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# Lifting productivity in Oman: The Role of Structural Reforms OMAN

Muayad Ismail and Haytem Troug

SIP/2024/020

*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 December 14, 2023. This paper is also published separately as IMF Country Report No 24/032.

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SELECTED ISSUES PAPER

**IMF Selected Issues Paper**

Middle East and Central Asia Department

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Prepared by Muayad Ismail and Haytem Troug \***Authorized for distribution by Cesar Serra  
June 2024

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**ABSTRACT:** Oman's potential nonhydrocarbon real GDP growth has trended downward since the global financial crisis, with a negative contribution from total factor productivity. This paper estimates productivity gains associated with structural reforms and identifies key binding constraints and reform priorities to boost productivity in Oman. Our results show that reforms to reduce the state's footprint and strengthen institutions, as well as product market reforms, should be prioritized and packaged together to magnify productivity gains from labor market and financial sector reforms. These findings could inform the planning and implementation of the ongoing structural reform agenda envisaged under Oman Vision 2040.

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SELECTED ISSUES PAPERS

# **Lifting productivity in Oman: The Role of Structural Reforms**

Oman

## A. Context

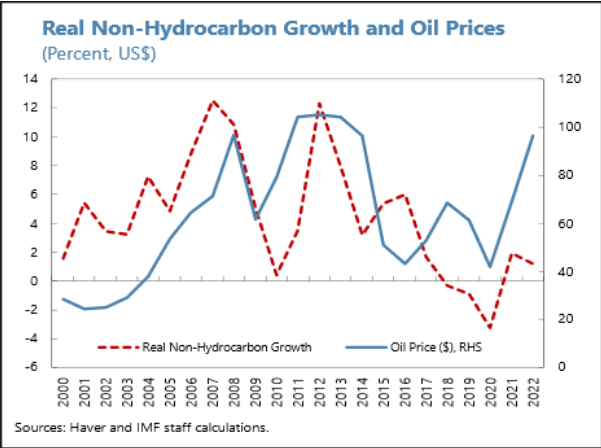
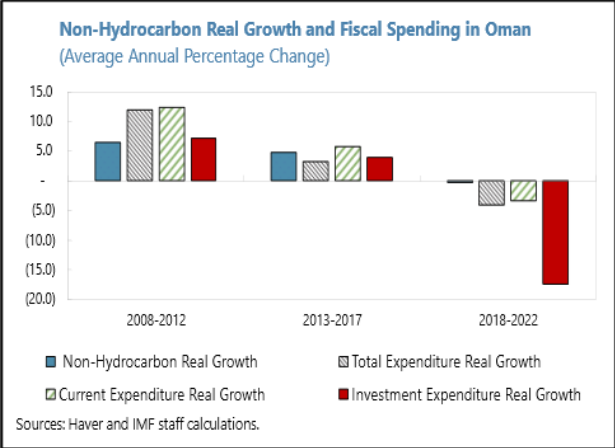
**1. Oman has made significant strides in advancing economic development and improving living standards, but the hydrocarbon sector continues to dominate economic activity.** Supported by large hydrocarbon production and favorable oil prices, average GDP per capita in Oman increased from \$7,700 in the 1990s to \$14,800 in the 2000s and further to \$20,700 in the 2010s. Nevertheless, the hydrocarbon sector continues to dominate economic activity, while nonhydrocarbon activities remain subject to fluctuations in oil prices and are hampered by low productivity. The share of hydrocarbon exports in total exports remains large at about 65 percent, and hydrocarbon activities constituted more than 37 percent of total output in 2022. At the same time, productivity trends have been declining, reflecting a largely segmented labor market, with negative implications for nonhydrocarbon growth.

**2. Oman is striving to diversify its economy and strengthen nonhydrocarbon growth.** The severe shocks in oil markets (2014–15 and 2020) and the energy transition ahead have raised the urgency of accelerating the implementation of a comprehensive reform agenda to create a more resilient economy that is less dependent on hydrocarbon windfalls. In this context, the authorities designed a broad-ranging economic strategy, Oman Vision 2040, with numerous initiatives to strengthen economic resilience and lay the foundations for diversified and sustainable private sector-led growth. Structural reforms in key areas—such as the business environment, labor markets, social protection, and the financial sector—are ongoing, with several at the implementation stage.

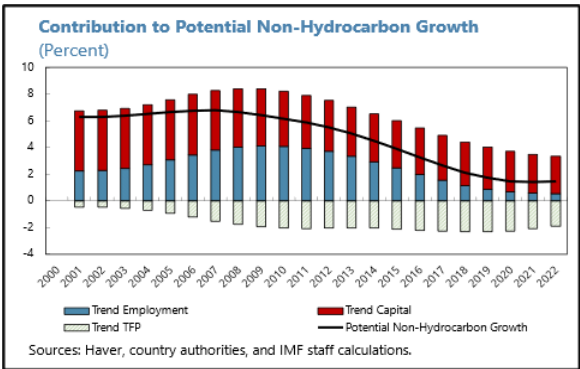
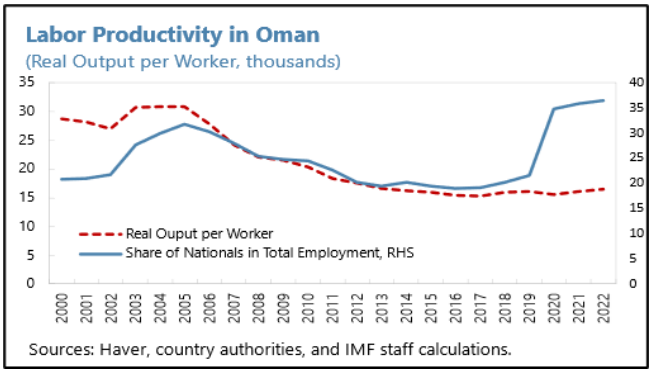
**3. This paper assesses key binding productivity constraints and identifies structural reform priorities that can help boost productivity and potential nonhydrocarbon GDP growth in Oman.** To do so, it estimates potential productivity gains from structural reforms over the short to medium term and examines appropriate packaging and sequencing of such reforms to magnify productivity and growth dividends. This paper is structured as follows. Section II provides selected stylized facts on the Omani nonhydrocarbon economy and productivity trends. Section III empirically estimates productivity gains from implementing structural reforms under different scenarios. Finally, policy recommendations are discussed in section IV.

