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A macro-econometric model for the economy of Lesotho

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Abstract – The Federal Planning Bureau took part, in collaboration with the German institute DIW Berlin, in a technical assistance project aimed at developing different modelling approaches for the economy of Lesotho[1], a small country landlocked within the territory of South Africa. This paper summarises the major characteristics of the macro-econometric model that was elaborated in the context of this project. The modelling strategy relies on its complementarities and interactions with the Financial Programming, which was worked out by other partners of the project team. In addition, the paper presents a baseline up to the fiscal year 2012/2013 as well as an alternative scenario in which public expenditures are reduced in response to the expected decrease in customs receipts.

Jel Classification – C5, E6

Keywords – Econometric model, macroeconomic forecasts

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[1] Consultancy to **D**evelop and **I**mplement a **M**acroeconomic **Mo**del for **L**esotho (**DIMMoL**) – EuropeAid /118819/D/SV/LS.

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1. Introduction

The DIMMOL project (Consultancy to **D**evelop and **I**mplement a **M**acroeconomic **Mo**del for **L**esotho), which started in November 2005, aims at developing different modelling approaches for the Lesotho economy, starting with a basic Financial Programming Framework, followed by a macro-econometric model and a more advanced CGE model. This strategy is motivated by the fact that no single model is capable of adequately capturing, modelling and processing all the information required by policy-makers. The philosophy of the project is thus to develop complementary tools which can be used for different applications, broadening the range of their overall usage.[1]

The present paper introduces the major characteristics of the macro-econometric model and the behavioural equations it contains. The modelling strategy relies on its complementarities and interactions with the Financial Programming (FP), which is an integrated system of spreadsheets. Key exogenous variables for the macroeconomic model are provided by the FP. The model focuses on the main transmission channels without providing the full set of institutional sector accounts which are modelled in more detail within the FP.

Modern macro-econometric models usually combine short-term dynamics with a long-run equilibrium, typically captured by means of error correction mechanisms.[2] This type of modelling approach explicitly assumes the existence of stable and theoretically well-defined long-run relationships between the main macroeconomic variables. As is shown in Chapter 2, the economy of Lesotho has gone through a number of major structural changes over the past twenty years. This renders the existence of such long-run relationships doubtful and econometrically difficult, if not impossible, to identify. For these reasons we opted for very simple linear specifications in first differences of logarithms, allowing an easy interpretation of the coefficients. In most cases, the values of the coefficients were not restricted, except in the price block where dynamic homogeneity was well accepted by the data. The simplicity of the model has also the advantage of being easier to use in forecasting, which is a non-negligible asset in a country with few expertise in handling macro-econometric models for operational purposes.

As the model construction was essentially data driven and as the revised national accounts, which constitute the bulk of the model database, were used in an econometric application for the first time, the report presents most of the historical data series used. This presentation endeavours to justify the modelling strategy as well as the choices made for the explanatory variables in the behavioural equations. As macroeconomic models are never finished products, this paper can only be seen as a snapshot of the model at a certain moment.

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1 See: "Work Program and Schedule for the Consultancy to Develop and Implement a Macroeconomic Model for Lesotho (DIMMOL)", July 2006.

2 For models of this type for countries in the region see for instance: "The core forecasting model of the South African Reserve Bank", SARB, Working Paper 07/02, June 2007 and "Namibia Macroeconometric Model (NAMEX)", Bank of Namibia, December 2004.

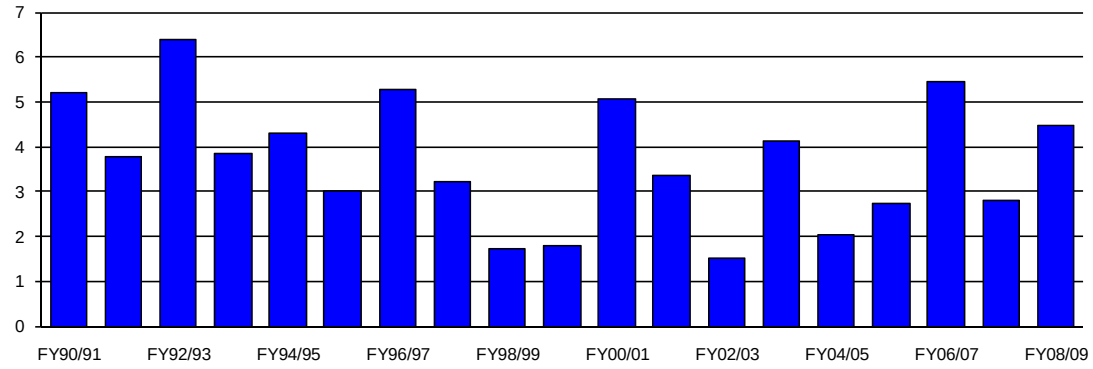
Since the model's main goal is to improve the quality of the budgetary forecasting exercises, it was decided to put up the model database in fiscal years (FY, running from April to March) instead of calendar years as provided by the National Accounts. This also makes the interaction with the FP, which is constructed in fiscal years, more straightforward.

The paper is organized as follows. Chapter 2 introduces the main driving forces behind economic growth in Lesotho over the past twenty years. The following chapter proposes a modelling strategy consistent with these observable facts. The model specification and the estimation results are given in Chapter 4. Finally, Chapter 5 discusses the baseline scenario up to FY12/13 and the simulation results of a shock on public expenditures in response to a decline in customs receipts.

2. Shifting driving forces behind economic growth

Despite being entirely landlocked within the territory of the Republic of South Africa and enjoying limited natural resource endowments, real GDP in Lesotho has been growing at a relatively robust rate of 3.7% on average between FY1990/91 and 2008/09. However, the evolution of GDP over the past twenty years conceals a variety of underlying phenomena.

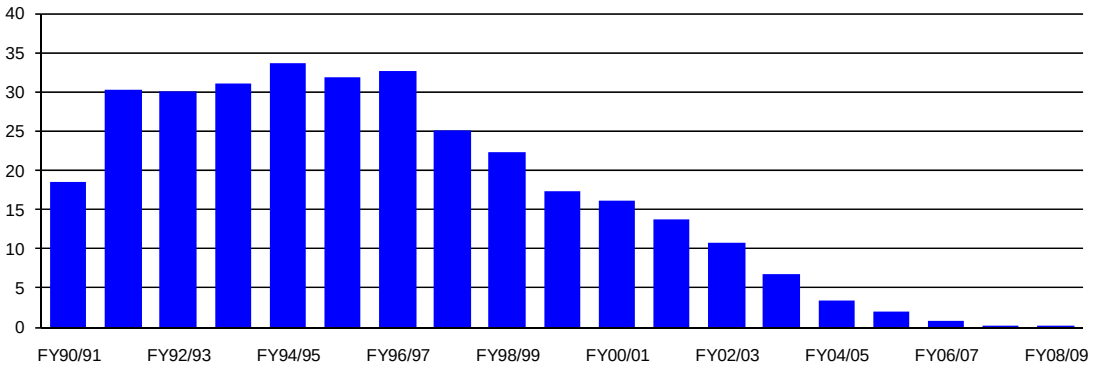
Graph 1 - GDP at constant prices
Growth rate in %



Source: Bureau of Statistics; Own computations

The economy was pushed by a boom in infrastructure investment during the nineties and the beginning of the 21st century related to the Lesotho Highlands Water Project. Phase 1 of the project consisted in the construction of two dams - in order to transfer water from the catchment of the Senqu/Orange river to South Africa's major industrial and population centres - and a hydropower station for Lesotho.

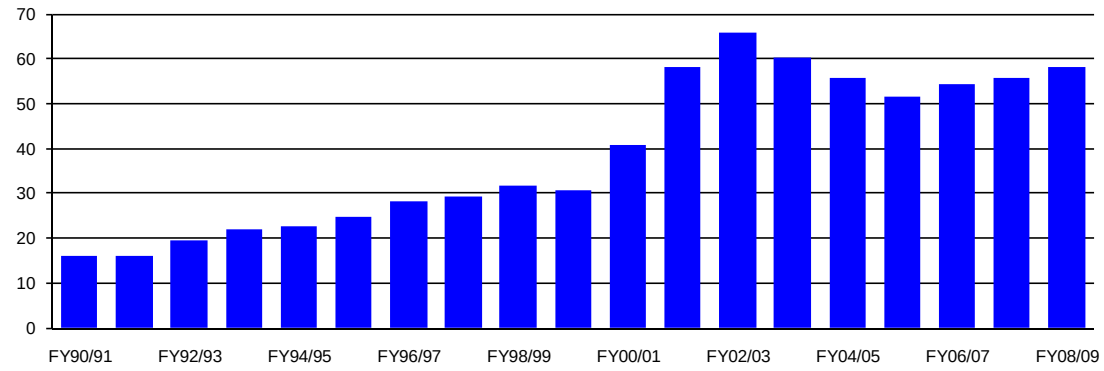
Graph 2 - Lesotho Highlands Development Authority, Gross Fixed Capital Formation
% of GDP at current prices



Source: Bureau of Statistics; Own computations

The country saw from 2000 onwards the emergence of export-led industries. Firstly, the setting up of garment plants which were largely encouraged by the application of the African Growth and Opportunities Act (AGOA) which offers a duty and quota-free access to the U.S. market[3]. Secondly, the exploitation of new diamond mines started a few years later and finally, factories manufacturing products for the regional markets appeared very recently.

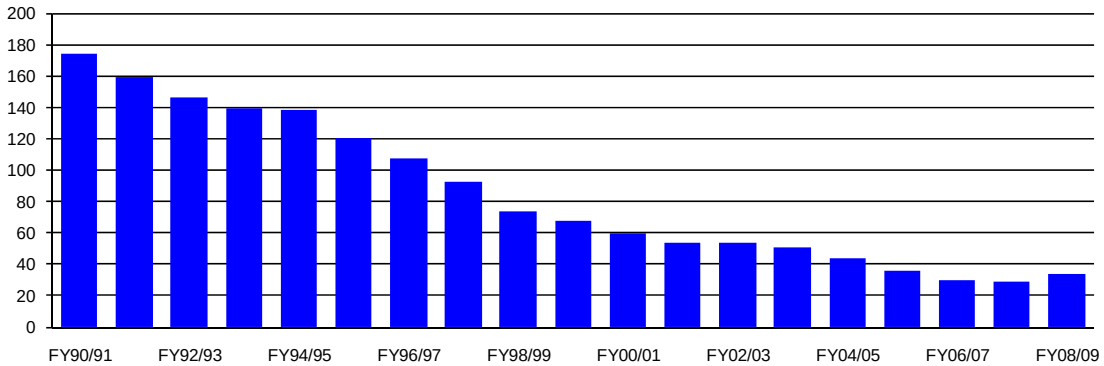
Graph 3 - Exports of goods and services
% of GDP at current prices



Source: Bureau of Statistics; Own computations

While the economy benefited from these positive shocks, it is also facing an almost continuous decline in net primary income receivable from the rest of the world, essentially through a decline in remittances from Basotho miners in South Africa[4].

