

Commentary

The Impact of Fiscal Policy on Non-Oil GDP in Saudi Arabia¹

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**Developing
the Kingdom's
non-oil sector would
help it to meet the
objectives of Vision
2030.**

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explore the role
fiscal policy can play
in developing the
country's non-oil
sector.**

Motivation and research questions

Saudi Vision 2030 (SV2030), the strategic roadmap for the future of the Kingdom of Saudi Arabia, aims to decouple the country's economy from its reliance on oil revenues through implementing several economic and social initiatives. The key economic goals of SV2030 announced in 2016 include increasing the private sector's contribution to gross domestic product (GDP) from 40% to 65%, raising the share of non-oil exports in non-oil GDP from 16% to 50%, and reducing the unemployment rate from 11.6% to 7% by 2030. It also aims to maximize local content by localizing more than US\$70 billion of content, make economic agents more efficient and increase government revenues by removing domestic energy subsidies and introducing other non-oil revenue items, enabling further government investment. Developing the Kingdom's non-oil sector would help it to meet these targets. Fiscal policy could also play a major role, given that Saudi monetary policy originated from the fixed exchange rate regime (pegging the Saudi riyal [SAR] to the US\$).

A prominent objective of SV2030 is to put Saudi Arabia's non-oil sector at the heart of the country's economic development. Developing the Kingdom's non-oil sector and reducing its reliance on the oil sector is vital for the country's economic diversification. The non-oil sector is less volatile, more sustainable, and generates more jobs than the oil sector; the latter will help to absorb the growing number of Saudi nationals entering into the labor market each year. SV2030's vision realization programs (VRPs), such as the National Transformation Program and Fiscal Balance Program (FBP), have established initiatives and targets to help develop the non-oil sector. It is important, then, to explore the role fiscal policy can play in developing the country's non-oil sector.

There are six main reasons, in addition to those given above, for why it is important to investigate the effects of fiscal policy on the development of Saudi Arabia's non-oil sector. First, fiscal policy is one of the key macroeconomic policies in promoting economic growth. Second, fiscal policy has a dominant position in resource-rich economies and is usually complemented by other policies. Third, government-owned Saudi Aramco is the sole owner of the country's oil infrastructure. Most of its revenues are transferred to the government budget and it has an imperative role in distributing its income from oil sales and allocating resources in the economy. The recent low oil price environment significantly reduced the country's oil revenues, and this may cause a structural break in the impact of fiscal spending on the development of the non-oil sector. Fourth, fiscal policy in Saudi Arabia is almost the only means of transferring oil sector revenues to the non-oil sector. Fifth, Saudi fiscal initiatives play a key role in forming aggregate demand in the economy. These initiatives include energy allowances and other subsidies, private sector development plans, including soft loans to boost economic growth, the implementation of 'giga projects' and the SV2030 realization programs.

¹ This is a commentary on an on-going research project, The Impact of Fiscal Policy on Non-Oil GDP in Saudi Arabia. It is expected to be published as a KAPSARC discussion paper.

Thus, the objective of our research is to investigate the impact of the government's budget expenditure on Saudi Arabia's non-oil sector over an extended period to derive insights that might be useful for policymaking.

