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Growth Benefits of Macro-Structural Reforms in South Africa

Andrea Medici, Elmer Li, Marina Tavares, Taehoon Kim and Alexis Meyer Cirkel

SIP/2025/023

IMF Selected Issues Papers are prepared by IMF staff as background documentation for periodic consultations with member countries. It is based on the information available at the time it was completed on January 7, 2025. This paper is also published separately as IMF Country Report No 25/28.

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Growth Benefits of Macro-Structural Reforms in South Africa

Prepared by Andrea Medici, Elmer Li, Marina Tavares, Taehoon Kim and Alexis Meyer Cirkel*

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ABSTRACT: South Africa's economic growth has stagnated over the past decade due to entrenched structural rigidities. This paper examines the impact of reforms addressing shortcomings in governance, business regulation, and labor market on output and employment. The analysis quantifies the potential economic gains from narrowing structural gaps in these three areas relative to peer countries. Reforms in governance and business regulation are found to boost medium-term output by up to 9 percent. Complementary labor market reforms could further bolster these gains and enhance employment. These findings emphasize the importance of a well-prioritized reform agenda to unlock South Africa’s growth potential and generate broad-based improvements in living standards.

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SELECTED ISSUES PAPERS

Growth Benefits of Macro-Structural Reforms in South Africa

South Africa

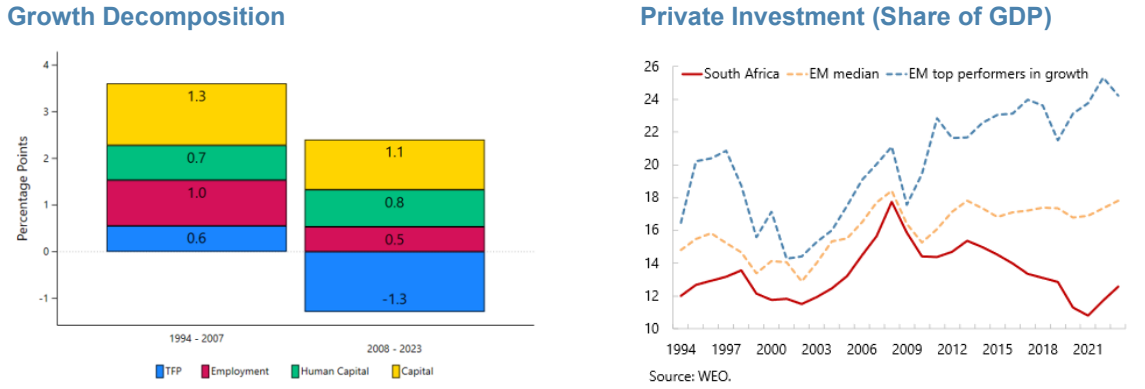
Prepared by Andrea Medici, Elmer Li, Marina Tavares, Taehoon Kim and Alexis Meyer Cirkel

A. Introduction

1. South Africa has been stuck in a low growth trap for more than a decade, reflecting deep-rooted structural rigidities and an inability of policymakers to address them. In the first decade following the end of Apartheid, the economy performed well, with an average annual growth rate of 3.6 percent during 1994-2007. However, growth gradually fell to an average of 1.1 percent in the subsequent years (2008-2023), marked by recurrent infrastructure breakdowns, eroded state capacity, and declining private investment. By 2023, real income per capita had fallen to its 2007 level, with an erosion of living standards for average South Africans. More recent episodes of electricity power shortages and transportation disruptions have further exacerbated the situation, placing South Africa among the emerging markets (EMs) with lowest growth in 2023.

2. The weak growth performance since 2008 reflects a sharp decline in total factor productivity (TFP) growth (Figure 1). Our growth accounting analysis[1] shows that the biggest contributor to the growth slowdown between 2008 and 2023 relative to the 1994-2007 period, was total factor productivity (TFP) growth, which subtracted 1.3 percentage points from overall growth. It has been often argued that this reflects high levels of bureaucracy, red tape, governance deficiencies and corruption during the "state capture" era (2009-2018), and inefficient state-owned enterprises operating in key sectors of the economy. Despite robust population growth, job creation failed to keep pace, with the contribution of employment to growth estimated at around 0.5 percentage points (some 0.5 ppt lower than in the pre-GFC period). Capital accumulation contributed some 1.1 percent to growth (lower by 0.2 ppt relative to the 1994-2007 period).

Figure 1. Growth Accounting and Investment Dynamics



Source: IMF Staff.

3. This paper assesses the structural impediments to growth in South Africa and estimate the potential growth impact of reforms to address them. We employ an econometric framework adapted from Budina et al. (2023)[2]. The cross-sectional data allows us to compare South Africa's performance along several structural dimensions with that of other emerging and developed economies. By correlating improvements in key structural indicators with growth outcomes in our sample of countries, the potential growth

[1] See Annex IV of South Africa's Staff Report for the 2024 Article IV Consultation. OECD Economic Survey: South Africa (2022) presents comparable estimates of TFP growth over 2000–19.

[2] "Structural Reforms to Accelerate Growth, Ease Policy Trade-offs, and Support the Green Transition in Emerging Market and Developing Economies," IMF Staff Discussion Note, Budina et al (2023).

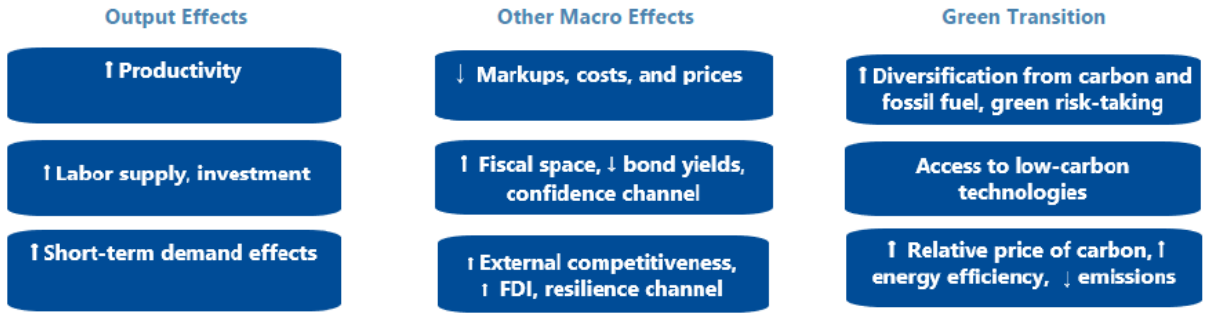
benefits of reforms are derived. The cross-country results are then used to estimate the potential impact on South Africa's economic growth if it were to implement reforms that would bring it closer to best practices.

4. The remainder of the paper is organized as follows. Section B provides an overview of the dataset and methodology. Sections C, D and E discuss key impediments to growth in three key structural areas--governance, business environment, and labor markets--and derive estimated output and employment gains from undertaking reforms in these areas aimed at closing South Africa's gap relative to peers. Section F concludes.

