting from the global financial crisis, along with recent large changes in certain key areas of demand and supply, such as Government spending and agricultural production.
3. For lack of quantitative analysis, recent discussions on the impact of the global recession on Burundi have often consisted of listing all possible transmission channels, without ranking shocks by order of importance, and hence making it difficult to discern priority responses. In response to this situation, this work was initiated to provide basic and operational tools in order to rapidly inform ongoing debates, taking a full picture perspective rather than focusing on one particular shock. The emphasis was therefore on assessing a broad range of shocks by using simple methods - rather than analyzing specific ones using advanced econometrics. The present analysis should be viewed as a first step in meeting the need for more quantitative analysis of Burundi's economy and does require refining through further research. In the meantime however, the elasticities presented here can be used to assess the impact of current and future shocks - provided the structure of Burundi's economy does not change too significantly.
4. **The elasticities of growth to various shocks are summarized below.**

**Table 0.1: Elasticity of growth to key shocks**

Variable	Elasticity % GDP change for a 10% increase	Method
International oil price	-0.1%	General equilibrium
Global demand for Burundi non coffee exports	0.3%	Accounting
Coffee production	0.3%	Accounting
International price of mild Arabica coffee	0.6%	General equilibrium
Remittances	0.8%	Accounting
Government expenditure	2.1%	Multiplier
Agricultural production excluding coffee	3.5%	Accounting

*Source: estimates by the authors*

5. Unsurprisingly, reflecting their large share in the supply and demand structure of Burundi, results show that changes in Government expenditure and agricultural production can have substantial impacts on growth. Given the relatively small share of coffee and non-coffee exports and remittances in Burundi's GDP, a reduction in these variables is expected to have negative but moderate impacts. The elasticity of oil prices is estimated to be overall slightly negative, consistent with Burundi's status as a net importer.

6. **In addition, growth in 2009 is expected to reach 3.3%, down from 4. 8%<sup>1</sup> as anticipated in the original version of the budget in November 2008, mostly due to lower than expected Government spending. The substantial negative GDP impact of lower public expenditure could, however, be contained if Government successfully addresses the severe delays in budget execution.** The macroeconomic outlook is mainly affected by two positive shocks and two negative ones. On the positive side, agricultural production is expected to increase significantly (by 6% or 2.1% of GDP) due to favorable weather conditions, and lower oil prices could result in a 0.4% increase in GDP. However, these positive shocks will be more than offset by significantly lower government consumption, mainly due to delays in the execution of capital expenditures, and lower revenues from coffee exports, due to both declining productivity and lower prices than last year as a consequence of weakening global demand.
7. **Government revenues – excluding grants - are expected to fall by 1.3% of GDP, and government expenditures by 8.9% of GDP, compared to the budget approved by Parliament in November 2008. The revenue shortfall is likely to mostly result in equivalent cuts in public investments, as Burundi has little room for debt financing.**
8. The shortfall in non-grant revenues is mainly the result of lower than expected custom tax collection efficiency, lower oil tax revenues due to falling international oil prices, and lower dividends from the Central Bank of Burundi as a consequence of low interest earnings from investments in international central banks. This fall in revenues is partly offset by higher than expected income tax collection efficiency. Though preparatory studies have indicated that their combined impact should be neutral, two significant changes in the structure of government revenue are adding significant risks: the application of the EAC's tariff structure and the introduction of VAT both as of July 2009.
9. The sharp decline in government expenditures is mainly the result of severe delays in the execution of the budget, chiefly caused by the introduction of new procurement rules. These will primarily affect capital expenditures financed by grants. The disbursement of the capital grant component of revenues – which for the most part is earmarked to specific capital investment projects - will therefore sharply decline as well.
10. Possible implications of this analysis for the reform efforts in Burundi are as follows.
11. **In the coming years, sustained and predictable budget support would help support growth and reduce fragility.** Indeed, as this study finds, Burundi's economy is extremely sensitive to Government expenditures and Government revenues are volatile. The risk that the Government could not meet recurrent expenditures is also significant which, compounded with the negative growth effect, could result in increased social fragility, if public salaries are unpaid and basic public services discontinued. In parallel, it appears critical to press on with Public Financial Management reforms, in particular with a view to significantly enhance

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<sup>1</sup> Source : Exposé des motifs du projet de loi portant fixation du budget général de la République du Burundi pour l'exercice 2009

budget execution and reduce the budget deficit, which is currently largely bridged by external aid.

12. **Over the medium and long term, efforts should focus on supporting the development of the private sector with a view to diversify the economy. Indeed,** as illustrated by the elasticities of growth and the significant impact of recent shocks, Burundi's economy is heavily reliant on government consumption and agriculture.

# 1 Introduction

13. **The primary objective of this paper is to provide first order estimates of the short term sensitivity of Burundi's economy to shocks.** This is measured through elasticities of growth to a broad range of variables. These elasticities provide a tool to assess the relative impacts of shocks, which in particular can be useful to prioritize policy responses.
14. **Second, this paper presents forecasts for growth and the Government budget in 2009, as well as implications for current reform efforts in Burundi.** These forecasts are based on the elasticities calculated in the study and reflect the shocks resulting from the global financial crisis, along with recent large changes in certain key areas of demand and supply, such as Government spending and agricultural production.
15. For lack of quantitative analysis, recent discussions on the impact of the global recession on Burundi have often consisted of listing all possible transmission channels, without ranking shocks by order of importance, and hence making it difficult to discern priority responses. In response to this situation, this work was initiated to provide basic and operational tools in order to rapidly inform ongoing debates, taking a full picture perspective rather than focusing on one particular shock. The emphasis was therefore on assessing a broad range of shocks by using simple methods - rather than analyzing specific ones using advanced econometrics. The present analysis should be viewed as a first step in meeting the need for more quantitative analysis of Burundi's economy and does require refining through further research. In the meantime however, the elasticities presented here can be used to assess the impact of current and future shocks - provided the structure of Burundi's economy does not change too significantly.
16. The paper starts with a presentation of the methodology. It is then followed by a section on the elasticities of growth and the GDP forecast for 2009. The last section presents a detailed forecast of government budget for 2009.
17. The spreadsheet containing the tables of the report and the detailed calculations used for this analysis is available for download at the Burundi page of the African Development Bank website. Please use the following link: <http://www.afdb.org/en/countries/east-africa/burundi/>
18. The general equilibrium model used to analyze oil and coffee shocks is however not included in the spreadsheet. The methodological note on annex provides an overview of this model. More information can be obtained by contacting the authors.

