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Estimating Fiscal Multiplier for Qatar

Ken Miyajima

SIP/2025/016

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 8, 2025. This paper is also published separately as IMF Country Report No 25/048.

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Middle East and Central Asia Department

Estimating Fiscal Multiplier for Qatar

Prepared by Ken Miyajima

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ABSTRACT: Econometric results suggest that Qatar's strong capital spending multiplier became less impactful as the stock of capital rose to a high level, likely as the marginal impact declined. This supports Qatar's strategy to shifts the State's role to an enabler of private sector-led growth, focusing on expenditure to support build human capital and implementation of broader reform guided by the Third National Development Strategy.

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SELECTED ISSUES PAPERS

Estimating Fiscal Multiplier for Qatar

Qatar

Prepared by Ken Miyajima[1]

[1] The author would like to thank the participants of the IMF 2024 Article IV Workshop at the Ministry of Finance for their helpful suggestions and comments.

A. Introduction

1. Spending by the State of Qatar has helped built the nation's LNG production/export capacity and broader infrastructure, driving economic growth and diversification (Figure 1). In the early 1990s, the State developed a multi-directional and fast-track strategy to accelerate the commercialization of Qatar's substantial natural gas reserves to diversify and ultimately modernize the economy[2]. The State has made large-scale investments across the entire value chain of LNG trains, tankers, and storage and receiving facilities, becoming one of the leading LNG producing countries in the world. To prepare for the 2022 FIFA World Cup and develop Qatar's infrastructure more broadly, public sector expenditure on major infrastructure projects increased—top-notch infrastructure has been built including the Lusail real estate development, Hamad International Airport, Hamad Port, the Doha Metro and other transportation and social infrastructure. Long-term contributions of such spending were significant—the large investment in general infrastructure ahead of the World Cup is estimated to have driven much of the non-hydrocarbon sector's growth in the past decade (Biboliv et al., 2024).

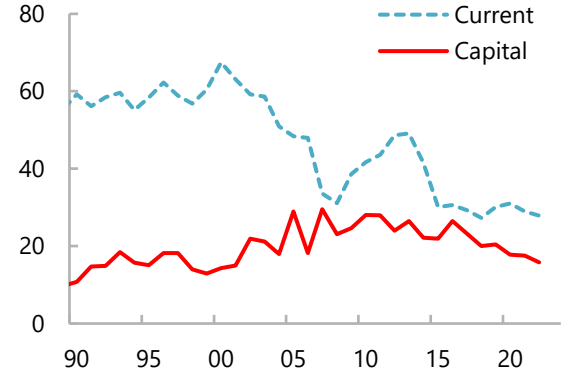
2. At the same time, the State has taken measures to improve spending efficiency. The State budget focuses on sustainable development in line with the key pillars of the Qatar National Vision 2030 including economic, social, human and environmental development. Current expenditure reforms focused on subsidies, travel and office expenses, non-core services (outsourced to the private sector), and GRE activities (e.g., Al Jazeera and Qatar Museums). In response to the pandemic, health expenditure rose but spending in other areas were contained. Capital expenditure proposals and budget requests are closely scrutinized on an ongoing basis.

3. In addition, the State is in the process of reducing its footprint and enabling private sector development. The private sector historically played a limited role. The State has undertaken regulatory reforms to support firm creation, competition, and FDI. The telecommunications sector was liberalized, and special economic zones were created. In recent years, the responsibility for certain projects in the real estate, education and healthcare sectors was outsourced to the private sector. Qatar Energy launched a program to increase localization of the energy sector's supply chain by creating local support services and industries, including SMEs. New legislation on public-private partnerships facilitates the financing of new schools, medical centers and other infrastructure projects by the private sector. The Third National Development Strategy (NDS3) was released in January 2024 to intensify transition to private sector-driven growth. The state is set to become an enabler to facilitate this transition, using public spending to support NDS3 reforms.