Graph 4 - Net primary incomes from the rest of the world
% of GDP at current prices



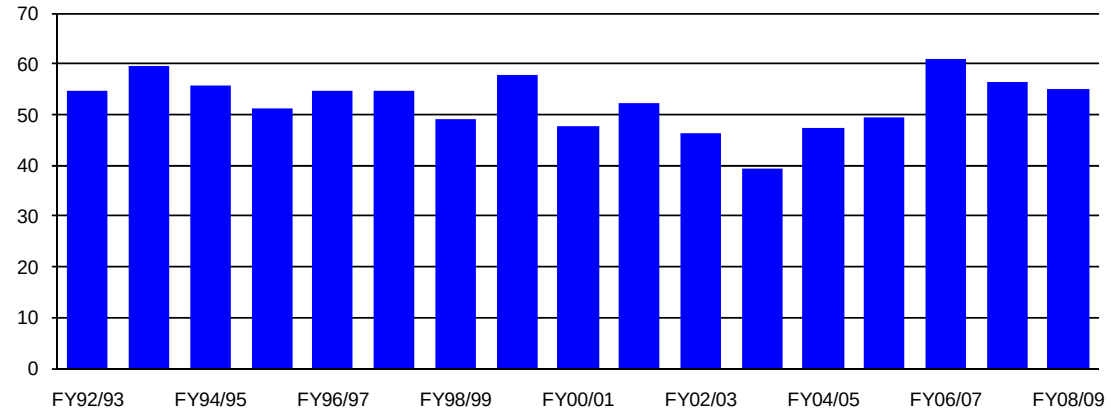
Source: Bureau of Statistics; Own computations

[3] The Act, adopted in 2000 by the US Congress, offers tangible incentives for African countries to intensify their efforts at opening up their economies and building free markets. African countries that qualify for AGOA receive 'Less Developed Country' status treatment.

[4] These remittances are recorded in the Balance of Payment of Lesotho as primary income receivable from the rest of the world and not as current transfers to households as it is usually the case.

As a member of the Southern African Customs Union (SACU), the government of Lesotho receives its share of the revenue pool[5]. Because these transfers constitute the primary source of income for the government, their evolution has a significant impact on economic growth through public spending. The share of SACU transfers in total government revenue rose from a dip of 39% in FY03/04 to a peak of 61% in FY06/07 and has declined somewhat since.

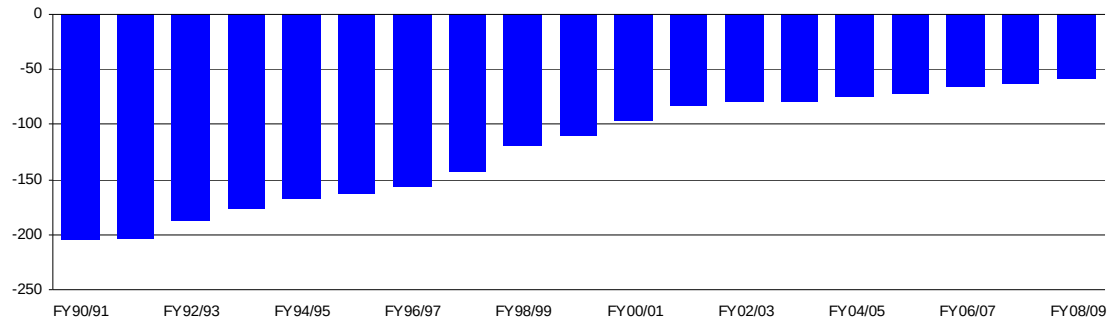
Graph 5 - Transfers from the SACU revenue pool
% of government revenue



Source: Government Financial Statistics; Own computations

These substantial positive net inflows of resources allowed the country to spend systematically more than it produced. This is reflected by the continuously negative balance of goods and services.

Graph 6 - Net exports of goods and services
% of GDP at current prices



Source: Bureau of Statistics; Own computations

[5] Members of the Southern African Customs Union are South Africa (SA), Botswana, Lesotho, Namibia and Swaziland. The SACU provides for a common external tariff and complete free trade in commodities between the member states, whilst granting transit rights across SA for the other members. Tariff revenues are collected by SA and then distributed among the members according to a revenue sharing formula.

3. Implications for the modelling strategy

The previously quoted factors are clearly difficult to model within the context of a national macro-econometric model. Largely driven by country-specific supply-side factors, the economy of Lesotho evidently does not satisfy the traditional view that total aggregate demand is the main determinant of growth in the short run. As a consequence it might well be impossible to disentangle the cycle from the trend or even to construct a relevant indicator for Lesotho's export markets. Moreover, the export items have appeared recently or even very recently, rendering econometric estimates of standard export equations for these products very fragile, if not impossible, due the very limited number of observations available.

Consequently, the strategy put forward considers the following items as exogenous variables for the model:

- Gross Fixed Capital Formation related to Phase 2 of the Lesotho Highlands Water Project;
- Exports of goods and services;
- Net primary income receivable from the rest of the world;
- Customs receipts from the SACU revenue pool.

The model relies on the Financial Programming exercises to forecast future values for these series. Obviously different scenarios based on contrasted evolutions of these four key drivers of the economy might also be considered. Evidently, price-competitiveness effects due to movements in the exchange rate have to be taken into account when making assumptions regarding the future evolution of exports in manufactured goods. This is particularly valid for the exchange rate between the rand and the dollar, as manufactured textiles and clothing are essentially exported to the USA and wages in Lesotho are set in loti[6]. Regarding the forecasts for SACU revenues, they should be set up bearing in mind a macroeconomic scenario for the SACU region as a whole and for South Africa in particular. This means that although there is no explicit modelling of external drivers, they are determined implicitly within a common scenario.

Making a forecast, even model-based, is also telling a 'credible story'.[7] For Lesotho this implies coming up with a story for the main industries of the country, as it is the current practice with the Financial Programming. Nevertheless it is also important to take into account second-round demand effects as higher production coming from exports generates additional revenues that trigger consumption and investment and eventually production in the other sectors. Net primary income and net current transfers from the rest of the world also have multiplier effects by allowing households and the government to spend more than what they could afford solely through domestic income and thereby increasing output in domestic sectors.

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[6] The loti (plural Maloti) is the currency of Lesotho and is pegged at par to the South African rand. The South African rand is recognized as legal tender in Lesotho under the Common Monetary Area Agreement but the loti is not legal tender in South Africa.

[7] See for instance Chapter 13 of Carnot N., Koen V. and Tissot B., Economic Forecasting, Palgrave McMillan, 2005.

One way to ensure consistency between supply and demand is to suppose that any excess demand, i.e. the difference between total expenditure and GDP, will be satisfied by imports (Fig. 1a). Another possibility consists in closing the model on value added of a specific industry which is oriented towards the local market and large enough. These criteria led us to select "Private services" as the residuary industry (Fig. 1b).

Figure 1a: Model closure on Imports

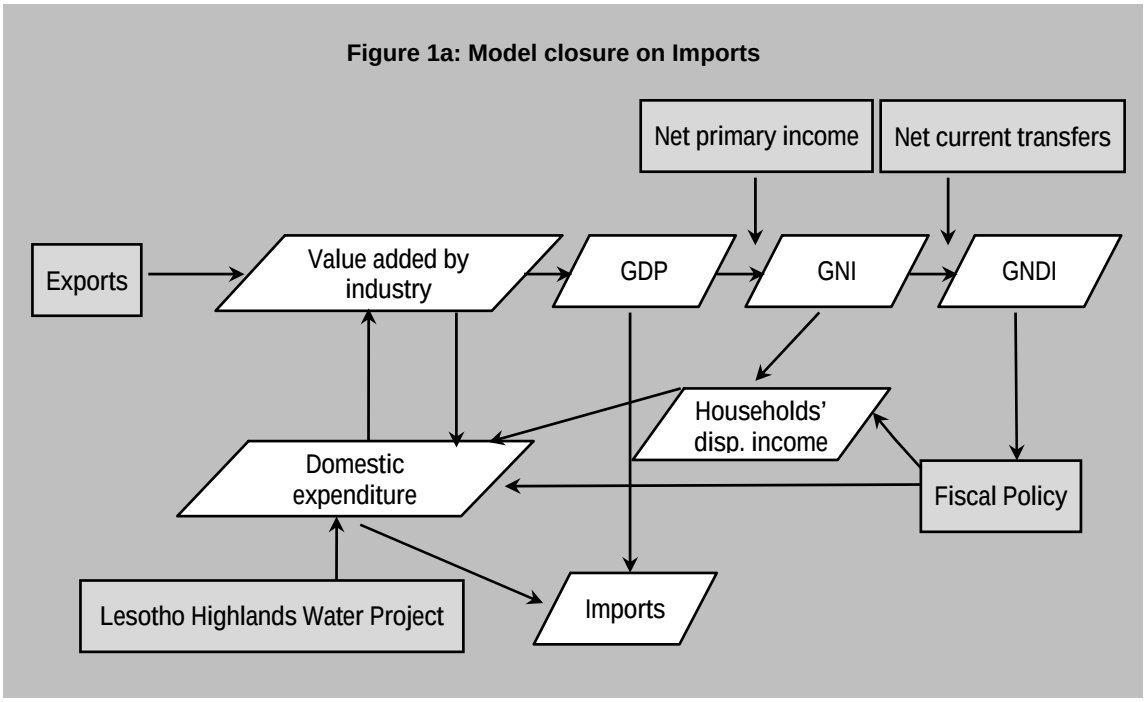
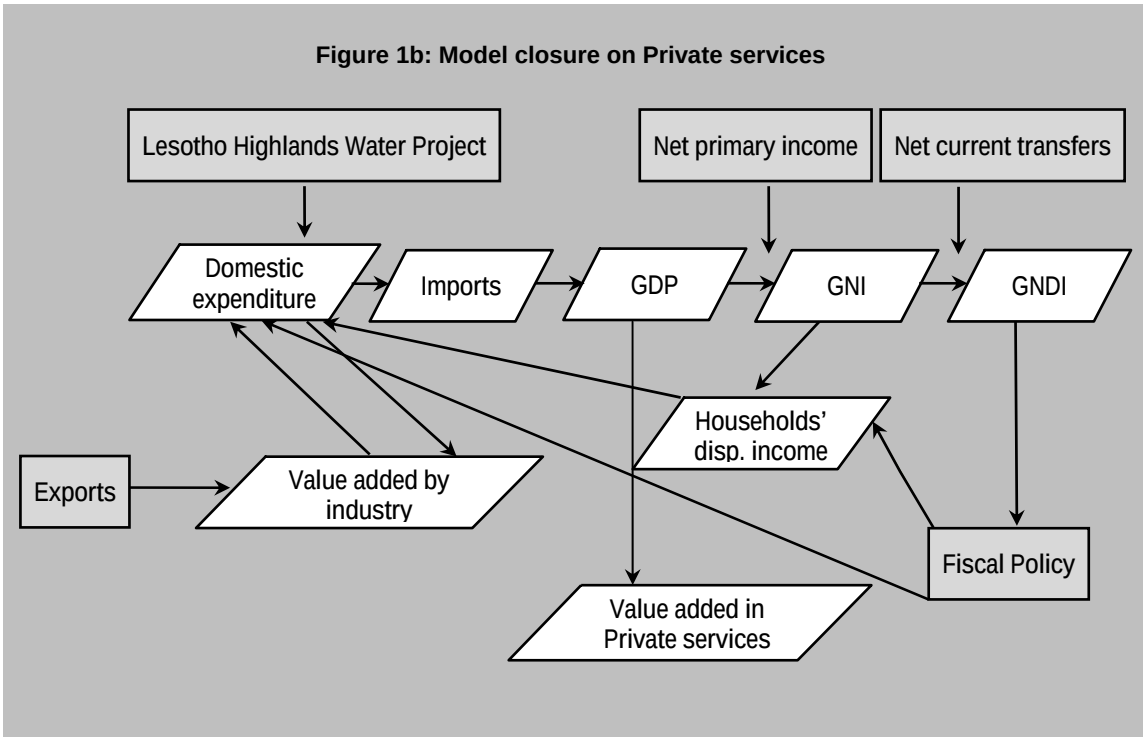