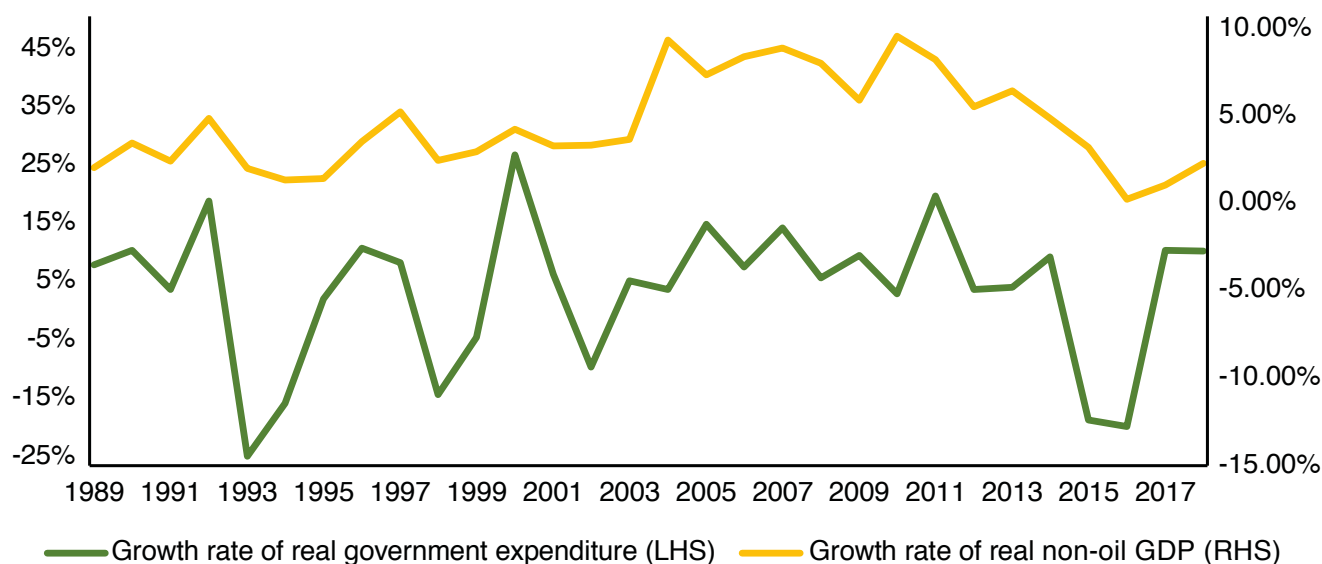
Our study addresses the following research questions:²

- How can the short-run dynamics of the government's current and capital expenditure explain non-oil sector growth?
- Are there any long-run impacts of the government's current and capital expenditure on the non-oil sector? If so, how much time is needed for non-oil GDP to adjust to the long-run relationship from the short-run disequilibrium?
- Does the oil price decline in recent years cause a break in the impact of the government's current and capital expenditure on non-oil GDP?

The non-oil sector and government expenditure

The government of Saudi Arabia owns oil reserves and uses revenues generated from the sale of these reserves to finance government expenditure. As a result, the Saudi economy is highly linked to the revenues generated from its oil sales: Between 2009 and 2018, oil sales accounted for roughly 80% of total government revenues.

Figure 1. Government expenditure and non-oil GDP growth.



Source: Authors' calculation based on official data.

² We will investigate the impact of government spending on major branches of the private sector, such as non-oil manufacturing, transport, communications, distribution, and construction in another research project.

Our research investigates the impact of the government's budget expenditure on Saudi Arabia's non-oil sector.