B. Estimating the Impact of Structural Reforms on Output

5. Structural reforms can affect economic growth through multiple channels. Structural reforms can enhance productivity and investment by promoting competition and efficient resource allocation. These "output channels" enable greater labor and capital efficiency and support aggregate demand, which are particularly impactful in emerging markets with structural gaps and subdued growth. Some reforms provide a conducive environment to consumer welfare, fiscal stability and external competitiveness by impacting key macroeconomic variables, such as prices, markups, risk premium and the cost and composition of external financing. Additionally, macrostructural reforms also play a role in the green transition, which enables a shift toward low-carbon sectors through improved governance, regulatory adjustments, and trade reforms (Figure 2).

Figure 2. Selected Transmission Channels of Macrostructural Reforms



Source: IMF Staff.

6. The analysis relies on a cross-country database of structural reform indicators across various macro-structural reform areas. The data covers a sample of 108 emerging markets and developing countries from 2000 to 2021. The reform indexes are sourced from the Fraser Institute and the World Bank's, Worldwide Governance Indicators database. These indicators are categorized into five areas: governance, business regulation, the external sector, credit market regulation, and labor market regulation (Figure 3, 4). The first three areas focus on macroeconomic stability and market-friendly conditions and are referred to as first-generation reforms, as they represent the initial phase of economic reforms for developing or transitioning economies. The last two areas, known as second-generation reforms, aim to address deeper, more structural aspects of the economy, essential for long-term sustainable growth and development.

7. The data indicate that South Africa lags its peers in most aspects of structural reform, particularly in governance, business environment, and labor market regulation. Figure 3 illustrates that

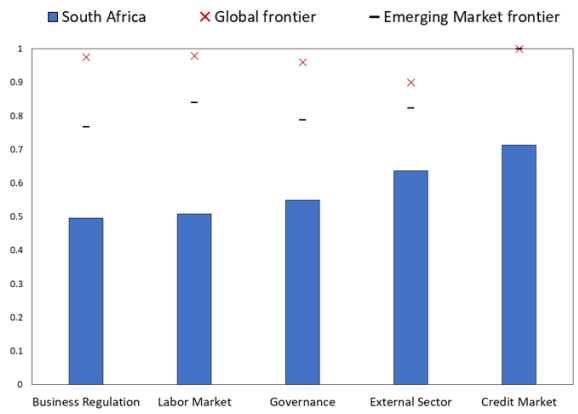
South Africa's performance in all five areas remains well below that of both global and emerging market leaders, highlighting persistent challenges with regulatory frameworks and institutional quality. The shortcomings in governance, business regulation, and labor market efficiency are especially pronounced, and will constitute the focus on the remaining analysis.

8. To assess the potential impact of structural reforms on output, we use the local projection method in a panel data setting: For governance and business environment reforms the following regression specification is used:

$$y_{i,t+k} - y_{i,t-1} = \alpha_i + \lambda_t + \beta_k \Delta GV_{i,t} + \rho_k \Delta BR_{it} + \gamma(\Delta BR_{it} \times I_{it}) + \theta X'_{i,t} + \epsilon_{i,t}$$

where $y_{i,t+k}$ is the log of real GDP (PPP) for country i in year $t+k$, α_i and λ_t denote the country and year fixed effects, which help control for unobservable cross-country heterogeneity as well as common global factors, $\Delta GV_{i,t}$ is the change in the average structural reform score[3] indicator for country i in governance between t and $t-1$, ΔBR_{it} is the change in the average structural reform indicator in business environment and $X'_{i,t}$ is the set of time-varying controls, including lags of the dependent variable, past economic growth, and past reforms.[4] For additional robustness, $X'_{i,t}$ also controls for simultaneous and past reforms in other areas, such as external sector, credit market, and labor market, which could affect the estimated output response. I_{it} denotes a dummy variable to indicate if the country's informal sector is larger than the sample median. Its coefficient, γ captures the difference in effect when implementing the business regulation reforms in a high-informality environment versus a low-informality case.

Figure 3. Distance to the Frontier of Structural Indicators 1/



Sources: Fraser Institute, World Bank's Worldwide Governance. Indicators, and IMF Staff calculations.

1/ Structural indicators range between 0 and 1, where higher values imply more flexible regulation (business regulation, labor, and credit market), higher perceived quality of institutions (governance), and fewer barriers to international trade and capital flows (external sector).

Figure 4. Structural Reform Indicators

Source: Budina et al. 2023.

[3] Each reform area includes multiple sub-indicators, with 1 representing the highest score.

[4] Our specification does not control for qualitative measures such as the quality of investment.

9. As a first step, the coefficients, β_k and ρ_k, which represent the reform multipliers, are estimated using a sub-sample of countries whose structural gaps were similar to South Arica. Specifically, these coefficients are calculated separately for three sub-samples of countries, the first, second, and third terciles, categorized by their level of progress in the first-generation reforms. For this analysis, the estimated reform multipliers for South Africa are obtained whose average first-generation reform scores are in the second tercile where South Africa belongs. In a second step, the structural gaps between South Africa and the leading emerging market performer, $GV_{Frontier,t} - GV_{ZAF,t}$ and $BR_{Frontier,t} - BR_{ZAF,t}$, are multiplied to the estimated multipliers for each year to derive the muti-year impact on the level of real output. A similar methodology is used for labor market reforms, where the regression specification is:

$$y_{i,t+k} - y_{i,t-1} = \alpha_i + \lambda_t + \beta_k \Delta LR_{i,t} + \theta X'_{i,t} + \epsilon_{i,t}$$

where $y_{i,t+k}$ now represents the log of total employment for country i in year $t+k$, and $\Delta LR_{i,t}$represents the change in the average labor market score indicators, with other factors as explained above. The following sections will discuss the impact on South Africa' real output of closing the structural gaps relative to peers in these three areas.

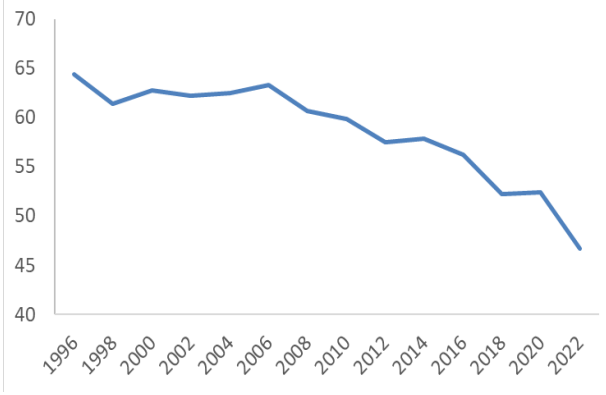
C. First-Generation Reforms: Governance

State of Affairs & Key Identified Impediments

10. Good governance is a foundational element for economic development. It safeguards the rule of law, protecting citizens' rights and fostering trust in institutions. It promotes accountability and transparency in public administration, and quality in governance reduces corruption and enhances citizen confidence. Additionally, effective governance is essential for efficient public service delivery, improving access to vital services such as healthcare and education. Finally, it plays a significant role in promoting social equity, ensuring that all individuals have equal access to opportunities and resources.