Figure 1b: Model closure on Private services



4. The model specification[8]

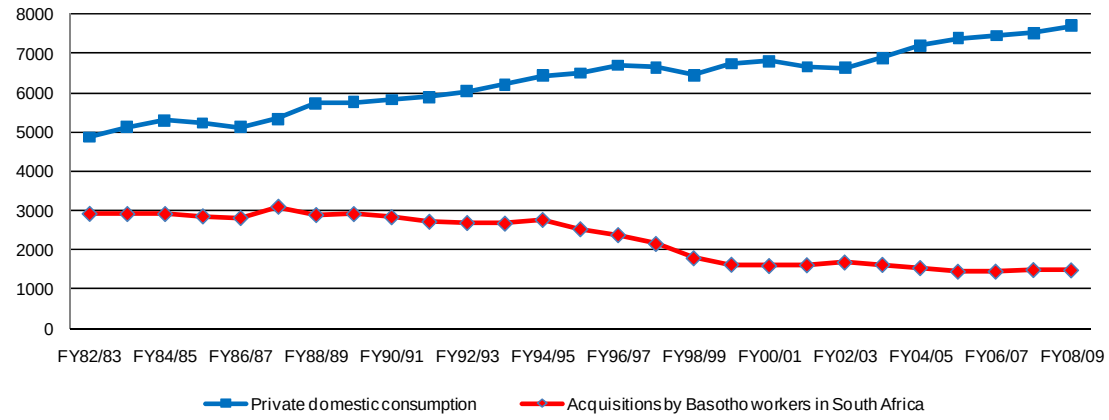
4.1. Growth domestic product by expenditure

4.1.1. Private final consumption expenditure

Private final consumption expenditure consists of three items, namely households' acquisition, households' own produce and acquisition by "Non-profit institutions serving households" (NPISH). Households' acquisition can in turn be split into acquisitions within Lesotho and acquisitions by Basotho workers in South Africa. This distinction is important to model the consumption behaviour of Basotho households, as well as to link private consumption to value added of the different industries. Hereafter, we will refer to "private consumption" if acquisitions of Basotho workers in South Africa are included and to "private domestic consumption" if acquisitions in South Africa are excluded[9].

According to the National Accounts, annual growth of private consumption at constant prices amounted to only 0.6% from FY82/83 to FY08/09. It even recorded a slightly negative average growth rate during the nineties. As can be seen in the graph below, this poor performance is entirely attributable to the steady decrease of acquisitions by Basotho workers in South Africa which is itself explained by the important reduction in the number of Basotho miners.

Graph 7 - Private final consumption expenditure
Constant prices - Million Maloti



Source: Bureau of Statistics; Own computations

[8] A glossary of the names for the different variables used in this chapter is provided in Appendix.

[9] This is an approximation of private domestic consumption as in principle the living costs of Basotho students abroad and the residents travel purchases in the ROW should also be subtracted while non-residents' purchases in Lesotho should be added. In practice these three items almost cancel out, so that for the sake of simplicity they have not been identified in the model.

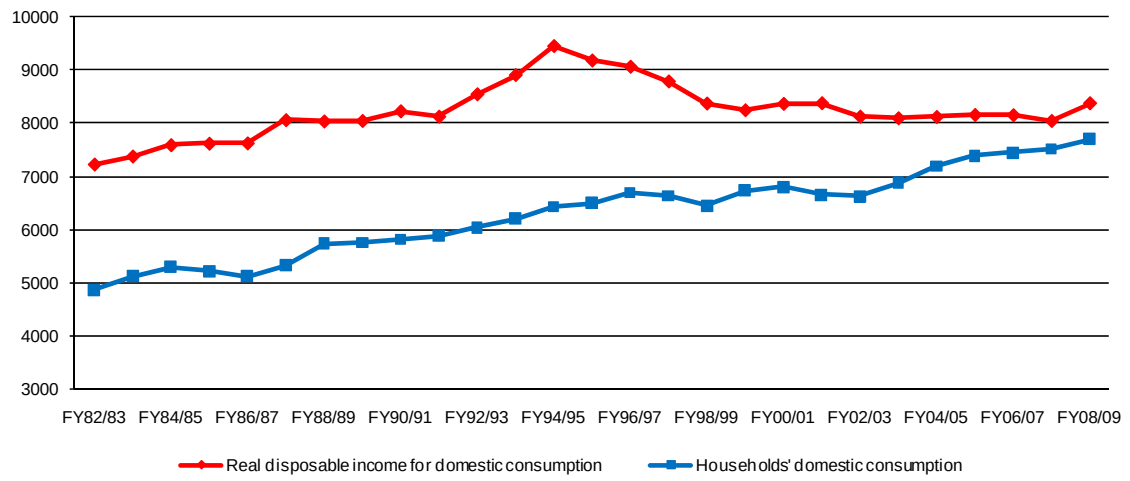
Households' disposable income is not readily available in Lesotho as only the primary distribution of income is published in the National Accounts. The secondary distribution of income can be partially inferred from other statistical sources such as the Balance of Payments and the Government Financial Statistics. Following data availability[10], households' disposable income for domestic consumption is defined in the model database as:

$$YDHD = WBTT + MITT + (WBBW - CHU2) - ITH + SBH + TGH + TRH$$ [11]

YDHD = Households' disposable income for domestic consumption
WBTT = Compensation of employees, All industries
MITT = Mixed income, All industries
WBBW = Compensation of miners and other workers in SA
CHU2 = Acquisitions by Basotho workers in SA
ITH = Income tax payable by individuals
SBH = Social benefits to households
TGH = Current transfers from Government to households
TRH = Current transfers from abroad to households

Households' real disposable income for domestic consumption increased until FY94/95 and declined quite heavily afterwards due to the fall in compensation of miners and other workers in South Africa. Although households' domestic acquisitions stagnated between FY95/96 and FY02/03, they have been growing steadily thereafter. While real disposable income for domestic consumption was 10% lower in FY08/09 than in FY94/95, households' domestic consumption rose by 20%.

Graph 8 - Households' domestic consumption and disposable income
Constant prices - Million Maloti



Source: Bureau of Statistics; Own computations

[10] Due to the absence of data, net operating surplus by NPISH and households' capital income are missing in the definition, biasing downwards our measure of disposable income.

[11] When the model is simulated, the wage and mixed income share per industry (as identified in the next chapter) are assumed to remain constant as no data are currently available to model separately employment and wages.

Regressing the evolution of private domestic consumption at constant prices on the development of real household's disposable income for domestic consumption (both approximated by the first difference of the logarithm) gives the following results.

DLOG(CHDO)=C(1)*(T>1994)*(T<2006)+C(2)*DLOG(YDHD/PCHD)
+C(3)*(T=1988)

Sample: 1983-2008	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.021559	0.005998	3.594098	0.0015
C(2)	0.670611	0.140106	4.786453	0.0001
C(3)	0.074820	0.018911	3.956492	0.0006

R-squared	0.464625	Mean dependent var	0.017645
Adjusted R-squared	0.418070	S.D. dependent var	0.024783
S.E. of regression	0.018906	Akaike info criterion	-4.990554
Sum squared resid	0.008221	Schwarz criterion	-4.845389
Log likelihood	67.87720	Hannan-Quinn criter.	-4.948752
Durbin-Watson stat	1.651698		

This equation tells us that a 1 percent increase (decrease) in real disposable income will translate into a 0.67 increase (decrease) in private consumption.[12] This means that any movement in disposable income will be partly smoothed in terms of consumption by a change in the saving rate. A dummy variable has been introduced to correct for the fact that domestic consumption continued to grow between FY94/95 and FY05/06, while real disposable income was declining. This dummy variable captures most likely the absence of households' capital income in the definition of disposable income that we use and probably also the underestimation of current transfers from South Africa[13].

[12] In a steady-state perspective an income-elasticity close to unity would have been preferable. However from a short-to-medium term point of view a lower elasticity matching the data seems more suitable.

[13] Indeed, money transfers between South Africa and Lesotho are difficult to track as the rand is legal tender in both countries.

4.1.2. Private gross fixed capital formation

Private gross fixed capital formation consists of two items, namely investment from corporations and housing investment. Because the latter represents a relatively modest fraction (around 16% in current prices) and because the business cycle of private GFCF is totally dominated by corporate investment (see graph below), we decided to model only the aggregate.

Graph 9 - Private GFCF at constant prices
Growth rate in %

Source: Bureau of Statistics; Own computations

Regressing the growth rate of private gross fixed capital formation at constant prices on the growth rate of private value added at constant prices (excluding agriculture) gives the following results.

DLOG(IOP)=C(1)*(T=1994)+C(2)*(T=2003)+C(3)*DLOG(QVOT-QVOA)

Sample: 1983-2008	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.222195	0.096643	-2.299145	0.0309
C(2)	0.225952	0.096359	2.344899	0.0280
C(3)	0.778913	0.303741	2.564397	0.0173

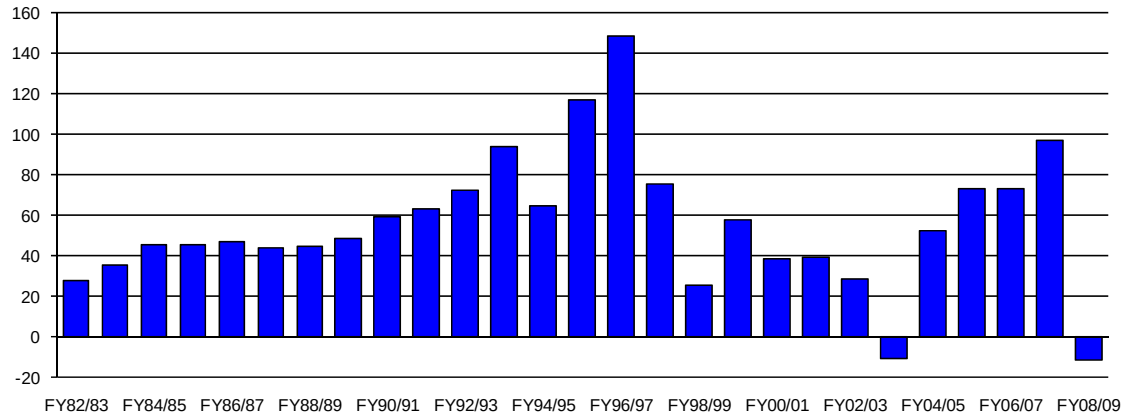
R-squared	0.380862	Mean dependent var	0.035836
Adjusted R-squared	0.327024	S.D. dependent var	0.116047
S.E. of regression	0.095199	Akaike info criterion	-1.757526
Sum squared resid	0.208446	Schwarz criterion	-1.612361
Log likelihood	25.84784	Hannan-Quinn criter.	-1.715724
Durbin-Watson stat	1.715344		

This equation tells us that a 1 percent increase (decrease) in real private value added will translate into a 0.8 increase (decrease) in private GFCF. The two years exhibiting the most extreme growth rates (FY94/95 and FY03/04) have been neutralised with dummy variables.