## 2 Methodology

19. **The methodology for calculating GDP impacts and elasticities aims at providing the overall direction and first order estimates of the magnitude of the elasticity of growth to a number of variables.** This approach was chosen to allow for rapid coverage of a broad range of shocks without extensive data collection and lengthy analysis. Such approach has the advantage of rapidly providing an operational analytical tool to inform current policy debates about the impact on the financial crisis in Burundi. This analysis can be deepened through further data collection and research. One additional principle of the methodology was to use a conservative approach, meaning that where data was uncertain, pessimistic assumptions were chosen for both positive and negative drivers. For instance, we estimated that the shortfall in government spending could sit anywhere between Bufr 19 to 130bn. We based our growth forecast on a shortfall of Bufr 130bn, the higher value of the range and the most pessimistic one. Similarly a multiplier of one was used for positive impacts, such as an increase in agricultural production, though a multiplier greater than one could be considered.
20. **For 2009, we estimated the impact of a number of shocks on GDP on the one hand, and forecasted the execution of government budget, based on the status of its execution over the first quarter of the year.**
21. We have identified a number of shocks based on their order of magnitude and their importance for the economy in Burundi. The magnitude of each shock has been estimated from available data and estimates by the authors, based on interviews conducted in June 2009 with various stakeholders of the economy of Burundi. Each shock is measured as a change in the value of a specific variable from its assumed value at the time in the macroeconomic forecast conducted in November 2008 for the preparation of the macroeconomic framework for the 2009 budget. This framework was forecasting a growth rate of 4.8%. Where available, the shocks are estimated against the benchmark values as expressed in the "Lettre de cadrage budgétaire pour l'exercice 2009". When not available, we assumed the baseline values used in the 2009 growth forecast were the average value of the variable in 2008. Positive shocks include: an increase in agricultural production, excluding coffee, and a decrease in the price of oil. Negative shocks include lower government expenditure and lower coffee price. The impact of each shock was estimated based on specific models for each of them. The models fall into three broad categories: rational anticipations general equilibrium model, Keynesian multiplier model and accounting model. These methods are briefly explained in a methodology note in annex. We made the simplifying assumption that all shocks were independent and additive.
22. The outlook for government budget was assessed by analyzing for each major budget item its level of execution over the first quarter of 2009 and identifying through interviews and various progress reports the drivers that would prevail over the rest of the year.

### 3 Elasticities of growth and 2009 GDP forecast

#### 3.1 Overview

23. The results of the impact analysis and elasticity calculations are summarized below.

Table 3.1: Summary of the 2009 shock analysis and elasticities

Shock		Before	After	Shock	Shock	GDP	Elasticity	Method
Variable affected		(1)		positive or negative impact	% change	% change	% GDP change for a 10% increase	
Agricultural production excluding coffee	% GDP	35%	37%	P	6%	2.1%	3.5%	Accounting
International oil price	\$/bbl	97	60	P	-38%	0.4%	-0.1%	General equilibrium
Global demand for Burundi non coffee exports	% GDP	2.6%	2.5%	N	-2%	-0.1%	0.3%	Accounting
Coffee production	% GDP	3.4%	3.1%	N	-9%	-0.3%	0.3%	Accounting
International price of mild Arabica coffee	\$cents/lb	141	131	N	-7%	-0.5%	0.6%	General equilibrium
Government expenditure	M Bufr	825	696	N	-16%	-3.2%	2.1%	Multiplier
<b>Total</b>						<b>-1.6%</b>		

Source: Ministry of Finance, BRB, IMF International Financial Statistics and estimates by the authors

(1) When available, the value as in the macroeconomic framework for the 2009 budget (lettre de cadrage budgétaire) was used. If not, the average value for 2008 was used instead.

24. The GDP impact of each shock was simulated using a variety of methods detailed in a methodological note in annex. Elasticities were then simply calculated by dividing the GDP change by the amplitude of the shock.

25. **Growth in 2009 is forecasted to reach 3.3%, down from 4.8%<sup>2</sup> anticipated in November 2008 in the original version of the budget.** The macroeconomic outlook is mainly affected by two positive shocks and two negative ones. On the positive side, agricultural production is expected to increase significantly (by 6%, or 2.1% of GDP) due to favorable weather conditions, and lower oil prices could result in a 0.4% increase in GDP. However, these positive shocks will be more than offset by significantly lower government consumption, mainly due to delays in the execution of capital expenditures, and lower revenues from coffee exports, due to both declining productivity and lower prices than last year as a consequence of weakening global demand. The large GDP impact of lower public expenditure could however be contained if the Government successfully addresses the currently severe delays in budget execution.

26. **The elasticities calculated above provide a basic operational tool to estimate the short term impact of future shocks on Burundi's economy.** Indeed, provided that the structure of the economy does not change too significantly, the elasticities calculated in the context of this study can still be applied to assess future impacts. It is also likely that in the medium term, Burundi's economy will mostly be subject to the same shocks, with varying intensities and directions.