## B. Stylized Facts

**4. Nonhydrocarbon real GDP growth in Oman has been strongly correlated with government spending and exhibited high oil price-driven volatility.** Government expenditures have been Oman's main engine of growth, with significant spillovers to nonhydrocarbon activities. Specifically, while government investment expenditure has played a more direct role in supporting nonhydrocarbon activities in Oman (mainly through construction and infrastructure projects), government spending on wages and subsidies has also contributed to stimulating aggregate demand and nonhydrocarbon output. Nonhydrocarbon growth has been exposed to high volatility in oil prices through government spending. This underscores the need to press ahead with structural reforms to boost private sector-led growth to strengthen the sustainability and resilience of nonhydrocarbon growth and mitigate any potential negative spillovers from the ongoing efforts to rationalize government spending.

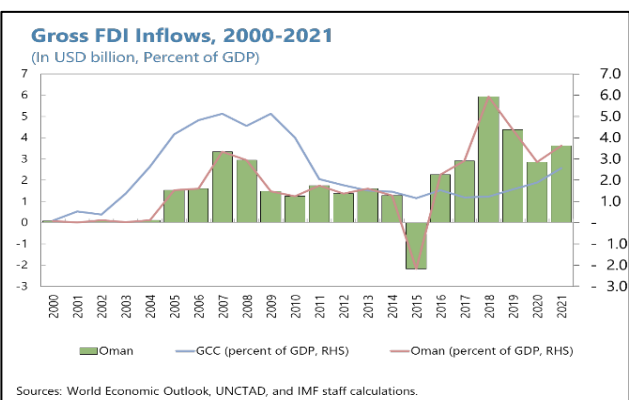
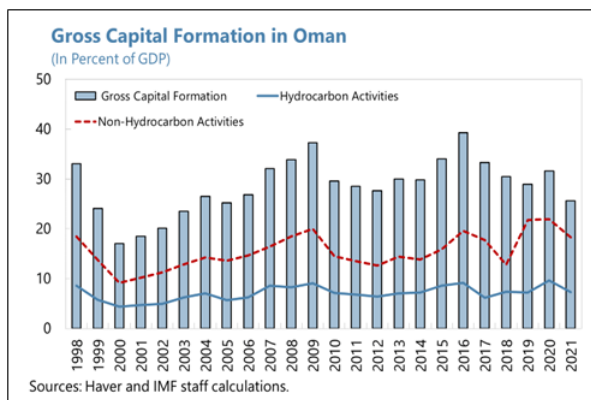


**5. Potential nonhydrocarbon growth in Oman has slowed, primarily driven by declining productivity and subdued trend employment growth.** Total Factor Productivity (TFP) growth has generally declined in the aftermath of the global financial crisis in many emerging markets and developing economies owing to, among other factors, a slowing pace of structural reforms (Adler and others 2017). For Oman, despite efforts to level the playing field between the public and private sectors, the labor market remains segmented, reflecting higher wages, benefits, and job security in the public sector relative to the private sector (IMF 2022). As a result, the public sector has been a desirable destination for Omanis. The wage differential between public and private sector jobs has distorted incentives and allocation of resources in the labor market, particularly in mid- to low-skill jobs, with negative implications for productivity. This has culminated in negative contributions of TFP to potential nonhydrocarbon growth and amplified the effects of the declines in trend growth of employment and capital investment.<sup>1</sup> Relatedly, potential nonhydrocarbon growth has been driven by factor accumulation rather than productivity improvements. This suggests that there is scope for structural reforms to boost productivity and amplify the gains from the ongoing diversification agenda in Oman.



<sup>1</sup> Potential nonhydrocarbon GDP is estimated based on the Cobb-Douglas production function approach with constant labor share, where potential output is decomposed into capital, labor, and total factor productivity (TFP). Nonhydrocarbon capital is estimated based on the perpetual inventory method, where initial capital stock is assumed to increase with nonhydrocarbon capital formation while accounting for depreciation.