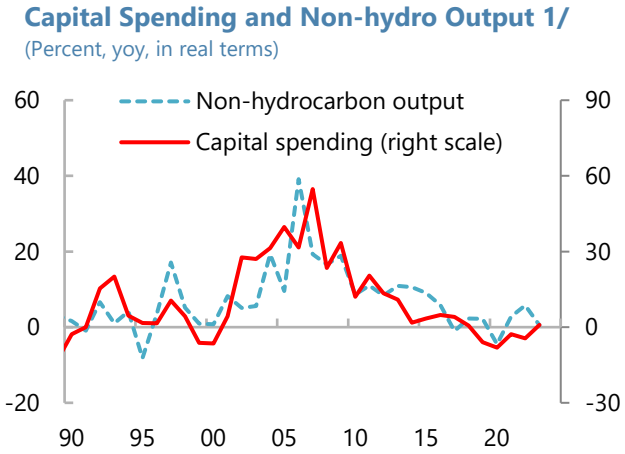
[2] This strategy was implemented on a three-pronged approach by developing (i) LNG and GTL for global export, (ii) pipeline gas for regional export, and (iii) pipeline gas for domestic petrochemicals, power generation plants, and industrial consumption.

Text Figure 1. Qatar: Central Government Spending and Non-hydrocarbon Output

State's current spending has fallen while capital spending has been more stable.



Capital spending growth and non-hydrocarbon output growth have evolved in tandem.



Sources: Haver and IMF staff.
1/ Capital spending real growth in 3-year moving average.

4. To inform spending allocation decisions to support NDS3 goals, this paper estimates the impact of fiscal spending on non-hydrocarbon output in Qatar. The so-called fiscal multiplier can be used to gauge the efficiency of given fiscal expenditure in terms of non-hydrocarbon output growth. Our empirical strategy involves two approaches. The first approach is to use data for a panel of GCC countries to gauge the GCC-wide trend, and from there tease out Qatar-specific effects. The second approach complements the first by relying on single-country time-series data for Qatar to estimate both static and dynamic equations. Elasticity estimated this way can be converted to fiscal multiplier after dividing it by the ratio of spending level to non-hydrocarbon output level (average over the estimation horizon).

5. The rest of the paper is structured as follows. Section B estimates fiscal multiplier using a panel approach for the GCC while section C does so using a single-country approach for Qatar. Section D concludes with discussions.

B. Estimating Fiscal Multipliers: A GCC Panel Approach

Estimation Strategy and Data

6. The baseline model is standard in the literature. Following Espinoza and Senhadji (2011) and Fouejieu et al. (2018), the linear model takes the form of equation (1).

$$y_{i,t} = \alpha + \beta_j \sum_j x_{i,j,t} + \gamma_k \sum_k z_{k,t} + \delta_i + \varepsilon_{i,t} \quad (1)$$

The dependent variable $y_{i,t}$ is the real growth rate of non-hydrocarbon output of country i in time t. The independent variables $x_{i,j,t}$ are the real growth rates of central government spending—total, current, and

capital spending (j=1,2,3). Control variables $z_{k,t}$ are the real growth rates of global output and oil prices (k=1,2). δ_i and $\varepsilon_{i,t}$ are the time-invariant country fixed effects and error term. α, β, γ are parameter to be estimated. Regressions are estimated with and without the UAE based on Fouejieu et al. (2018) who conjecture that GREs may play a large role in total public spending.

