



KINGDOM OF LESOTHO

SELECTED ISSUES

July 2023

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SELECTED ISSUES

June 30, 2023

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CONTENTS

DECOMPOSING THE PUBLIC-PRIVATE SECTOR WAGE DIFFERENTIAL IN LESOTHO 3

A. Introduction	3
B. The Public Sector Wage Bill	3
C. The Public Sector Wage Premium	6
D. Policy Implications	10
E. A Menu of Reforms	12
References	14

FIGURES

1. Compensation of Employees	3
2. Wage Growth Conditional on the Size of SACU Transfers	4
3. Contribution to Public Wage Bill Growth	4
4. Kernel Density Estimates of Public and Private Sector Wage Distributions	7
5. Wage Gap by Gender and Education	8
6. Public Wage Premium	9
7. Gender and Education Interaction Terms	9
8. Decomposition of the Public-Private Sector Wage Gap	10

TABLES

1. Civil Service Salary Scale, FY21/22	5
2. Basic Salary Adjustment Statistics: Civil Servants	6
3. Summary Statistics	8
4. Toolbox for Public Wage Bill Management	12
5. Wage Bill Evolution under Various Reform Options	13

MODELLING THE IMPACT OF EXTERNAL SHOCKS ON LESOTHO	18
A. Introduction	18
B. Macroeconomic Institutions and Arrangements in Lesotho	18
C. Estimating Potential Output	20
D. A Macroeconomic Model of Lesotho	21
E. A Policy-Relevant Scenario	25
F. Policy Implications	26
G. Key Results	27
References	30

FIGURES

1. Trade and Financial Linkages with South Africa, 2018–2022	19
2. Potential GDP Growth	21
3. Bayesian Estimation of Key Parameters	27
4. A South African Monetary Policy Rate Shock	28
5. A Delayed Monetary Policy Response Shock	28
6. A Government Spending Shock	29
7. A Composite Shock: Weaker Demand and Higher U.S. Fed Funds Rate	29

HANDING THE REINS OF GROWTH TO THE PRIVATE SECTOR	32
A. Introduction	32
B. Distortions in the Provision of Private Sector Credit	34
C. Other Constraints to Private Sector Development and Growth	37
D. Policy Implications	39
References	42

FIGURES

1. Public Sector Dominance, Financial Development and Depth, and Credit to the Private Sector	33
2. Bank Lending in Lesotho	36
3. Results from World Bank's 2016 Enterprise Survey for Lesotho	39

TABLE

1. The Probability of Securing Bank Loans much Higher for Professional Workers and Legislators	35
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DECOMPOSING THE PUBLIC-PRIVATE SECTOR WAGE DIFFERENTIAL IN LESOTHO¹

A. Introduction

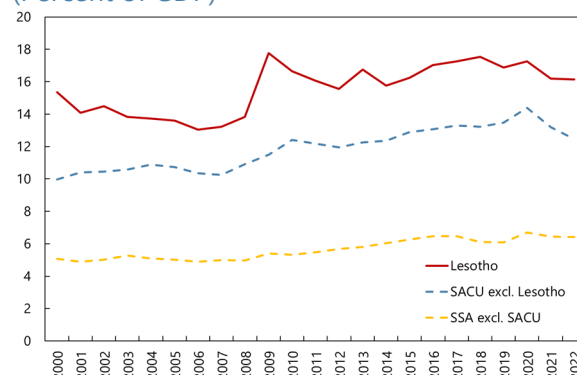
1. Lesotho's public wage bill is significantly higher than in other countries in the region.

During the past decade, sub-Saharan African countries (excluding SACU) spent on average [6] percent of their GDP per year on general government payroll—equivalent to 28 percent of their total public expenditure (Figure 1). Over the same period, the public wage bill in Lesotho averaged 17 percent of GDP (32 percent of total expenditure), leaving the country significantly above comparators—including neighboring members of the Southern African Customs Union (SACU), where the average compensation of government employees is 13 percent of GDP (38 percent of total public expenditure).

Furthermore, the public wage bill in Lesotho has generally grown faster than in other SACU members during periods of higher SACU

transfers. Wage bill growth was twice as high at 14 percent per year on average in the years when SACU revenues exceeded the historical average of 22 percent of GDP (in almost half of the years), compared to an average of 7 percent otherwise (Figure 2). This contrasts with relatively stable wage bill growth rates in other SACU members.

Figure 1. Compensation of Employees (Percent of GDP)



Sources: World Economic Outlook and IMF staff calculations.

2. This paper takes a closer look at the civil service wage bill and examines public sector wage premium. Section B provides an overview of public sector employment and compensation; Section C estimates and explores drivers of the wage premium between the public and private sectors and conducts a decomposition of the public-private wage gap; section D concludes with policy recommendations.

B. The Public Sector Wage Bill

3. The high wage bill reflects the role of the state as the employer of first resort. The Basotho government is a large employer compared to regional peers. Public sectors in SSA countries (excluding SACU), on average, account for 9.4 percent of total employment and provide jobs for nearly 5 percent of the working-age population aged 15 and older. While public sector employment in Lesotho is well above these levels (with every eighth job residing in the public sector), this is fairly common across SACU members, where on average every sixth job can be found in the public sector.

¹ Prepared by Shushanik Hakobyan.

4. The public wage bill is driven by a generous salary scale across all levels of civil service. Accounting for over one-third of public sector wage bill and employment, civil service contributed the most to the public wage bill growth over the past five years (Figure 3). The civil service salary scale has 13 grades, of which six are managerial, three are operational, and four are support roles. Growth in civil service wage bill is driven largely by operational level staff (in particular, grades F and G) that account for over half of civil service wage bill. However, both operational and support level staff contribute greatly to the increase in the employment size (support level staff accounts for close to 50 percent of civil service employment). The overall compression ratio—defined as the ratio of the highest salary to the lowest on the salary scale—is 17 for the basic salary, which is larger than both the average in sub-Saharan Africa (13) and globally (7).² The wage differentials between the adjacent grades in the salary scale are also unusually large: the difference between basic salaries across grades at the support and operational levels is over 30 percent (Table 1), with a still significant 20 percentage point jump to the basic salary at the next (lowest) managerial grade. Allowances are relatively small, at about 1–2 percent of the basic salary, but they tend to double or even triple at the highest managerial grade levels (J and up).

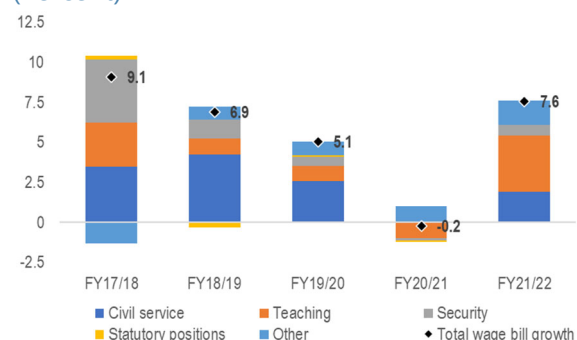
Figure 2. Wage Growth Conditional on the Size of SACU Transfers
(Percent, 2000–22 average)



Note: Periods of high SACU transfers are defined as the years when SACU transfers as a share of GDP exceed the 25-year historical average which is 8.8% in Botswana, 13.2% in Eswatini, 22.3% in Lesotho, 10% in Namibia and 0.9% in South Africa.

Sources: World Economic Outlook and IMF staff calculations.

Figure 3. Contribution to Public Wage Bill Growth
(Percent)



Sources: Administrative Payroll Data obtained from the Ministry of Public Service.

Note: Security includes Lesotho Defence Force, National Security Service, Lesotho Mounted Police Service and Lesotho Correctional Services.

5. Automatic annual nonmerit pay increases (“notches”) and cost-of-living adjustments (COLA) generate strong upward drift in salaries, which are based on years of service.

Compensation, especially at the managerial and operational levels, could rise very fast with tenure (number of years in service) without any link to other characteristics such as qualifications or more notably performance, which plays a key role in compensation decisions in modern civil service remuneration systems.

² [Wage Bill and Pay Compression | Data Catalog \(worldbank.org\)](https://data.worldbank.org/indicator/SH.UW.BDVS?locations=SA)

Table 1. Lesotho: Civil Service Salary Scale, FY21/22
(Maloti, unless otherwise indicated)

	Basic salary	Difference	Allowances	Difference	Gross salary	Difference	Number of employees
Support level							
A	28,492		853		29,823		3,989
B	40,719	43	907	6	42,749	43	1,066
C	56,716	39	570	-37	58,591	37	1,821
D	86,952	53	775	36	89,775	53	1,625
Operational level							
E	114,313	31	745	-4	118,377	32	1,655
F	157,650	38	1,076	44	163,293	38	3,497
G	199,706	27	1,695	58	206,841	27	1,395
Management level							
H	244,047	22	1,333	-21	253,665	23	583
I	279,337	14	3,225	142	292,528	15	500
J	322,929	16	12,882	299	348,820	19	298
K	437,161	35	17,427	35	474,807	36	122
L	380,595	-13	24,620	41	422,520	-11	57
M	480,249	26	30,831	25	530,071	25	29

Source: Administrative Payroll Data obtained from Ministry of Public Service.

Note: Data covers all civil servants with non-zero basic salary in FY21/22 (16,637 employees), which account for close to 40 percent of all public employees with non-zero basic salaries (42,502).

6. Downward nominal wage rigidity is observed across all years in the public wage bill.

Administrative payroll data over 2017–22 are used to examine civil service compensation. Using a panel of civil servants who remained on the payroll throughout the sample period, more than 90 percent experienced a positive adjustment almost every year, including in FY19/20 and FY21/22 when there was no cost-of-living adjustment. The total wage bill for this sample of civil servants increased by 4 percent in FY21/22 which can be attributed solely to notches, with the median employee experiencing around a 5 percent increase in their basic salary.

7. Average nominal annual wage growth for civil servants is much higher than the median in most years. This also suggests that some civil servants may have experienced very large nominal wage increases. The mean and median wage decreases, conditional on the worker experiencing a nominal wage reduction, are significantly larger, but have little effect on the upward drift of the total public wage bill of the panel (Table 2).

8. The upward inertia in the public wage bill has been gradually crowding out all other government spending. Containing the wage bill is essential to ensure fiscal sustainability and improve income distribution. Moreover, it could stimulate administrative efficiency and bring more equity into a system where public-sector employees earn more than private-sector employees in comparable professions. International experiences suggest that increases in the wage bill tend to be associated with worse fiscal outcomes and can have adverse implications for private-sector employment (IMF 2016a). While wage and hiring freezes can provide temporary relief, structural reforms that target sectors with excessive employment and salary levels, supported by strong institutions and legislation, are required for a durable adjustment in the wage bill without jeopardizing service delivery.

Table 2. Lesotho: Basic Salary Adjustment Statistics: Civil Servants

	Percent of negative adjustment	Percent of no adjustment	Percent of positive adjustment	COLA (Percent)	Percent change in wage bill	
FY17/18	1.3	0.0	98.7	3	10.2	
FY18/19	8.0	0.1	91.9	4	6.5	
FY19/20	1.5	0.0	98.5	No change	7.4	
FY20/21	1.6	57.1	41.4	5	2.2	
FY21/22	6.8	0.0	93.2	No change	3.9	
	Mean unconditional change	Median unconditional change	Mean change, conditional on positive	Median change, conditional on positive	Mean change, conditional on negative	Median change, conditional on negative
FY17/18	11.4	6.3	12.2	6.3	-45.9	-12.6
FY18/19	6.3	6.5	8.0	6.5	-12.7	-2.8
FY19/20	7.3	5.9	8.0	5.9	-36.9	-18.9
FY20/21	1.5	0.0	5.1	2.5	-36.1	-16.3
FY21/22	0.8	4.9	6.9	4.9	-82.6	-48.5

Source: Administrative Payroll Data obtained from Ministry of Public Service.

Note: N = 12,291. The sample is restricted to civil servants who are observed in the administrative payroll every year throughout the sample period FY17-22.

C. The Public Sector Wage Premium

9. Lesotho has a large gap between public- and private-sector compensation, which impedes private-sector competitiveness and encourages a dual labor market. The average public wage premium—the amount by which public sector wages exceed those in the private sector when controlling for skills and education—in emerging market and developing economies (EMDEs) is nearly 12 percent (IMF 2016a). In Lesotho, average public wages can be twice as high as average private sector wages. Such differentials would be even higher once the substantial allowances and nonwage benefits in the public sector are included.³ It provides a strong incentive, especially to the low skilled, to favor employment in the public sector.