11. South Africa's governance has deteriorated markedly over past two decades (Figure 5). According to the World Bank's Worldwide Governance Indicators, while South Africa stood at the 76th highest percentile of countries on corruption control in 1996, it has fallen to around the 45th percentile by 2022. The post-2008 period saw a particularly sharp decline. Deteriorating governance has also been reflected in the worsening performance of the electricity sector over the last 15 years (Hausmann et al 2023), once a source of comparative advantage through cheap and reliable power. Corruption, loss of talent at Eskom (the state-owned electricity company), and declining productivity contributed to this decline. Deeper causes include political gridlock, opposition to private sector participation,

Figure 5. South Africa's Rank Deterioration in Worldwide Governance Indicators
(In percentile rank)



Source: World Bank - The Worldwide Governance Indicators.
Note: Indicator is the simple average of the percentile rank of the six indicators. Percentile rank among all countries (ranges from 0 (lowest) to 100 (highest) rank).

overburdening through preferential procurement rules, and state capture. The crisis culminated in 2023, with massive disruptions to electricity capacity, which severely affected activity.[5]

12. Surging crime rates also reflect weakening governance structures. Economically motivated crimes, particularly violent offenses such as homicides, are alarmingly high. According to the World Bank (2023), the total economic cost of crime can be considerable, encompassing direct losses, protection expenses, and opportunity costs – with an estimated total cost to the economy of about ten percent. Different sectors of society experience these effects unevenly. Businesses incur significant annual costs due to losses and security measures (2.9 percent), undermining competitiveness and growth potential. Households, particularly in urban areas, face substantial expenses (1.3 percent), exacerbating inequality, as poorer families have limited access to protection. While direct costs to state-owned enterprises are notable, the indirect economic impacts from service disruptions are likely even greater.

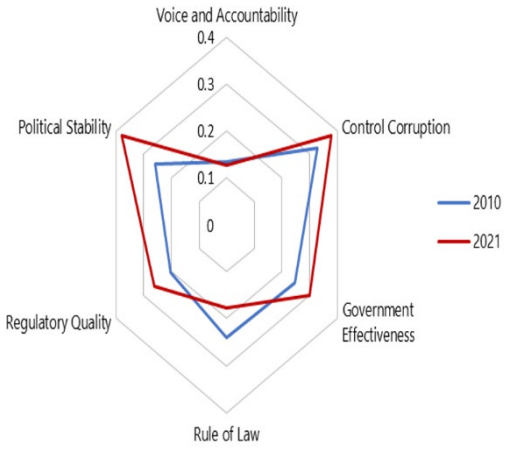
Potential Gains from Governance Reforms

13. South Africa exhibits a significant gap relative to the good governance frontier. Figure 6 plots South Africa's distance to the Emerging Market frontier along six key dimensions (derived from the World Bank's Worldwide Governance Indicator's, WGI), whereby a larger number implies a bigger gap to the frontier. The blue line marks the outcomes in 2010, while the red line shows the outcomes in 2021. Four indicators stand out, where South Africa's gap to the frontier is the largest and has deteriorated since 2010: Political Stability (which measures the likelihood of political instability and/or politically motivated violence, including terrorism), Control of Corruption (which reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand corruption), Government Effectiveness (which assesses the quality of public services, the capacity of the civil service, and its independence from political pressures), and Regulatory Quality (which captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development—this latter indicator includes elements of regulatory environment that in part overlap with business environment indicators discussed in the next section).

14. Closure of the gap can generate a very significant and positive impact on output. Applying the methodological framework detailed in the previous section allows us to estimate the gains from closing South Africa's gap to the governance frontier (where a single governance indicator is computed as the simple average of the six above-mentioned components). As Figure 7 shows, halving the gap to the EM frontier is estimated to lead to an increase in real output by up to 5 percent in two years and 7 percent in the medium term compared to a no-reform scenario. This would imply that adopting ambitious governance reforms in South Africa, particularly to improve government effectiveness, regulatory quality, and control of corruption, where the gap to the frontier is the largest, could boost average medium-term real growth by up to 1.4 percentage points per year.

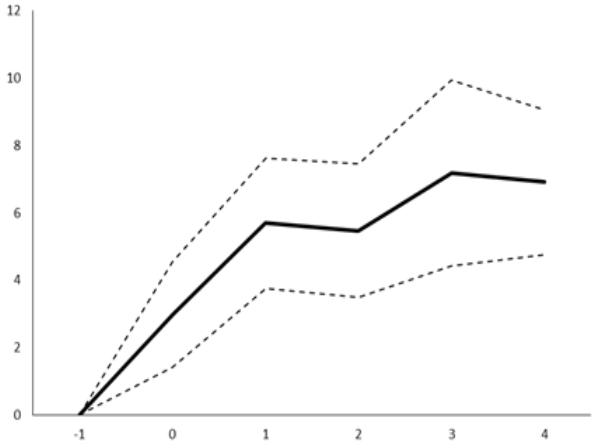
[5] The South African Reserve Bank estimates the impact of loadshedding at between -0.7 and. -3.2 percentage points of GDP growth. See "Reflections on load-shedding and potential GDP," SARB Occasional Bulletin of Economic Notes (2023).

Figure 6. South Africa's Distance to Good Governance Frontier



Source: IMF staff calculations.
Note: For a given year, structural gaps are calculated as the difference in the underlying structural index between the frontier and South Africa. Structural gaps range between 0 and 1, where a lower value implies the country is closer to the frontier, and vice versa.

Figure 7. Gain from Moving Closer to Good Governance Frontier



Source: IMF staff calculations.
Note: t = 0 is the year of the shock. The bars denote the response to an improvement in the underlying indicator which would see South Africa close half of the structural gap to EM frontier. The plotted bands denote 90 percent confidence intervals.

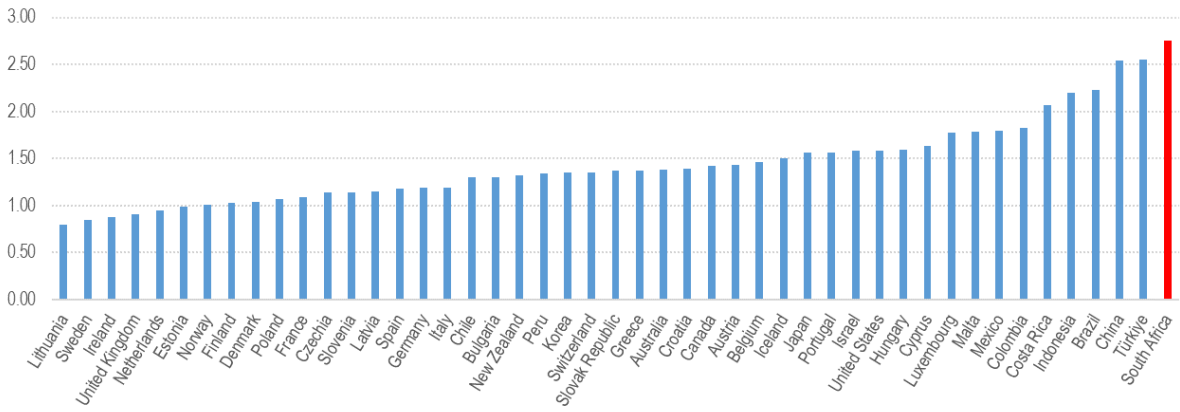
D. First-Generation Reforms: Business Regulation

State of Affairs & Key Identified Impediments

15. Appropriately designed business regulation is essential for the well-functioning of an economy. Business regulation is crucial for ensuring fair competition, protecting consumers, and maintaining industry standards, which can ultimately foster economic stability and public trust. However, excessive, or poorly designed regulations can pose significant risks, such as stifling innovation, increasing compliance costs, and burdening small and medium enterprises (SMEs) disproportionately, potentially leading to reduced economic growth and job creation. Striking a balance between necessary oversight and enabling a thriving business environment is essential for a healthy economy.