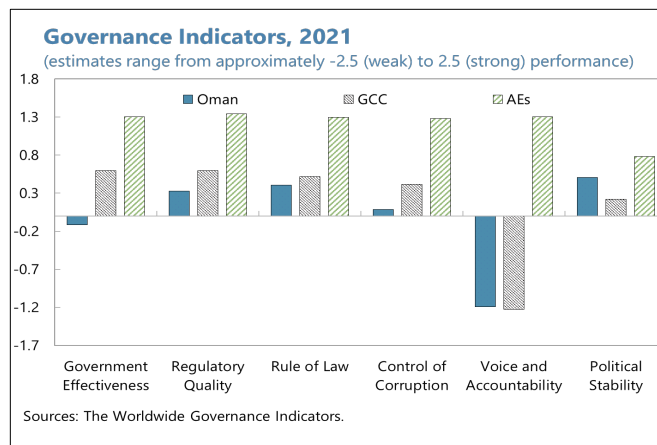
**6. Gross capital investment in Oman has declined in recent years, but foreign direct investment (FDI) inflows surged in 2018 and have remained elevated since.** Nonhydrocarbon investment has been relatively volatile and highly concentrated in non-tradable activities, specifically construction and services.<sup>2</sup> This high concentration in labor-intensive activities has limited the scope for capital investment. On the other hand, ongoing efforts to attract FDI, including the removal of capital requirements and limits on foreign ownership, are bearing fruit in the form of increased FDI inflows in recent years, albeit with more than half of total FDI still directed toward the oil and gas sector in 2021 (NCSI 2022). Accelerating structural reforms can help attract and diversify domestic and foreign investment.



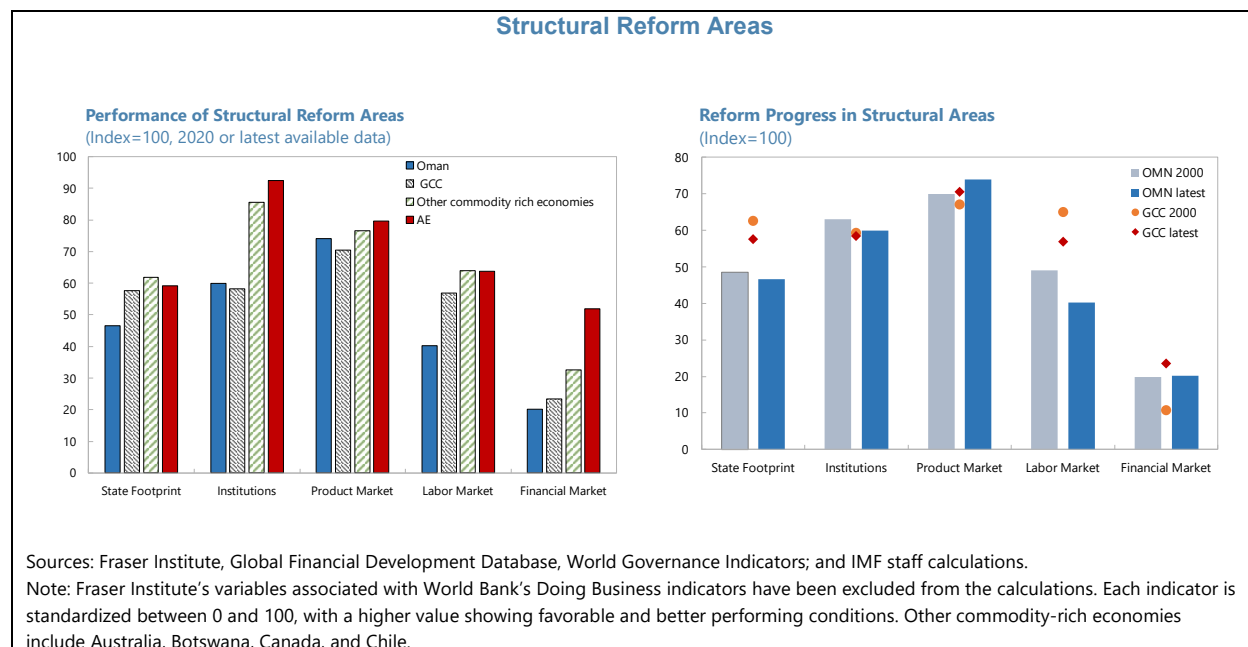
<sup>2</sup> The rent-seeking nature of the labor market in Oman has contributed to the expansion of labor-intensive sectors with low productivity.

## C. The Role of Structural Reforms

7. Oman has made limited progress in key structural areas over the past two decades, broadly in line with regional trends. Staff constructed structural indicators to assess reform implementation in state footprint, institutions, product markets, labor markets, and financial sector (see Annex I for details). Although Oman has progressed in some areas, sizable reform gaps remain vis-à-vis peers and advanced economies. Notably, Oman has improved its performance in the product market area and financial sector area, owing primarily to improvements in the business environment and



business deregulation and the development of the financial sector (mainly the banking sector), albeit lagging the marked improvement in regional performance. In contrast, Oman's performance in the areas of labor markets and institutional quality has worsened, mainly reflecting declines in labor market flexibility and government effectiveness.<sup>3</sup> As a result, and despite progress in some areas, substantial and widening reform gaps remain between Oman and other comparator groups in most structural areas.