27. **One key lesson from this analysis is that on the one hand, Burundi's economy is highly sensitive to shocks in agricultural production and government expenditures, while on the**

<sup>2</sup> Source : Exposé des motifs du projet de loi portant fixation du budget général de la République du Burundi pour l'exercice 2009

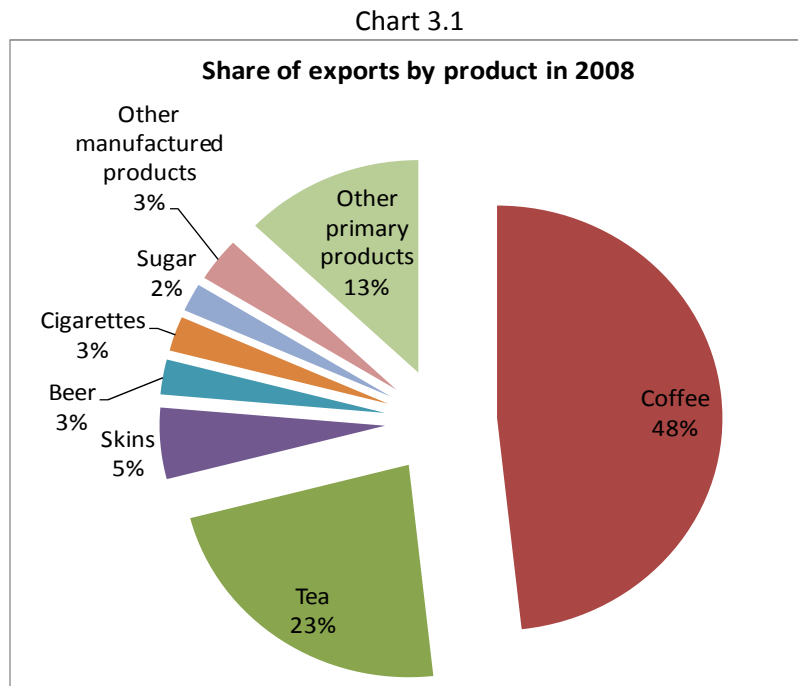
**other hand, its sensitivity to changes in oil prices, global demand, coffee production and prices is more moderate.** However, the impacts of changes in the latter group of variables could obviously still be large if changes are too, as in the case of oil prices. The sensitivities above are largely a reflection of the respective contributions of each sector to Burundi's supply and demand structure. Agriculture is a major contributor to Burundi's production and government consumption constitutes Burundi's largest demand component.

28. In the following, we present the analysis of each of the shocks above, under the following categories: external and internal sectors, and using the results of the government budget analysis, which is presented in a separate section.

### 3.2 External sector

29. In this section, we analyze the most significant shocks that have occurred since the preparation of the 2009 budget, on exports, imports and financial flows.

30. We break down exports into two broad categories of exports with distinctive behaviors: coffee and non coffee exports, each representing roughly 50% of total exports.



31. Coffee exports are projected to be lower than anticipated in 2009. This is due to a combination of lower prices and expected lower sales volumes.

32. Coffee sales volumes are forecasted to be 9% lower than expected, in line with the average decline in exports over the past three years. Exports have declined due to a continuing deterioration of the productivity of coffee trees and of the quality of the coffee. This is caused by the low producer prices, which do not provide sufficient incentives for producers to maintain the trees. The low producer prices are in turn the result of the deteriorating productivity of the production chain as a whole. Over the first quarter of 2009, the price for

mild Arabica coffee was \$cents131/lb. We assumed this would also be the average price for 2009 (International Coffee Organization statistics). Hence, prices for mild Arabica coffee are estimated at \$cents131/lb in 2009, against 141 in 2008, or a 7% decrease.

33. Non coffee exports are expected to remain largely unaffected by the slowdown in the global economy. Indeed, non coffee exports are mainly exported to EAC countries (see chart below). In addition, a statistical analysis shows that there is no correlation between the non coffee exports and the growth rate of the EAC region or the growth rate of Kenya, Burundi's main non coffee importer. This is not surprising as Burundi's non coffee exports are constituted by a very small number of products, chiefly tea, indicating that the driving forces of supply and demand for these products can be very different from the overall growth trends of importing countries. Finally, non coffee exports in January and February 2009 have been in the same range as at the same period in 2008 (see table below), which is an indication of a stable trend. In the absence of specific evidence that the global economic downturn is affecting Burundi's exports, we are assuming no substantial impact.

**Table 3.2: Main buyers of Burundi exports, 2008**

Product	Main buyers	Trade value	Share
		Bufr million	%
Coffee	Switzerland, UK, Belgium, Germany	33,006	48%
Tea	Kenya, Tanzania	15,531	23%
Skins	Kenya, United Arab Emirates	3,705	5%
Beer	Rwanda, Congo	1,822	3%
Cigarettes	Uganda, Congo	1,796	3%
Sugar	Rwanda	1,465	2%
Total		68,403	

Source: BRB, Comtrade

**Table 3.3: Non coffee exports - Trends in early 2009**

Bufr million	2008	2009
	Jan-Feb	Jan-Feb
Coffee exports	3,073	15,551
Total exports	7,503	20,048
Non coffee exports	4,430	4,496

Source: BRB, Comtrade

34. The impact of lower prices of oil, Burundi's largest import item, was estimated at +0.4% of GDP, using a general equilibrium model. As a result of the global recession, oil prices in 2009 are likely to be 38% lower than expected, dropping from an anticipated \$97/brl (African Economic Outlook as of October 2008) to an average of \$60/brl (estimate by the author as of April 2009). The impact on GDP is expected to be positive, as Burundi is a heavy oil importer.
35. Other positive shocks such as a decline in food prices could be considered. However, given that food imports are far smaller than oil imports and in order to be conservative, this shock has not been factored in.