16. South Africa stands out as having the most restrictive business environment across all OECD countries (Figure 8). The OECD Indicators of Product Market Regulation (PMR) are a comprehensive, internationally comparable set of indicators that assess how policies promote or hinder competition in viable product market areas. South Africa tops the list of countries according to the OECD's PMR composite indicator. Underpinning this weak performance relative to OECD peers are: (i) burdensome government regulations and administrative procedures that impose costs and complexities on businesses; (ii) high regulatory obstacles that impede competition and market entry in service and network industries; and (iii) ineffective processes to measure the outcomes of regulatory measures and make informed decisions regarding future regulations.

Figure 8. OECD Product Market Regulation–Overall Indicator for 2023



Source: OECD. Note: The PMR are comprehensive and internationally comparable set of indicators that measure the degree to which policies promote or inhibit competition in areas of the product market where competition is viable. They measure the economy-wide regulatory and market environments in OECD economies and key non-OECD economies.

17. Indeed, bureaucracy costs are estimated to be substantial in South Africa. The ILO (Christensen et al. 2016) conducted a study on administrative barriers and regulatory costs for small and medium enterprises (SMEs) in South Africa focusing on two municipalities in the Free State province. The study surveyed 414 SMEs to assess their views on regulations, compliance costs, and suggestions for improvement. The estimated total compliance cost for all businesses in the Free State is 2.7 percent of the province's annual GDP. This estimate should be interpreted with care, given that it is based on a small number of businesses. Still, it is much larger than reported estimated regulatory costs relative to GDP in other countries, such as Finland (1 percent), Iceland (1.3 percent), and in Belgium (1.8 percent).

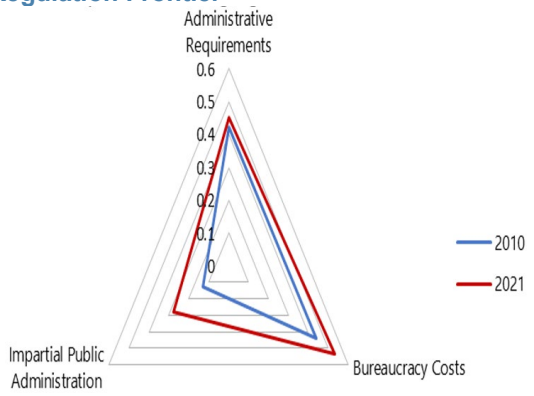
Potential Gains from Business Regulation Reforms

18. South Africa also exhibits a significant gap to the business regulation frontier. Figure 9 plots South Africa's distance to the Emerging Market frontier along three dimensions derived from the Fraser Institute's Economic Freedom of the World database.[6] The data indicates that South Africa's gap is particularly large and has widened since 2010 on two fronts: Bureaucratic Costs, and Administrative Requirements. The "Bureaucracy Costs" indicator captures the extent to which bureaucratic processes and regulations impose costs on individuals and businesses. The "Administrative Requirements" indicator assesses the extent and complexity of administrative processes that businesses must navigate to comply with government regulations. This indicator is essential for understanding how regulatory frameworks can either facilitate or hinder economic activity and entrepreneurship. Finally, the "Impartial Public Administration" indicator measures the extent to which government institutions operate fairly, transparently, and without bias in their dealings with individuals and businesses (to some extent, this indicator captures broader aspects of governance). While the gap on Impartial Public Administration is relatively less pronounced than for the other two dimensions, the worsening of performance since 2010 is notable (and in line with the observation of deteriorating governance discussed in the previous section).

[6] The OECD includes detailed sub-indicators for product market regulations for South Africa. We use Fraser Institute data for its broader coverage of developing countries.

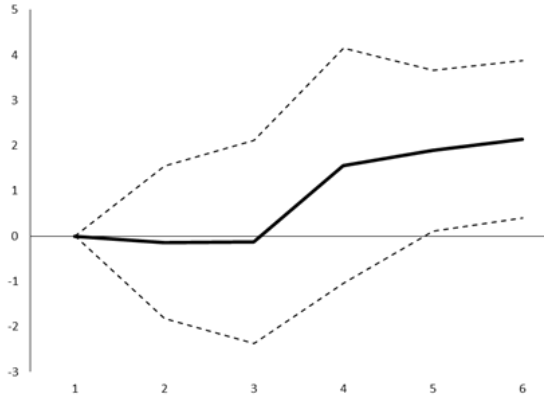
19. Closing the gap to the frontier could generate material output gains. Reforms aiming to close 50 percent of South Africa's gap relative to the EM frontier on business regulations can boost real output by around 2 percent in the medium run relative to a no-reform scenario (Figure 10). These results are conditioned on a low level of informality, as is the case in South Africa (see next section). In contrast to governance reforms, which can be impactful in the near term (possibly due to announcement effects and improvements in trust, which can bolster broader confidence in the government and its reform efforts, as noted above) business regulation reforms require more time for output gains to materialize. This is likely because companies can only gradually internalize the regulatory changes and modify their investment decisions. While the medium-term gains from these reforms appear relatively lower than for governance reforms, as noted above, there are overlaps between the two sets of indicators, making it difficult to fully disentangle their separate impacts (see para 19 below).

Figure 9. South Africa's Distance to Business Regulation Frontier



Sources: World Bank and IMF staff.
Note: For a given year, structural gaps are calculated as the difference in the underlying structural index between the frontier and South Africa. Structural gaps range between 0 and 1, where a lower value implies the country is closer to the frontier, and vice versa.

Figure 10. Output Gains from Business Regulation Reform

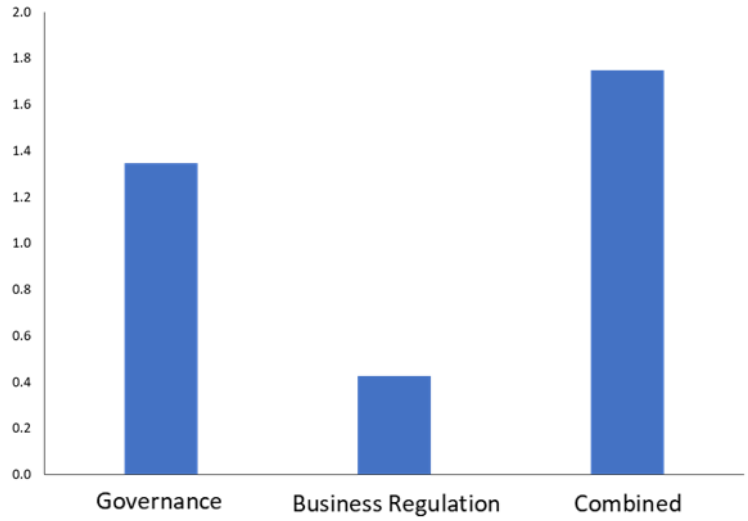


Sources: Fraser Institute; and IMF staff.
Note: t = 0 is the year of the shock. The bars denote the response to an improvement in the underlying indicator which would see South Africa close half of the structural gap to EM frontier. The plotted bands denote 90 percent confidence intervals.