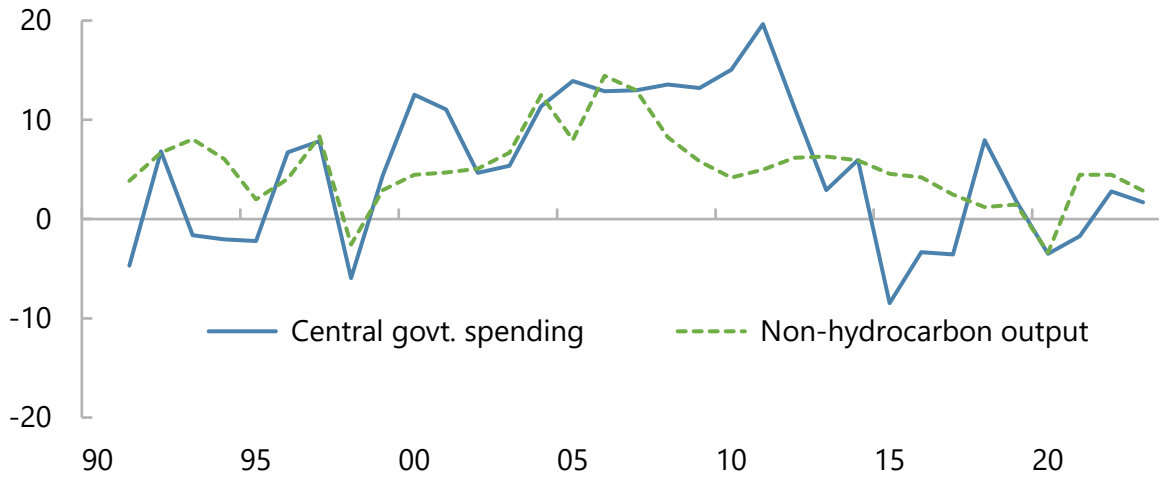
7. The baseline model is extended in two directions. First, we assess whether fiscal multiplier on capital spending could have declined as the level of capital stock rose. Fouejieu et al. (2018) argue that fiscal consolidation in the GCC may be less costly as fiscal multiplier declined over time. Indeed, the stock of public sector capital is large in Qatar, with room for improving investment efficiency, along with other GCC countries (IMF, 2023a). The baseline model is extended to, first, include an indicator of capital stock. Second, Qatar-specific coefficients are estimated by using the Qatar country dummy, while exploiting information from other GCC countries' data.

8. Annual data used span three decades. Data for output, central government spending, and oil prices span 1990–2023 for 6 GCC countries. Some data for 2023 are estimates taken from the latest IMF's World Economic Outlook at the time of estimation. The stock of capital is taken from Penn World Table, available up to 2019 (2020–23 data are extrapolated).

9. Real growth rates of non-hydrocarbon output and central government spending exhibit relatively strong correlation in the GCC. Visually, growth rates of output and total spending moved more in tandem up to the late-2000s than afterwards (Figure 2). The degree of co-movement rose since the COVID-19 pandemic. Correlation coefficients for the entire sample period between output growth and total spending are statistically significant for the GCC (Table 1).

10. Correlation coefficients vary across countries and spending components (Table 1). At the country level, correlation coefficients are most significant for Qatar, followed by Oman and Saudi Arabia. Correlation is negative for the UAE, consistent with Espinoza and Senhadji (2011) and Fouejieu et al. (2018). Within total spending, current spending tends to have more immediate effects, while those of capital spending tend to emerge with a lag and last longer.

Text Figure 2. Qatar: GCC: Non-hydrocarbon Output and Central Government Spending
(Percent, yoy, real growth)



Sources: Haver, IMF WEO, and IMF staff calculations.

Text Table 1. Qatar: Correlation between Non-hydrocarbon Output Growth and Central Government Spending Growth, 1990-2023 1/

	Lag	GCC	BHR	KWT	OMN	QAT	SAU	UAE
Total	0	0.2140**	0.1318	0.2658	0.2666	0.5530**	0.4215*	-0.1322
	1	0.2267**	0.0688	-0.3695	0.3734*	0.5724**	0.305	-0.3824*
	2	0.1879*	0.3039	-0.3668	0.3535	0.5643**	0.1233	-0.2521
	3	0.1970*	0.209	0.5659	0.2037	0.3734*	0.2912	-0.1205
Current	0	0.1948**	0.1102	0.1978	0.2225	0.4949**	0.3438	-0.1246
	1	0.1234	0.0997	-0.1026	0.2973	0.343	0.218	-0.3832*
	2	0.1424	0.1617	-0.265	0.289	0.3875*	0.0386	-0.2799
	3	0.1388	0.1673	0.0159	0.1166	0.3008	0.202	-0.1169
Capital	0	0.1383	0.0953	0.1393	0.1163	0.2513	0.4085*	-0.0633
	1	0.2536**	0.0175	-0.577	0.2997	0.5981**	0.3530*	-0.173
	2	0.2226**	0.3957*	-0.0898	0.2683	0.4863**	0.2413	0.0283
	3	0.2171**	0.17	0.7904*	0.2827	0.3083	0.3640*	-0.0076