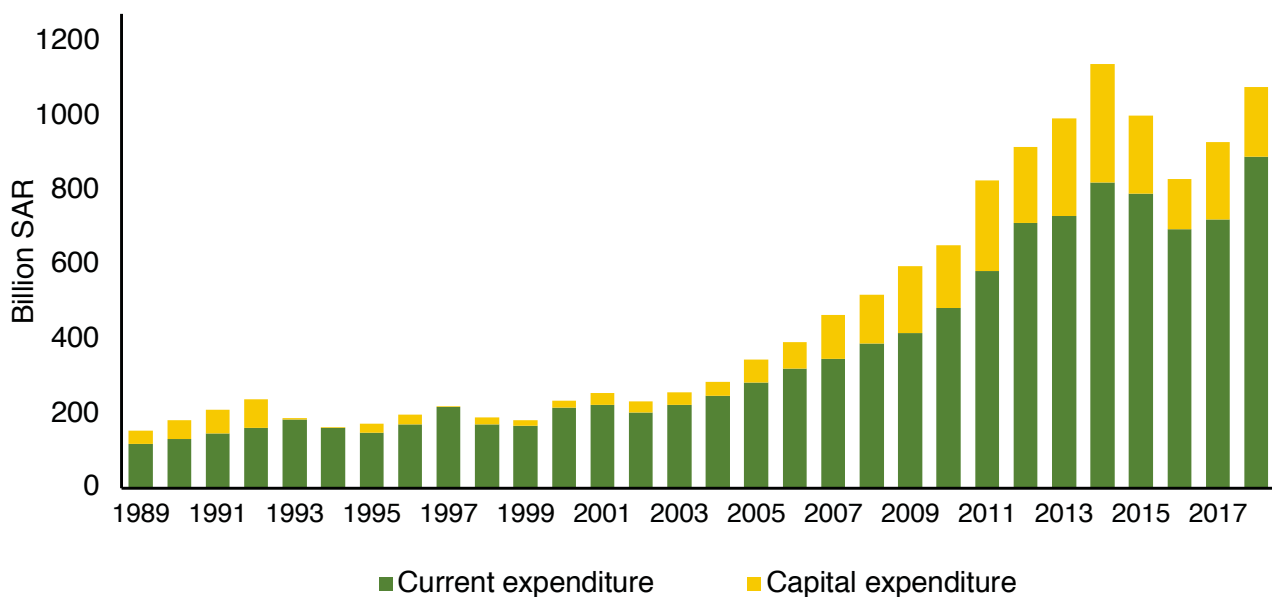
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Government expenditure plays a vital role in the Saudi economy. In 2018, it represented 36% of total GDP and 64% of non-oil GDP. The government's capital expenditure (such as investments in physical and human capital) and current expenditure (such as wages and salaries) create demand for goods and services in the economy. The private sector is largely dependent on government contracts and projects, which provide high-return low-risk investments (Callen et al. 2014). Additionally, current expenditure raises households' income, leading to increased demand for goods and services from the private sector, which relies mostly on imported goods and services. Figure 1 shows the co-movement of the growth rates of non-oil GDP and government expenditure in Saudi Arabia from 1989-2018.

Massive investments in new infrastructure projects and improving existing projects were made to increase the efficiency and productivity of businesses in the country.

The last oil boom (2003-2014) allowed the government to increase its expenditure more than fourfold, from 257 billion SAR in 2003 to 1041 billion SAR in 2014. To meet the welfare demand of the growing population, the government also increased its expenditure on health and social development more than fourfold during this period. In 2014, the government spent 78 billion SAR on health and social development. Government expenditure on human resource development also rose fourfold during this period to 209 billion SAR. Human resource development accounts for roughly 25% of total government expenditure, the second largest share of government expenditure after defense and security (35%). Massive investments in new infrastructure projects and improving existing projects were made to increase the efficiency and productivity of businesses in the country. As a result, from 2003-2014 the Kingdom experienced strong annual economic growth of 5% on average. In fact, non-oil GDP grew at a much higher rate than overall GDP (7.2% on average), stimulated by increased government expenditure (Figure 2).

Figure 2. Historical government expenditure for Saudi Arabia.



Source: SAMA (2019).

Discussion of the preliminary findings

Holding other factors constant, a 1% increase in government current and capital expenditure can lead to 0.3% and 0.02% respective increases in non-oil sector value-added in the long term. It was also found that a 1% increase in the contemporaneous growth rates of the current and capital expenditure is associated with 0.13% and 0.01% increases, respectively, in non-oil GDP growth in the short run. These findings are in line with established economic schools of thought, in particular the Keynesian approach. The positive effects of government expenditure on output have also been found by other empirical studies conducted for different economies, including for the Saudi Arabian economy. We find the effects of current expenditure to be more impactful than that of capital expenditure, in line with the findings of the earlier fiscal studies conducted for Saudi Arabia (e.g., Joharji and Starr [2014]; Eid and Awad [2017]).