20. A package comprising both business regulation and governance reforms can boost real output by up to 9 percent in the medium term (Figure 11). When combining these reforms, the impact on output demonstrates their complementarity. Indeed, governance reforms have been shown to be essential for fostering public trust in institutions, which is vital for achieving social support for broader structural reforms, thus bolstering their impact.[7] In the first two years, governance reforms could lift output by 5–7 percent, while in the following years, the combined effects of business regulation reforms and continuing governance improvements further add to output. In all, such a reform package could boost South Africa's average yearly growth by up to1.8 percentage points relative to a no-reform scenario.

[7] Also see Annex III of the 2024 Article IV for South Africa and Chapter 3 of the October 2024 IMF World Economic Outlook.

Figure 11. Impact of Closing Structural Gaps on Output
(Average yearly p.p. change from closing governance and business regulation gaps to EM frontier by 50% relative to a no-reform scenario)



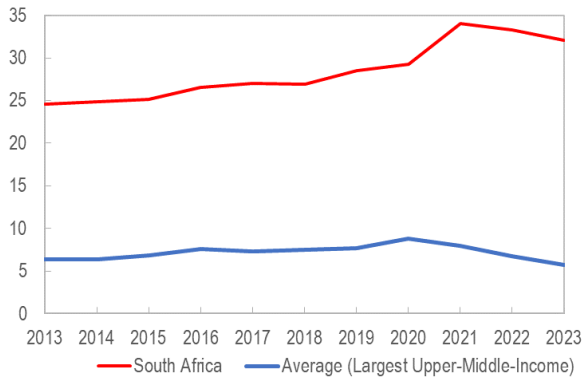
Sources: Fraser Institute, World Bank's Worldwide Governance Indicators, and IMF staff calculations.
Note: The bar charts represent the cumulative impacts on output over a five-year period from governance and business regulation reforms, converted to an average yearly growth rate. It is important to note that these gains are only materialized over the specified horizon of five years and should not be regarded as permanent.

E. Second-Generation Reforms: Labor Market

State of Affairs & Key Identified Impediments

21. South Africa has one of the highest unemployment rates in the world. At close to 34 percent in 2024, South Africa's unemployment rate is second in the world only to Eswatini's, and close to six times as high as the average for the largest upper-middle income countries (Figure12). Moreover, its youth unemployment stands at a staggering 60 percent. Only about 40 percent of the active labor force is in employment, significantly lower than in peers (Figure 13). The overall employment rate makes large differences across geographical lines and racial groups (Figure 14). The employment rate of rural formal homelands is less than half of those in the other region. And the unemployment rate of the black/African population is about four times as high as for whites. Finally, South Africa exhibits relatively lower informal employment opportunities than other EMs, such as Mexico, for example (Figure 15).

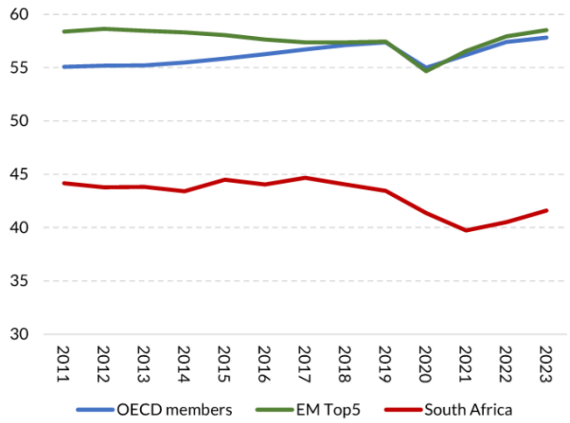
Figure 12. Unemployment 1/
(% of total labor force)



Source: World Bank

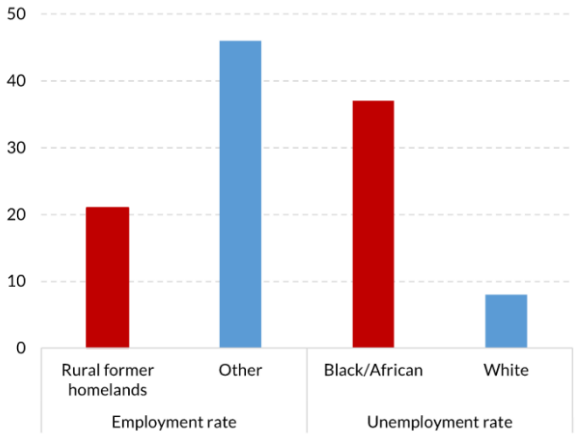
1/ The comparator group refers to the nine most populous Upper-Middle-Income countries (ARG, BRA, CHN, COL, IDN, IRN, MEX, THA, TUR), following the World bank definition.

Figure 13. Employment
(% of labor force)



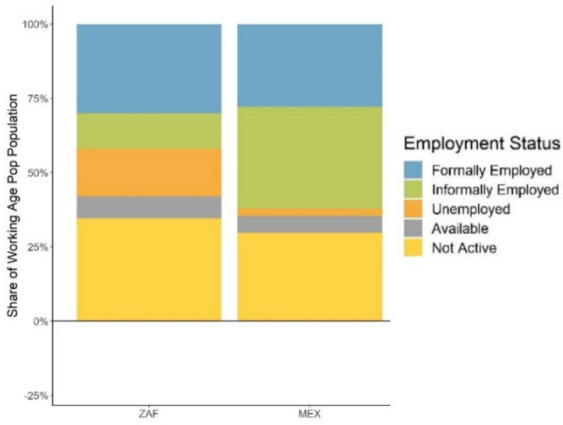
Source: World Bank Development Indicator, ILO Stat, EM Top5 includes China, India, Brazil, Mexico, Russia.

Figure 14. Exclusion Structures



Sources: World Bank Development Indicator, ILO Stat, South Africa OLFS, Shah (2022).

Figure 15. South Africa and Mexico

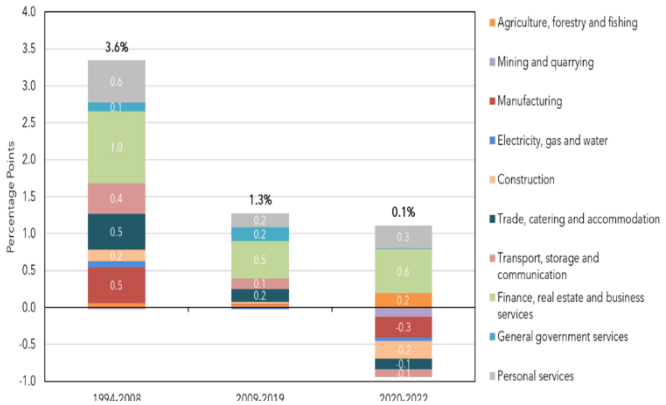


Source: Shah (2022).