10. Microdata from the 2017 Household Budget Survey is used to estimate the public wage premium. This dataset includes individual characteristics that are not available in the administrative data, which can then be controlled for in the analysis. A standard Mincerian wage regression is used to gauge the average wage differential between government and private-sector workers (IMF 2016b):

$$\ln(w_{ija}) = \theta \text{Public}_i + \beta X_i + \gamma_j + \delta_a + \varepsilon_{ija},$$

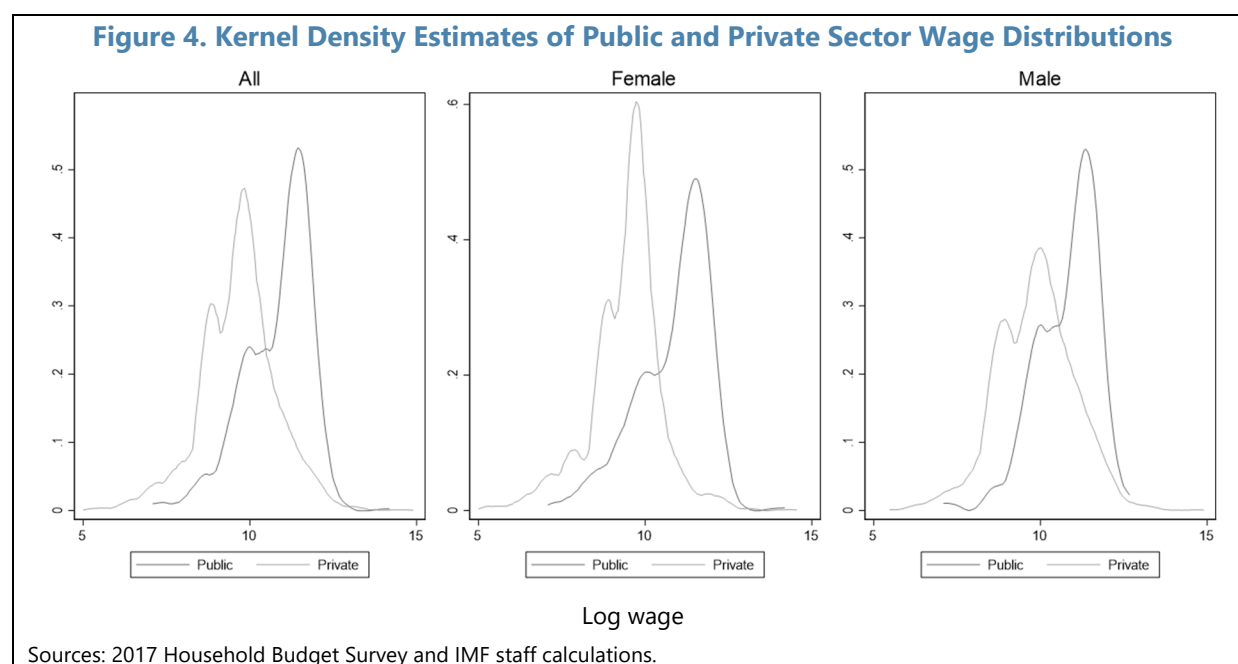
where $\ln(w_{ija})$ is the natural logarithm of wage income; Public_i is a dummy that takes the value of 1 if individual i is employed in the public sector and zero otherwise; X_i is a set of individual characteristics, including age, age squared, gender, marital status, urbanization, educational

³ Information on the level of allowances is generally not available. However, the 2008 Public Service Regulations list multiple allowances and benefits, including car loans, government housing, government vehicles, housing loan guarantees, and medical aid, as well as baggage, entertainment, travel, and subsistence allowances.

attainment (secondary, tertiary), and number of employed in the household; and γ_j and δ_d are industry and district fixed effects, respectively. The “public sector” is defined to include those employed in central and local government, while the “private sector” includes those employed in parastatals, private sector, private households, and self-employed in non-farm enterprises.⁴ The coefficient of interest, θ , measures the wage premium (if positive) or discount (if negative) for public sector workers.

11. Public-sector wages tend to be higher and more dispersed than private-sector wages.

The average wage in the public sector is twice as high as that in the private sector (Table 3), with the gap larger for women than for men. Wage distributions in the two sectors are fundamentally different (Figure 4), with more than 50 percent of the public sector wage distribution lying to the right of that of the private sector. In addition, the public sector’s distribution is more peaked and exhibits greater dispersion, driven primarily by the much higher dispersion of public sector wages of women. The disparities in public/private wage distributions are potentially due to differences in workers’ characteristics across sectors. Indeed, Table 3 shows that a higher proportion of public sector workers are older, women, and married workers with relatively higher educational attainment, compared to those in the private sector.



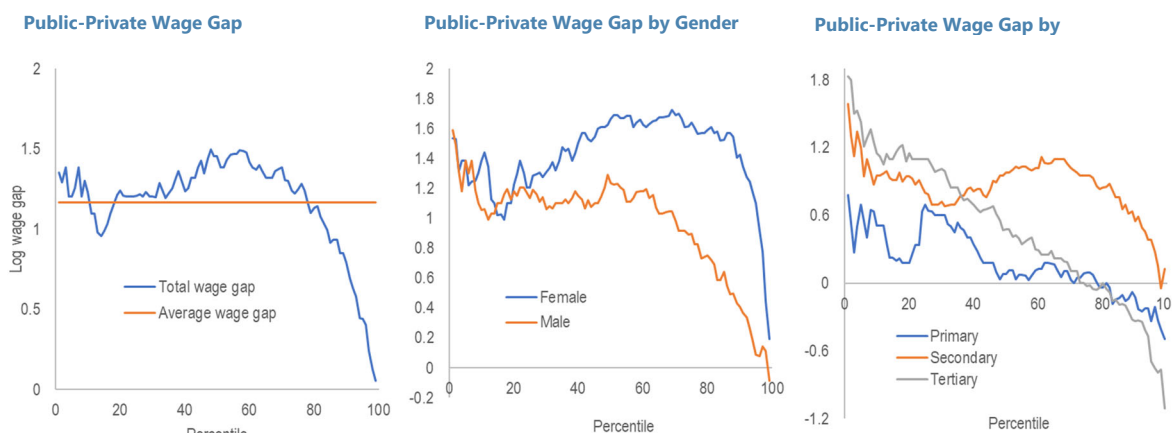
12. The public-private-sector wage gap is not constant across the wage distribution.

Examining the public-private wage gap at the mean and at different percentiles of the wage distribution, the gap remains relatively flat at the lower end of the distribution, rising in the middle (40th-60th percentiles) and eventually declining (Figure 5). The gap is higher among women than

⁴ Alternative definitions of public and private sectors yield similar results. For example, the public sector could be also defined to include those employed in parastatals, or the private sector could also include self-employed in farm enterprises.

men, except at the lower end of the distribution, and it remains high until the 90th percentile, whereas the gap for men starts to decline after 60th percentile. There are also considerable differences across education levels: the gap is higher among workers with secondary education than those with tertiary education, particularly at the higher end of the distribution. Furthermore, from the 80th percentile onwards the gap favors private sector workers with primary and tertiary education.

Figure 5. Wage Gap by Gender and Education



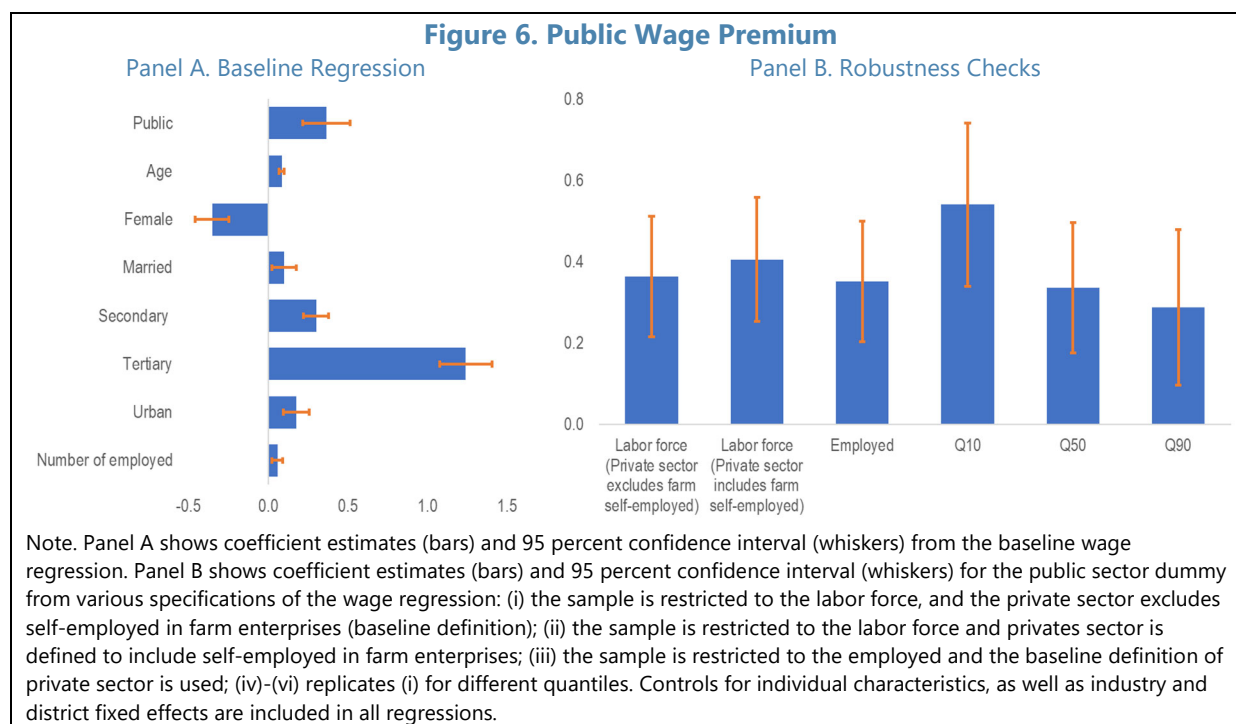
Sources: 2017 Household Budget Survey and IMF staff calculations.

Table 3. Lesotho: Summary Statistics

	Total		Public		Private	
	Mean	St Dev	Mean	St Dev	Mean	St Dev
Public	0.13	0.33				
Wage (annual)	39,293	134,708	75,176	82,288	34,165	139,871
Age	38	13	42	12	37	13
Female	0.45	0.50	0.54	0.50	0.44	0.50
Married	0.53	0.50	0.65	0.48	0.51	0.50
Primary education	0.53	0.50	0.19	0.39	0.58	0.49
Secondary education	0.35	0.48	0.32	0.47	0.36	0.48
Tertiary education	0.11	0.32	0.49	0.50	0.06	0.23
Urban	0.42	0.49	0.57	0.50	0.40	0.49
Number of employed	1.89	1.04	1.76	0.88	1.91	1.06
Number of observations	3775		472		3303	

13. The public wage premium in Lesotho remains high after controlling for individual characteristics, particularly at the lower end of the wage distribution. Wages are estimated to be higher for older, married workers who are more educated and live in urban areas. Female workers on average have lower wages, after controlling for individual characteristics. More importantly, employment in the public sector is associated with 36 percent higher wages (Figure 6 Panel A, Table AI.1). The public wage premium is about the same when parastatals are included in the public sector but rises to 40 percent when self-employed in farm enterprises are included in the private sector (Figure 6 Panel B). The public wage premium remains qualitatively unchanged when the sample is

restricted to employed individuals. Quantile regression estimates suggest that the public wage premium is significantly higher (over 60 percent) at the lower end of the wage distribution, with the premium declining across the quantiles.

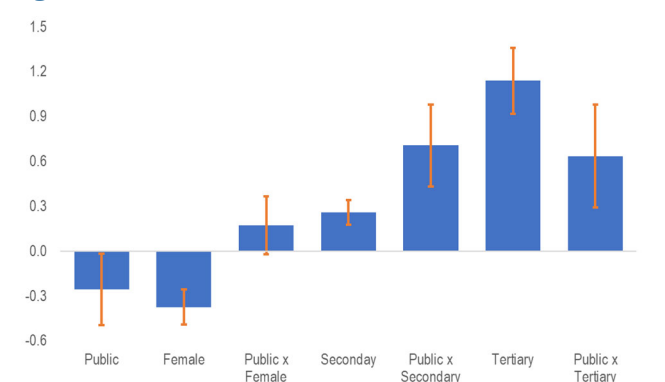


14. Gender and educational attainment explain much of the observed public wage premium.

While female workers are paid less than their male counterparts on average (by

37 percent) and across all quantiles, their wages are relatively higher in public sector, particularly at the higher end of the wage distribution (Figure 7, Table A1.2). In fact, at the 90th quantile, wages of female workers in public sector are not much different from wages of male workers. Wages of workers with higher levels of education (secondary and tertiary) are higher than those with primary or no education (by 27 and 120 percent, respectively). Public sector employment boosts the wages of workers with secondary and tertiary education by additional 64 and 43 percent, respectively. Public sector rewards female workers at the higher end of wage distribution and workers with tertiary education at the lower end of wage distribution (Table A1.2).

Figure 7. Gender and Education Interaction Terms

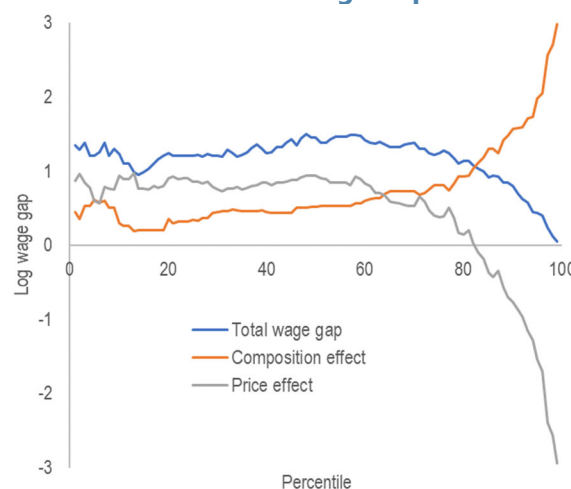


Note: The figure shows coefficient estimates (bars) and 95 percent confidence interval (whiskers) from the baseline wage regression with additional interaction terms between public sector dummy and whether the individual is female, has a secondary or tertiary education. Controls for other individual characteristics, as well as industry and district fixed effects are included in all regressions.