Sources: Haver, IMF WEO, and IMF staff calculations.
1/ * and ** signify statistical significance at the 5 and 1 percent levels.

Estimated Results

11. Baseline regression results broadly confirm the earlier observations (Table 2). Real growth of central government total spending is significantly impacting that of non-hydrocarbon output in the GCC with lags (model 1). When only current spending is used, coefficients are significant with one year lag and

the implied fiscal multiplier is 0.2 (model 2).[3] Capital spending has significant effects with longer lags, where implied long-term fiscal multiplier is close to 0.9 (model 3).[4] When both current and capital spending are included, current spending loses significance while fiscal multiplier of capital spending falls somewhat to 0.7 (model 4). Looking at control variables, the impact of oil prices is significant when introduced without global output growth, suggesting that oil prices are closely associated with global output growth (model 4). Global output growth affects non-hydrocarbon economic activity in the GCC (models 1–3, 5). When the UAE is excluded, effects of current and capital spending on non-hydrocarbon output strengthens (models 6–9).

Text Table 2. Qatar: GCC: Determinants of Non-Hydrocarbon Output, Baseline 1/

		Whole sample					Excluding the UAE			
Model		1	2	3	4	5	6	7	8	9
	Lag									
Total spending	0	0.059*	..	..	..	..	0.085**	..	..	..
	1	0.143***	..	..	..	..	0.199***	..	..	..
	2	0.075**	..	..	..	..	0.121***	..	..	..
Current spending	0	..	0.071*	..	0.044	0.052	..	0.104**	..	0.084**
	1	..	0.099***	..	0.064*	0.059*	..	0.145***	..	0.096**
	2	..	0.062*	..	0.029	0.027	..	0.110***	..	0.065
Capital spending	0	..		0.022	0.015	0.011	..	..	0.024	0.006
	1	..		0.059***	0.049***	0.047***	..	..	0.080***	0.058***
	2	..		0.045***	0.039**	0.038**	..	..	0.057***	0.045***
Global output	0	0.014***	0.015***	0.014***	…	0.014***	0.012***	0.013***	0.011***	0.011***
Oil prices	0	-0.016	-0.024	-0.016	0.042**	-0.02	-0.009	-0.023	-0.006	-0.012
N		175	175	175	175	175	145	145	145	145
R^2		0.283	0.231	0.268	0.196	0.291	0.363	0.285	0.306	0.365

Sources: Haver, IMF WEO, and IMF staff calculations.
1/ The dependent variable is real growth of non-hydrocarbon output. The independent variables are all in real growth rates. To obtain implied fiscal multiplier, divide estimated elasticity by the ratio of the level of a particular spending item to non-hydrocarbon out level.