22. South Africa is undergoing structural change, with a decline in manufacturing, utilities, and mining jobs, and there is insufficient growth in the service sector to absorb the displaced workforce. The country has experienced declining growth in key sectors, with the economic slowdown driven primarily by declines in utilities, manufacturing, and mining (Figure 16). The weakening of mining began before 2008, despite global commodity prices remaining strong for several years after. Manufacturing has been particularly affected, shedding jobs since 2008 at a pace well beyond what global trends of "premature deindustrialization" can explain. This exceptional deindustrialization is traced to key supply-side constraints, especially the

the intensifying electricity crisis, and high reliance on declining domestic demand. With core sectors of the economy failing to generate jobs, the few jobs that were created tended to be concentrated in three main areas: (i) security services, (ii) household services, and (iii) publicly funded community services. However, South Africa lags in key service sectors that are more effective at generating employment, such as hospitality and retail trade, which may be hindered by high levels of spatial exclusion and crime.[8] Public work programs have created some temporary, lower quality job opportunities. This shift indicates that job creation has moved away from productive, core economic sectors towards service-oriented and publicly supported employment. This pattern suggests a lack of robust job creation in key industries that typically drive economic growth and provide stable, higher-quality employment opportunities (Hausmann et al 2023).

Figure 16. Sector Decomposition of GDP Growth
(Compounded)



Sources: Hausmann et. al (2023).

23. The weak labor market is significantly influenced by both demand and supply factors (Table 1):

- ***On the demand side***, South Africa has introduced strong labor laws and wage bargaining systems in the post-Apartheid period. However, the collective bargaining system lacks key elements that have made sector-level bargaining successful in other countries, such as strong coordination, high trust between partners, representative bargaining parties, and firm-level flexibility. Moreover, South Africa's minimum-to-median wage ratio (90 percent) is almost double the level of peers, which could make it difficult for SMEs to hire workers Finally, South Africa's employment protection legislation (EPL) provides important legal protections against discrimination in South Africa, but its enforcement is burdensome and slow, with outcomes of dispute resolution processes varying widely and creating undue uncertainty for both employers and employees. These factors can affect employers' willingness and ability to hire workers, in particular start-ups and SMEs, which may also encounter more regulations. These firms also tend to have less access to credit, with only 5 percent of South African firms holding loans or credit, which makes it even more difficult for them to create jobs. Moreover, due to its labor market composition, South Africa is more exposed to routinization, given its higher share of jobs with standardized and repetitive task. This exposure makes the country particularly vulnerable to automation and trade shocks, as already shown in Figure 16.

- ***On the supply side***, the post-Apartheid legacy of high commuting costs and spatial exclusion discourage search and mobility (Box 1). While the relatively high level of social assistance in South Africa is essential to address the high poverty rate and mitigate excessive inequality, it may act as a deterrent to seeking employment. Indeed, a micro-data probit analysis suggests a significant negative association between the welfare grant and employment (Annex). While South Africa's education level is comparable to peers in terms of years of schooling, our micro-data empirical analysis indicates that it is positively (and significantly) associated with employment, albeit having a high school education may lower employment

[8] For instance, compared to Mexico, urban employment in hospitality and retail trade sectors in South Africa is 4 percent lower, driven by the lack of informal employment.

outcomes (even compared with less schooling).[9] Moreover, skills mismatches are prevalent, further constraining the labor market; according to OECD (2022),[10] South Africa faces significant worker underqualification, with rates that are 10 percentage points higher than the OECD average and nearly 2 to 2.5 times the rates in Mexico and Brazil.

Table 1. South Africa: Quantifications for Demand and Supply Side Variables

	Indicator	Year	ZAF	EM Top	Range
Supply (on workers)					
Education	Years of schooling	2020	10.5	9.3	[7,8 - 11.6]
Commuting costs	Rural road transport expense share	2010	5.3%	1.9%	[0.5% - 3.3%]
Grants	Social assistance/GDP	2015	3.3%	1.4%	[0.7% - 1.9%]
Demand (on firms)					
Firm entry	Firms with loan or credit	2009-22	5%	37%	[11% - 59%]
Bargaining, EPL	Flexibility of wage determination	2019	3.5	4.9	[4.3 - 5.7]
Dispute resolution	Firms citing court as biggest obstacle	2009-22	2.6%	1.0%	[0.1% - 2.0%]
Min wage	Min/med wage	2017	90%	52%	[20% - 76%]
Routinization	Routine exposure index	2018	0.9	0.6	[0.3-0.9]

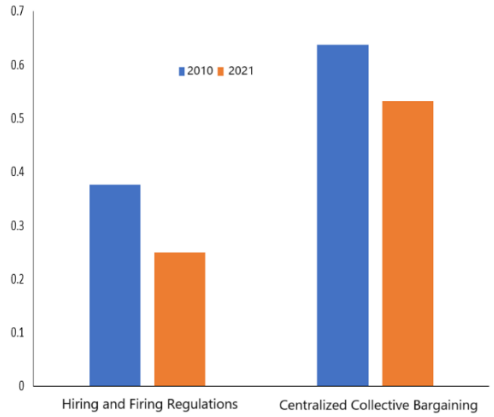
Sources: World Bank Development Indicators, World Bank Global Consumption Survey, World Bank ASPIRE, OECD Economic Surveys, Das and Hilgenstock (2018), ILO Stat, South Africa Statistics, World Economic Forum Global Competitiveness Report 2019, World Bank Enterprise Survey.
Notes: EM Top5 includes China, India, Brazil, Mexico, and Russia.

Potential Gains from Labor-Market Reforms

24. Following governance and business regulation reforms noted above, complementary reforms closing the structural gap to the labor-market frontier can help maximize employment gains. Labor market reforms, which may be more difficult to implement socially and politically, can follow and complement first-generation reforms focused on governance and business regulation that allow greater up-front gains—even in challenging contexts such as adverse supply shocks or high debt level—and which could help alleviate potential negative distributional impacts that could threaten social stability. Reforms aimed at closing 50 percent of the labor market gap to the EM frontier can boost employment up by a further 1.5 percent in the medium run (Figure 18).

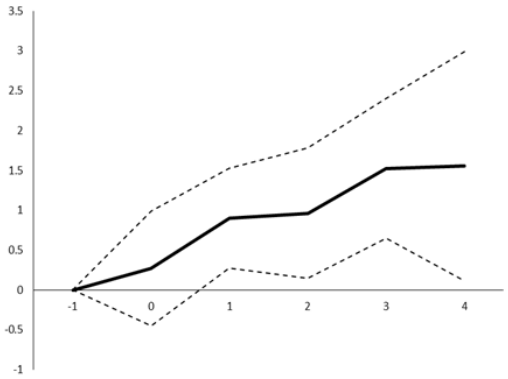
[9] See also Table 3 of Labor Market Intelligence report from March 2024.

Figure 17. Labor Market Structural Gaps



Source: IMF staff.
Note: For a given year, structural gaps are calculated as the difference in the underlying structural index between the frontier and South Africa. Structural gaps range between 0 and 1, where a lower value implies the country is closer to the frontier, and vice versa.

Figure 18. Impact on Employment



Source: IMF staff.
Note: The lines denote the employment response to an improvement in the underlying indicator which would see South Africa close half of the structural gap to EM frontier. The dashed lines denote 90 percent confidence intervals.

Box 1. Spatial Disparities

South African cities are characterized by extreme fragmentation, with long distances between residential areas and business districts. This spatial structure makes commuting costly and time-consuming, especially for lower-income workers. Post-apartheid housing policies have inadvertently entrenched spatial exclusion by providing low-density housing in city peripheries rather than higher-density solutions closer to city centers.