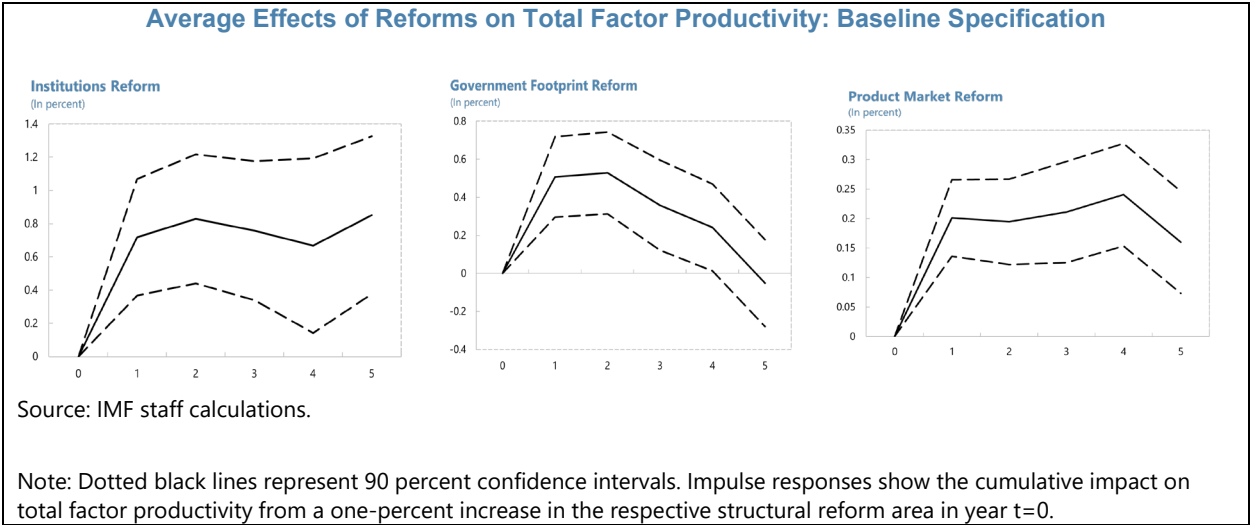
8. Institutional quality in Oman is well below the average for advanced economies, underscoring the need to scale up reform efforts to improve institutions to support investment and nonhydrocarbon growth. Specifically, Oman lags its peers in areas such as government effectiveness and control of corruption

<sup>3</sup> Government effectiveness measures the quality of the civil service and its independence from political pressure, the quality of public services, the credibility of the government's commitment to its stated policies, and the quality of policy formulation and implementation, including the efficiency of revenue mobilization and budget management.

and regulatory quality. This suggests that Oman has further scope to improve the quality of its institutions, which would help attract FDI, improve productivity, and support nonhydrocarbon growth (Moers 1999; Thanh, Canh, and Schinckus 2019).

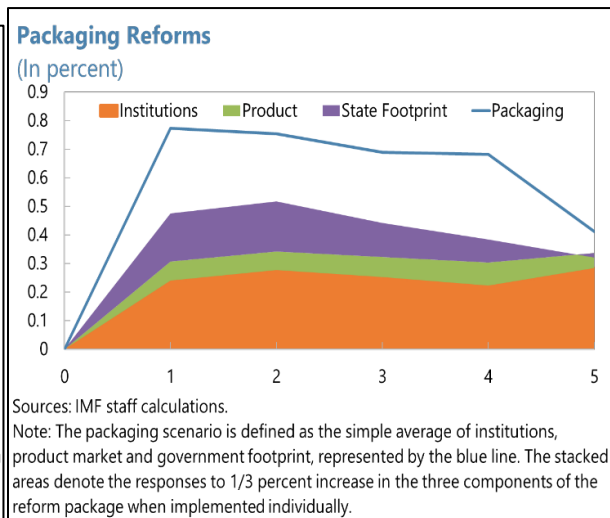
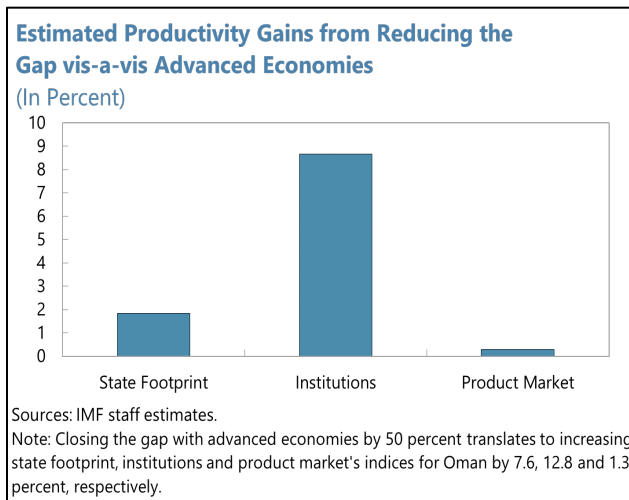
**9. What could be the productivity gains of reducing structural reform gaps?** We employ a local projections method to quantify these effects using panel data for 53 advanced and emerging market economies over 2000–19 in line with previous IMF work (IMF 2023a; IMF 2023b) (see Annex II for details). This methodology helps to identify reform areas that can generate the highest productivity gains in the short term while identifying those areas where productivity gains would take longer to materialize. We also conduct a similar exercise to quantify the potential productivity gains from reform packaging (the simultaneous implementation of multiple reform areas) or sequencing (the implementation of selected reform areas after sufficient progress in other areas).