15. The public-private sector wage gap is largely driven by higher public wage premium particularly at the lower end of the wage distribution.⁵ At the lower end of distribution, the wage

gap is largely due to the 'price effect' rather than the 'endowment effect' (Figure 8, Table AI.3). This finding is consistent with anecdotal evidence suggesting that high public sector wages, particularly at the bottom of the distribution, are due to a public sector premium, although inferior endowments among private sector workers also play a role. The endowment effect, however, increases starting from 40th percentile, driving increase in the wage gap between 40th and 60th percentiles. After 80th percentile, returns to workers' characteristics serve to narrow the wage gap as indicated by the strong negative 'price effect'. The overrepresentation of women in the public sector serves to narrow the wage gap by 3–5 percentage points especially at lower and higher end of the wage distribution. However, this effect is outweighed by the corresponding positive 'price effect' at the 90th percentile. As a result, the total effect of gender at the higher end of the wage distribution is such that it contributes to the widening of the wage gap.

Figure 8. Decomposition of the Public-Private Sector Wage Gap



Sources: 2017 Household Budget Survey and IMF staff calculations.

D. Policy Implications

16. Three key messages emerge from the analysis.

- *First*, total public-private sector wage gap in Lesotho is relatively high for both the bottom and middle of the wage distribution.
- *Second*, the gap between public- and private-sector wages at the bottom end of the distribution is largely explained by a higher wage premium, but also differences in observed characteristics. This suggests that the public sector both attracts and rewards workers with inferior endowments at the lower end.
- *Third*, the high public wage bill is driven by a generous salary scale, large wage differentials between adjacent grades, and automatic annual salary increases, which are not merit-based.

⁵ Oaxaca-Blinder (1973) type decompositions, based on Firpo et al. (2009) recentered influence function regressions, are used to decompose public-private sector wage gap (Annex Table 3).

17. Given the drain on public finances, wage bill reform is inevitable, but it will inevitably involve difficult tradeoffs. Wage bills reforms should be based on the following key principles (IMF 2016a; 2016b):

- Wage bill growth must not jeopardize fiscal sustainability. At current levels and growth, it continues to anchor expenditure at unsustainable levels. For this reason, bringing it to a reasonable level is necessary as part of a broader adjustment strategy to generate space for other priority spending that can support growth;
- The level of public sector employment should be consistent with a target for public service quality and delivery—the number of civil service staff should be sufficient to ensure the effective delivery of public services; at the same time, the civil service should not function as the employer of last resort or a means of patronage.
- Public sector compensation should be competitive, but not significantly higher than in the private sector—a sufficiently high remuneration is important to attract talent and support productivity gains; while too high salaries increase reservation wages and affect private sector competitiveness. The range of generous public sector allowances and benefits must be scaled back, as these also compound the large size of the wage gap between sectors.

18. Efforts to contain public wage bill should encompass measures that tackle both levels of employment (“quantity-based” measures) and compensation (“price-based” measures). In the short term, wage and hiring freezes can be effective in managing the wage bill and containing fiscal pressures. Table 7 provides a toolbox for public wage bill management. However, to ensure that the wage bill remains sustainable in the long term, the government will need to implement structural reforms of both recruitment and compensation policies that aim at balancing the tradeoffs discussed above. Reforms should be part of a broader civil service reform which would require careful review and planning, adequate administrative capacity, and consistent implementation (IMF, 2017).

19. Public sector employment should be reduced and managed using a combination of essential hiring, natural attrition, and staff redeployment. Two important opportunities present themselves at present. *First*, given the recent consolidation of ministries, departments, and agencies (MDAs), the scope of reducing employment through the elimination of duplicate functions is large. *Second*, the government must continue to identify and terminate public sector employees hired outside of the establishment list, and strictly enforce the announced freeze on any new hiring for non-essential positions. These two strategies would lead to natural attrition across MDAs and a reduction in employment. Building on this, longstanding existing vacancies should be abolished. If vacancies still need to be filled, the government should do so by reallocating existing staff from overstaffed areas.

20. Public sector compensation could be contained and reduced by eliminating non-merit increases and introducing performance-based remuneration. As a first step, government should eliminate “notch” increases, consistent with the 2008 Public Service Regulations. Structural reforms

of the compensation structure to tighten the link between pay and performance metrics, such as attendance and performance efficiency, would in turn incentivize public employees to perform better, while also moderating the increase in compensation. Publishing (online) comparisons of public and private sector compensation would also highlight the public sector wage premium.

Table 4. Lesotho: Toolbox for Public Wage Bill Management		
	Short-Term	Structural (Medium-Term)
Compensation	<ul style="list-style-type: none"> • Wage freezes, ceilings, or cuts • Elimination of “notch” increases • Elimination, reduction or streamlining of allowances 	<ul style="list-style-type: none"> • Unifying wage structures • Rationalizing allowances • Introducing comparisons of public and private sector compensation • Tightening the link between pay and performance
Employment	<ul style="list-style-type: none"> • Hiring freezes • Employment caps or cuts • Termination of off-payroll workers • Attrition • Early retirement 	<ul style="list-style-type: none"> • Public sector restructuring • Enhancing the quality of payroll (e.g., payroll census) • Replacing career-based employment with position-based employment for some jobs • Reviewing government programs to identify under- and/or overstaffing

Note: Adapted from IMF (2017b).

E. A Menu of Reforms

21. Given the scale of fiscal savings from wage bill reform, we explore different (mutually-exclusive) measures for employment and compensation containment and estimate their potential impact on the total wage bill (Table 8). Assumptions are based on FY21/22 civil service payroll data. These savings do not net out estimates for retrenchment, e.g., separations benefits, voluntary retirement packages, which are also important to consider as part of any wage bill reform strategy.

- **The elimination of duplicate functions** at the merged MDAs over a 3-year period would reduce total employment and deliver around 1 percentage point of GDP adjustment in the wage bill over the medium term.⁶
- **Capping COLA at 2.5 percent**, while maintaining the notch increase of 5 percent and assuming that any new hires are replacements for natural attrition, could still deliver savings albeit quite small, at 0.2 percent of GDP.⁷

⁶ As the number of ministries is reduced from 27 to 15, this scenario assumes that 10 principal secretary positions in the merged ministries are eliminated, reducing the number of principal secretaries from 47 to 37, along with a fifth of positions at every grade level, except grade M.

⁷ The notch increase of 5 percent is estimated from the median change in civil servants' wages in FY21/22 when no COLA was envisaged. If the notch were instead to be capped at 2.5 percent as in the FY23/24 budget, the savings will be much higher at 2 percent of GDP. Natural attrition rate is assumed to be 2 percent. Furthermore, wage growth has
(continued)

- **Reducing the notch to 2.5 percent over a 3-year period** (0.6 percentage point in the first two years and 0.7 percentage point in the third year) could deliver around 1.7 percentage points of GDP adjustment over the medium term.
- **Completely eliminating the notch** (gradually over 5-year period, 1 percentage point each year) has the potential to deliver the largest fiscal savings, estimated at 2.8 percent of GDP.

Table 5. Lesotho: Wage Bill Evolution under Various Reform Options
(Percent of GDP)

Options	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28	FY28/29	Total savings
<i>Current IMF baseline</i>	15.1	15.0	14.8	14.6	14.4	14.2	14.1	1.0
Eliminate duplicate functions	15.1	14.8	14.5	14.3	14.3	14.3	14.3	0.8
Cap COLA	15.1	14.7	14.9	14.9	14.8	14.8	14.9	0.2
Reduce automatic "notch"	15.1	15.0	14.8	14.4	14.1	13.7	13.4	1.7
Eliminate automatic "notch"	15.1	14.9	14.6	14.2	13.6	12.9	12.3	2.8

Source: IMF staff calculations.

been driven by a combination of both "notch" increases and COLA, resulting in pre-pandemic increases in wages of 6-10 percent each year, compared to pre-pandemic average inflation of 4.9 percent (over 5- and 10-year periods). Therefore, given the need to consolidate, the cap for COLA should be set at 2.5 percent (below inflation) over the next three years and, subsequently, the cap should be just below the pre-pandemic average rate of inflation, around 4 percent.

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Annex I. Public Wages

Table AI.1. Lesotho: Public Wage Premium

	Labor Force				Employed	Q10	Q50	Q90
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Public	0.357*** (0.083)	0.364*** (0.076)	0.398*** (0.086)	0.406*** (0.078)	0.343*** (0.083)	0.622*** (0.100)	0.403*** (0.096)	0.125 (0.099)
Age	0.084*** (0.008)	0.084*** (0.008)	0.076*** (0.008)	0.075*** (0.008)	0.083*** (0.007)	0.059*** (0.015)	0.081*** (0.008)	0.058*** (0.014)
Age squared	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Female	-0.353*** (0.054)	-0.351*** (0.054)	-0.359*** (0.054)	-0.357*** (0.054)	-0.358*** (0.054)	-0.500*** (0.079)	-0.214*** (0.043)	-0.224*** (0.057)
Secondary education	0.300*** (0.041)	0.300*** (0.041)	0.273*** (0.046)	0.274*** (0.046)	0.302*** (0.041)	0.238*** (0.091)	0.274*** (0.034)	0.273*** (0.048)
Tertiary education	1.250*** (0.084)	1.240*** (0.084)	1.233*** (0.088)	1.222*** (0.088)	1.253*** (0.084)	0.971*** (0.120)	1.184*** (0.093)	1.132*** (0.123)
Married	0.099** (0.039)	0.099** (0.039)	0.054 (0.041)	0.054 (0.041)	0.092** (0.039)	-0.086 (0.078)	0.097*** (0.033)	0.111** (0.053)
Urban	0.180*** (0.041)	0.177*** (0.041)	0.162*** (0.044)	0.158*** (0.045)	0.185*** (0.041)	0.557*** (0.088)	0.150*** (0.034)	0.085 (0.053)
Number of employee	0.059*** (0.017)	0.057*** (0.017)	0.114*** (0.017)	0.112*** (0.017)	0.045*** (0.016)	0.102** (0.042)	0.047*** (0.016)	0.025 (0.022)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,775	3,775	4,230	4,230	3,703	3,775	3,775	3,775
R-squared	0.41	0.41	0.41	0.41	0.41			

Note: The sample is restricted to the labor force with a reported positive wage in columns (1)-(4) and to employed individuals in column (5). Columns (1) and (3) use the baseline definition of the public sector, which only includes those employed in central and local government. Columns (2) and (4) define the public sector to include parastatals. Columns (1) and (2) exclude self-employed in farm enterprises from the private sector. Columns (3) and (4) include self-employed in farm enterprises in the private sector. Column (5) uses the baseline definition of the public sector, and excludes self-employed in the farm enterprises from the private sector. Columns (6)-(8) replicate Column (1) for different quantiles. Robust standard errors in parentheses. *, **, *** indicate

Table AI. 2. Lesotho: Drivers of Public Premium

	Mean	Q10	Q50	Q90
	(1)	(2)	(3)	(4)
Public	-0.198 (0.130)	0.211 (0.280)	-0.046 (0.098)	-0.076 (0.223)
Age	0.083*** (0.008)	0.063*** (0.018)	0.078*** (0.008)	0.057*** (0.012)
Age squared	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Married	0.102*** (0.039)	-0.024 (0.073)	0.115*** (0.030)	0.118** (0.048)
Female	-0.371*** (0.060)	-0.439*** (0.094)	-0.236*** (0.046)	-0.256*** (0.062)
Public * Female	0.185* (0.102)	0.059 (0.185)	0.182** (0.079)	0.242* (0.124)
Secondary education	0.267*** (0.042)	0.198** (0.079)	0.269*** (0.032)	0.235*** (0.051)
Public * Secondary	0.639*** (0.149)	0.314 (0.288)	0.630*** (0.160)	0.467** (0.203)
Tertiary education	1.228*** (0.109)	0.865*** (0.179)	1.138*** (0.106)	1.566*** (0.193)
Public * Tertiary	0.432** (0.177)	0.546* (0.321)	0.472*** (0.150)	-0.374 (0.289)
Urban	0.154*** (0.044)	0.507*** (0.080)	0.119*** (0.039)	0.052 (0.052)
Public * Urban	0.148 (0.094)	0.158 (0.220)	0.101 (0.106)	0.106 (0.090)
Number of employee	0.060*** (0.017)	0.134*** (0.042)	0.049*** (0.013)	0.021 (0.018)
Industry FEs	Yes	Yes	Yes	Yes
District FEs	Yes	Yes	Yes	Yes
Observations	3,775	3,775	3,775	3,775
R-squared	0.42			

Note: The sample is restricted to the labor force with a reported positive wage in columns. Robust standard errors in parentheses in column (1). *, **, *** indicate significance at the 10%, 5% and 1% level.