The direct consequence of low proximity to labor markets is high commuting costs, which discourages job creation and labor market participation. Transport costs average 57 percentage of net wage income, with even higher percentages for low-income groups. This spatial mismatch explains much of South Africa's labor market exclusion, including both low formal employment and extremely low informal employment compared to peer countries. For illustrative purposes, the World Bank has calculated that the take home pay for a South African employee earning $1,000 dollars gross and commuting between Johannesburg and the Soweto suburb would be $384, which is much lower than the $862 dollars that a colleague in Vietnam would take home for the same gross income and similar commute.[1]

Rural areas of former homelands face extreme economic exclusion, with very low employment rates compared to other areas. While infrastructure improvements have been made since apartheid, the economies of former homelands remain structurally weaker than can be explained by observable characteristics. Exceptions exist where some former homeland areas have achieved higher employment by developing enterprises serving surrounding markets or through commercial partnerships, especially in agriculture. These cases demonstrate the potential for economic integration when barriers are removed. The Harvard Growth Lab[2] suggests developing a more dynamic market for business partnerships to connect businesses needing land and labor with communities in former homelands that have matching comparative advantages. Overall, addressing spatial exclusion is crucial for achieving economic growth through greater inclusion of South Africa's population in productive economic activities (Shah and Sturzenegger 2022).

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[1] https://blogs.worldbank.org/en/africacan/reduce-south-africas-unemployment-make-work-more-attractive.
[2] Hausmann et al. (2023).

F. Conclusion

25. South Africa's growth potential has been significantly undermined by long-standing structural rigidities. The decline in real income per capita over the last decade and still very high unemployment rate are symptoms of significand and persistent constraints on growth. In part, these reflect sectoral supply constraints, such as electricity and logistics, which the authorities are tackling as part of their reform efforts coordinated under Operation Vulindlela. However, our analysis finds that there are other horizontal constraints to growth arising from large structural gaps relative to peers in governance, business environment, and labor markets. Addressing these would require additional reforms.

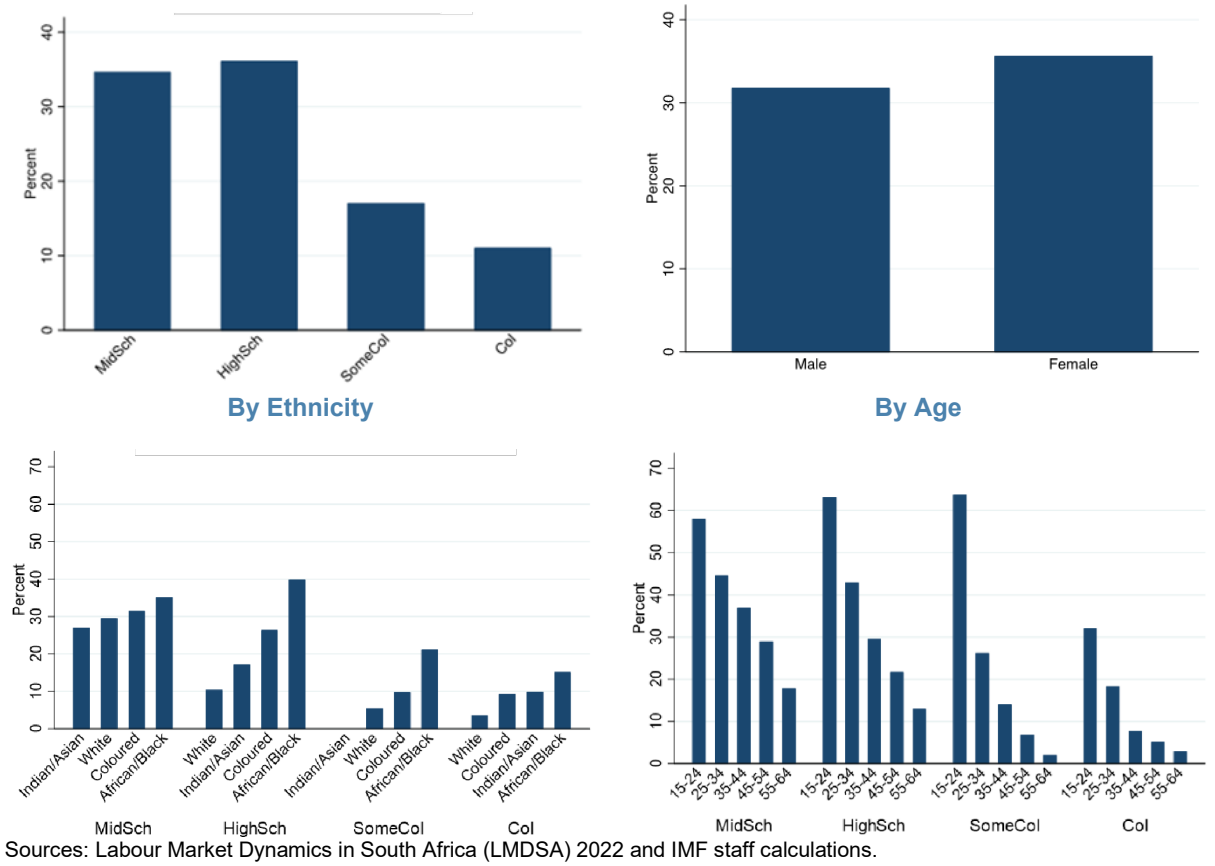
26. Reducing South Africa's structural gaps relative to peers in governance, business regulation, and labor markets can result in significant output and employment gains. Our analysis suggests that a "first-generation" reform package combining ambitious governance and business environment reforms aimed at halving South Africa' structural gap relative to the best practice frontier could boost the level of output by up to 9 percent over the medium run, corresponding to a boost in medium-term average annual growth of up to 1.8 percentage points relative to a no-reform scenario. A "second-generation" reform package focused on reducing labor-market rigidities (also by half relative to the best practice frontier) could boost employment by an additional 1.5 percent in the medium run. Thus, such reforms could help unlock substantial growth and employment gains, which would be key to reducing inequality and enhancing living standards.

27. Careful sequencing and communication of structural reforms is essential to their success. Prioritizing reforms that alleviate the most critically binding constraints to economic activity, such as governance and business regulation, can help front-load output gains by promoting domestic and foreign investment and enhancing labor productivity. These reforms can have positive output effects even during periods of macroeconomic stress, when other policy levers are constrained but the potential for productive factor reallocations is large. Such first-generation reforms can also help ease macroeconomic pressures (e.g. price pressures, elevated sovereign risk premiums, weak capital inflows) through increased competition and improved investor confidence. The benefits of these reforms can also support buy in of the reform agenda more broadly and help mitigate potential negative distributional impacts from more complex second-generation labor-market reforms. Careful communication of reforms and their benefits will be key to maximize support and achieve reform gains.