**10. Productivity gains from reform efforts differ across structural areas and over time.** Impulse responses generally point to important productivity gains over the short term, with the short-term impact of institutional reforms being the highest among all structural reform areas. TFP is estimated to increase by 0.8 percent two years after reform efforts deliver a one-percent increase in the indicator of institutional quality. Similarly, reforms aimed at reducing the state footprint in the economy and enhancing product markets can generate productivity gains of about 0.5 percent and 0.2 percent two years after reform efforts secure a one-percent improvement in the respective structural indicators. Impulse responses also indicate that productivity gains under the baseline specification remain persistent and sizable in the case of institutional reforms and, to a lesser extent, in the case of product market reforms. Without reform packaging, productivity gains from reducing the state footprint are less persistent than institutional and product market reforms yet sizable. In contrast, baseline results indicate that productivity gains from financial sector and labor market reforms, on average, appear to be elusive both in the short and medium term, likely underscoring the need for proper reform sequencing (see below).

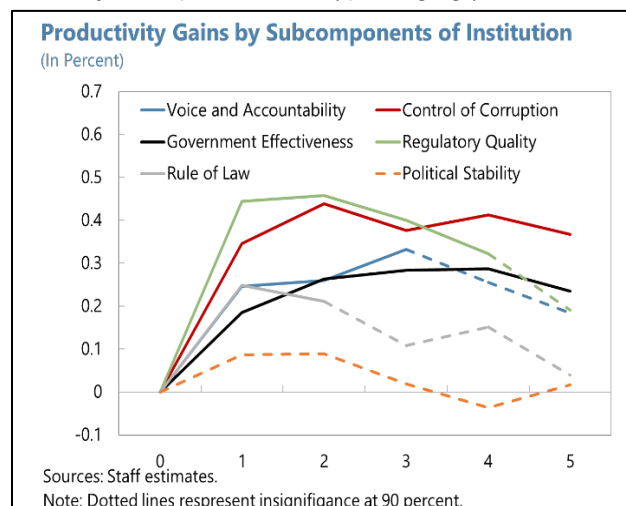




**11. Reducing the institutional, state footprint, and product market gaps would yield substantial productivity gains for Oman.** Staff analysis shows that if Oman were to reduce its existing institutional, state footprint, and product market gaps relative to the advanced economy average by half, TFP would increase by 3.6 percent, on average, four years after reform efforts. Implementing institutional reforms would lift productivity by more than 8.5 percent cumulatively over the medium term, primarily reflecting substantial productivity gains from strengthening regulatory quality, control of corruption, and government effectiveness. The large gaps in these areas in Oman and their strong statistical effect on productivity underscores the need to prioritize these institutional reforms. Product market reforms generate the lowest productivity gains among all three structural reforms, although still significant and increasing over the medium term. The small potential gains from product market reforms reflect the relatively smaller structural gap for Oman in this reform area.



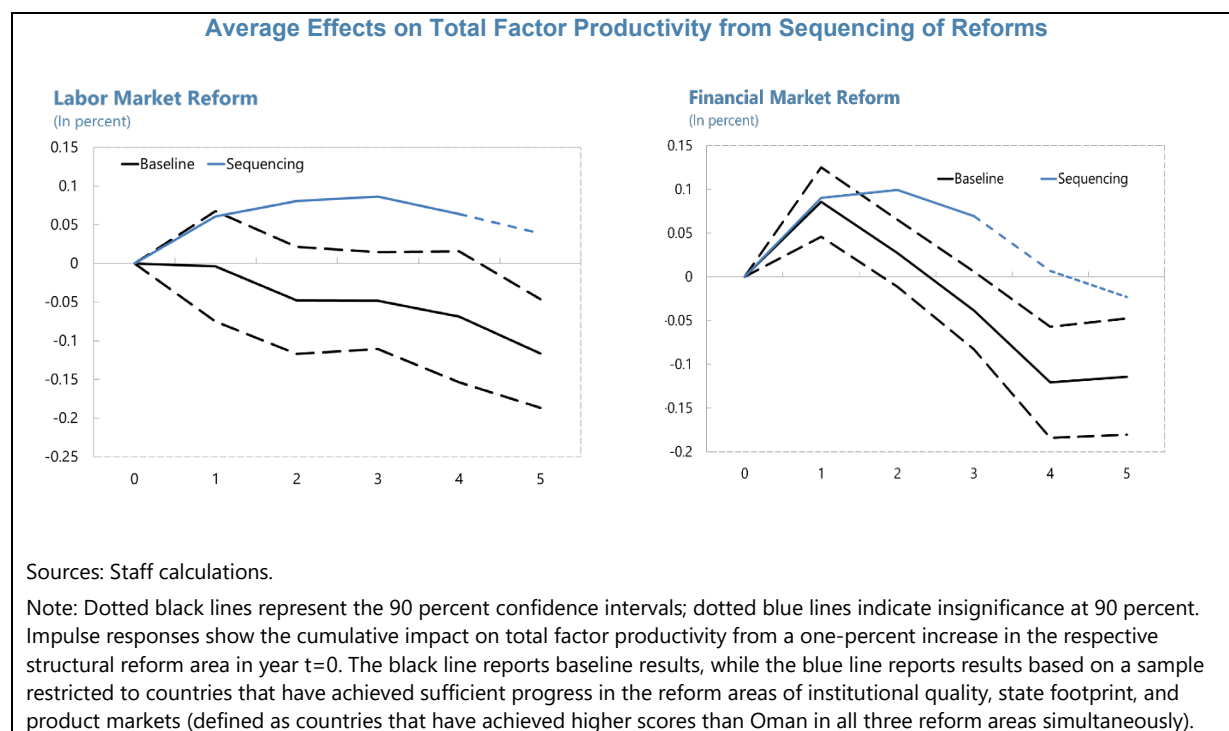
**12. Implementing multiple structural reforms together can yield higher productivity gains than implementing them individually.** We empirically examine the joint implementation (“packaging”) of various combinations of structural reforms to explore potential complementarities and synergies across structural reform areas. The analysis suggests that a strategic bundling of structural reforms that jointly improves institutional quality, rationalizes the state footprint in the economy, and better regulates product markets would magnify the overall positive effect of implementing these reforms together, yielding higher productivity gains compared to the simple sum of productivity gains from implementing individual reforms. For instance, reducing the state’s footprint in the economy and leveraging digitalization would streamline government operations and improve the efficiency of public institutions, allowing for a greater role for the private sector in the economy. For Oman, results show substantive productivity gains from packaging these three reform areas in a way that