We also found positive effects of labor and capital (for simplicity, here and hereafter “labor” and “capital” refer to non-oil labor and non-oil capital) on non-oil GDP in the long term. Holding other factors constant, 1% increases in labor and capital increase non-oil GDP by an average of 0.51% and 0.26%, respectively. In the short run, the net effect of labor growth on non-oil GDP growth is positive (0.03%), whereas from the estimations, capital growth does not exert any statistically significant impact. Recently, Hasanov et al. (2019) estimated the respective elasticities of labor and capital as 0.6 and 0.2 for the total economy for the period 1989-2015.

As shown by Engle and Granger (1987), short-run deviations from this relationship are temporary and eventually return to the long-run relationship. Statistically, this is represented by the speed of adjustment (SoA) coefficient, which should be in the range of (0;-2) and statistically significant. We estimated SoA as -0.55. This indicates that if in the present year non-oil GDP deviates from its long-run relationship with government current and capital expenditure, and labor and capital growth caused by policy interventions, domestic and/or foreign market factors, then 55% of this deviation will be restored in the following year. This implies that non-oil GDP is linked to government expenditure, and labor and capital growth. Earlier studies, along with the statistics above, show that government expenditure is a primary driver of Saudi Arabia's non-oil economic development.

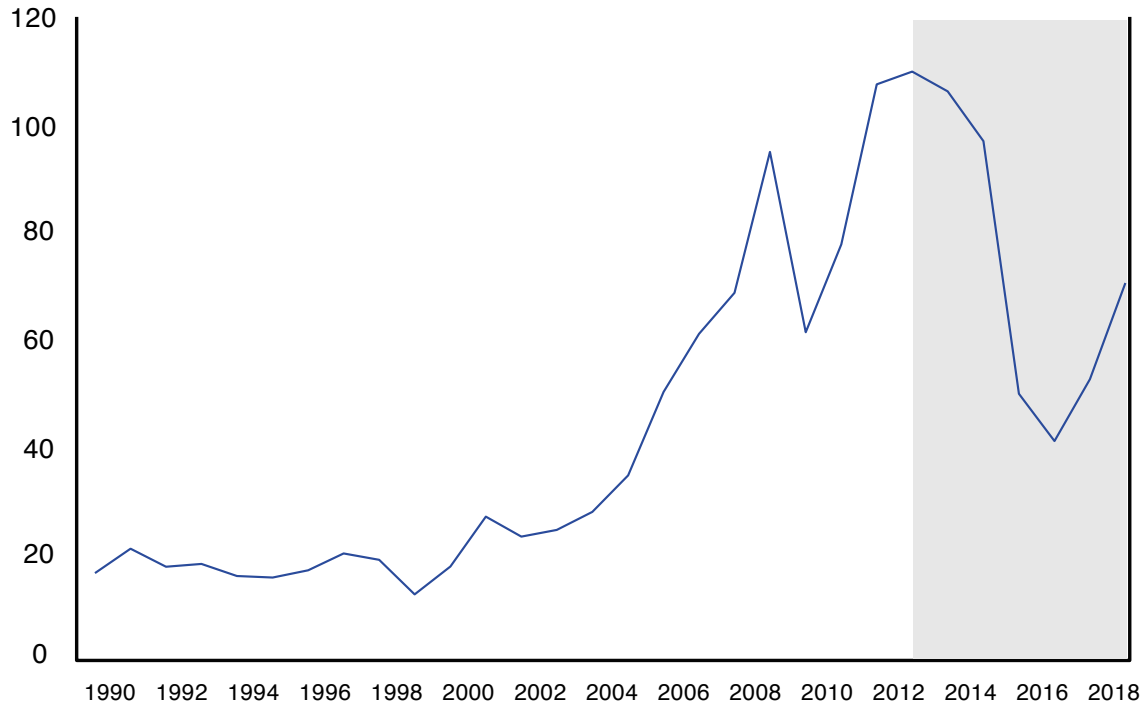
Structural break analysis

Finally, we analyzed whether the persistent drop in international oil prices since 2012 could cause a structural break in the long-run and short-run relationships between non-oil GDP, government expenditure, and labor and capital growth. The following two graphs explain the motivation for this analysis.