Annex I. Probit Analysis of the Labor Market

1. In this Annex, we delve into the unemployment in South Africa using micro data. We begin with presenting basic summary statistics, followed by a probit analysis to examine the significance of various factors influencing unemployment rate, and then we perform a decomposition to assess their relative importance. For this analysis, we use the Labour Market Dynamics in South Africa (LMDSA) dataset 2022, which builds on the Quarterly Labour Force Survey (QLFS). The QLFS is a quarterly household survey covering individuals aged 15 and older, capturing key indicators such as employment rates, unemployment rates, labor force participation, and detailed demographic information. The LMDSA extends QLFS by using its panel structure to analyze labor market flows over time, tracking individuals across years to explore transitions between sectors, employment, unemployment, and inactivity, which is crucial for understanding the factors driving unemployment**.**

Figure 1. Unemployment Rates by Worker Characteristics in South Africa



Sources: Labour Market Dynamics in South Africa (LMDSA) 2022 and IMF staff calculations.

2. Figure 1 presents summary statistics from the LMDSA on unemployment rates by worker characteristics. The top panels show that unemployment rates are lowest for those with a college education or some college, and males have lower rates overall than females. Nonetheless, the relationship between education and unemployment is non-linear—high school graduates face slightly higher unemployment rate than middle school graduates, potentially reflecting South Africa's high routinization and shrinking manufacturing

sector that impacts middle-skilled workers. The bottom panels depicts unemployment rates by education, race, and age. For middle-school and college-educated individuals, unemployment differences across racial groups are minimal, but the gaps are significantly wider for those with only a high school diploma or some college. Notably, regardless of education level, the differences across age groups are stark. Youth aged 15 to 24 consistently face much higher unemployment of around 60 percent, highlighting that education alone is insufficient to mitigate youth unemployment.

Table 1. South Africa: Probit Analysis of Employment and Labor Force Participation

		(1) Employed	(2) Informal	(3) Youth	(4) LFP
Age		0.004***	-0.001***	-0.000	-0.008***
		[0.000]	[0.000]	[0.004]	[0.000]
Race	Coloured	0.010*	-0.019***	0.052**	-0.067***
(Base: Black)		[0.005]	[0.006]	[0.021]	[0.014]
	Indian/Asian	0.026**	-0.005	0.085	-0.029
		[0.011]	[0.011]	[0.054]	[0.039]
	White	0.094***	0.027***	0.214***	-0.168***
		[0.005]	[0.007]	[0.023]	[0.029]
Education	HighSch	-0.010**	-0.064***	-0.045**	0.051***
(Base: MidSch)		[0.004]	[0.005]	[0.021]	[0.011]
	SomeCol	0.028*	-0.074***	0.068	0.180***
		[0.014]	[0.017]	[0.140]	[0.054]
	Col	0.037***	-0.083***	0.135***	0.143***
		[0.008]	[0.009]	[0.038]	[0.029]
Female		-0.015***	-0.043***	-0.032**	-0.081***
		[0.004]	[0.004]	[0.016]	[0.010]
Urban		0.033***	-0.016***	-0.012	0.019*
		[0.004]	[0.004]	[0.018]	[0.010]
Province	EC	-0.026***	0.079***	-0.024	-0.028*
(Base: WC)		[0.007]	[0.007]	[0.029]	[0.016]
	KZN	0.063***	0.032***	0.116***	-0.214***
		[0.006]	[0.006]	[0.028]	[0.017]
	NW	-0.016**	0.058***	-0.025	-0.054***
		[0.007]	[0.008]	[0.036]	[0.019]
	LP	0.007	0.027***	0.071***	0.030**
		[0.006]	[0.006]	[0.025]	[0.015]
Grants	Childcare				-0.002
					[0.010]
	Welfare				-0.034***
					[0.010]
	Ind, Occ FE	X	X	X	X
	Observations	61,684	52,608	4,597	16,181

Sources: Labour Market Dynamics in South Africa (LMDSA) 2022 and IMF Staff calculations.

3. Next, we conduct a probit analysis examining the likelihood of being employed, informally employed, youth employment (ages 15–24), and labor force participation, as summarized in Table 1, which presents the marginal effects. The analysis includes variables for workers' age, racial groups, education levels, urbanicity status, and provincial indicators. Given that social grants are available to those who are unemployed or not in the labor force, we incorporate this factor specifically in the labor force participation

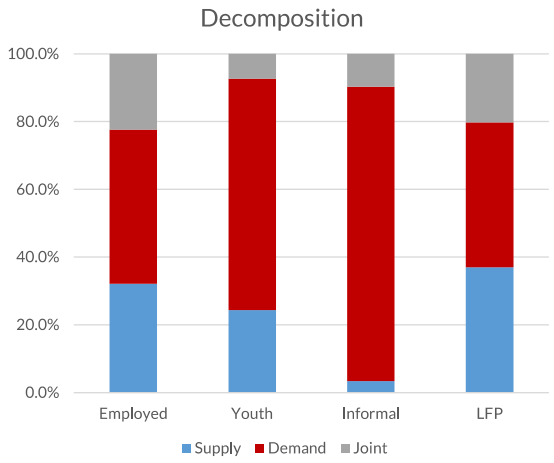
analysis. Further, since the LMDSA dataset provides both current and previous industry and occupation data at the 3-digit level, we include industry and occupation fixed effects across all outcomes to account for sectoral and occupational compositions. The equation below shows this probit model:

$$Pr(Y_{ijk} = 1 | X_{ijk}) = \Phi(\alpha + \beta_1 Age_{ijk} + \beta_2 Race_{ijk} + \beta_3 Education_{ijk} + \beta_4 Urbanicity_{ijk} + \beta_5 Province_{ijk} + \beta_6 SocialGrants_{ijk} + \gamma_k + \gamma_j + \epsilon_{ijk})$$

where Y_{ijk} is the binary outcome for being employed, informally employed, a youth employed, or participating in the labor force for worker i; j and k denote the individual's occupation and industry with their current employer, or with their most recent employer if they are not employed. Φ represents the CDF of the standard normal distribution.

4. Several patterns emerge from the analysis. Age is a significant factor for most outcomes, except for youth employment. White individuals have a much higher probability of employment compared to Black individuals, though whites are also less likely to participate in the labor force; whereas the impact of being in other racial groups is much weaker. Females tend to have lower rates for all employment-related outcomes. Regarding education, higher levels of education are consistently linked to higher labor force participation and lower rates of informal employment. However, having a high school diploma is significantly associated with poorer employment outcomes, consistent with results in Figure 1. In terms of regional variations, compared to the Western Cape, other provinces, including former homeland regions, do not consistently show significantly worse outcomes. Finally, welfare grants are negatively associated with labor force participation, while childcare support shows no significant effect.

Figure 2. Decomposition of Supply vs. Demand Factors for Employment



Sources: Labour Market Dynamics in South Africa (LMDSA) 2022 and IMF Staff calculations.

5. A natural question arising from the probit analysis is which factors are most important for employment outcomes. To address this, we conduct a variance decomposition exercise, attributing the contributions of supply-side factors (worker characteristics) versus demand-side factors (industry and occupation fixed effects) by examining incremental R-squared increases when adding these factors into the above probit regression, with the results shown in Figure 2. The results indicate that for overall employment and labor force participation, supply- and demand-side factors are nearly equally important. However, for youth and informal employment—two key areas of weakness in South Africa—demand-side factors dominate, accounting for 68% and 87% of the variation, respectively. This suggests that while a balanced policy approach is needed to address unemployment broadly, demand-side policies are particularly critical for improving youth and informal employment outcomes.

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