36. Remittances are forecasted to remain stable despite the global economic crisis. This assumption is based on an analysis of official unilateral transfers, used as a proxy for remittances. This is based on the assumption that informal remittances follow similar trends than formal remittances. This approach has serious limitations as formal remittances are sometimes considered only a minor share of total remittances. However, in the absence of more reliable and objective data, this proxy remains the best one. The analysis shows that on the one hand, unilateral private transfers have surged since 2005, increasing by an average of 80% per year between 2005 and 2008(see graph below). This was probably as a result of the improved security situation following the 2005 elections. The pace of increase, measured monthly as the rolling year on year rate of growth (see graph below), peaked in December 2007 and then decreased steadily to stabilize around 20% in October 2008. The decline in the rate of growth started well before the financial crisis, which indicates the two events are probably not related. Moreover, growth has stabilized since October 2008, shortly after the beginning of the crisis, at a rate of 20% per year, which is still quite substantial. We therefore assume here that the forecast for remittances remains unchanged for 2009.

Chart 3.2

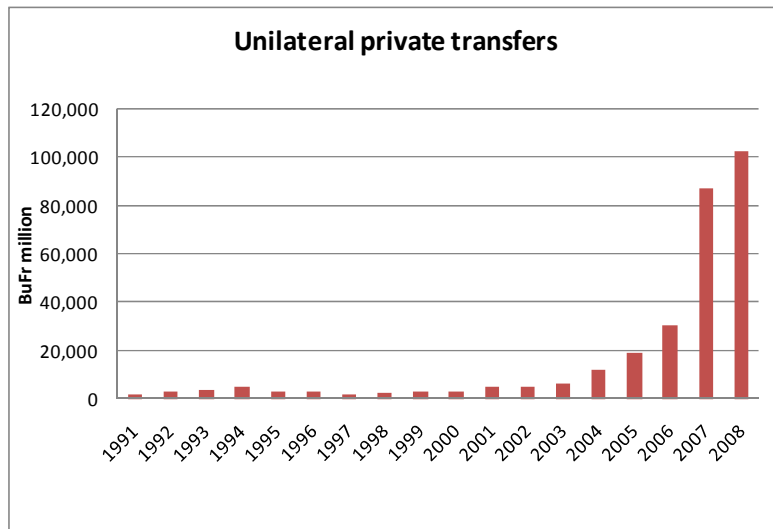
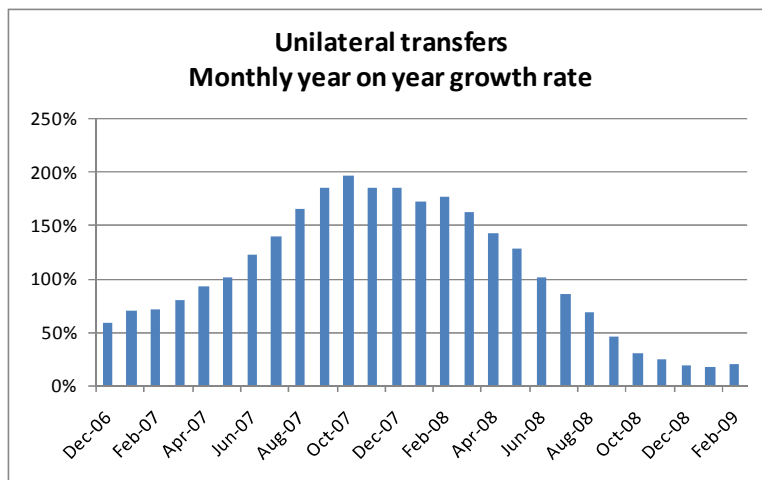
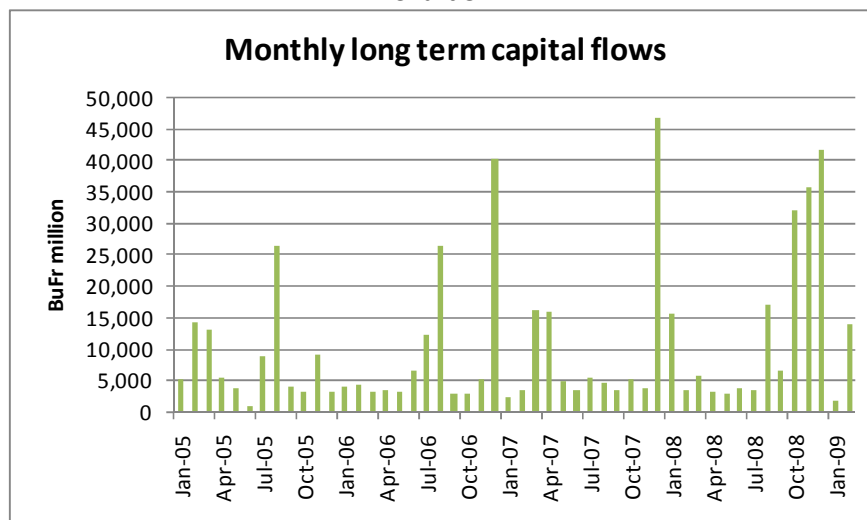


Chart 3.3



37. Moreover, there is no indication that FDI is reducing. As shown in the graph below, long term capital inflows are characterized by sudden increases driven by large individual operations, for instance in the banking or telecommunications sector. Prospects for 2009 are therefore dependant on investments actually taking place, mostly in these two sectors. There is for now no sign that current investments plans in the banking and telecommunications sector are being reconsidered.

Chart 3.4



38. Finally, forecasts on aid flows are discussed in the section on the 2009 government budget forecast.

### 3.3 Internal sector

39. **Non coffee agricultural production is forecasted to be 6% higher than planned**, as consistently indicated by several agricultural experts interviewed. Indeed, rains from late 2008 to the first months of 2009 have been much more favorable than expected.
40. **Growth of the industrial sector is expected to remain largely as planned.** The emerging picture is mixed with production of beer and soap increasing while production of sugar, cotton oil and construction material is decreasing. It is noteworthy that the decline in sugar sales from the national SOSUMO company are largely the result of price caps imposed on retailers of SOSUMO sugar. These price caps do not apply to imported sugar. Retailers have indicated that as a result, selling imported sugar has become more profitable for them, though the purchasing price is higher.
41. The main shock in the services sector stems from the likely lower contribution of the public administration.
42. **Government expenditure is expected to be lower than expect by as much as Bufr 130bn, affecting growth by 2.1%.** The impact was estimated by calculating the government multiplier from a time series of 19 years. This will mostly affect demand for imports and to a lesser extent demand for domestic services. This sharp decline is mainly the result of delays

in the implementation of grant funded capital expenditures, following the introduction of new procurement rules. This is explained in more detail in the section on government budget.