Table AI.3. Lesotho: Decomposition of Public-Private Wage Gap

	Q10	Q50	Q90
Total wage gap	1.239*** (0.086)	1.452*** (0.056)	0.809*** (0.058)
Endowment effect	0.298** (0.122)	0.518*** (0.080)	1.571*** (0.229)
Age	0.428*** (0.109)	0.465*** (0.068)	0.154*** (0.058)
Age squared	-0.455*** (0.110)	-0.394*** (0.065)	-0.071 (0.051)
Married	-0.006 (0.011)	0.023*** (0.007)	0.013 (0.009)
Female	-0.047*** (0.016)	-0.025*** (0.008)	-0.034*** (0.012)
Secondary	-0.011 (0.008)	-0.010 (0.007)	-0.005 (0.004)
Tertiary	0.156*** (0.059)	0.367*** (0.040)	1.125*** (0.126)
Urban	0.079*** (0.017)	0.010 (0.008)	0.035*** (0.013)
Number of employed	-0.020*** (0.008)	-0.006* (0.003)	0.000 (0.004)
Price effect	0.941*** (0.141)	0.934*** (0.090)	-0.763*** (0.235)
Age	-3.714* (2.073)	-1.598 (1.026)	0.540 (0.889)
Age squared	2.603** (1.086)	1.054** (0.515)	-0.394 (0.473)
Married	-0.113 (0.114)	-0.085 (0.064)	-0.075 (0.070)
Female	0.040 (0.098)	0.038 (0.056)	0.268*** (0.066)
Secondary	0.333*** (0.103)	0.093** (0.044)	-0.005 (0.035)
Tertiary	0.671*** (0.173)	0.301*** (0.080)	-0.957*** (0.146)
Urban	-0.049 (0.107)	0.188*** (0.063)	-0.052 (0.064)
Number of employed	-0.163 (0.149)	-0.181** (0.085)	0.116 (0.091)

MODELLING THE IMPACT OF EXTERNAL SHOCKS ON LESOTHO¹

A. Introduction

1. As a small open economy with an open capital account and a fixed exchange rate, Lesotho has a limited range of policy levers available for managing shocks. Given its size and location, the country is also vulnerable to a broad range of external shocks—from changes in external demand to swings in commodity prices—alongside domestic supply shocks linked to climate change. This multitude of shocks force various trade-offs for policymakers between inflation, growth, employment, and fiscal sustainability.

2. This paper uses an extended semi-structural New Keynesian quarterly projection model (QPM)—similar to forecasting and policy analysis system (FPAS) tools used in central banks—to simulate shocks and analyze monetary and fiscal policy interactions in Lesotho. The model features Lesotho’s cross-country linkages with South Africa and a currency peg with the South African rand. The key objectives of this framework are to develop a forward-looking framework that can (i) model the impact of shocks on an economy calibrated to mimic that of Lesotho, and (ii) inform the monetary and fiscal policy decisions given the interaction between policies. With this, we can assess the viability of traditional QPM-type models and whether they can support forward-looking analysis and policy formulation in the context of Lesotho. Section B provides an overview of the policy environment in Lesotho; Section C provides an overview of potential output estimates; Section D sets out the main features of the modelling framework, including the calibration and key results; Section E sketches a policy-relevant scenario for Lesotho, and Section F concludes with some policy implications.

B. Macroeconomic Institutions and Arrangements in Lesotho²

3. Lesotho’s history and geography has meant that it has maintained very close economic and financial ties with South Africa. When Botswana, Eswatini, and Lesotho gained independence in the 1960s, they were already members of a common customs area—the Southern African Customs Union (SACU)—and also de facto members of a currency union with South Africa.³ The currency union was formally established on December 5, 1974, with the signing of the Rand Monetary Area (RMA) agreement, and subsequently revised in April 1986 to establish the Common Monetary Area (CMA) of Eswatini, Lesotho, and South Africa. Under the terms of the CMA

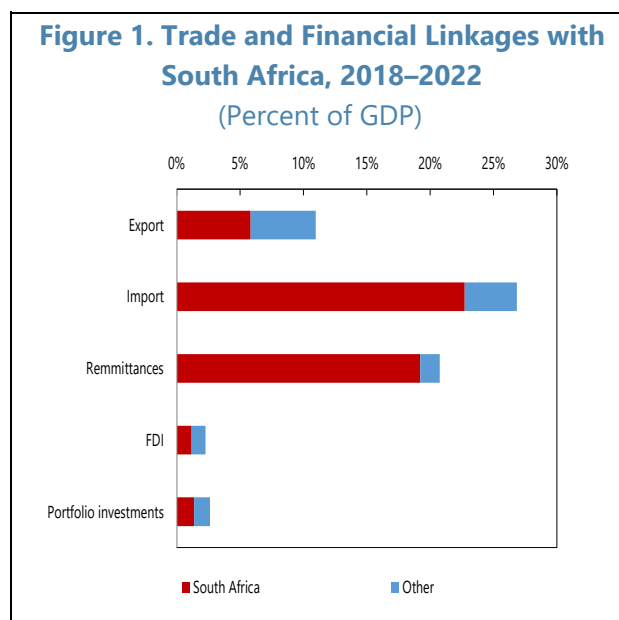
¹ Prepared by Zviad Zedginidze.

² This section draws on the Selected Issues Papers of the 2005 and 2022 Article IV Consultations for the Kingdom of Lesotho.

³ SACU was established in 1910, with membership comprising South Africa, Bechuanaland (now Botswana), Basutoland (now Lesotho), Namibia, and Swaziland (now Eswatini). In 1921, after the establishment of the South African Reserve Bank, the South African pound became the sole medium of exchange and legal tender across all territories.

Agreement, the South African rand would continue to be legal tender in Eswatini and Lesotho, which would also have the right to issue their own national currencies.

4. Trade and financial linkages with South Africa are sizeable (Figure 1). In 2022, trade with South Africa amounted to 25 percent of GDP, with more than half of Lesotho's exports were to and 80 percent of imports came from their neighbor. Export markets are relatively more diversified with rough diamonds and textiles primarily exported to Europe and United States. Remittances are the largest component of financial flows, accounting for 20 percent of GDP, given the significant presence of Basotho workers in South Africa. Bilateral portfolio and FDI linkages are small with holdings of less than 5 percent of GDP. Portfolio investments are mostly in public debt securities held by South African residents.



5. Under the rules of the CMA, both the South African rand and the Lesotho loti (plural: Maloti) are legal tender in Lesotho and pegged at par.⁴ Article 2 of the CMA Agreement permits SACU members to issue national currencies. Bilateral agreements with South Africa define the areas in which their currencies are legal tender. In general, the local currencies issued by the three members are legal tender only in their respective countries. Under the bilateral agreement between Lesotho and South Africa, both countries are required to allow authorized dealers within their territories to convert, at par, notes issued by the Central Bank of Lesotho (CBL) or the South African Reserve Bank (SARB) without restriction and subject only to normal handling charges.⁵ Similar arrangements exist between the other two CMA members and South Africa.

6. The CBL is required to maintain foreign reserves equivalent to the total amount of maloti currency that it issues.⁶ Market confidence in the system is high, as indicated by the low share of rand-denominated bank deposits (about 2 percent). Given close trade links with South Africa, the arrangement has served Lesotho well, but it obviously imposes tight restrictions on monetary policy. In particular, the CBL needs to maintain a reserves position that will prevent the

⁴ Lesotho's exchange rate arrangement under the CMA shares certain characteristics of a currency board but differs in one important respect. All maloti currency issued by the CBL is backed entirely by the central bank's foreign exchange reserves. Such an arrangement has the advantage of insulating monetary policy from possible political interference and hence helps enhance the credibility of macroeconomic policies. However, currency boards are also typically prohibited by law from acquiring any domestic assets, so that all the currency it issues is automatically backed fully by foreign reserves. There is no such legal restriction for Lesotho under the CMA.

⁵ Article 2 of the Lesotho–South Africa bilateral agreement.

⁶ Article 4 of the Lesotho–South Africa bilateral agreement.

possibility of a self-fulfilling confidence crisis, in which loti cash and deposit holders would simultaneously try to convert their holdings into rand to protect against a depreciation. Such reserves may comprise the CBL's holdings of rand balances, the rand currency the CBL holds in a Special Rand Deposit Account with the SARB, South African government stock (up to 10 percent of total reserves), and its investments with the Corporation for Public Deposit in South Africa.

7. To enhance buffers and to allow for some domestic liquidity control, the CBL maintains a high reserve coverage of monetary aggregates. The coverage ratio is 100 percent of M1 plus callable deposits ("M1 plus").⁷ Reserves coverage is, therefore, broader than the monetary base and covers transferable monetary asset more broadly. Even when applying this wider measure of short-term bank liabilities, coverage has remained comfortably above 100 percent (125 percent as of December 2022), giving the central bank significant firepower to defend the peg.

8. While the exchange rate peg eliminates a key lever for demand management, it provides a nominal anchor and occasional constraint on spending. Exchange rate and monetary policy cycles in Lesotho are driven entirely by South African monetary and exchange rate policies. In the absence of a formal fiscal anchor, enforcement of a net international reserves (NIR) target has acted as a spending brake when SACU transfers dip, such that changes in reserves (and government deposits) closely track changes in SACU transfers. This has led to conflict between the Ministry of Finance and the Central Bank of Lesotho (CBL) on several occasions.

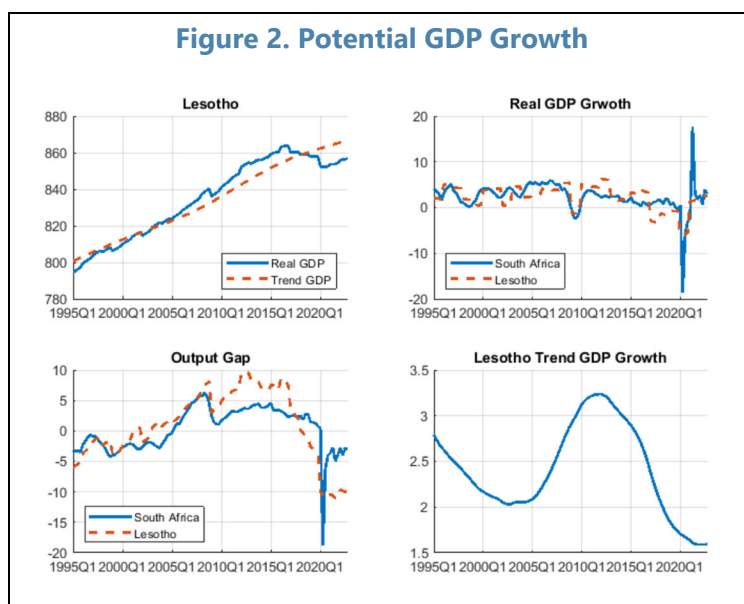
9. The government has established some principles to guide the conduct of fiscal policy. These principles are documented in the government's budget strategy paper but are unenforced. Consequently, public expenditure, as managed by the Ministry of Finance (MOF), has typically been more discretionary than rules-based. For example, despite the specification of several budget principles (Budget Strategy Papers), budgets have consistently ignored them.

C. Estimating Potential Output

10. Potential output in Lesotho is estimated using a multivariate filter (MVF), to help locate the country's position in its business cycle (Figure 2). The model-consistent estimation of historical trend real GDP shows that Lesotho's business cycle is strongly linked to that of South Africa, but with greater volatility. In this way, potential growth in Lesotho combines South Africa-specific factors (common factors) with those specific to the country. The latter include, long standing structural challenges related with governance, fiscal management, and the delivery of public services—all captured in lower total factor productivity growth. South African-specific factors are captured in trade, remittances, capital, and financial and SACU flows. The MVF shows that potential growth has been decelerating over the recent decade and that at 2 percent, the current estimate of potential growth is below the rate needed to close the income gap with other CMA

⁷ The coverage ratio is significantly higher than under a classical currency board, which would provide for 100 percent coverage of the monetary base and let domestic currency fluctuate with the supply and demand for foreign currency.

members. Furthermore, despite some rebound in growth, a negative output gap persists since the pandemic started.



D. A Macroeconomic Model of Lesotho

The Modeling Framework

11. The framework builds off a standard semi-structural New Keynesian model with an aggregate demand (or IS) curve, a price-setting (or Phillips) curve, a version of the uncovered interest parity condition, and a monetary policy reaction function (Berg and others, 2006a; 2006b). To capture Lesotho's interlinkages with South Africa and allow for scenarios which can model the impact of SARB's policy choices, the model utilizes a layered approach that introduces the South African economy as a gateway for Lesotho to the rest of the world. Thus, the simulation model consists of two modules: (i) a Lesotho module, and (ii) a South Africa module, which in turn incorporates the rest of the world. To this end, the model draws in part from the multicountry approach in Andrieu and others (2015), Laxton and Pesenti (2003), Kumhof and Laxton (2007).

12. The model describes dynamic interaction of Lesotho's key macroeconomic aggregates and propagation channels for economic developments in South Africa. With the objective to maintain exchange rate parity and with a largely open capital account, the model features a monetary policy reaction function that closely links CBL rate with that of ZAF. Foreign exchange reserves in the model are directly impacted by fiscal policy due to leakages from government spending on imports and by interest rate deviations from the SARB's policy rate. The risk premium in turn depends on the deviation of foreign reserves from its desired level and feeds into real economy via lending rates.