4.1.3. Changes in inventories

Changes in inventories at constant prices have been positive in Lesotho in all years except for FY03/04 and FY08/09.

Graph 10 - Changes in inventories
Constant prices - Million Maloti



Source: Bureau of Statistics; Own computations

It is generally very difficult to explain evolutions in changes in inventories as this series tends to be noisy. They are usually linked to changes in output. This link may be positive (stock building acting as an accelerator) or negative (inventories smoothing output). Regressing changes in inventories on contemporaneous changes in private value added provided no satisfactory fit. However changes in inventories seem to be (positively) correlated to one-year lagged changes in private value added, which could be related to a slow adjustment of output to changes in demand.

SO=C(1)*D(QVOT(-1))+C(2)*(T=1996)

Sample: 1993-2008	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.267279	0.044195	6.047781	0.0000
C(2)	120.6507	35.69389	3.380150	0.0045

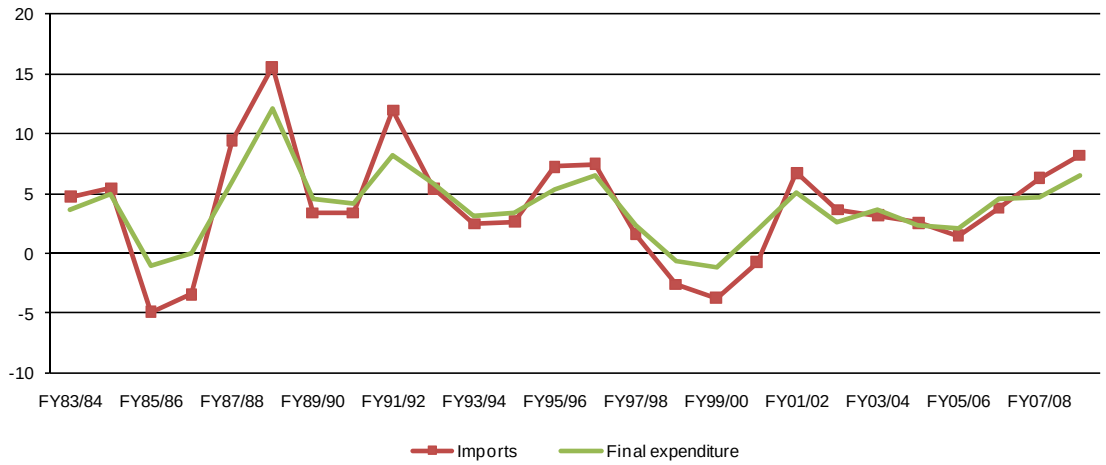
R-squared	0.361388	Mean dependent var	60.19300
Adjusted R-squared	0.315773	S.D. dependent var	42.78853
S.E. of regression	35.39383	Akaike info criterion	10.08742
Sum squared resid	17538.13	Schwarz criterion	10.18399
Log likelihood	-78.69937	Hannan-Quinn criter.	10.09237
Durbin-Watson stat	1.230960		

As this equation could lead to counter-intuitive simulation results, the contribution of changes in inventories to economic growth was set to zero in the simulation exercises presented in Chapter 5.

4.1.4. Imports of goods and services

Imports of goods and services[14] at constant prices grew on average at the same rate (3.8%) as gross final expenditure[15] but with a higher volatility. This greater amplitude in the cycle is clearly visible in periods of strongly (positive) or negative growth.

Graph 11 - Imports and gross final expenditure at constant prices
Growth rate in %



Source: Bureau of Statistics; Own calculations

When estimating the equation, it was checked whether all components of final demand were equally important to determine imports. This examination indicates that total government consumption does not improve the explanatory power of the import equation. As wages constitutes about half of public consumption, this should not come as a surprise. Intermediate government consumption is included though, but with a smaller import elasticity than the other components of final expenditure.

DLOG(MDO)=C(2)*DLOG(FDO-CGO)+C(3)*DLOG(CGIO)

Sample: 1983-2008	Coefficient	Std. Error	t-Statistic	Prob.
C(2)	1.044183	0.060597	17.23148	0.0000
C(3)	0.092485	0.031178	2.966396	0.0067

R-squared	0.896648	Mean dependent var	0.037124
Adjusted R-squared	0.892341	S.D. dependent var	0.045554
S.E. of regression	0.014947	Akaike info criterion	-5.494828
Sum squared resid	0.005362	Schwarz criterion	-5.398052
Log likelihood	73.43277	Hannan-Quinn criter.	-5.466960
Durbin-Watson stat	1.373965		

[14] Excluding acquisitions of Basotho workers in SA.

[15] This series is computed as: Private final consumption expenditure - Acquisitions of Basotho workers in South Africa + Government final consumption expenditure + GFCF + Changes in inventories + Exports of goods and services + Discrepancy on GDP.

4.2. Growth domestic product by activity

The decomposition of value added by activity aims at striking a balance between the necessity to take into account the highly specialised nature of the Lesotho economy and the need to limit the size of the model. This approach led us to distinguish nine different industries which are listed in Table 1. The first column in the table refers to the symbol which is used to identify the industry in the model. The second column provides the composition of the industry in terms of the national accounts' denomination. The third column indicates to which particular expenditure components value added of that industry is linked to in the model.

Table 1 - Industry structure

Industry	Composition in NA denomination	Determinants
A	Agriculture, forestry and fishing	Exogenous
MQ	Mining and quarrying	Exports of goods: Diamonds, precious and semi-precious stones
MT	Textiles, clothing, footwear and leather	Exports of goods: Textiles, clothing, footwear and leather
MO	Food products and beverages + Other manufacturing	Private domestic consumption expenditure + Government intermediate consumption + Exports of goods: Others
E	Electricity	Private value added (excluding agriculture)
W	Water	Exports of services: Distribution of water
C	Construction	Private GFCF + Government and LHDA GFCF
SP	Wholesale and retail trade, repairs + Hotels and restaurants + Transport and communication + Financial intermediation and business services + Real estate + Community, social and personal services	Private domestic consumption expenditure + Government intermediate consumption
G	Public administration + Education + Health and social work	Exogenous

Modelling the interaction between industries and final demand typically relies on the use of an input-output table. Such information is not readily available for Lesotho and modelling the complete production chain would be beyond the scope of the project. Nevertheless one way to overcome this lack of information is to estimate a stochastic relationship between value added of an industry and the relevant components of final demand. This kind of technique has been used in a number of studies concerning developing countries[16] and is applied in the following sub-sections.

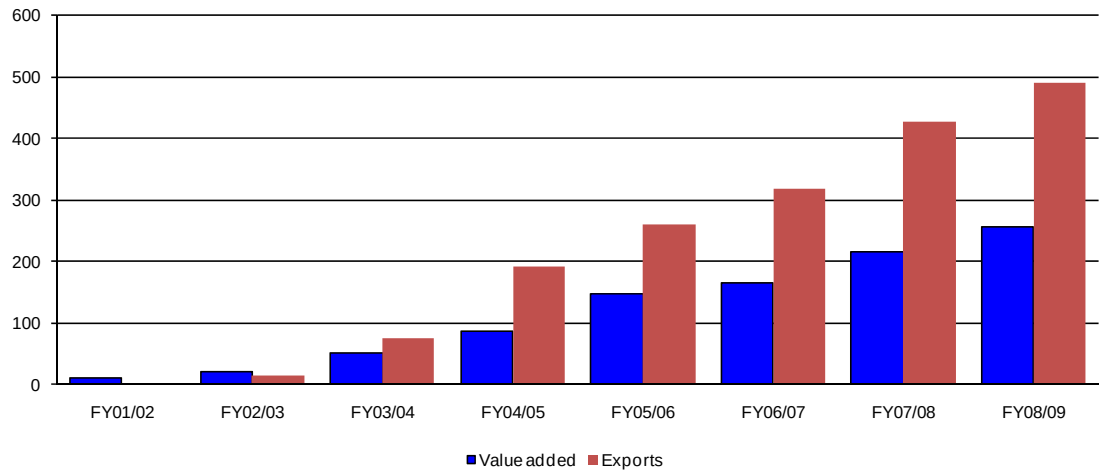
[16] See for instance Musilaa J. and Rao G., "A forecasting model of the Kenyan economy", Economic Modelling 19 (2002), pp. 801-814.

4.2.1. Export-driven industries

For the three industries (Mining, Textile, and Water) exporting the vast majority - if not all - of their production, value added in level is linked to exports with a technical relationship. For the reasons explained above, the technical coefficients have been estimated econometrically.

As can be seen on the graph, Mining and quarrying became a significant industry in Lesotho only in FY03/04 and exports took off the following year.

Graph 12 - Value added and exports - Mining and quarrying
Constant prices - Million Maloti



Source: Bureau of Statistics; Own computations

Given the structural changes the industry experienced, the technical relation between value added and exports in the Mining sector is estimated on two sub-samples.

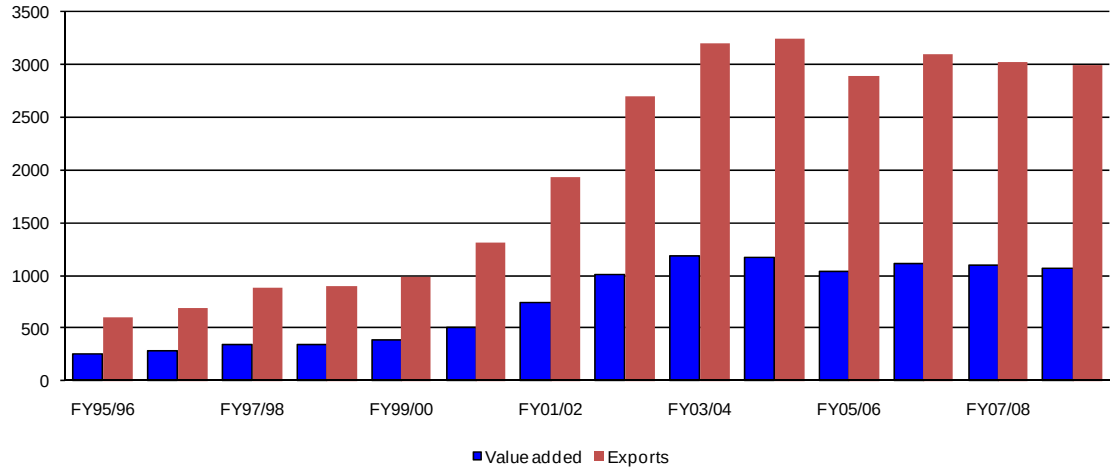
QVOMQ=C(1)+C(2)*XOMQ*(T<2005)+C(3)*XOMQ*(T>2004)

Sample: 1982-2008	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	7.766173	1.006065	7.719358	0.0000
C(2)	0.445378	0.023229	19.17334	0.0000
C(3)	0.502195	0.006392	78.56464	0.0000

R-squared	0.996163	Mean dependent var	41.69527
Adjusted R-squared	0.995843	S.D. dependent var	69.79988
S.E. of regression	4.500384	Akaike info criterion	5.950642
Sum squared resid	486.0830	Schwarz criterion	6.094624
Log likelihood	-77.33366	Hannan-Quinn criter.	5.993455
F-statistic	3115.185	Durbin-Watson stat	1.848794
Prob(F-statistic)	0.000000		

The textile industry also underwent important changes at the turn of the century with the installation of new factories driven by the AGOA initiative.