## 4 2009 government budget forecast

### 4.1 Overview

43. In the following, all changes refer to changes from the November 2008 version of the 2009 budget.
44. **Government revenues (excluding grants) and expenditures are expected to decrease by Bufr 19bn and Bufr 130bn respectively, or 1.3% and 8.9% of GDP. The revenue shortfall is likely to mostly result in equivalent cuts in public investments, as Burundi has little room for debt financing. The substantial shortfall in public expenditures could still be contained if the Government successfully addresses the currently severe delays in budget execution.**
45. The shortfall in revenues is mainly the result of lower than expected custom tax collection efficiency, lower oil tax revenues due to falling international oil prices, and lower dividends from the Central Bank of Burundi as a consequence of low interest earnings from investments in international central banks. This fall in revenues is partly offset by higher than expected income tax collection efficiency.
46. The shortfall in government expenditure is largely driven by delays in the implementation of grant funded capital expenditures.
47. The following chapters provide details on the causes of the above shortfalls.
48. Changes on various components of government revenues and expenditures are summarized in the tables below.

Table 4.1: Sources of financing (Bufr bn)

	2008 (1)	2009 budgeted (2)	Change 2008 to 2009	2009 update (3)	Change 2009 budgeted to update	Change 2009 budgeted to update
<b>Tax revenues</b>	<b>234</b>	<b>313</b>	<b>33%</b>	<b>303</b>	<b>-10</b>	<b>-3%</b>
Income tax	60	73	21%	75	2	3%
Domestic tax on goods and services	126	143	14%	147	4	3%
Customs taxes	44	73	64%	57	-16	-22%
Other tax revenues	4	25	488%	25	0	0%
<b>Non tax revenues</b>	<b>20</b>	<b>33</b>	<b>61%</b>	<b>24</b>	<b>-9</b>	<b>-27%</b>
Revenues from ownership	14	18	31%	9	-9	-50%
Other non tax revenues	7	15	122%	15	0	0%
<b>Grants</b>	<b>303</b>	<b>365</b>	<b>21%</b>	<b>254</b>	<b>-111</b>	<b>0%</b>
Current grants	149	128	-14%	128	0	0%
Capital grants	154	237	54%	126	-111	0%
<b>Total revenues</b>	<b>557</b>	<b>710</b>	<b>27%</b>	<b>581</b>	<b>-130</b>	<b>-18%</b>
<b>Financing</b>	<b>37</b>	<b>115</b>	<b>207%</b>	<b>115</b>	<b>0</b>	<b>0%</b>
<b>Total revenues and financing</b>	<b>595</b>	<b>825</b>	<b>39%</b>	<b>696</b>	<b>-130</b>	<b>-16%</b>

Driver for change from budgeted to update

improved collection efficiency  
improved collection efficiency  
lower than expected collection efficiency  
lower than expected dividends from BRB

Table 4.2: Government expenditures (Bufr bn)

	2008 (1)	2009 budgeted (2)	Change 2008 to 2009	2009 update (3)	Change 2009 budgeted to update	Change 2009 budgeted to update
<b>Total recurrent expenditures</b>	<b>353</b>	<b>419</b>	<b>19%</b>	<b>419</b>	<b>0</b>	<b>0.0%</b>
Expenses on goods and services and other current transfers	319	374	17%	374	0	0.0%
Interest payments	29	34	17%	34	0	0.0%
Expenses of funds	5	11	120%	11	0	0.0%
<b>Total capital expenditures and net loans</b>	<b>241</b>	<b>406</b>	<b>68%</b>	<b>276</b>	<b>-130</b>	<b>-32.0%</b>
Capital expenses	243	407	67%	277	-130	-31.9%
Net loans from treasury	-2	-1	-50%	-1	0	0.0%
<b>Total expenditures</b>	<b>594</b>	<b>825</b>	<b>39%</b>	<b>695</b>	<b>-130</b>	<b>-15.8%</b>

Driver for change from budgeted to update

catching up on the procurement of goods and services is assumed  
delay in execution and revenue shortage

Source: Ministry of Finance and estimates of the authors

(1) revised August 2008

(2) budgeted as of November 2008

(3) estimates by the authors based on actual execution as of June 2009

## 4.2 Sources of financing

### 4.2.1 Government revenues

#### 4.2.1.1 *Income taxes, and taxes on goods and services*

49. **A 3% increase is expected**, in line with improvement achieved during the first four months of the year. However, there is a risk that this trend could change following the introduction of the VAT, though a WB study has shown that the effect should be neutral.
50. This performance is due to better than expected improvements in tax collection. Indeed, the Government has successfully implemented a number of income tax collection reforms, including weekly revenue analysis followed by action plans and enhanced collection of tax arrears.
51. However, the gains on tax collection have been partially offset by a drop in consumption tax collected on the sugar company of Burundi SOSUMO, which has not been fully compensated by an increase on imports of sugar. The shortfall could amount to up to Bufr 2bn over the first 4 months, or Bufr 6bn extrapolated over a year. This could be explained by a sharp decline of SOSUMO's sales as experienced in the first quarter of 2009, due to a cap imposed on its retail price, which makes selling SOSUMO sugar unprofitable for retailers. The cap does not apply to imported products, hence the increase in imported sugar. Consumption tax on imported sugar has increased by 50%, from Bufr 106bn to 171. However, this increase does not nearly match the drop in taxes from SOSUMO. This is an indication that most of the increase of imported sugar has been illegal. Another possible explanation for the shortfall could simply be the normal volatility of the collection of consumption taxes from SOSUMO's sales, as indicated by history. Indeed, in 2008, collection was close to zero for five months, the rest of the revenues being evenly spread over the remaining 7 months. Given the uncertainty around the explanation for the fall of revenues from sales of sugar, we took the conservative assumption that the shortfall was going to remain until the end of the year.