closes reform gaps vis-à-vis advanced economies by 50 percent simultaneously in each reform area. In this scenario, productivity gains would amount to about 5 percent over the medium term.

**13. Proper sequencing of structural reforms also yields larger and broad-based productivity gains.**

For Oman, the strategic sequencing of reforms would help to build capacity, maintain reform momentum, and limit possible adverse short-term externalities. For instance, having effective institutions in place reinforces public confidence in the government’s ability to plan, conduct, and monitor reform measures. Also, rationalizing the state presence and establishing a well-functioning product market with the proper regulatory environment ensures that privatization efforts are conducted on a level playing field that enables fair competition and innovation while encouraging citizens to engage in private sector activity. To quantify the impact of sequencing, we re-estimate productivity gains from labor market and financial market reforms, conditioning the sample of countries to those that have achieved progress in institutional quality, state footprint, and product markets above what Oman has achieved in these structural areas so far. Baseline results show that gains from labor market and financial sector reforms are insignificant, reflecting the limited impact of increasing human capital and developing the financial sector on productivity when structural prerequisites are not in place. Specifically, inadequate institutional setting, dominant public sector presence, and restricted product markets would undermine positive spillovers to productivity from labor market and financial sector reforms. Thus, implementing labor market and financial sector reforms after sufficient progress has been achieved on institutional, state footprint, and product market reforms yields higher and more significant gains than under the baseline scenario.



## D. Policy Recommendations

**14. Strategically packaging and sequencing structural reforms would lift productivity substantially in Oman.** Reducing structural reform gaps with advanced economies would help unleash Oman's growth potential. Specifically, short-term gains would be significant and could be maximized if structural reforms are packaged appropriately and implemented sequentially. Enhancing institutional quality, reducing the state's footprint in the economy, and improving the business environment are prerequisites to lay the groundwork for larger productivity gains from subsequent structural reforms.

**15. Improving the quality of institutions is critical to lifting productivity in Oman.** Despite commendable improvements in recent years, two indicators hamper Oman's institutional quality: regulatory quality and government effectiveness. Oman lags behind advanced economies, commodity-rich economies, and other GCC peers on these indicators. There is scope to further strengthen the regulatory environment by enhancing transparency and improving the management and implementation procedures of public procurement, which would magnify productivity gains. Enforcing more transparency and accountability in public institutions, reducing the size of the public sector, and improving the skillset of civil servants while leveraging digitalization in the provision of public services are essential for improving the quality of institutions and lifting productivity.

**16. A more streamlined role for the government sector would enhance productivity.** There is scope for Oman to further limit the government's involvement in the economy while supporting private sector-led growth by improving the efficiency of government spending and limiting its size (see Annex on Assessment of Oman's Government Expenditures). Ongoing divestment efforts by the Oman Investment Authority (OIA) and broader efforts to attract private sector domestic and foreign investment are expected to reduce the relative size of the public sector's footprint in the economy and enhance productivity. Allowing the private sector an expanded role in the economy would have positive externalities on Oman's product and labor markets, including by leveling the playing field between public and private sector wages and benefits to incentivize Omanis to work in the private sector, with positive implications for productivity, especially if followed by labor market reforms (see below).

**17. Product market reforms help amplify the effect of other reforms.** Oman's business environment has experienced steady improvements in recent years, reflecting simplified procedures to start a business, a significant relaxation of restrictions on foreign investment (including opening most economic sectors to full foreign ownership), and improved ease of dealing with various permits. The literature shows that lower initial levels of regulation are associated with higher TFP over subsequent years. Therefore, further efforts are needed to enhance product market competition, streamline administrative and regulatory requirements—including export and import procedures—and promote investment in R&D to improve the competitiveness and productivity of Oman's nonhydrocarbon tradable sector. Bundling product market with institutional and state footprint reforms would create an enabling business environment that would boost the impact of other reform measures.