Graph 13 - Value added and exports - Textiles, clothing, footwear and leather
Constant prices - Million Maloti



Source: Bureau of Statistics; Own computations

As for Mining, the sample has been divided in two, reflecting the dramatic transformation the textile industry in Lesotho went through.

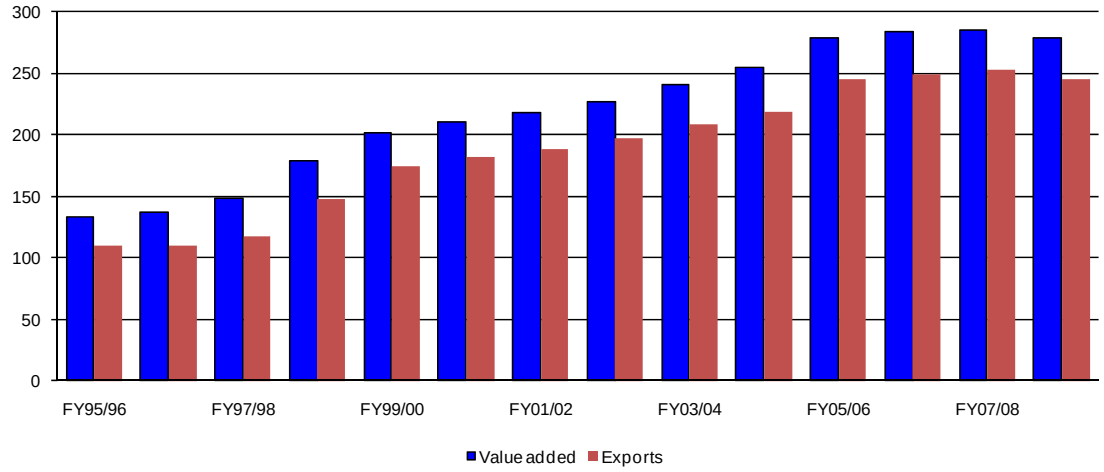
QVOMT=C(2)*(T<2001)*XOMT+C(3)*(T>2000)*XOMT

Sample: 1982-2008	Coefficient	Std. Error	t-Statistic	Prob.
C(2)	0.391124	0.006041	64.74766	0.0000
C(3)	0.364471	0.001919	189.9600	0.0000

R-squared	0.998677	Mean dependent var	444.8416
Adjusted R-squared	0.998624	S.D. dependent var	425.9929
S.E. of regression	15.80006	Akaike info criterion	8.429092
Sum squared resid	6241.048	Schwarz criterion	8.525080
Log likelihood	-111.7927	Hannan-Quinn criter.	8.457634
Durbin-Watson stat	0.606042		

Water exports to South Africa (recorded in the Balance of Payments as a service) started in 1995 following the development of the Lesotho Highlands Water Project in the early nineties.

Graph 14 - Value added and exports - Water distribution
Constant prices - Million Maloti



Source: Bureau of Statistics; Own computations

QVOW=C(1)+C(2)*XOW

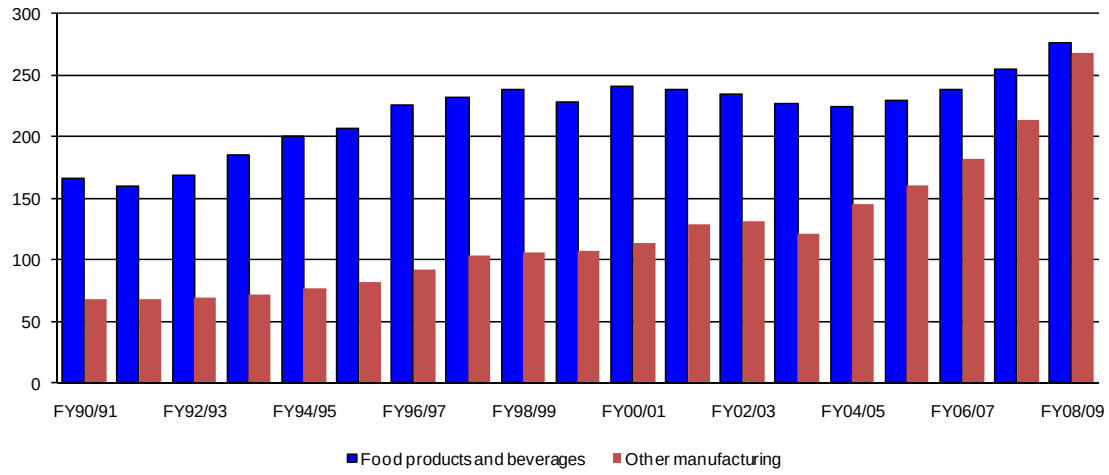
Sample: 1995-2008	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	21.90518	2.348578	9.326997	0.0000
C(2)	1.046651	0.012017	87.10022	0.0000

R-squared	0.998421	Mean dependent var	219.6649
Adjusted R-squared	0.998289	S.D. dependent var	54.32957
S.E. of regression	2.247220	Akaike info criterion	4.588828
Sum squared resid	60.59995	Schwarz criterion	4.680122
Log likelihood	-30.12180	Hannan-Quinn criter.	4.580377
F-statistic	7586.449	Durbin-Watson stat	1.382110
Prob(F-statistic)	0.000000		

4.2.2. Industries orientated towards the domestic market

The industry labelled MO in the model is composed of the sectors Food products & beverages and Other manufacturing. While value added of the former stagnated in real terms between FY98/99 and FY06/07, value added of the latter experienced an almost uninterrupted increase during that period with an acceleration over the last two years. This recent increase reflects the installation of new plants whose production is sold on the regional market.

Graph 15 - Value added - Food products & beverages and Other manufacturing
Constant prices - Million Maloti



Source: Bureau of Statistics; Own computations

The evolution of value added in MO is linked to two domestic expenditure items, namely private domestic consumption and government intermediate consumption, and to Other exports[17]. To take into account the increased importance of exports for the sector, the specification allows for a different value of the coefficient after FY04/05. Due to the instability of the relationship in the eighties, the estimation period starts only in FY92/93.

DLOG(QVOMO)=C(2)*(T=2003)+C(3)*DLOG(CHDO)+C(4)*DLOG(CGIO)
+C(5)*DLOG(XOR)*(T>2004)

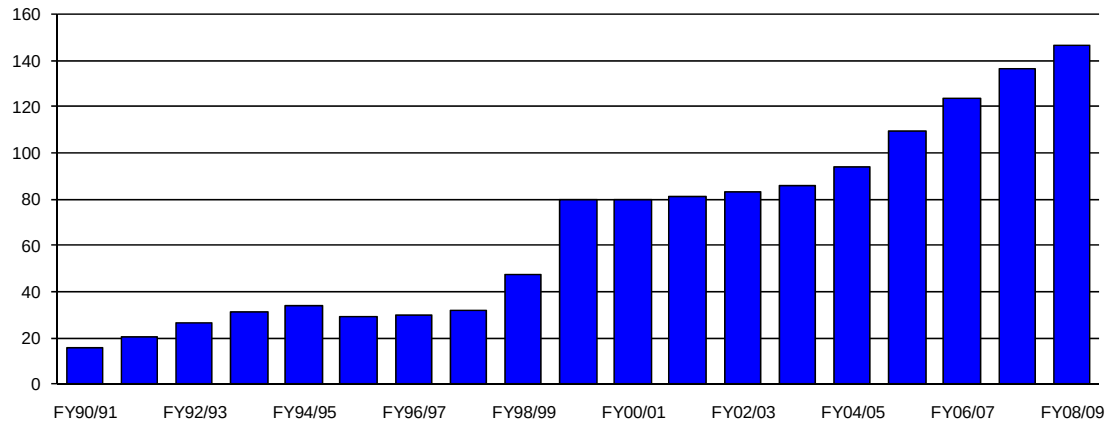
Sample: 1992-2008	Coefficient	Std. Error	t-Statistic	Prob.
C(2)	-0.087460	0.040375	-2.166195	0.0495
C(3)	1.138823	0.388355	2.932426	0.0117
C(4)	0.132954	0.055437	2.398293	0.0322
C(5)	0.289532	0.093458	3.097977	0.0085

R-squared	0.497671	Mean dependent var	0.051062
Adjusted R-squared	0.381749	S.D. dependent var	0.047923
S.E. of regression	0.037682	Akaike info criterion	-3.516959
Sum squared resid	0.018459	Schwarz criterion	-3.320909
Log likelihood	33.89415	Hannan-Quinn criter.	-3.497471
Durbin-Watson stat	1.896437		

[17] Computed as: Total exports of goods and service – Exports of diamonds – Exports of Textiles – Exports of water distribution.

Value added at constant prices in the Electricity industry experienced a spectacular jump in FY99/00 with the completion of the power station associated with Phase 1 of the Lesotho Highlands Water Project and increased further in recent years.

Graph 16 - Value added - Electricity
Constant prices - Million Maloti



Source: Bureau of Statistics; Own computations

The evolution of value added for electricity is explained by the progression of private value added (excluding agriculture) with an elasticity higher than one. A dummy variable has been introduced in FY98/99 and FY99/00 to account for the level shift.

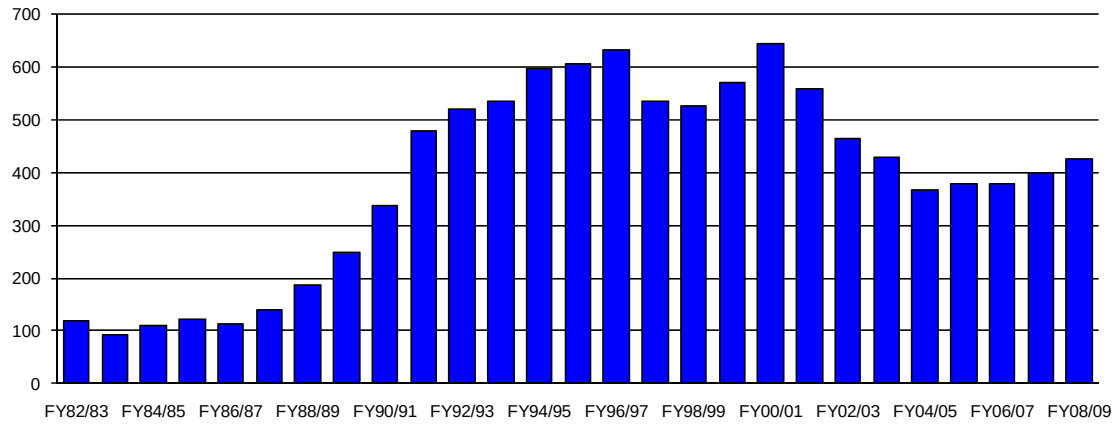
DLOG(QVOE)=C(2)*(T=1998 OR T=1999)+C(3)*DLOG(QVOT-QVOA)

Sample: 1983-2008	Coefficient	Std. Error	t-Statistic	Prob.
C(2)	0.440883	0.071399	6.174919	0.0000
C(3)	1.394120	0.313644	4.444906	0.0002

R-squared	0.595558	Mean dependent var	0.102120
Adjusted R-squared	0.578707	S.D. dependent var	0.155179
S.E. of regression	0.100722	Akaike info criterion	-1.679103
Sum squared resid	0.243478	Schwarz criterion	-1.582326
Log likelihood	23.82834	Hannan-Quinn criter.	-1.651235
Durbin-Watson stat	1.739744		

Value added in construction experienced a boom in the nineties associated with developments in infrastructure related to the Lesotho Highlands Water Project. It fell back afterwards but recovered somewhat in recent years thanks to buoyant private investment.