#### 4.2.1.2 *Customs taxes*

52. **Taxes on international trade are expected to be lower than projected by Bufr 16bn (22% decrease)**, reflecting less than anticipated improvements in efficiency and reduced prices of imported products. Further risks that are not accounted for in this figure are potential losses of tax receipts due to the application of the common EAC tariff, the introduction of the VAT – both from July – ,and the transition period for the establishment of the revenue authority - expected in 2009.

#### 4.2.1.3 *Non tax revenue*

53. **An overall Bufr 9bn shortfall is expected.**
54. Bufr 9bn of dividends that were to be collected from the Central Bank (BRB) are now expected not to be higher than Bufr 4bn, resulting in a shortfall of Bufr 5bn. This stems from the sharp cuts in international interest rates, which reduce the return on the assets of the Central Bank.

55. A shortfall from sales of immobilized assets is also likely as (i) Bufr 1bn of foreign exchange gains of expected from the BRB are unlikely to materialize; and (ii) of sales of government land property worth Bufr 3bn have been carried over from the 2008 to the 2009 budget, despite their non recurrent nature. The shortfall under this latter item would therefore be of Bufr 4bn.

## **4.2.2 Grants**

### ***4.2.2.1 Recurrent grant***

56. **The assumption in our forecast is that recurrent grants will remain unchanged.** However, a massive drop of Bufr 36.2bn in budget support is possible due to concerns by donors over a number of political developments.

### ***4.2.2.2 Capital grants***

57. **It is anticipated that Bufr 111bn of capital grants will not be disbursed.**

58. Capital grants are given under the form of investment projects. Therefore, any delay in the implementation of these projects results in lower disbursement of capital grants. As discussed the section on capital expenditures below, delays in the implementation of the investment program are expected to result in a shortfall in capital expenditures of Bufr 130bn. We assume the Government will seek to maximize total expenditures. Hence, the Government should try to postpone or cancel projects that were to be financed by the revenue shortfall of Bufr 19bn (see section on government revenue above), rather than projects financed by capital grants. Consequently, we assume that Bufr 111bn of the capital investment projects that will not materialize are financed by capital grants. This results in a reduction of the disbursement of capital grants of the same amount.

## **4.2.3 Financing**

59. No significant change is expected under this category.

### 4.3 Government spending

60. Delays in the implementation of the budget compounded by pressure on revenues could result in lower spending by as much as Bufr 130bn. The shortfall is likely to be mostly in capital expenditures.

61. Delays in budget implementation are significant. As of 31 March 2009, commitments were standing at 19% of total budget allocation, compared to 28% last year at the same time. The table below shows the status of commitments as of 31 March 2009 in five selected Ministries, representing 58% of total non HIPC government budget.

**Table 4.3: Commitments as of 31 March 2009 - Selected Ministries representing 58% of non HIPC Government budget**

		Security (7)	Defense (9)	Finance (10)	Education (21)	Health (22)	Total
Capital expenditures - budget allocation	bn Bufr	3.23	2.8	1	15.5	9.9	32.43
Recurrent expenditures - budget allocation	bn Bufr	43.9	65.5	59.9	91.9	30.7	291.9
Capital expenditures - committed	bn Bufr	0.12	0.6	0.1	0.5	0.006	1.326
Recurrent expenditures - committed	bn Bufr	10	15.2	9.9	19.5	5.8	60.4
Capital expenditures - committed	% allocation	3.7%	21.4%	10.0%	3.2%	0.1%	4.1%
Recurrent expenditures - committed	% allocation	22.8%	23.2%	16.5%	21.2%	18.9%	20.7%
Total committed	% allocation	21.5%	23.1%	16.4%	18.6%	14.3%	19.0%
Contribution to total allocation of the sample		15%	21%	19%	33%	13%	100%

Source: Ministry of Finance

(7) Ministry of Public Security

(9) Ministry National Defense and Former Combattants

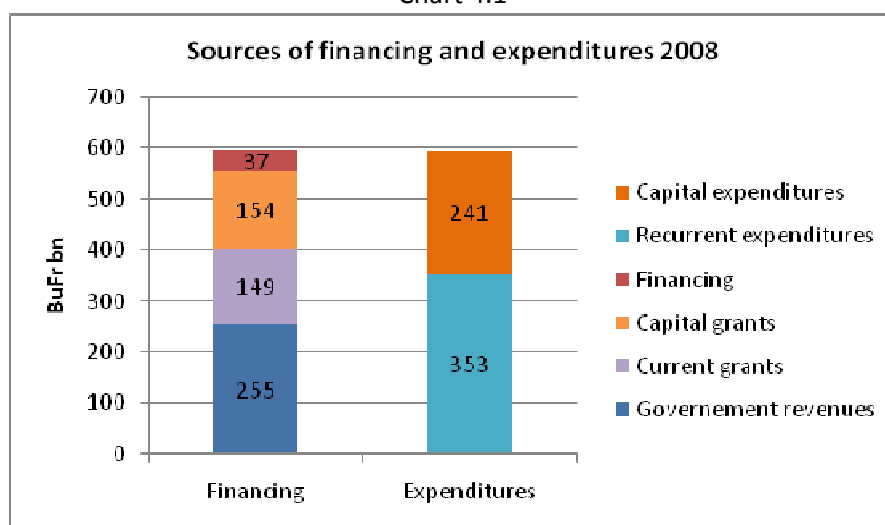
(10) Ministry of Economy, Finance and Cooperation for Development

(21) Vice-Ministry in charge of Primary and Secondary Education

(22) Ministry of Public Health and Fight against Aid

#### 4.3.1 Capital expenditures

Chart 4.1



*Capital expenditures are partly financed by current grants and government revenues. Hence, a shortfall in government revenues would result in a shortfall in capital expenditures. Furthermore, coverage of recurrent expenditures by non earmarked revenues (government revenues and current grants) is low.*