13. All variables in the model are expressed in "gap" terms, as percentage deviations from their trend (or equilibrium) levels, where the latter are estimated jointly in the model. This has

the advantage of reflecting the information contained in trend-cycle interactions in the estimates of trends (as opposed to, for instance, using the Hodrick-Prescott pre-filtering applied to the dataset before analysis or modeling). More broadly, these “gaps” are assumed to be influenced by the business cycle, while trends are influenced by the underlying structural characteristics of the economy and thus driven by structural policies. The disturbance terms (denoted by ε) represent the shocks hitting every macroeconomic variable and are introduced in every behavioral equation with respective subscripts. Finally, the model is in quarterly frequency.

The Model Equations

14. At its core, the model is characterized by behavioral relations which describe the structure of the system and the shock propagation mechanisms. There are four key sets of behavioral equations for (i) aggregate demand (output), (ii) aggregate supply (inflation), (iii) monetary policy (interest rates/exchange rates), and (iv) foreign exchange reserves. These are supplemented with identities and other key variable definitions. While most of these equations could be derived from microeconomic principles, they do not strictly adhere to micro foundations, which provides flexibility in adding country-specific features.

15. Aggregate demand is modeled as an investment-savings (IS) curve:

$$\hat{y}_t^{LSO} = \alpha_1 \hat{y}_{t-1}^{LSO} + \alpha_2 E_t \hat{y}_{t+1}^{LSO} + \alpha_3 \hat{y}_t^{ZAF} - \alpha_4 (\alpha_5 \hat{r}_t^{LSO} + (1 - \alpha_5) \hat{z}_t^{LSO}) + \alpha_6 \hat{G}_t^{LSO} + \varepsilon_t^{y,LSO}$$

This equation relates the output gap (\hat{y}_t^{LSO}) to monetary conditions represented by interest rates (\hat{r}_t^{LSO}) and real effective exchange rate (\hat{z}_t^{LSO}) gaps. In addition, the equation also takes into account Lesotho’s strong linkages to South Africa and incorporates the ZAF output gap (\hat{y}_t^{ZAF}) to capture trade and remittances. The degree of persistence in aggregate demand is represented by its lagged value (\hat{y}_{t-1}^{LSO}) and the economic outlook by its lead ($E_t \hat{y}_{t+1}^{LSO}$). Furthermore, given the importance of fiscal policy for the economy, government spending in the form of a shock (\hat{G}_t^{LSO}) is also incorporated in the equation.

16. Aggregate supply equation is modified Phillips Curve with country specific features:

$$\begin{aligned} \pi_t^{LSO} = & \pi_t^{ZAF} + (\omega_1^{LSO} - \omega_1^{ZAF}) \pi_t^{oil} + (\omega_2^{LSO} - \omega_2^{ZAF}) \pi_t^{food} + \beta_1 \hat{y}_t^{LSO} \\ & + \varepsilon_t^{u,LSO} + \rho \varepsilon_{t-1}^{u,LSO} + \varepsilon_t^{\pi,LSO} \end{aligned}$$

Given Lesotho’s close links with South Africa, headline inflation (π_t^{LSO}) is driven largely by that of South Africa (π_t^{ZAF}) adjusted for differences in food and fuel weights between the two CPI baskets. In addition, to account for the domestic economy’s marginal costs, the output gap—along with long-lived persistent shock ($\varepsilon_t^{u,LSO}$)—are also included. For example, $\varepsilon_t^{u,LSO}$ can represent energy price shocks that are capable of having a persistent impact on the economy.

17. With the objective to maintain exchange rate parity with the rand, the monetary policy reaction function boils down to a simple rule of tracking SARB’s policy rate.

$$S_t^{LSO} = S_t^{ZAF} + \varepsilon_t^{S,LSO}$$

$$i_t^{LSO} = i_t^{ZAF} + prem_t^{LSO} + \varepsilon_t^{i,LSO}$$

The CBL has explicit operating targets to keep the parity with the rand, which—under an open capital account—requires rates closely track those in South Africa⁸. In order to achieve alignment, the CBL policy rate (i_t^{LSO}) is assumed to equal SARB's policy rate (i_t^{ZAF}) plus a small wedge that accounts for currency risk premia ($prem_t^{LSO}$) for the loti (S_t^{LSO}) versus the rand (S_t^{ZAF}).

18. Foreign exchange reserves are determined by government spending and the exchange rate:

$$\widehat{res}_t^{LSO} = res_t^{LSO} - \overline{res}_t^{LSO}$$

$$\widehat{res}_t^{LSO} = \delta \widehat{res}_{t-1}^{LSO} - f_1 \widehat{G}_t^{LSO} - f_2 \widehat{Z}_t^{LSO} + \varepsilon_t^{res}$$

$$\overline{res}_t^{LSO} = \rho \overline{res}_{t-1}^{LSO} + (1 - \rho) \overline{res}_{ss}^{LSO}$$

The deviation of international reserves (expressed in terms of months of import coverage, \widehat{res}_t^{LSO}) from desired levels (\overline{res}_t^{LSO}) is linked to both government spending and pressure on the exchange rate, which is specified using the real effective exchange rate gap. Lagged reserve values ($\widehat{res}_{t-1}^{LSO}$) with the coefficient, δ , close to one⁹ capture the accumulation of reserves between periods (similar to a capital accumulation equation). The desired level of reserves is assumed to follow an autoregressive process that converges to its steady-state value, ($\overline{res}_{ss}^{LSO}$)¹⁰.

19. Currency risk premium is determined by the deviation of international reserves from desired levels:

$$\widehat{prem}_t^{LSO} = \theta (\overline{res}_t^{LSO} - res_t^{LSO}) + \varepsilon_t^{prem,LSO}, \quad d\theta/d(res) > 0$$

Given the role reserves play to provide confidence in the peg, the currency risk premium (\widehat{prem}_t^{LSO})—measured in terms of percentage point deviation from its trend value—depends negatively on the deviation of reserves from desired levels. The risk premium, in turn, impacts the real economy through its impact on market lending rates, indirectly linking the reserve position to the real economy. As reserves fall below desired levels, this applies pressure on lending rates and tightens monetary conditions, implying limited room for independent monetary policy to stabilize output under the peg.

⁸ However, due to structural liquidity in the interbank market and in the absence of adequate short-term liquidity management facilities at the CBL, the CBL policy rate has limited influence on the market rates. That said, should the deviation between the policy rates be large enough, this is likely to put pressure on the peg.

⁹ Inherent dependence of reserves to the expected path of government spending and exchange rate pressures suggests the δ to be less than 1 that ensures stationarity of the model (Schmitt-Grohé and Uribe 2002).

¹⁰ Assessing reserves adequacy for Credit-Constrained Economies (ARA for CCEs) act as a reference point for calibration of the desired level of reserves, which as March-2023 is 4.7 month of import coverage.

20. The South Africa module also has four main equations that link Lesotho with the rest of the world. These includes: (i) investment-saving (IS) curve for the output gap; (ii) an open economy forward-looking Phillips curve for inflation; (iii) an uncovered interest rate parity (UIP) condition for the exchange rate, and (iv) a forward-looking monetary policy rule. These equations form a canonical small open economy model with inflation targeting and flexible exchange rate and allow for a model consistent specification of Lesotho's external environment. In this way, scenarios featuring external shocks and policy decisions, for example, by the SARB, can be modelled.

Calibration and Estimation

21. Model parameters are largely calibrated. In the absence of sufficient time series for robust parameter estimation and given structural changes in the economy, calibration is commonly used to parameterize semi-structural models of this type (Maehle and others, (2021)). Specifically, the calibration is informed by impulse response analysis, the Kalman filter, and other QPM models.¹¹ The advantage of a calibrated model is that it allows for the inclusion of forward-looking factors rather than reflect solely historical patterns. Moreover, calibration serves to facilitate a deeper understanding of the model's properties.

22. Some parameters of the model are estimated using Bayesian methods (Figure 3). As in Smets and Wouters (2004), for example, Bayesian methodology involves estimating model parameters based on prior density, evaluation of data likelihood given the parameters and the model. The analyst first approaches the data with a set of prior views on the values of the parameters of their model, and then asks whether those views ought to be modified in light of the data at hand.

23. The estimations results show prior and posterior distributions. As the results show, posterior modes for most of the parameters are close to the prior, confirming the calibration values. Coefficient with fiscal impulse in the output gap equation ranges from 0.25 to 0.35, with the mean close to a prior value of 0.3. This suggests relatively lower fiscal multiplier in Lesotho compared to other countries. Relatively low value of fiscal multiplier can be explained by the large size of public spending in Lesotho relative to GDP and thus diminishing return along with large share of historically less inefficient spending.

Impulse Response Analysis

24. The results from simulations confirm the model's desirable properties. To study the model properties impulse responses to policy shocks on (i) the SARB's monetary policy rate, (ii) CBL's reaction on the SARB's policy rate, and (iii) government spending are examined. All variables are expressed as deviations from that steady state and the starting point for each simulation is that steady state. In this way, the starting values of all variables are set to zero when the shock takes

¹¹Calibrated parameters are in part based on other QPM models by Benes (2015), Andrieu (2009), Alichu (2008), and QPM models of South Africa by Botha et al (2017), Steinbach (2015) and Jager (2007).

place. Alongside studying model properties, understanding how shocks propagate through the main transmission channels will be of particular use for policy making.

- **A one percentage point unanticipated increase in the SARB's monetary policy rate, followed by an immediate increase in the CBL's monetary policy rate** (Figure 4). The initial increase in policy rate is transmitted to the market lending rate by the similar magnitude. The real market lending rate increases even more as inflation expectations fall compounding the impact of nominal rate increase on real rates. A higher SARB rate suggests rand appreciating against major trading partner's currencies, leading to short-lived appreciation of Lesotho's NEER and REER by 0.6 and 0.9 of a percentage point, respectively. Higher real rates and a stronger currency result in weaker external demand, which widens the output gap by 0.6 of a percentage point relative to trend and puts downward pressure on inflation and inflation expectations.
- **A delayed (2-quarter) hike in the CBL policy rate following the change in SARB's policy rate** (Figure 5). As Figure A3 shows, the result would be declining international reserves amid mounting pressures on the exchange rate. Falling reserves would affect the currency risk premium, which in turn would raise long-term interest and lending rates. Thus, the CBL's delayed reaction would cause the output gap to widen as the growth falls and risk peg. The results are in line with empirical studies on monetary policy shocks in countries with peg exchange rates. This analysis of this shock highlights the need CBL to follow SARB policy rate within the committed objective to maintain the hard peg to South African rand.
- **A government spending shock is simulated as one percentage point of GDP increase in fiscal deficit** (Figure 6). Aggregate demand increases on impact. However, due to the large import share, the output gap increases only by 0.3 of a percentage point of GDP. Moreover, international reserves fall by 0.5 of a month of import coverage before it recovers as the spending shocks dissipates. Lower reserves, in turn, raise the currency risk premium by almost 0.5 of a percentage point, leading to an increase in market interest rates, which compensates for the positive impact of extra public spending on real growth. Following the initial increase in the output gap, it falls below zero suggesting even lower long-term effects of government spending on economic growth. The negative effect of the fiscal impulse on market rates--and consequently output growth—is stronger the lower the reserves are. Therefore, higher reserve buffers would insulate fiscal policy from affecting the currency risk premium and, subsequently, real economy. In addition, the direct impact of the fiscal impulse on the real economy is muted by spending inefficiencies.

E. A Policy-Relevant Scenario

25. This section examines a composite shock that simulates weaker external demand for Lesotho and tighter global financial conditions (Figure 7). The richness and flexibility of the framework is demonstrated using a scenario where (i) the output gap in South Africa widens by 1 percentage point, and (ii) the U.S. Fed funds rate is higher by 0.5 of a percentage point for two quarters. This is a counterfactual scenario designed to capture SARB's policy choices. The SARB's

monetary policy reaction function is endogenously determined and reflects trade-offs between the country's growth and inflation objectives. The relevance of SARB's monetary policy reaction on Lesotho is key, given that the CBL follows suit.

- **SARB raises rates.** Following the tightening of global financial conditions, SARB—anticipating FX pressures and the resulting impact on inflation—raises the rate but to a lesser extent than inflation expectations, as the output gap widens on the back of the domestic shock. The nominal exchange rate depreciates while its impact on the real effective exchange rate is relatively muted, as inflation rises compared to the rest of the world.
- **SARB lowers rates.** If SARB eases monetary policy, the exchange rate adjusts to account for lower demand, thus allowing relatively higher inflation and a somewhat muted demand shock. However, inflation pressures (due to oil and food prices, unanchored expectations or power outages) might limit the scope for monetary policy easing as further depreciation in exchange rate may endanger inflation target and elicit wage adjustments. In this case, the external demand shock to Lesotho will be more severe. To restore competitiveness, fiscal adjustment would be advisable by limiting wage growth below inflation and thus increase productivity.
- **Fiscal space.** The room for fiscal stimulus to help prop up domestic demand would depend on the level of reserves and the efficiency of spending. The optimal policy mix might require a combination of adjustment to the shock and structural reforms to improve spending efficiency.

F. Policy Implications

26. This framework has allowed for the modelling of external shocks and their impact on the Basotho economy. In this way, monetary and fiscal policy analysis can be enriched by accounting for linkages with South Africa and their impact on reserves and the domestic output gap. The scenarios demonstrate policy trade-offs in response to shocks, for example, between accumulating reserves and providing space to fiscal and monetary policy to stabilize output. Given the frequent and often large shocks hitting the economy, understanding how monetary and fiscal policies interact—and what policy trade-offs are involved—are key for designing the optimal policy mix.