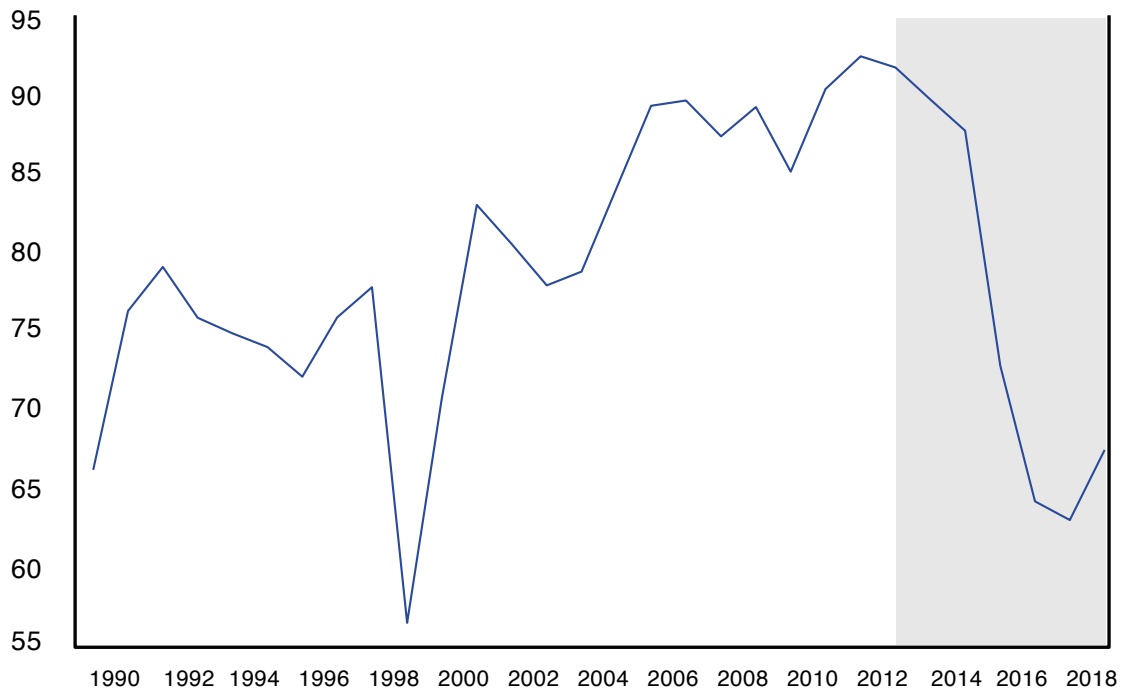
We find that the effects of current expenditure and capital expenditure on the non-oil sector are both positive and significant.

Figure 3. Oil revenues and the price of Arab Light crude.

Graph a: Price of Arab Light crude (US\$/barrel)



Graph b: Oil revenue as a share of total revenue (%)



Source: SAMA (2019).

Graph b illustrates that oil revenue as a share of total government revenue increased from 66% in 1989 to 92% in 2012. As discussed earlier, the government's fiscal policy is crucial in directing the country's economic activity, as in all oil-based economies. Moreover, the share of the government sector in non-oil GDP averaged 34% from 1989-2012. This fact alone indicates how significantly falling oil prices can create issues in the real economy if the government does not take adequate measures to mitigate the effects of such falls. Graph a, Figure 3 shows how the government's capital and current expenditure has declined considerably since 2014, and the trend of non-oil GDP has significantly flattened since 2015. One might suspect that these factors could create a structural break in the relationship between non-oil GDP and government current and capital expenditure. To this end, we conduct a structural break analysis using different methods to get robust results. The results from the structural break tests suggest that the oil price drop after 2012 did not create any structural break in either the long-run or short-run relationship of non-oil GDP with government current and capital expenditure.³ It implies that the estimated long- and short-run elasticities are valid for analysis and forecasting.