62. **We forecast a shortfall of Bufr 130m, or 32% of planned capital expenditures.** Two drivers point towards a lower than expected level of capital expenditures:
63. First, delays in capital expenditures are substantial, with a commitment rate of 4.1% only. The most commonly agreed explanation is that the introduction of the new decentralized procurement system has caused some delays that are transitional in nature. The table above shows that commitments in capital expenditures are especially low for the Education and Health sector, the recipients of the two largest capital investment allocations, with commitment rates below 4%. The level of commitments in capital expenditures at the same date in 2008 is not available. Therefore, we assume that the delay in capital expenditures is identical to the delay in commitments for all expenditures. As of 31 March 2009, commitments were standing at 19% of total budget allocation, compared to 28% last year at the same time. Progress is therefore at 68% of last year's level at the same period. This level of delay alone could therefore result in as much as a 32% shortfall in capital expenditures, or Bufr 130m.
64. Second, the shortfall in government expenditures will most likely result in cuts in capital expenditures, as operating expenditures are for the most part incompressible. Capital expenditures are partly funded from capital grants and from current grants. Losses in revenues will therefore result in current grants being shifted from investment to operating expenses. This driver alone would result in a shortfall of the same amount as the shortfall in revenues, ie. Bufr 19bn.
65. Consequently the shortfall in capital expenditures will likely stand between Bufr 19 and 130bn. This is a quite wide range, reflecting a high level of uncertainty in the ability to deliver on public investments. In order to be conservative, we used the higher value of the range in our forecast: Bufr 130m. This would result in an execution rate of 68%, roughly in line with last year's execution rate of 64%<sup>3</sup>, despite the fact that planned capital expenditures in 2009 increased by 68% from 2008.

#### 4.3.2 Recurrent expenditures

66. **Recurrent expenditures are anticipated to remain as planned.** Overall, recurrent expenditures are lagging, as for example in the following Ministries: Finance, Education and Public Health. Recurrent expenditures can be divided into salary and non salary expenditures.
67. Payment of salaries has overall been timely, except notably in the health sector (18.5% commitment as of 31 March 2009) where strikes have induced delays in payment. Other recurrent expenses are also expected to be stable.
68. Non salary recurrent expenditures, such as maintenance, are indeed suffering a delay but catching up is possible. This is our assumption in our forecast in order to be conservative on the level of expenditures. However, as we assume that capital expenditure will be lower than projected, unused resources on domestically financed expenditure may serve for a small increase of recurrent expenditure.

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<sup>3</sup> Source : Government, Ministry of Planning, « Bilan de réalisation du Programme d'Investissement Public »

## 5 Conclusions

69. **One key lesson from the elasticity analysis is that on the one hand, Burundi's economy is highly sensitive to shocks in agricultural production and government expenditures, while on the other hand, its sensitivity to changes in oil prices, global demand, coffee production and prices and remittances is more moderate.** However, the impacts of changes in the latter group of variables could obviously still be large if changes are too, as in the case of oil prices. The sensitivities above are largely a reflection of the respective contributions of each sector to Burundi's supply and demand structure. Agriculture is a major contributor to Burundi's production and government consumption constitutes Burundi's largest demand component.
70. **In addition, growth in 2009 is expected to reach 3.3%, down from 4.8%<sup>4</sup> as anticipated in the original version of the budget in November 2008, mostly due to lower than expected Government spending. The substantial negative GDP impact of lower public expenditure could, however, be contained if Government successfully addresses the severe delays in budget execution.** The macroeconomic outlook is mainly affected by two positive shocks and two negative ones. On the positive side, agricultural production is expected to increase significantly (by 6% or 2.1% of GDP) due to favorable weather conditions, and lower oil prices could result in a 0.4% increase in GDP. However, these positive shocks will be more than offset by significantly lower government consumption, mainly due to delays in the execution of capital expenditures, and lower revenues from coffee exports, due to both declining productivity and lower prices than last year as a consequence of weakening global demand.
71. **Government revenues – excluding grants - are expected to fall by 1.3% of GDP, and government expenditures by 8.9% of GDP, compared to the budget approved by Parliament in November 2008. The revenue shortfall is likely to mostly result in equivalent cuts in public investments, as Burundi has little room for debt financing.**
72. The shortfall in non-grant revenues is mainly the result of lower than expected custom tax collection efficiency, lower oil tax revenues due to falling international oil prices, and lower dividends from the Central Bank of Burundi as a consequence of low interest earnings from investments in international central banks. This fall in revenues is partly offset by higher than expected income tax collection efficiency. Though preparatory studies have indicated that their combined impact should be neutral, two significant changes in the structure of government revenue are adding significant risks: the application of the EAC's tariff structure and the introduction of VAT both as of July 2009.

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<sup>4</sup> Source : Exposé des motifs du projet de loi portant fixation du budget général de la République du Burundi pour l'exercice 2009

73. The sharp decline in government expenditures is mainly the result of severe delays in the execution of the budget, chiefly caused by the introduction of new procurement rules. These will primarily affect capital expenditures financed by grants. The disbursement of the capital grant component of revenues – which for the most part is earmarked to specific capital investment projects - will therefore sharply decline as well.
74. Possible implications of this analysis for the reform efforts in Burundi are as follows.
75. **In the coming years, sustained and predictable budget support would help support growth and reduce fragility.** Indeed, as this study finds, Burundi's economy is extremely sensitive to Government expenditures and Government revenues are volatile. The risk that the Government could not meet recurrent expenditures is also significant which, compounded with the negative growth effect, could result in increased social fragility, if public salaries are unpaid and basic public services discontinued. In parallel, it appears critical to press on with Public Financial Management reforms, in particular with a view to significantly enhance budget execution and reduce the budget deficit, which is currently largely bridged by external aid.
76. **Over the medium and long term, efforts should focus on supporting the development of the private sector with a view to diversify the economy.** Indeed, as illustrated by the elasticities of growth and the significant impact of recent shocks, Burundi's economy is heavily reliant on government consumption and agriculture.