**18. Labor market reforms are crucial to lifting productivity and supporting Oman's development efforts.** With a fragmented labor market across different dimensions, labor market reforms would unleash untapped potential in the Omani economy. Recently approved social protection and labor laws are expected to contribute to improving labor market flexibility, competition, and mobility. However, further enhancing mobility-

enabling policies, particularly for expatriate workers, would also facilitate sectoral reallocation that supports economic diversification and promotes structural transformation toward a knowledge-based economy. Improving labor mobility would trigger market incentives (promotions and higher wages) across the labor market and improve competition between Omanis and expatriate workers. This incentivizes upskilling and attracts more mid to high-skilled expatriate workers, leading to higher productivity gains. Continued efforts to improve the quality of education would also help to address skills mismatches in the labor market and encourage young Omanis to pursue technology and science-related majors with positive implications for productivity. Finally, the new labor and social protection laws include provisions that support female labor force participation, such as aligning maternity leave with international standards and introducing paternity leave. More can be done to increase female labor force participation, such as by promoting more women to senior managerial positions and institutionalizing flexible work arrangements.

**19. Deepening financial markets and enhancing credit options would facilitate lifting productivity, particularly if preceded by other structural reforms.** A well-functioning financial sector would enhance resource allocation and improve productivity in Oman. Credit in Oman is concentrated on public sector employees and a limited number of big entities. Implementing the Estidamah reform agenda, including strengthening the role of financial institutions in the economy, developing financing products, and strengthening financial inclusion, is expected to enhance credit in the economy, particularly for small and medium enterprises. However, targeted financing schemes (such as Oman Development Bank financing) should be limited to viable small and medium enterprises. Also, fiscal consolidation efforts and state-owned enterprise divestment plans are expected to reduce the government's crowding-out effects, thereby boosting liquidity in the banking sector and enhancing lending opportunities for private firms. Moreover, ongoing efforts to develop the financial markets in Oman are expected to promote alternative financing sources (see Selected Issues Paper on financial sector development).

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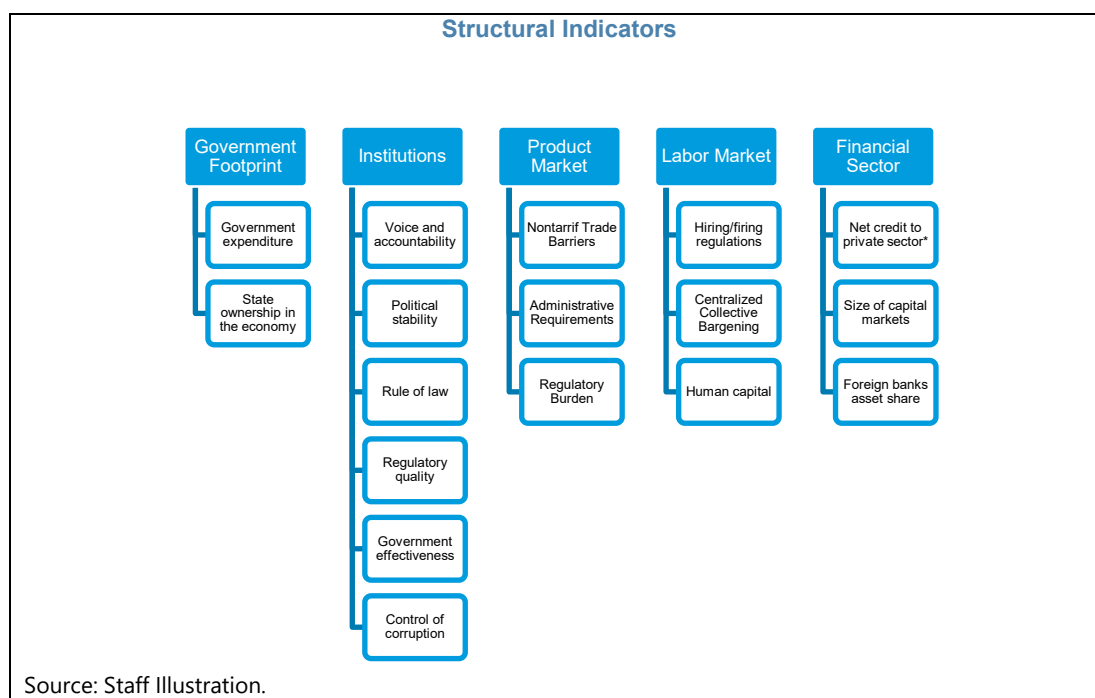
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# Annex I. Measuring Structural Reform Indicators

1. **We construct five structural indices to identify main drivers of TFP and measure Oman's position on structural reform areas versus other economies.** Following the existing literature, we group determinants of TFP into five areas: state footprint, institutions, product market, labor market and financial sector development. For each of these dimensions, we standardize each sub-indicator to vary between zero and one, take their unweighted average, and scale the score to 100, with a higher value showing favorable conditions for TFP. Our indices are constructed by utilizing data from the World Development Indicators, the UNCTAD database, and the Fraser Institute's database covering the period 2000–20.



- **State footprint index.** This index includes three variables: (1) government consumption as percent of total consumption, (2) government investment as percent of total investment, and (3) the size of state-owned enterprises in the economy. The existing literature shows that there is a negative relationship between the share of government activities and TFP (Loko and Diouf 2009; Hansson and Henerkson 1994; Wu and others 2017). Higher government involvement translates into lower TFP levels. Thus, countries with more government involvement in the economy are assigned lower scores.
- **Institutions index.** We use UNCTAD's institution index to measure the quality of institutions. This index includes all six of the Worldwide Governance Indicators (Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption). The existing literature shows that countries with higher quality of institutions have higher TFP levels and attract more investments (Balta and Mohl 2014; Kent and Simon 2007; Wu and others 2017; Zhang 2017).
- **Product market index.** This index includes three sub-indicators: (1) nontariff trade barriers, (2) administrative requirements, and (3) regulatory burden. This index reflects the ease of doing business in the economy, capturing both tariff and nontariff barriers, in addition to the costs of business operations. The existing literature suggests that a less cumbersome business environment is associated with a more dynamic product market and higher TFP (Buccirosi and others 2013; Fink 2016; Kent and Simon 2007; Van der Marel 2012).