We find no break in either the long-run or short-run relationships of non-oil GDP with government expenditure.

Preliminary conclusions and policy insights

This research applies cointegration and error correction modeling as well as structural break tests to data for Saudi Arabia in the augmented production function framework. We find that government current and capital expenditure have statistically significant positive impacts on non-oil GDP in the long and short term. We also find that labor and capital have statistically significant positive impacts on non-oil GDP. Lastly, we find no break in either the long-run or short-run relationships of non-oil GDP with government expenditure, which could be due to the oil price decline in recent years. The findings of this study help inform several recommendations regarding fiscal policy measures that could be useful in developing non-oil economic activities. These policy recommendations could also help to achieve some of the fiscal and economic objectives of SV2030.

First, the finding that capital and labor growth has a large positive impact on non-oil GDP in the long run implies that government expenditure could have a larger positive impact if it were directed toward developing labor and capital to enhance the development of the private sector, increase local content and upgrade existing infrastructure. The development of labor, i.e., human capital, is one of the 13 SV2030 VRPs. Accordingly, the government might wish to consider focusing on developing human capital, including investing in education, vocational training, building capacity and enhancing the investment environment for the private sector.

Second, the study's finding that the positive non-oil effects of the capital indicates that the further involvement of the private sector in capital projects would enhance its role in boosting non-oil economic growth. This would also help realize the objectives of SV2030.

³ Detailed test results of each method are available from the authors upon request.

To improve the efficiency of capital expenditure, more governance reforms are needed to boost productivity, accelerate non-oil GDP growth, and achieve the economic and social objectives of SV2030.

Third, since 2017, the government has embarked on several public finance reforms to improve fiscal planning, public finance management, budget execution, and thus the efficiency of government expenditure. However, to improve the efficiency of capital expenditure, more governance reforms are needed to boost productivity, accelerate non-oil GDP growth, and achieve the economic and social objectives of SV2030.

Fourth, the government could use its fiscal space to support the development of Saudi Arabia's non-oil economy in the short and long run. Reducing the country's fiscal deficit, mainly by increasing non-oil revenues without hurting non-oil activities, would enhance the fiscal space. This would allow the government to increase its efficient expenditure while supporting fiscal sustainability over the long run, and it could be supported by the recently implemented medium-term macro-fiscal framework.

Finally, it is important to continue improving the Kingdom's business environment for domestic and foreign investment so as to increase the country's capital stock, thereby boosting productivity and economic diversification. Some of the Kingdom's recent structural reforms are helpful in this regard, but more are needed.

Acknowledgments

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References

- Callen, Tim, Reda Cherif, Fuad Hasanov, Amgad Hegazy, and Padamja Khandelwal. 2014. "Economic diversification in the GCC: Past, present, and future." International Monetary Fund.
- Eid, Ashraf Galal, and Ibrahim L. Awad. 2017. "Government Expenditure and Private Sector Growth in Saudi Arabia: A Markov Switching Model Analysis." *Economic Issues* 22(2).
- Engle, Robert F., and Clive W.J. Granger. 1987. "Co-integration and error correction: representation, estimation, and testing." *Econometrica: Journal of the Econometric Society*: 251-276.
- Hasanov, Fakhri J., Brantley Liddle, Jeyhun I. Mikayilov, and Carlo Andrea Bollino. 2019. "How Total Factor Productivity Drives Long-Run Energy Consumption in Saudi Arabia." In *Energy and Environmental Strategies in the Era of Globalization*, edited by Muhammad Shahbaz and Daniel Balsalobre. Cham: Springer.
- Joharji, Ghazi A., and Martha A. Starr. 2010. "Fiscal policy and growth in Saudi Arabia." *Review of Middle East Economics and Finance* 6(3): 24-45.
- Saudi Arabia Monetary Authority (SAMA) (2019). "Annual Statistics." May 2019 release.

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