Graph 17 - Value added - Construction
Constant prices - Million Maloti



Source: Bureau of Statistics; Own computations

Value added growth in the construction industry is explained by the evolution of private and public GFCF, the latter originating from the government and the Lesotho Highlands Development Authority (LHDA).

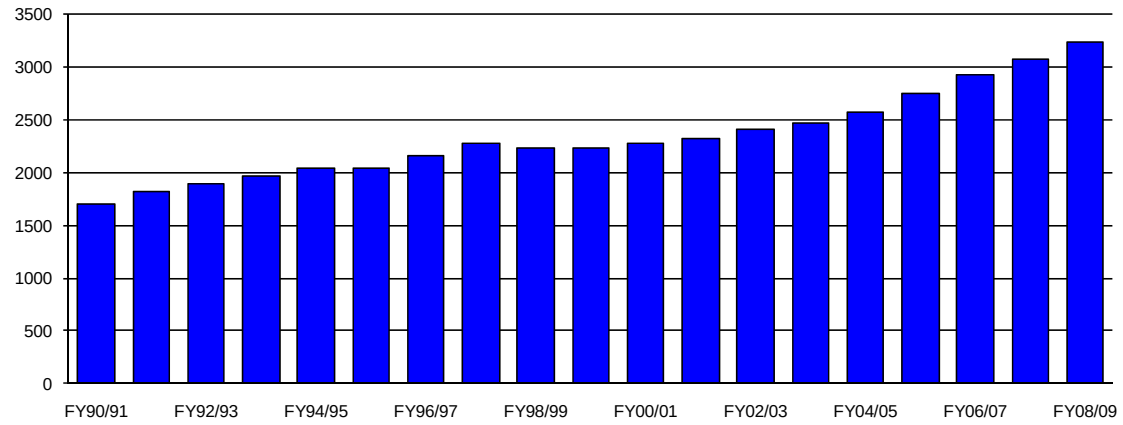
DLOG(QVOC)= C(2)*DLOG(IOP)+C(3)*DLOG(IOG+IOLHDA)

Sample: 1983-2008	Coefficient	Std. Error	t-Statistic	Prob.
C(2)	0.566911	0.166886	3.397002	0.0024
C(3)	0.367887	0.065156	5.646215	0.0000

R-squared	0.621329	Mean dependent var	0.048623
Adjusted R-squared	0.605551	S.D. dependent var	0.161459
S.E. of regression	0.101405	Akaike info criterion	-1.665589
Sum squared resid	0.246790	Schwarz criterion	-1.568813
Log likelihood	23.65266	Hannan-Quinn criter.	-1.637721
Durbin-Watson stat	1.425983		

Value added in private services has been growing steadily at an average rate of 3.7% per annum over the period FY90/91-FY08/09, with Transport and communication and Financial intermediation being particularly dynamic.

Graph 18 - Value added - Private services
Constant prices - Million Maloti



Source: Bureau of Statistics; Own computations

Value added for private services are linked to private domestic consumption and government intermediate consumption with a cumulated elasticity slightly above 1.2. The sample is restricted due to the instability of the relationship in the eighties and a dummy variable is included for the FY06/07.

DLOG(QVOSP)=C(1)*(T=2006)+C(2)*DLOG(CHDO)+C(3)*DLOG(CGIO)

Sample: 1991-2008	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.042793	0.018522	2.310362	0.0355
C(2)	0.967027	0.166897	5.794148	0.0000
C(3)	0.264622	0.043738	6.050097	0.0000

R-squared	0.519468	Mean dependent var	0.035992
Adjusted R-squared	0.455397	S.D. dependent var	0.024835
S.E. of regression	0.018328	Akaike info criterion	-5.009777
Sum squared resid	0.005039	Schwarz criterion	-4.861382
Log likelihood	48.08800	Hannan-Quinn criter.	-4.989316
Durbin-Watson stat	1.501158		

4.3. Prices

The modelling strategy for prices relies on computing the GDP deflator through the different deflators for value added by industry. The export-oriented sectors (mining, textile and water) are modelled as price-taker, i.e. value added prices are considered to depend entirely upon export prices expressed in loti which are exogenously given.

For the industries oriented towards the domestic market the modelling strategy is somewhat more hybrid. The deflators for the industries "Agriculture" and "Construction" are presumed to adjust to South African CPI-inflation. The deflator for "Food products & Other manufacturing" is supposed to adapt to South African PPI-inflation. The homogeneity assumptions, i.e. deflators adapt with a one-to-one relationship to South African inflation, was not rejected by the data and consequently imposed. No specific price-setting behaviour could be identified empirically for the industry "Electricity"; therefore as a rule of thumb the assumption is made that it follows with a one-year lag CPI-inflation in Lesotho.

Table 2 - Determinants of deflators of value added by industry

Industry	Determinants
Agriculture, forestry and fishing	South African CPI; homogeneity imposed
Mining and quarrying	Deflator of exports of diamonds; homogeneity imposed
Textiles, clothing, footwear and leather	Deflator of exports of textiles; homogeneity imposed
Food products and beverages + Other manufacturing	South African PPI; homogeneity imposed
Electricity	CPI lagged with one year; homogeneity imposed
Water	Deflator of exports of water distribution; homogeneity imposed
Construction	South African CPI; homogeneity imposed
Private services	South African CPI + Value added in Private services
Public administration+ Education + Health and social work	Exogenous

The equation determining the evolution for the deflator of "Private services" is estimated econometrically and assumes that it adapts partially to South African CPI-inflation but also to demand pressures (approximated by the growth rate of real value added of that sector). This ad-hoc specification allows having a feedback from the real to the price block.

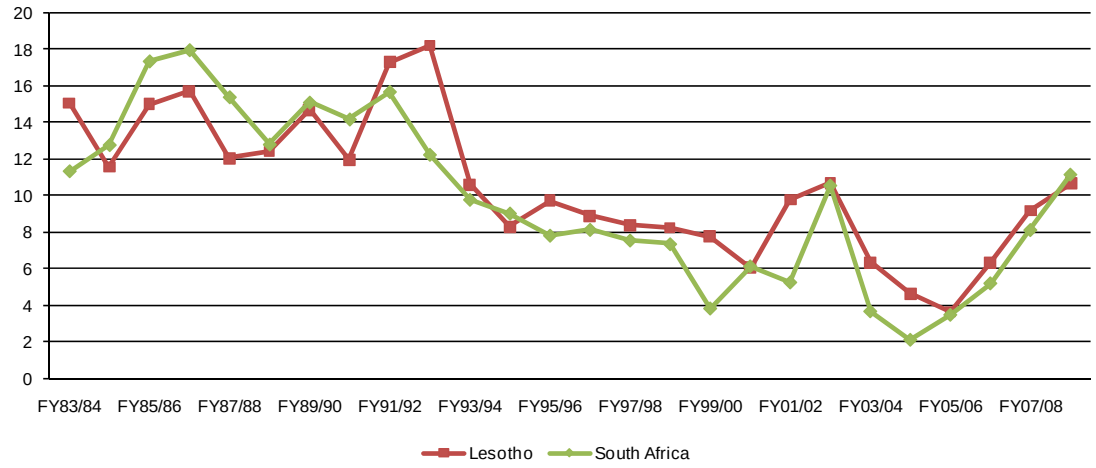
DLOG(PVSP)=C(2)*DLOG(CPI_SA)+C(3)*DLOG(QVOSP)

Sample: 1983-2008	Coefficient	Std. Error	t-Statistic	Prob.
C(2)	0.786427	0.064061	12.27631	0.0000
C(3)	0.367049	0.130802	2.806145	0.0098

R-squared	0.696712	Mean dependent var	0.091663
Adjusted R-squared	0.684075	S.D. dependent var	0.031239
S.E. of regression	0.017559	Akaike info criterion	-5.172717
Sum squared resid	0.007399	Schwarz criterion	-5.075941
Log likelihood	69.24532	Hannan-Quinn criter.	-5.144849
Durbin-Watson stat	1.396764		

CPI-inflation is then expressed as a weighted average of value added price inflation for the four industries oriented towards the domestic market and import prices.[18] Through this equation, inflation in Lesotho is influenced indirectly by CPI-inflation in South Africa, but it is allowed to differ slightly from it.[19] As can be seen in the graph below, this is precisely the type of relationship that was observed in the past.

Graph 19 - Consumer Price Index
Growth rate in %



Source: Bureau of Statistics and SA Statistics

We are fully aware that the price block is rudimentary, but a significant improvement of the block would necessitate a detailed study on price-setting in Lesotho, which is beyond the scope of the current project. In particular, examining the role played by internal factors would require time series on unit labour costs and other non-wage costs which are currently missing.

[18] Due to the risk of simultaneity bias with the OLS estimate, the weighting coefficient was calibrated.

[19] Another path to explore would be to model the differential in inflation between South Africa and Lesotho as a function of some measure of relative growth between the two countries.

4.4. Money

The change in money balances is expressed as a function of nominal GDP (as a joint proxy for the transactions motive and inflation). As money balances seem to have reacted significantly stronger to changes in nominal GDP since FY96/97, which could be due to a decline in the velocity of money, the estimation of the elasticity was split into two sub-samples.

DLOG(M1)=C(1)*(T=2006)-C(1)*(T=1995)+C(2)*DLOG(YU)*(T<1996)+C(3)
DLOG(YU)(T>1995)

Sample: 1983-2008	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.234352	0.048861	4.796338	0.0001
C(2)	0.952637	0.109382	8.709290	0.0000
C(3)	1.375956	0.163171	8.432581	0.0000

R-squared	0.649361	Mean dependent var	0.154566
Adjusted R-squared	0.618870	S.D. dependent var	0.107343
S.E. of regression	0.066269	Akaike info criterion	-2.482029
Sum squared resid	0.101006	Schwarz criterion	-2.336864
Log likelihood	35.26637	Hannan-Quinn criter.	-2.440226
Durbin-Watson stat	2.029981		

As quasi-money is showing no clear trend in real terms on the sample, it is simply assumed to adjust to CPI-inflation.