27. The model highlights that while the peg insulates domestic monetary policy from political interference and thus lends credibility to the price stability objective, it amplifies the transmission of external (South African) shocks. It also increases Lesotho's exposure to developments in international markets despite limited market access and integration with the rest of the world. The model shows that fiscal policy affects the output gap through two channels: (i) directly by changing the aggregate demand; and (ii) indirectly by exerting pressure on reserves because of leakage on imports and affecting currency risk premium and lending rates. Fiscal multiplier is estimated to be weak. The scenario analysis show that precautionary reserve buffers enhance autonomy of fiscal policy to stabilize the output gap. In an environment with stretched

reserves and without independent monetary policy, domestic shocks are found to be prolonged and severe.

28. Effective coordination of fiscal and monetary policies in the context of a currency peg in a small open economy such as Lesotho also requires forward-looking analysis. Changes in the fiscal policy affect the economy with a time lag. Thus, the fiscal policy response in the face of a shock should be based on macroeconomic forecasts. Similarly, setting an optimal target for international reserves should be guided and conditioned on fiscal policy.

G. Key Results

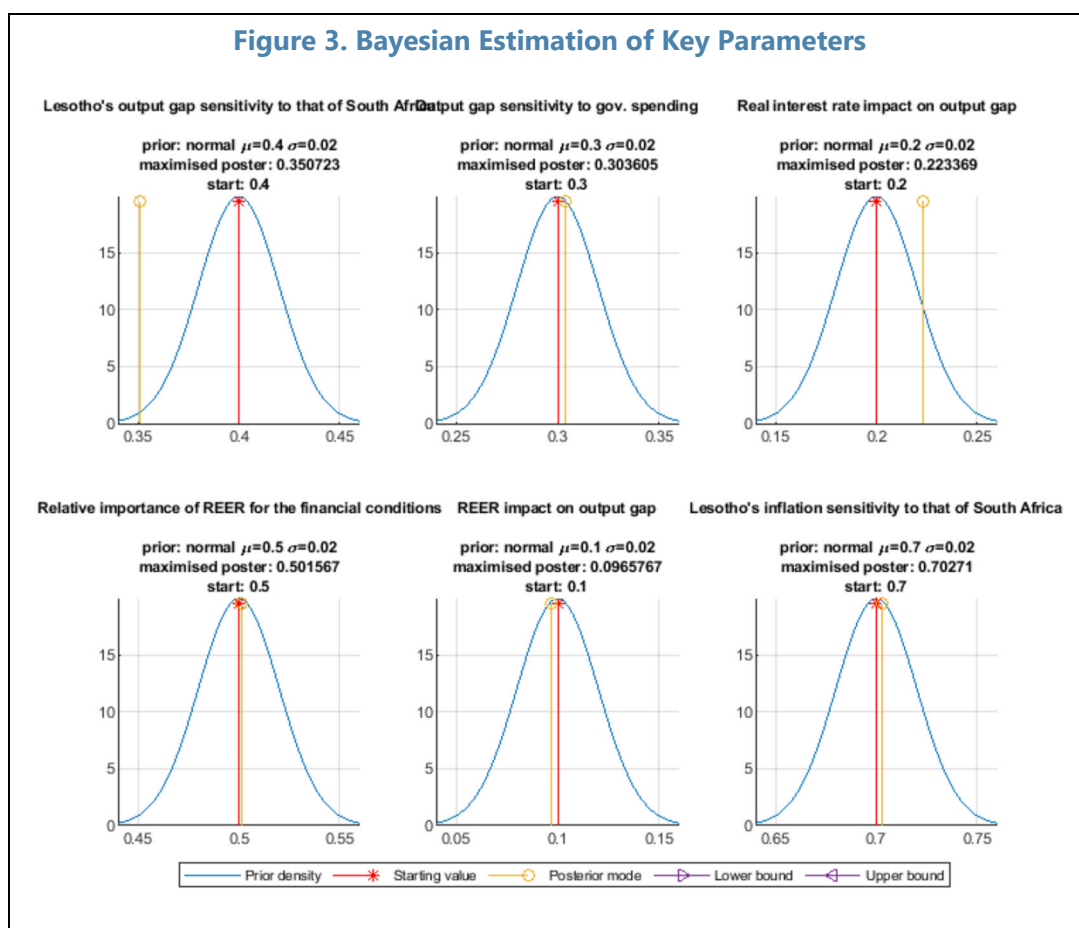


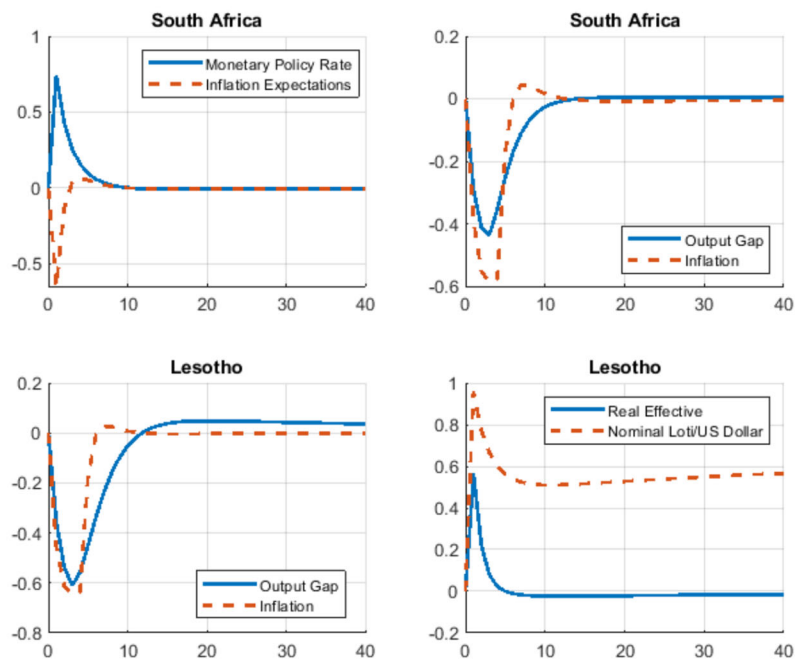
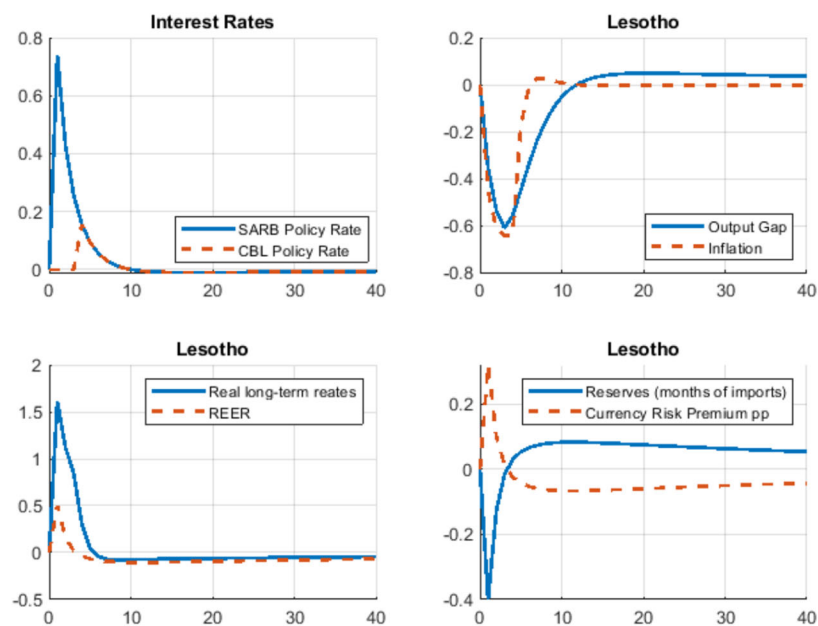
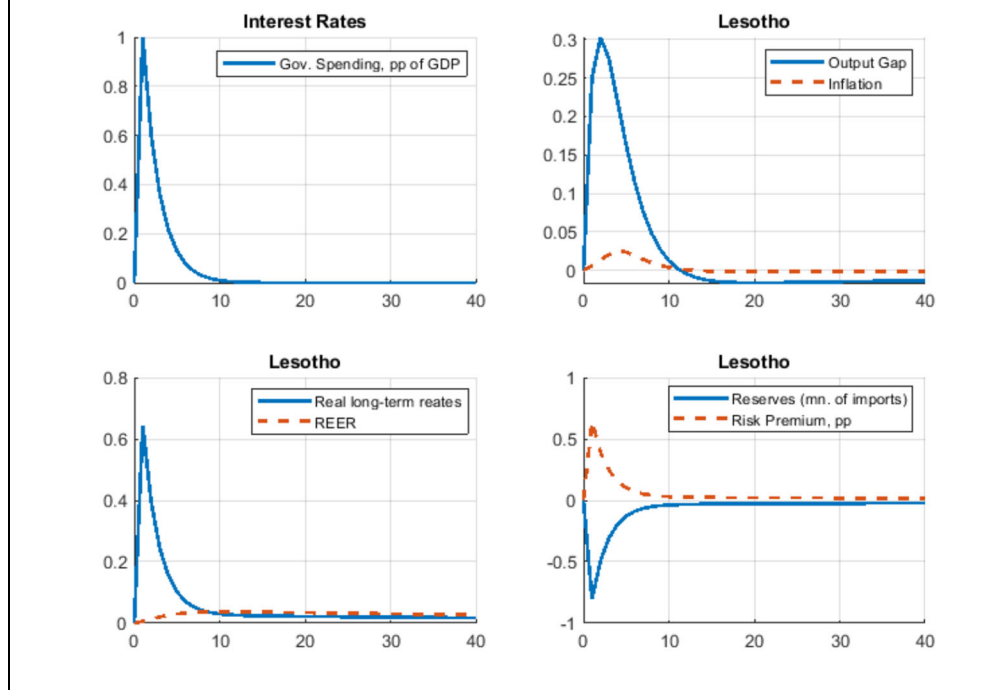
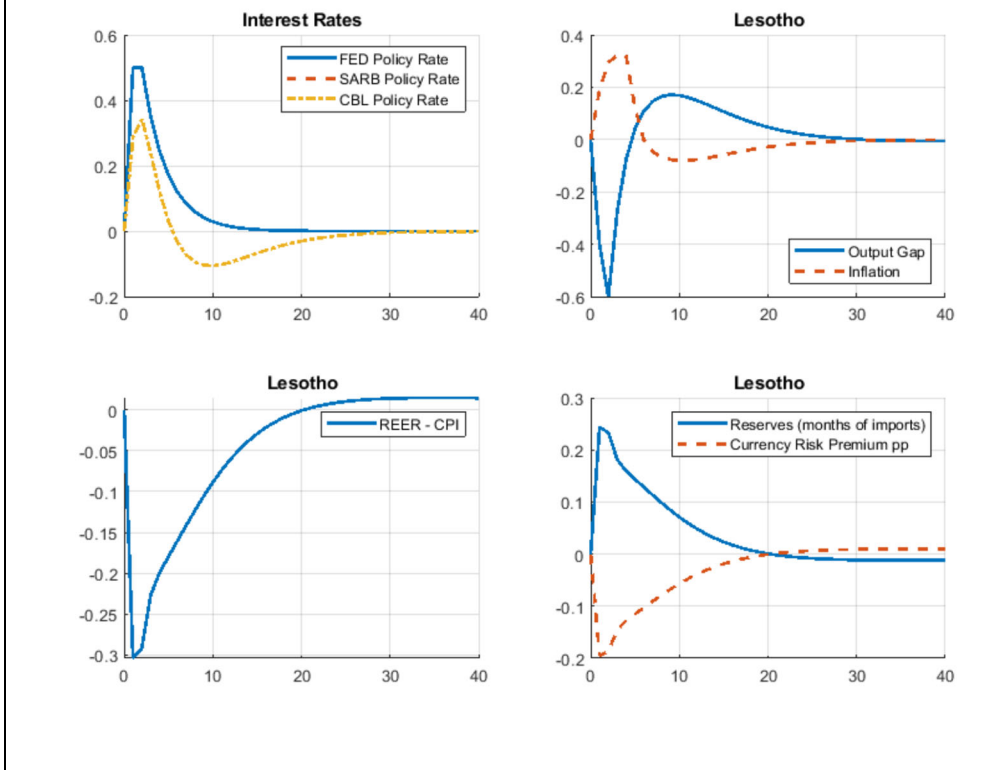
Figure 4. A South African Monetary Policy Rate Shock**Figure 5. A Delayed Monetary Policy Response Shock**

Figure 6. A Government Spending Shock**Figure 7. A Composite Shock: Weaker Demand and Higher U.S. Fed Funds Rate**

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HANDING THE REINS OF GROWTH TO THE PRIVATE SECTOR¹

A. Introduction

1. An oversized public sector has distorted resource allocation across domestic labor and financial markets. With one of the largest public sectors in sub-Saharan Africa (SSA), averaging 30 percent of GDP (2007–22), the economy has long been driven by public expenditure or publicly administered investment in infrastructure megaprojects. For instance, the government’s significant stakes in key corporations—both directly and indirectly via state-owned enterprises (SOEs or “parastatals”)—has meant the government has continued to exert a degree of control over key sectors in the economy, especially as many of these businesses have failed to increase productivity and turn a profit (Figure 1, panel 1). The civil service, which employed about 14 percent of the labor force in 2017/18, has remained the main source of salaried professional employment, competing with the private sector for qualified workers.