- **Labor market index.** This index captures the degree of flexibility in the labor market, in addition to the quality of labor inputs (human capital) in the labor market. It also captures labor market restrictions and collective bargaining. The existing literature, including Bassanini (2009), Loko and Diouf (2009), Hansson and Henerkson (1994), and Kent and Simon (2007), suggests that removing labor market rigidities and improving human capital significantly increase TFP, despite some potential short-term losses.
- **Financial sector index.** This index covers the depth and development of the financial sector. It includes three variables: (1) net credit to the private sector,<sup>4</sup> (2) stock market capitalization, and (3) foreign bank assets among total assets. Previous studies show that financial sector development has positive spillovers to the rest of the economy (Han and Shen 2015; Naceur and others 2017). This index was constructed to capture the crowding out effect of government borrowing, the availability of alternative financing sources in the economy, and the level of competition in the banking sector.

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<sup>4</sup> Net credit to the private sector is defined as credit to the private sector net of credit to government.



## Annex II. Estimations of the Impact of Structural Reforms on Productivity using Local Projections

1. We use a Local Projections approach to accommodate for our panel structure and not constrain the shape of the impulse response functions while allowing for results to become less sensitive to misspecification, following the work of Jordà (2005).<sup>5</sup> Using data for 53 advanced and emerging market developing economies over the period 2000–19, the baseline specification is defined as follows:

$$TFP_{i,t+h} = \alpha_{i,h} + \delta_h SR_{i,t-1} + \beta X_{i,t-1} + \epsilon_{i,t+h} \quad (1)$$

Where  $TFP_{i,t+h}$  denotes the log form of total factor productivity;  $SR$  represents structural reform indicators; and  $h$  is the time horizon considered where  $h = 1, 2, \dots, 5$ .  $X_{i,t-1}$  denotes a vector of control lagged variables including private investment, total factor productivity, real GDP growth, and human capital index. The specification also includes country fixed effect ( $\alpha_{i,h}$ ) to control for country-specific features and cross-country heterogeneity. The model's impulse response functions (IRFs) are based on the estimates of  $\delta_h$  coefficients at each time horizon, and the robust standard errors are constructed by using the Huber-White sandwich estimator. Shock of this specification are presented in percentage terms, where the standard shock reflects a 1 percent increase in  $SR$ .

2. For the sequencing estimation, we follow the approach of (El Herradi and Leroy 2021; Ramey and Zubairy 2018) to introduce state dependency to our baseline specification above. This specification compares IRFs of labor market and financial sector reforms conditional on the state of institutions, state footprint, and product market reform indicators with their baseline levels in equation (1) above. The sequencing specification takes the form:

$$TFP_{i,t+h} = \vartheta_{i,t}^j [\alpha_{i,h}^j + \delta_h^j SR_{i,t-1} + \beta^j X_{i,t-1}] + (1 - \vartheta_{i,t}^j) [\alpha_{i,h} + \delta_h SR_{i,t-1} + \beta X_{i,t-1}] + \epsilon_{i,t+h} \quad (2)$$

3. In the above specification,  $\vartheta_{i,t}^j$  is a binary variable (0,1) that captures the state of  $j$ , where  $\vartheta$  is equal to 1 when the values of institutions, state footprint, and product market are above the 70th percentile of the sample to reflect how additional reforms in these areas could affect labor market and financial sector reforms in Oman compared to the baseline scenario. As such, larger impulse responses of labor market and financial sector reforms in the sequencing scenario relative to the baseline would imply improving institutional quality, rationalizing state footprint, and product market reforms should be prioritized ahead of other reforms.

4. On the packaging scenario, we examine whether bundling structural reforms on institutions, state footprint, and product market together would yield larger productivity gains compared to implementing these reforms in isolation of each other. This packaging specification takes the form:

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<sup>5</sup> Panel VAR results are broadly in line with our LP baseline results.

$$TFP_{i,t+h} = \alpha_{i,h} + \delta_h SR_{i,t-1}^{\bar{x}_{1,2,3}} + \beta X_{i,t-1} + \epsilon_{i,t+h} \quad (2)$$

In the above specification, the reform package is calculated as the simple average of the institutions, state footprint, and product market reform indices.

#### List of Economies

Australia	Luxembourg
Austria	Malaysia
Belgium	Malta
Brazil	Mexico
Canada	Mongolia
Chile	Morocco
China	Netherlands
Croatia	New Zealand
Cyprus	Norway
Czech Republic	Poland
Denmark	Portugal
Estonia	Romania
Finland	Russian Federation
France	Serbia
Germany	Singapore
Greece	Slovenia
Hungary	Spain
Iceland	Sweden
India	Switzerland
Indonesia	Taiwan, Province of China
Ireland	Thailand
Israel	Trinidad and Tobago
Italy	Turkey
Japan	Ukraine
Korea, Rep.	United Kingdom
Latvia	United States
Lithuania	