4.5. Tax revenue

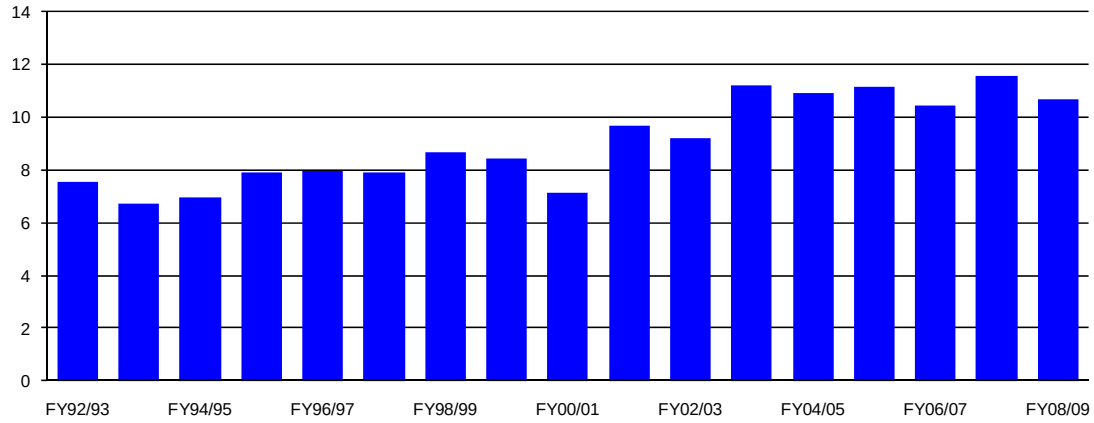
Only the items of the government account that are influenced by the business cycle are currently modelled.[20] Four tax categories were identified: income tax payable by individuals, income tax payable by corporations and other enterprises, taxes on goods and services and taxes on exports. In a no-policy-change scenario, taxes are computed as their implicit tax rate multiplied by their respective macroeconomic tax base.

4.5.1. Income tax payable by individuals

The sum of compensation of employees and mixed income is used as the tax base to calculate the implicit rate for income tax payable by individuals. As can be seen in the graph below, this implicit rate has been remarkably stable around 11% since FY03/04 when the Lesotho Revenue Authority was created.

[20] The other items of the government account are exogenous variables in the model.

Graph 20 - Implicit income tax rate payable by individuals
Percent

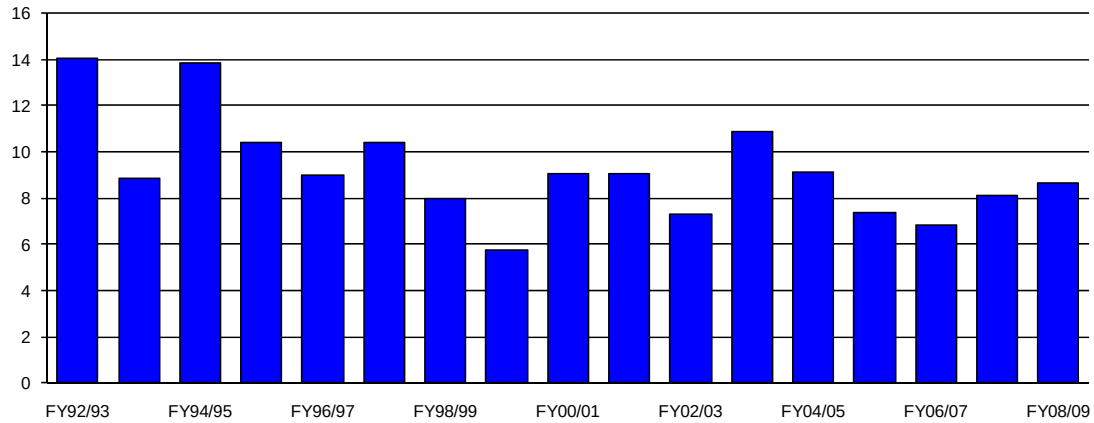


Source: Bureau of Statistics, Statement of Government Operations and own calculations

4.5.2. Income tax payable by corporations and other enterprises

The implicit rate is obtained by dividing the income tax payable by corporations and other enterprises by their gross operating surplus lagged with one year. Not surprisingly, this rate shows more volatility - fluctuating between 7% and 10 % in recent years - as the complexity of the legislation (exceptions, possibilities to write-off certain items on the balance sheet, etc...) implies that the legal tax base may differ significantly from its macroeconomic estimate.

Graph 21 - Implicit income tax rate payable by corporations and other enterprises
Percent

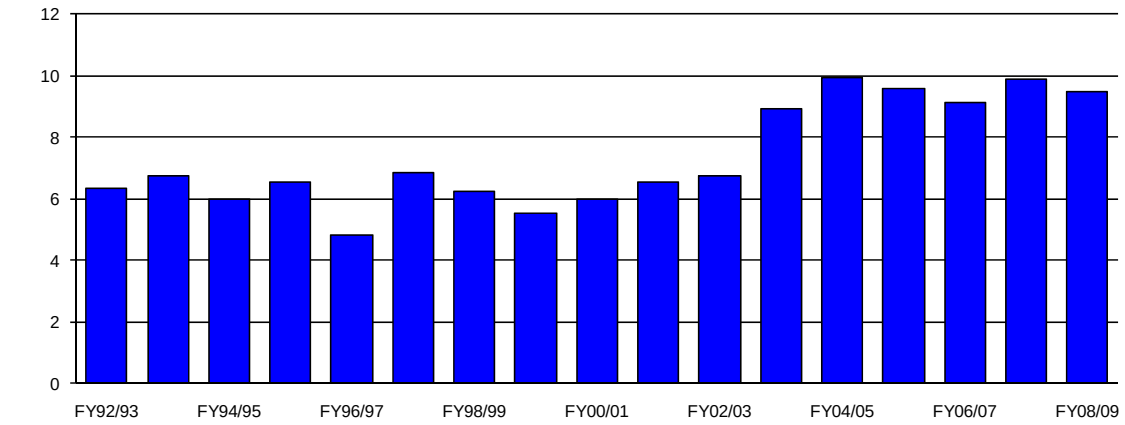


Source: Bureau of Statistics, Statement of Government Operations and own calculations

4.5.3. Taxes on goods and services

The tax base for the implicit rate for taxes on goods and services is obtained by summing up private domestic consumption (excluding households' own produce) and government intermediate consumption. Since the value-added tax replaced the sales tax, the implicit rate has been close to or a little below 10%.

Graph 22 - Implicit tax rate on goods and services
Percent

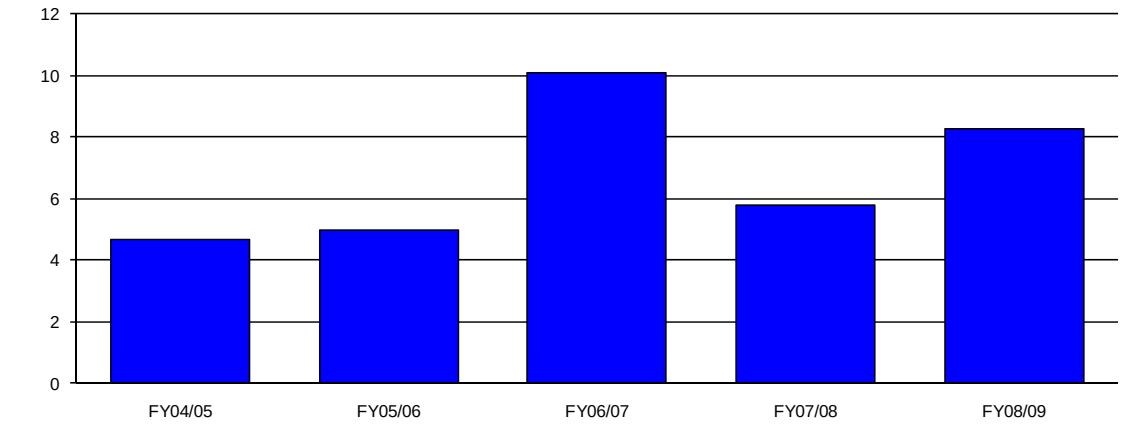


Source: Bureau of Statistics, Statement of Government Operations and own calculations

4.5.4. Taxes on exports

Taxes on exports only concern exports of diamonds and are for that reason linked to that item in the model. For the same reason it only appears with a significant amount in the Government Operations from 2004 onwards.

Graph 23 - Implicit tax rate on exports
Percent



Source: Bureau of Statistics, Statement of Government Operations and own calculations

5. Model simulation

This chapter introduces in its first section a baseline scenario[21] for the period from FY09/10 up to FY12/13 built upon exogenous variables coming from the Financial Programming exercise produced by the Department of Economic Policy of the Ministry of Finance and Development Planning. The second section presents the results of an alternative scenario in which public expenditures are cut in FY10/11 by an amount corresponding to half of the public deficit foreseen in the baseline.

5.1. Baseline scenario

5.1.1. Exogenous variables

The exogenous variables with the largest influence on the endogenous variables of the model relate to external demand and government expenditures. These variables are summarised in the first part of Table 3.

FY09/10 is characterised by weak external demand due to the effect of the economic crisis on world trade, and an important increase in government expenditures (consumption and investment). However, the increase in government consumption is accompanied by an even stronger rise in the deflator, leading to a decline in government consumption at constant prices.

A gradual pick up in exports is expected during fiscal years 10/11 up to 12/13. The picture of government expenditures is mixed: while government consumption at constant prices is expected to decline due to efforts to reduce the public deficit, public investment should accelerate, which is partly related to the start of Phase 2 of the Lesotho Highlands Water Project in FY11/12.

5.1.2. Simulation results

GDP growth in FY09/10 should amount to 1.6%, which is from the production side of the economy the result of the strong performance of tertiary industries (3.6%), while secondary industries contribute negatively to economic growth. The expenditure side of the economy shows that private domestic consumption and public investment support economic growth, while the contribution of net exports to GDP growth is strongly negative. This is the result of exports suffering from a lack of external demand and imports continuing to increase due to relatively strong domestic demand.

In fiscal years 10/11 and 11/12, value added at constant prices in private services decreases slightly due to negative private domestic consumption growth (in FY10/11) and an important decrease in intermediate government consumption (in FY11/12). Nonetheless, value added at

[21] The model version with the closure rule on imports has been used to produce the simulations discussed below.

constant prices of tertiary industries as a whole should roughly stabilise over these two years as non-market services continue to post positive growth rates. Growth in secondary industries should pick up significantly from FY10/11 onwards due to an increase in exports and an acceleration in construction sector growth (related to the performance of GFCF). This cannot compensate for the slowdown in tertiary industries due to the relatively small weight of secondary industries in GDP. Consequently, economic growth should remain modest in FY10/11 (1.4%) and FY11/12 (1.5%).

While secondary industries should come up to speed from FY10/11 onwards, primary sector growth should accelerate in FY12/13 due to the performance of the mining sector. Value added in tertiary industries is also expected to gain strength in FY12/13 due to stronger growth of compensation of employees (public and private), raising disposable income (and thus private consumption and value added of private services) and government value added. All in all, this should push up GDP growth to 2.7%.

As implicit tax rates are kept constant in projection, growth of tax revenues depends upon the developments of their respective macroeconomic tax bases. Growth in income taxes paid by households develops in line with growth in compensation of employees and mixed income and should therefore decelerate significantly in FY10/11 and FY11/12 before gaining some strength on the back of the economic upturn. Income taxes paid by corporations react with a one-year lag to developments in gross operating surplus. Consequently they are particularly hit in FY10/11 and their growth remains sluggish afterwards. Revenue growth from taxes on goods and services should decelerate from more than 15% on average during the period FY07/08-FY09/10 to only 4.5% on average during the following three fiscal years. This is mainly due to low growth in private consumption, although relatively weak intermediate government consumption also plays a role. Taxes on international trade develop in line with exports of diamonds and are expected to register a vigorous acceleration after a decline in FY09/10. Overall tax revenues should increase slightly less over the projection period (+37%) than GDP at current prices (+40%).