2. Consequently, Lesotho lags its neighbors within the Southern African Customs Union (SACU) across a range of financial development indicators. Even if it performs better than the SSA average, financial development is much lower than the SACU countries. Financial access is particularly limited, with 41 percent of adults owning a bank account and only 4 percent borrowing from banks. In addition, overall development of capital markets is at an early stage. And key indicators of financial depth such as broad money as share of GDP also show that Lesotho lags other SACU members (Figure 1, panels 2–4).

3. Overall credit to the private sector has been volatile and declining since 2004, and much lower than in neighboring countries. As a share of GDP, bank loans to the private sector have been three times smaller in Lesotho (20 percent) than in South Africa and Namibia (60 percent on average). Lending volatility has increased slightly in recent years: following a sharp decline during FY20/21, growth of credit to the private sector increased as the economy reopened before decelerating once again in 2022 (Figure 1, panels 5 and 6).

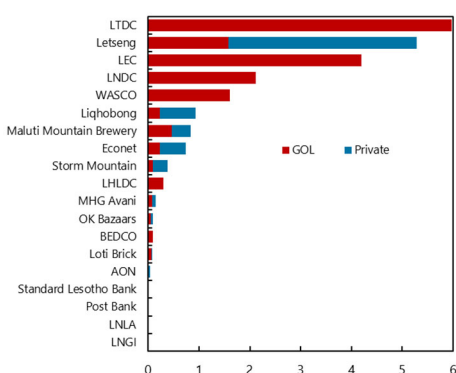
4. This paper investigates the impact of a large public sector on private investment and the urgent need to handover economic activity to the private sector to promote inclusive growth and reduce the fiscal burden. Section B reviews constraints to private sector development followed by a look at policies to address them in Section C. Section D explores investment opportunities and concludes with some policy recommendations.

¹ Prepared by Habtamu Fuje.

Figure 1. Public Sector Dominance, Financial Development and Depth, and Credit to the Private Sector

The government holds significant stakes in multiple large businesses.

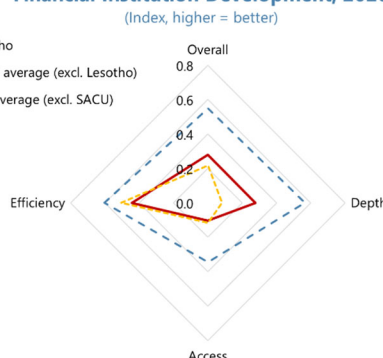
Share of GoL in large businesses and SOEs, 2018
(LSL billions, 2018)



Sources: MoFDP and IMF staff calculations.
Note: LTDC=Lesotho Tourism Development Corporation; LEC=Lesotho Electricity Company; LNDC=Lesotho National Development Corporation; WASCO=Water and Sewerage Company; LHLDC=Lesotho Housing and Land Development Corporation; BEDCO=Basotho Enterprises Development Corporation; LNLA=Lesotho National Life Assurance; and LNGI=Lesotho National General Insurance.

Lesotho's financial development lags other SACU countries...

Financial Institution Development, 2020
(Index, higher = better)



Sources: IMF Financial Development Index Database and staff calculations.

... with much less developed financial markets.

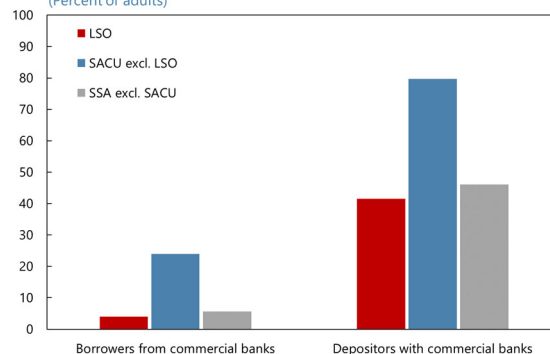
Financial Market Development, 2020
(Index, higher = better)



Sources: IMF Financial Development Index Database and staff calculations.

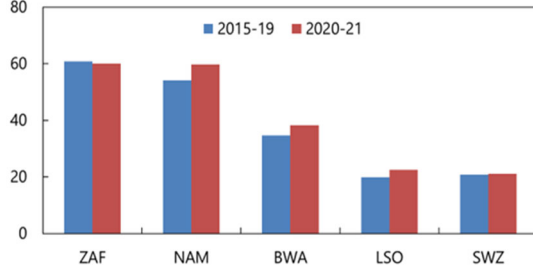
A small fraction of adults managed to borrow from banks.

Borrowers/Depositors from Commercial Banks
(Percent of adults)



Credit to the private sector as a share of GDP remained low, before and after the COVID-19 pandemic...

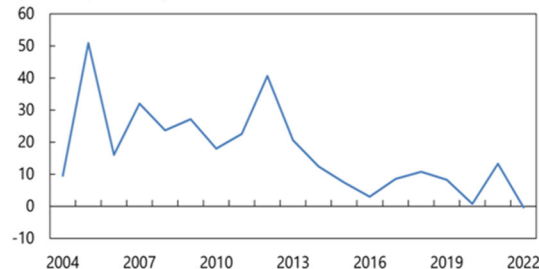
Credit to the Private Sector
(Percent of GDP)



Source: Monetary and Financial Statistics, and IMF staff calculations.

...and its growth has been volatile and declined in recent years.

Growth of Credit to the Private Sector (2004-22)
(Percent, Y-on-Y)



Sources: Monetary and Financial Statistics, and IMF staff calculations.

B. Distortions in the Provision of Private Sector Credit

5. The lion's share of private credit is extended to salaried professionals for personal and mortgage loans, leaving only a small fraction for businesses (Figure 2, panel 1). According to the most recent household budget survey, just over 6 percent of Basotho report receiving loan from formal sources, for example, banks, microfinance institutions, insurance, and savings cooperatives. On the other hand, access is several times higher among salaried employees, who typically work in the public sector. For example, over 20 percent of professionals, legislators, senior officials, and managers reported receiving bank loans. This is much higher than the 3.3 percent reported among those that are self-employed. This is indicative of the high collateral requirements for MSMEs, whereas financial institutions are able to use salaries—and a history of high and rigid public sector wage bills—as collateral for loans, with PAYE systems allowing for the direct debit of interest payments at source.

6. Almost 98 percent of bank loans received by households went to personal use, not business. Loans have typically been used for personal consumption and mortgages, with repayments deducted at source from salaries.² As a result, the bulk of private credit is leading to growing household indebtedness and directed to unproductive activities with minimal growth returns for the broader economy (Figure 2, panel 2). This also exposes the financial sector to the balance sheets of households, risking a sharp increase in non-performing loans during a downturn.

7. Even after accounting for socioeconomic background, professional employees were more likely to receive loans than the general population. The results from a logistic model of access to bank loans—conditioned on household characteristics and professional employment (of the household head)³—show that the probability of securing a loan is much higher for professional workers and senior government officials (Table 1). Professional employees are, for example, 18 percent more likely of securing bank loans than others with similar characteristics but are not salaried employees. Public officials are also 13 percent more likely to secure bank loans (Table 1).

8. As a result, credit to businesses has remained low, averaging 28.5 percent of the total bank credit extended during 2019–22 (Figure 2, panels 3). The disproportionately high lending for consumption and housing is crowding out MSMEs seeking to finance their investments but lacking

² Anecdotal evidence suggests that salaried workers take out personal loans with the intention of investing in MSMEs, but there is limited data corroborating this rechanneling of funds.

³ Specifically, we run a logistic regression of an indicator for access to bank loans by household i on the household head's occupation status (and a set of control variables) as follows:

$$Y_i = \alpha + \gamma \text{Professional}_i + X_i' \beta + \varepsilon_i$$

where the dependent variable (Y_i) is a dummy equal to one if household i has access to bank loans, and zero otherwise. Professional_i is a dummy that takes a value of 1 if the household head is a salaried employee and zero otherwise, and, in a separate specification, it takes different values to distinguish the professional ranking of the head's employment as per the UN's International Standard Classification of Occupations (ISCO), shown in Table 1. X_i is a vector of individual and household characteristics, including household size, number of children and working age adults, household head's gender, age, age squared, employment status, wealth quintile, and residence in the capital city, Maseru.

the necessary collateral. Business loans are also concentrated in a few sectors: construction and real estate businesses accounted for around 40 percent (2021–22), followed by wholesale and retail trade businesses (21 percent) and mining (17 percent) (Figure 2, panel 4).

9. Where MSMEs have been able to secure credit, borrowing costs are prohibitively high.

Spreads between deposit and borrowing rates in Lesotho are the highest among SACU members, albeit below SSA average (Figure 2, panel 5). With most major banks operating across the border, this enormous difference in spreads between South Africa and Lesotho underscores that private investors on this side of the border are disadvantaged. Some business owners that operate in both countries find it is easier to borrow in South Africa and use it for investments here in Lesotho. Besides, deposit rates are much lower compared to lending rates, which have decreased in 2020–21, likely due to low demand during the pandemic (Figure 2, panel 6).

Table 1. Lesotho: The Probability of Securing Bank Loans much Higher for Professional Workers and Legislators

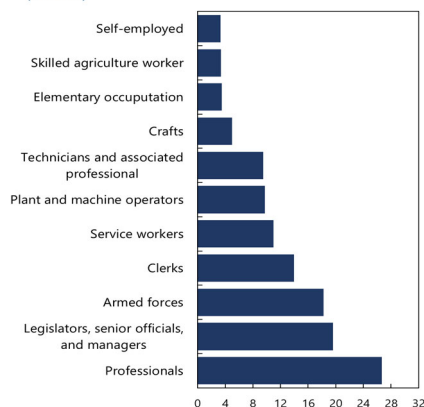
	<i>(Logistic regression)</i>			
	(1)	(2)	(3)	(4)
	Logit	Marginal Effects (Probability)	Logit	Marginal Effects (Probability)
Salaried Employees				
<i>(Relative to self-employed)</i>	0.56*** (0.16)	0.02*** (0.01)		
Individual Professions				
<i>(Relative to self-employed)</i>				
Professionals			1.84*** (0.28)	0.18*** (0.05)
Legislators, senior officials, and managers			1.49*** (0.38)	0.13** (0.05)
Armed forces			1.36 (0.86)	0.11 (0.11)
Service workers			0.95*** (0.27)	0.06*** (0.02)
Clerks			1.04** (0.51)	0.07 (0.05)
Technicians and associated professionals			0.66 (0.42)	0.04 (0.03)
Plant and machine operators			0.74*** (0.28)	0.04** (0.02)
Skilled agriculture workers			-0.03 (0.26)	-0.00 (0.01)
Crafts			0.13 (0.31)	0.01 (0.01)
Constant	-7.76*** (0.84)		-7.26*** (0.83)	
Observations (Households)	4251	4251	4251	4251

Sources: Household Budget Survey (2017/18) of the Bureau of Statistics and IMF staff calculations.

Figure 2. Bank Lending in Lesotho

Most loans go to salaried professionals, including civil servants, ...

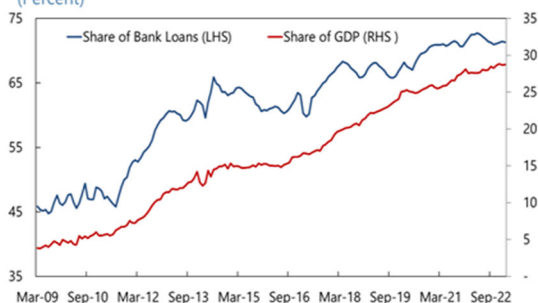
Received Bank Loans, 2017/18
(Percent)



Sources: Household Budget Survey 2017/18 of the Bureau of Statistics, and IMF staff calculations.

...leading to persistent increases in household debt.

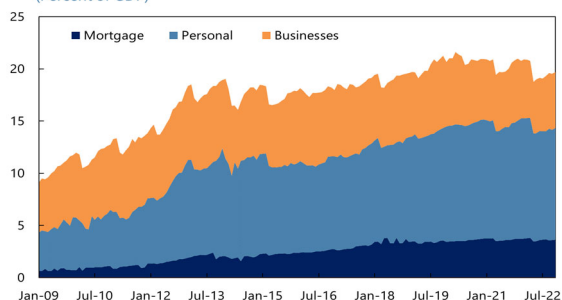
Households Debt
(Percent)



Source: Central Bank of Lesotho, and IMF staff calculations.

Personal loans dominate business lending....

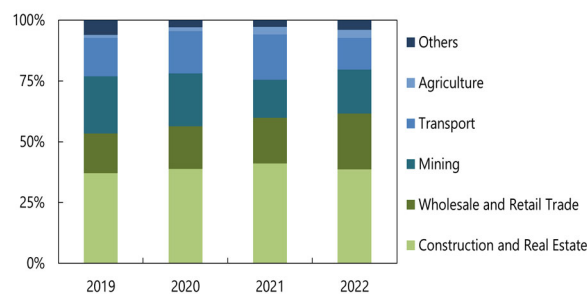
Composition of Commercial Bank Loans and Advances
(Percent of GDP)



Sources: Central Bank of Lesotho, and IMF staff calculations.