## ***Annex***

## ***Methodological note***

We briefly present below the methods used to assess the impact of various shocks, namely the accounting, multiplier and general equilibrium models.

### *Accounting method*

In this case, any absolute change in the value of a component of GDP was assumed to translate into an equal change in the value of GDP.

Example: an increase of Agricultural production by Bufr 100bn translates into Bufr 100bn increase in GDP

### *Multiplier method*

We use the historic elasticity of GDP to a given variable to estimate the impact of a change in this variable.

Example: historically, if the government spending elasticity of GDP is 0.4, we assume a 1% change in government spending translates into a 0.4% change in GDP

### *General Equilibrium Model*

The model is based on simulations conducted using the dynamic stochastic general-equilibrium model that has been developed in an earlier project: Study on the impact of high oil prices on African economies. The model was used as is to assess the impact of the fall in oil prices and adapted to assess the impact of shocks on any commodity price, including coffee in the case of Burundi. The description below applies to the original model build for oil simulations.

The model shares some features with those developed by Rotemberg and Woodford (1996), Backus and Crucini (2000), Kollmann (2001), Bergin (2003), Leduc and Sill (2004) and Bouakez and Rebei (2005). The economy consists of households, firms, a government, and a monetary authority. There are four types of goods: a final good, a composite non-oil good, oil, and intermediate goods. The production sector of the economy is summarized in Figure 1.

The final good, which serves consumption and investment purposes, is produced by perfectly competitive firms using oil and a non-oil composite good as inputs. The non-oil composite good is produced by mixing domestically produced and imported intermediate goods. Domestic intermediate goods are produced by monopolistically competitive firms that use domestic labour and capital as inputs. Domestically produced intermediate goods are also exported to the rest of the world. Export prices are denominated in foreign currency (dollars). Foreign intermediate goods are imported by monopolistically competitive importers at the world price. These goods are then sold to local firms at domestic-currency prices. Prices set by monopolistic firms are costly to change, and are thus sticky. Price stickiness in import and export prices causes the law of one price to fail, and leads to movements in the real exchange rate.

Oil used to produce the final good is either imported or locally produced, depending on whether the country is a net importer or a net exporter of oil. In oil-importing countries, the government practices local currency pricing (LCP), buying oil at the world price, and reselling it to domestic firms at the domestic price. In oil-exporting countries, it is assumed that the oil industry is owned by the government, which sells oil to the rest of the world at the world price, and to domestic firms at the domestic price. These two prices need not be identical even after converting the world price to domestic currency. Depending on how the government sets, pass-through from the world price to

the local price of oil will be complete or incomplete. In the model, the government follows a rule that can yield any degree of pass-through from zero to 100%.

The government finances its expenditures mostly by issuing public debt. On the other hand, access to international financial markets can be limited, depending on the severity of credit constraints that a given country faces. Countries that have only limited access to international financial markets cannot buffer shocks and smooth consumption by resorting to international borrowing. This feature is captured in the model by assuming portfolio-adjustment costs that are quadratic in the stock of foreign debt.

The monetary authority sets the nominal interest rate according to a Taylor-type rule, which is general enough to encompass practically all possible monetary-policy/exchange rate regimes. In particular, the rule nests fixed exchange rate regimes and managed floats, which characterize the vast majority of African economies.

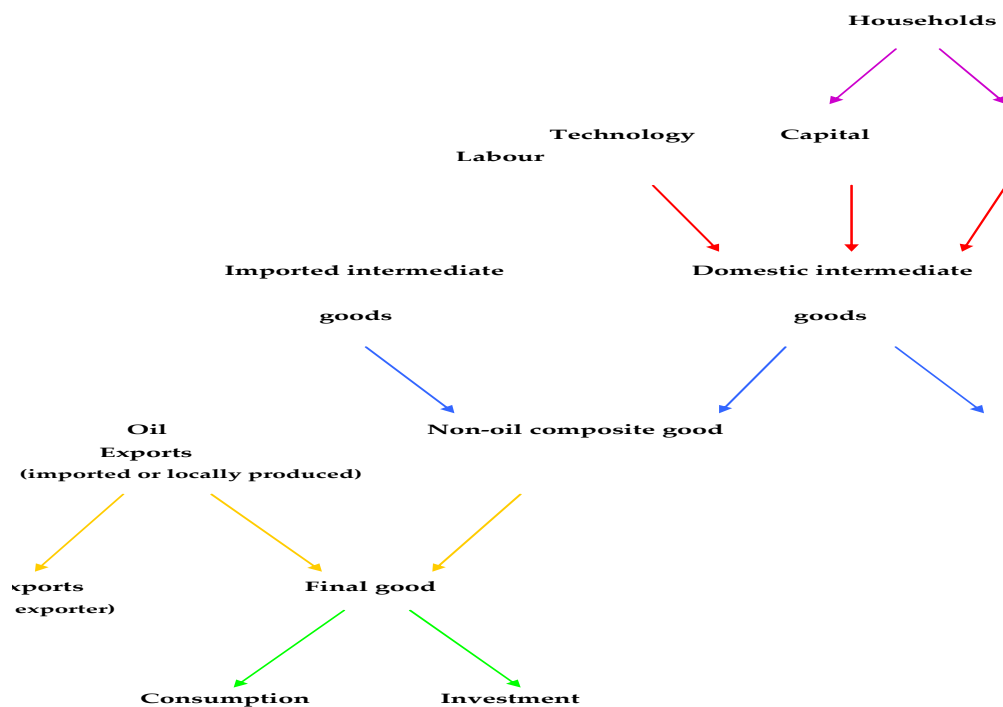


Figure 1: Structure of the production sector