Table 3 - Baseline scenario
Growth rate in %, unless otherwise mentioned

	FY07/08	FY08/09	FY09/10	FY10/11	FY11/12	FY12/13
Exogenous variables						
Government expenditures						
Compensation of employees at current prices	20.8	24.8	27.0	8.0	3.6	10.2
Intermediate consumption at current prices	11.2	31.7	1.8	9.8	2.6	-0.7
Deflator public wages	18.2	21.7	23.3	7.7	2.7	7.7
Deflator intermediate public consumption	7.6	4.0	7.1	6.3	6.0	5.7
Investment excl. LHDA at constant prices	34.1	129.9	13.6	25.5	2.0	-8.3
Investment LHDA at constant prices (level)	23.3	1.4	0.0	0.0	314.2	594.5
Exports (constant prices)						
Diamonds and (semi-) precious stones	34.2	14.6	1.0	6.3	6.7	27.7
Textiles, clothing, footwear and leather	-2.7	-0.8	-13.5	1.5	2.5	3.2
Distribution of water	1.3	-2.7	5.1	5.1	5.1	5.1
Other exports	23.1	45.1	6.2	6.2	6.2	6.2
Simulation results						
Gross Domestic Product by expenditure at constant prices						
Public consumption	7.3	11.8	-0.4	0.1	-1.6	-1.6
Private consumption	1.2	2.0	3.5	-0.4	0.6	1.5
Excl. acquisitions by Basotho workers in SA	0.9	2.5	4.4	-0.6	0.3	1.4
Acquisitions by Basotho workers in SA	2.8	-0.5	-1.2	0.7	2.3	1.8
Gross fixed capital formation, of which	18.1	11.6	5.1	10.0	10.5	5.3
Corporations and households	18.0	-10.8	0.9	1.1	1.4	2.4
Domestic expenditure	5.4	5.1	2.9	1.8	2.2	1.7
Exports of goods and services	5.2	11.2	-5.3	3.7	4.3	6.9
Imports of goods and services	5.8	7.0	0.5	2.9	3.7	3.1
GDP at market prices	2.8	4.5	1.6	1.4	1.5	2.7
Value added by industry at constant prices						
Primary industries	-2.0	9.8	2.0	3.9	1.8	7.6
Agriculture, forestry and fishing	-9.4	6.6	2.8	3.1	0.2	0.2
Mining and quarrying	31.0	19.5	-0.3	6.1	6.5	26.9
Secondary industries	2.6	3.5	-2.2	3.4	3.8	3.6
Manufacturing	1.7	3.4	-5.8	1.5	2.2	3.0
Textiles, clothing, footwear and leather	-1.9	-2.1	-11.8	1.5	2.5	3.2
Other manufacturing	11.4	16.4	6.1	1.5	1.6	2.5
Electricity	10.3	7.8	1.6	2.1	2.5	4.4
Water	0.4	-2.2	4.9	4.7	4.7	4.7
Construction	5.5	6.5	5.3	9.4	8.9	4.5
Tertiary industries	3.1	4.3	3.6	-0.1	0.2	1.3
Private services	4.6	5.6	3.9	-0.2	-0.1	0.7
Non-market services	0.6	2.0	3.0	0.3	0.9	2.3
Total value added at producers' prices	2.2	4.5	1.7	1.4	1.5	2.7
Prices						
Consumer price index	9.2	10.7	7.1	6.0	5.7	5.5
GDP deflator	13.3	13.6	7.4	7.5	5.2	7.5
Income						
Households' real domestic disposable income	-1.3	4.1	9.8	-1.0	0.2	1.9
Households' domestic savings rate (% of disposable income)	6.6	8.0	12.6	12.2	12.2	12.6
Total tax revenues	23.0	21.8	12.8	4.8	6.6	8.4
Income taxes	25.3	26.5	17.2	3.4	7.1	8.3
Paid by households	24.8	8.3	15.2	7.7	5.4	8.1
Paid by corporations	47.1	30.5	21.7	-5.6	11.2	8.9
Taxes on goods and services	24.0	12.3	9.5	4.9	4.2	4.5
Taxes on exports	-2.8	95.4	-9.5	23.9	17.1	34.5

5.2. Simulation of a reduction in public expenditures

5.2.1. Calibration of the shock

The government of Lesotho faces a reduction of roughly 50% in SACU revenues in FY10/11 that is expected to bring the government budget from a small surplus in FY09/10 to a deficit of approximately 2 billion Maloti this year (about 12% of GDP). In this scenario, the effects of a reduction in public expenditures by an amount corresponding to half of this deficit (1 billion Maloti) are simulated with the macroeconomic model.[22] This shock was calibrated as follows:

- Cut of 10% in public wages (379 million Maloti) recorded as a pure price shock. Consequently, this measure only affects value added of the government at current prices, but not at constant prices.
- Cut of 10% in intermediate government consumption (261 million Maloti).
- Cut of 360 million Maloti in government investment.

5.2.2. Simulation results

This shock is a typical example of an internal shock. It has a downward impact on domestic demand of slightly less than 4%. Next to the direct effect of the shock on public consumption, private consumption is also affected through a decline in households' disposable income that mainly stems from the reduction in public wages. The impact on disposable income is bigger than on private consumption as the households' saving rate declines. Total investment is influenced by the shock on public investment as well as by the reaction of private investment to the reduction in private sector value added. Imports react to the decline in final demand, limiting the effect of the shock on GDP at constant prices to somewhat more than 2%.

As value added in primary industries is determined exogenously, the shock only affects value added in secondary and tertiary industries. Both industries face a decline of value added at constant prices of roughly 2.5%. Within secondary industries, the construction sector suffers from the decline in investment, while value added in the manufacturing sector excluding textiles is depressed by the weakening of public and private consumption. Value added in the electricity sector is affected by the general weakening of economic activity. Inside tertiary industries, only value added at constant prices of private services are affected through the decline in consumption. Non-market services, which mainly consist of public wages, register a decline in value added at current prices and in the deflator, leaving value added at constant prices unchanged.

GDP at current prices is affected more than GDP at constant prices due to a decline in the GDP-deflator of more than 2%. This is mainly the consequence of the direct impact of the shock on the deflator of public wages (and thus government value added), but the deflator of value added in the private services sector is also affected by the decrease in economic activity. The

[22] In this technical simulation, the reduction in public expenditures in FY10/11 is supposed to be maintained in the two following fiscal years. This implies that the growth rate of public expenditures remains unchanged vis-à-vis the baseline in FY11/12 and FY12/13.

consumer price index is affected less as it mainly depends on the CPI in South Africa, which is not influenced by the shock.

Although government expenditures are initially cut by 1 billion Maloti, the effect on the government balance is weakened by about 15% due to the decrease in tax revenues caused by lower economic activity.

Table 4 - Simulation of a reduction in public expenditures
Deviation from the baseline scenario in %, unless otherwise mentioned

	FY10/11	FY11/12	FY12/13
Exogenous shock			
Public wages at current prices	-10.00	-10.00	-10.00
Intermediate government consumption at current prices	-10.00	-10.00	-10.00
Deflator of public wages	-10.00	-10.00	-10.00
Gross fixed capital formation of government at current prices	-15.35	-15.35	-15.35
Simulation results			
Gross Domestic Product by expenditure at constant prices			
Public consumption	-5.38	-5.47	-5.55
Private consumption	-2.00	-1.93	-1.94
Gross fixed capital formation, of which	-7.78	-7.11	-6.28
Corporations and households	-2.39	-2.27	-2.19
Domestic expenditure	-3.98	-3.88	-3.71
Exports of goods and services	0.00	0.00	0.00
Imports of goods and services	-3.65	-3.55	-3.33
GDP at market prices	-2.18	-2.08	-2.01
Value added by industry at constant prices			
Primary industries	0.00	0.00	0.00
Secondary industries	-2.63	-2.42	-2.24
Manufacturing	-1.54	-1.50	-1.49
Textiles, clothing, footwear and leather	0.00	0.00	0.00
Other manufacturing	-4.05	-3.97	-3.98
Electricity	-4.23	-4.03	-3.88
Water	0.00	0.00	0.00
Construction	-7.23	-6.10	-5.28
Tertiary industries	-2.34	-2.28	-2.27
Private services	-3.61	-3.54	-3.54
Non-market services	0.00	0.00	0.00
Total value added at producers' prices	-2.13	-2.03	-1.96
Prices			
Consumer price index	-0.29	-0.28	-0.28
GDP deflator	-2.62	-2.54	-2.49
Income			
Households' real domestic disposable income	-3.41	-3.31	-3.33
Households' domestic savings rate (% of disposable income, difference from baseline)	-0.94	-0.92	-0.92
Total tax revenues	-4.11	-4.39	-4.29
Income taxes	-4.32	-4.92	-4.87
Paid by households	-6.13	-5.98	-5.97
Paid by corporations	0.00	-2.52	-2.38
Taxes on goods and services	-4.61	-4.54	-4.51
Taxes on exports	0.00	0.00	0.00

Appendix: Glossary of variable names

Only variable names appearing in the paper are defined here. The full list of model variables is available on request.

CGIO	Intermediate consumption, Government – Constant prices
CGO	Final consumption expenditure, Government – Constant prices
CHDO	Private cons. expenditure excl. acquisitions by Basotho workers in SA – Constant prices
CHU2	Final consumption expenditure, Acquisitions by Basotho workers in SA
CPI_SA	SA CPI , All Items
FDO	Gross final expenditure – Constant prices
ITH	Income tax – payable by individuals
IOG	Gross fixed capital formation, Government excl. LHDA – Constant prices
IOLHDA	Gross fixed capital formation, LHDA – Constant prices
IOP	Gross fixed capital formation, Private – Constant prices
M1	Money (M1)
MDO	Import of goods and services excl. acquisitions by Basotho workers in SA – Constant prices
MITT	Mixed income, All industries
PCHD	Deflator, Private cons. expenditure excl. acquisitions by Basotho workers in SA
PVSP	Deflator, Value added, Wholesale + Hotels + Transport + Financial + Real estate
QVOA	Value added, Agriculture, forestry and fishing – Constant prices
QVOC	Value added, Construction – Constant prices
QVOE	Value added, Electricity – Constant prices
QVOG	Value added, Public admin. + Education + Health and social work – Constant prices
QVOMO	Value added, Food products and beverages + Other manufacturing – Constant prices
QVOMQ	Value added, Mining and quarrying – Constant prices
QVOMT	Value added, Textiles, clothing, footwear and leather – Constant prices
QVOSP	Value added, Wholesale + Hotels + Transport + Financial + Real estate
QVOT	Value added, Total private industries – Constant prices
QVOTT	Value added, All industries at basic prices – Constant prices
QVOW	Value added, Water – Constant prices
SBH	Social benefits to households
SO	Changes in inventories – Constant prices
TGH	Other expense, Current transfers from Government to households
TRH	Current transfers from abroad to households
WBBW	Compensation of employees, Miners and other workers in SA
WBTT	Compensation of employees, All industries
XOMQ	Exports of goods, Diamonds; precious and semi-precious stones – Constant prices
XOMT	Exports of goods, Textiles + Clothing + Footwear, leather – Constant prices
XOR	Exports of goods and services, Others – Constant prices
XOW	Exports of services, Distribution of water – Constant prices
YDHD	Households disposable income excl. acquisitions of Basotho workers in SA
YU	Gross Domestic Product at purchasers prices