...to construction and retail.

Commercial Bank Loans to Businesses Across Sectors, 2021-22
(Percent)

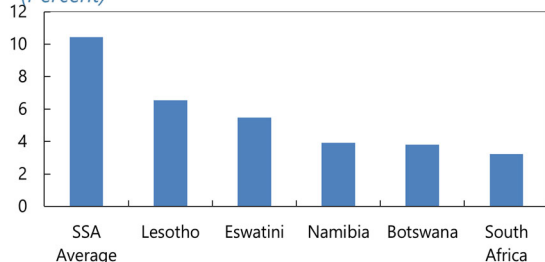


Source: Central Bank of Lesotho, and IMF staff calculations.

Note: "Others" includes Community Services, Electricity, Gas and Water, and Manufacturing.

Prohibitive costs of borrowing...

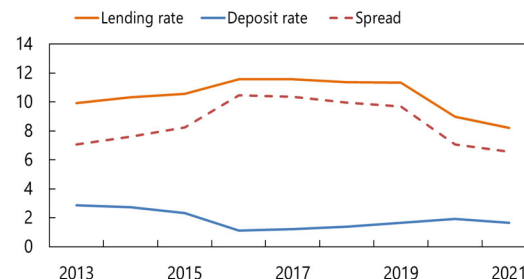
Spread Between Deposit and Lending Rates, 2021
(Percent)



Sources: World Development Indicators, and IMF staff calculations.

...and diverging deposit and lending rates.

Deposit and Lending Rates, and Spreads in Lesotho
(Percent)



Sources: World Development Indicators, and IMF staff calculations.

C. Other Constraints to Private Sector Development and Growth

10. Beyond the dominance of the public sector, other constraints exist that must be addressed to facilitate the growth handover to the private sector. Data from the most recent World Bank enterprise survey in 2016 is used to ascertain characteristics of the country's business environment and assess business views on obstacles to growth and performance. The survey covered 150 enterprises, split equally across manufacturing and services, which identified several barriers that limit their operations.⁴ Key constraints flagged included access to finance, high taxes, informality, crime and theft, limited infrastructure, and trade logistics challenges.

11. Firms identified high taxes and competition from informal businesses as two of the biggest constraints to growth. One in five enterprises identified high taxes as a significant obstacle, a much larger proportion compared to firms in other SACU countries (Figure 3, panel 1). Despite the relatively competitive tax regime in Lesotho—for instance, the current statutory corporate tax is lower than other SACU members and the standard VAT rate (15 percent) is broadly aligned with neighbors—when combined with the high degree of informality, formal businesses are forced to compete on unlevel playing field, which is undermining performance.

12. Access to finance is another major constraint for Basotho businesses. When we look at the investment financed by banks, foreign firms and those engaged in manufacturing were able to finance a larger share of their investments through bank loans. Of the firms covered by the enterprise survey, a quarter (24 percent) of medium-sized enterprises (with 20–99 workers) managed to finance their investments through loans, compared to only a fifth of small businesses (with fewer than 20 employees). A smaller share (12 percent) of large businesses with more than 100 employees tended to finance their investments via the domestic banking system, given the likely use of loans from overseas parent companies.

13. Basic domestic infrastructure is also lacking. Insufficient water, weak internal transportation network, and unreliable electricity are identified as key deterrents by more firms in Lesotho than other SACU. Ironically, more than 40 percent of firms reported lack of water as a challenge in country that exports water (Figure 3, panels 2).

14. As a landlocked country, with limited domestic infrastructure, businesses, and exporters face challenges with international trade. Arranging international shipping at a competitive price is much more difficult in Lesotho than other SACU or SSA countries as the topography and the inadequate quality of the domestic transport infrastructure compounds the costs and difficulties faced by exporters (Figure 3, panel 3). Furthermore, inputs are increasingly delayed as cargo vessels making multiple stops before unloading at the Durban port. Anecdotal reports of nontariff barriers, such as ad hoc inspections of goods in transit through South Africa, alongside high transportation costs to Durban, have also added to the pressure on exporters, which at times have had to resort to much more expensive air freight.

⁴ Microenterprises were not surveyed but half of the respondents were small businesses.

15. Challenges to business development also persist as SOEs designed to help tackle them have strayed from their original mandates to identify investment opportunities for MSMEs and promote entrepreneurship.

- The Basotho Enterprise Development Corporation (BEDCO) maintains a series of “estates”, which are available to businesses to rent for use. However, access is not based on the evaluation of business viability or development goals. Instead, BEDCO’s focus has shifted to maintaining its bottom line and securing its survival as a profitable, viable entity. At the same time, job creation through projects designed by BEDCO has been limited: in FY22/23 only 500 jobs were created at a cost of LSL14 million.
- The four key interventions of the Lesotho National Development Corporation (LNDC)—the partial credit guarantee scheme (PCGS), the project preparation (PPF), the quasi-equity fund (QEF), and the trade finance instrument (TFI)—have proven ineffective so far. For example, a total of only LSL50 million worth of projects have been guaranteed by the PCGS, as lenders see little value in the government guarantee. The LNDC’s pipeline of projects have also stalled, while new industrial zones are yet to be completed.
- The lack of clarity as to where the role of the LNDC starts and BEDCO’s ends has created additional challenges for targeted private sector assistance. Overlapping mandates have led to inefficiencies and uncertainty.
- The Lesotho Tourism Development Corporation (LTDC)—which has significant assets under ownership—has also so far made limited inroads developing tourism opportunities domestically. Coordination setbacks with the Lesotho Highlands Development Authority (LHDA) have halted development at sites associated with the Lesotho Highlands Water Project, for example, in and around reservoirs. More generally, tourism potential remains underutilized due to weak infrastructure and the lack of a clear strategy to support the sector.

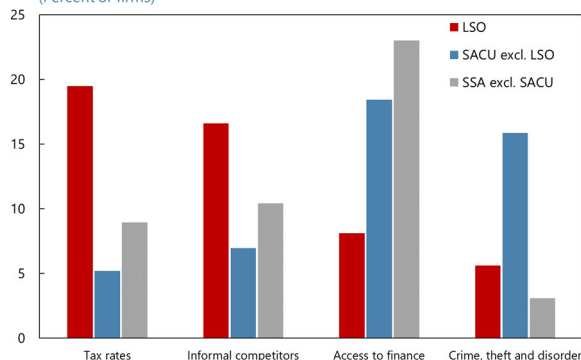
Figure 3. Results from World Bank's 2016 Enterprise Survey for Lesotho

High taxes, informality, limited access to finance, and trade logistics were identified as the biggest obstacles for businesses.

Lack of basic infrastructure hinders domestic operations.

Top 4 Obstacles for Firms in Lesotho, 2016

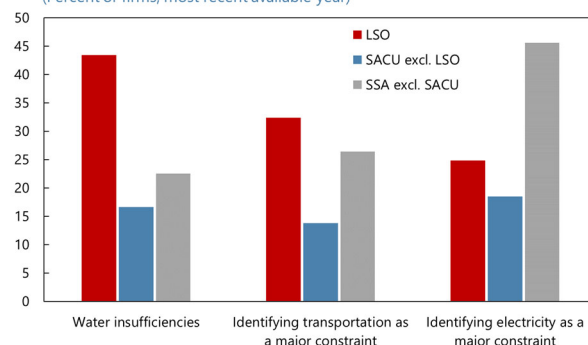
(Percent of firms)



Sources: World Bank Enterprise Survey, and IMF staff calculations.
Notes: The survey was conducted at the height of political turmoil in 2016 and hence political instability was identified as the main obstacle, excluded from the graph.

Infrastructure Challenges

(Percent of firms, most recent available year)

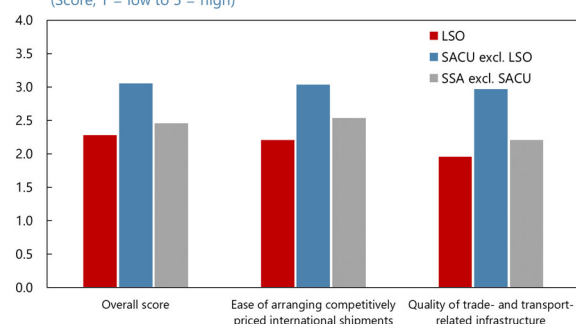


Sources: World Bank Enterprise Survey, and IMF staff calculations.

Logistic challenges undermine the export sector.

Logistics Performance Index

(Score, 1 = low to 5 = high)



Sources: World Bank Logistics Performance Index (LPI) database and IMF staff calculations.
Note: Eswatini does not have data available in the LPI database.

D. Policy Implications

16. A predictable and conducive business environment is critical to attract private investment.

Lack of good governance, including rampant corruption, gaps in the legal framework, weak protection of property rights, differential treatment of domestic and foreign investors as well as dominance of public sector, inhibits private investors from playing a leading role. The Government has taken some promising measures including new e-licensing and e-registration platforms and streamlining of import and export with the help of new procedures. However, the rollout of the e-licensing, which required payment of licensing fees at the Central Bank of Lesotho, has been met with resistance and dissatisfaction from businesses—discouraging, instead of supporting, formalization. In addition, recent measures intended to protect local entrepreneurs from foreign competition in some sectors could discourage foreign owned MSMEs.

17. Revamping the governance of SOEs and their role in private sector development. At present, SOEs do not deliver value for taxpayers' money and are not fulfilling their economic and social policy mandates, as well as operating inefficiently and burdening the budget. This is born out in evidence in other countries where larger state ownership is not the way to achieve faster growth and convergence (IMF 2019). The government should instead avoid allocating scarce public resources in areas where intervention has been proven ineffective. SOE mandates and staff incentives need to be redefined, while transparency of SOE activities is also critical to bolster accountability (IMF 2020).

18. More broadly, the country has an enormous potential for strong private sector participation in a broad range of sectors. The 2020 World Bank report on unlocking the private sector's potential has identified key areas for new investments, as well as existing industries that are vulnerable and would need strengthening.

- **Agriculture.** Ample opportunities, both new and old, exist in the agriculture sector. Given a suitable climate, coupled with abundant water resources, commercial horticulture such as fruit and vegetable farming, for example, could provide additional income and employment opportunities in rural areas and reduce import costs.⁵ The Millennium Challenge Corporation's (MCC) second compact, which includes a large investment in horticulture (US\$118 million) with a focus on high-value crop production, would facilitate leveraging the sector's potential. Another promising area in the agricultural sector is livestock herding, including sheep and goat, poultry, dairy, and freshwater fishery. For the latter, the huge water reservoirs created in the Lesotho Highlands Water Project (LHWP) dams provide added opportunity for commercial fishery. A growing medical cannabis industry has enormous potential to attract direct investment (FDI) and generate revenue.⁶ To tap the full potential of the sector, key constraints need to be addressed by boosting the use of modern inputs, identifying readily available suitable land for agrobusinesses, creating a productive link between investors and host farming communities, and supporting integration into the global value chains through better logistics.
- **Tourism.** The country's diverse cultural heritage and unique topography makes it attractive for inimitable touristic activities, including skiing, hiking, adventure tourism, and cultural sightseeing. Tourism that supports local economic activities and benefits the host destinations could have enormous benefits, beyond just garnering tourism receipts. However, addressing infrastructure challenges, including lack of transportation and accommodation facilities, is crucial for the sector's growth in the face of large, attractive tourist destinations in neighboring South Africa.
- **Textiles.** Lack of productivity improvements is harming competitiveness. At the same time, the sector needs to diversify its export destinations and products. However, the industry

⁵ More than 80 percent of fresh fruits and vegetables sold in supermarkets are imported (World Bank 2020).

⁶ A prohibitively high licensing fee (LSL500,000) charged by the Ministry of Health has been identified as a barrier by businesses.

remains a large employer of informal labor. With expiration of the African Growth and Opportunity Act (AGOA) insight, diversification to European and regional markets is crucial. Expanding to related activities, e.g., car seats production, could help create new opportunities. The specific policy recommendations outlined in the 2020 World Bank report are still relevant.

- **Mining.** The diamond mining sector remains an important part of the country's economy. The mining fiscal regime should also be designed in a way to ensure long-term generation of revenue for public use. Meeting this objective requires both a favorable environment for investment in mineral exploration and extraction, to broaden the revenue base, and fiscal terms that secure a competitive share of the returns from individual mines for the public treasury. Therefore, to maximize returns to the sector—for both the business and the public—opportunities to move up the value chain or design mechanisms to tap value further along the chain will need to be identified, particularly given the low-grade and high-cost structure of operations. Letšeng's recent attempts to capture value-added further down the chain through supply and partnership agreements that guarantee a share of the sales of polished diamonds are an innovative step in the right direction. The Mothae mine is another good example, having expanded its processing capacity by 45 percent in 2021 and continuing its cutting and polishing partnerships. However, power shortages in South Africa are a serious threat to mining activity and could potentially disrupt activity and increase costs, reducing margins further in the sector. Energy security is, therefore, an important consideration for this sector, as well as the broader economy.

19. Policy emphasis should also be placed on MSMEs to support job-rich private sector-led growth. Most businesses in Lesotho are MSMEs and in the service sector and, taken together, they are the largest private employers and hence central to job creation (Bureau of Statistics 2016). Integrating MSMEs into value chains and improving their access to finance are key for inclusive growth.

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