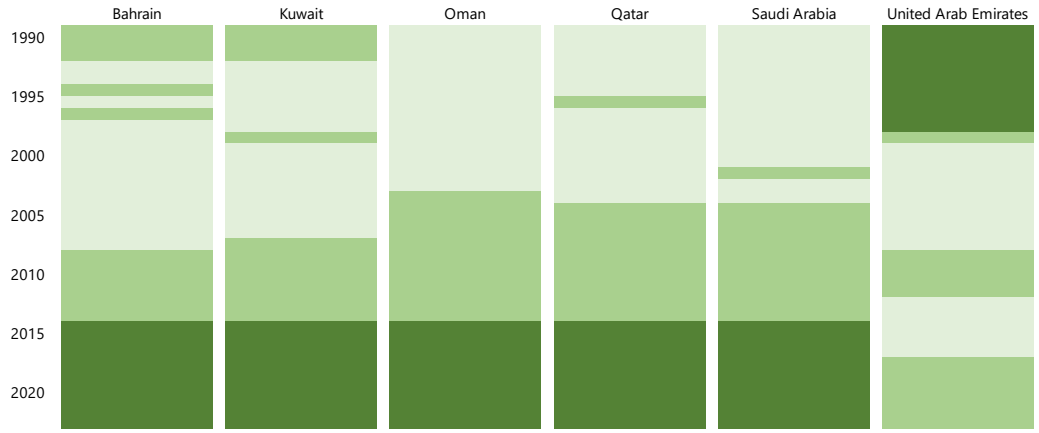
12. The growth impact of capital expenditure is smaller when the stock of capital reaches higher levels in the GCC (Table 3; coefficients on capital spending represent total impact). The stock of capital is scaled by GDP (both data are taken from Penn World Table) and ranked for each country, and further categorized into low, medium, and high. In particular, capital stock to GDP is "high" 1/3 of the time. Generally speaking, the stock of capital relative to GDP rose over time, except for the United Arab Emirates (Figure 3). Looking at model 10, when capital stock level is not accounted for the coefficients on lagged capital stock (reported under "Overall") are consistent with those of the baseline model (model 5). Remaining on model 10, these coefficients (representing the total impact, not just the interaction term) become statistically insignificant when the capital stock to GDP ratio is high (dummy takes value of 1). The results are broadly unchanged when the threshold for the "high" dummy is lowered such that capital

[3] Elasticity of 0.1 over the average current spending to non-hydrocarbon output ratio of 0.47.
[4] Sum of two elasticities is divided by the average capital spending to non-hydrocarbon output ratio of 0.12.

stock to GDP is “high” for ½ of the time (model 11). Consistent with Fouejieu et al. (2018), the growth impact of capital stock weakens during the second half of the sample period (model 12). Results are generally unchanged when the UAE is dropped, even though current spending becomes more impactful in raising growth.

Text Figure 3. Qatar: Indicator of Stock of Capital Relative to GDP

(Country-level ranking, categorized in low, medium, and high, the higher the darker color)



Sources: Penn World Table and IMF staff calculations.

Text Table 3. Qatar: GCC: Determinants of Non-Hydrocarbon Output, Extension

(Estimated coefficients)

		Whole sample				Excluding the UAE			
Model		5	10	11	12	9	13	14	15
		Baseline	By capital to GDP H = top 1/3	By capital to GDP H = top 1/2	By period	Baseline	By capital to GDP H = top 1/3	By capital to GDP H = top 1/2	By period
	Lag								
Current spending	0	0.0524	0.0512	0.0591	0.0572	0.0841**	0.0833*	0.0836*	0.0862**
	1	0.0586*	0.0553	0.0575	0.0635*	0.0960**	0.0864**	0.0965**	0.0997**
	2	0.0268	0.0286	0.0235	0.0253	0.0648	0.0673*	0.0578	0.0547
Capital spending (total coefficients)									
Overall	0	0.0114	0.0118	-0.0134	0.0028	0.0063	0.0086	-0.0119	0.0041
	1	0.0468***	0.0586***	0.0644***	0.0673***	0.0582***	0.0751***	0.0736***	0.0578**
	2	0.0375**	0.0410**	0.0480*	0.0870***	0.0452***	0.0475**	0.0577**	0.0835**
Capital stock is high	0	…	0.0159	0.0361*	…	…	0.0099	0.0316	…
	1	…	-0.0004	0.0321	…	…	-0.0017	0.0392	…
	2	…	0.0333	0.0291	…	…	0.0351	0.0319	…
Second half	0	…	…	…	0.0169	…	…	…	0.0174
	1	…	…	…	0.0309*	…	…	…	0.0538**
	2	…	…	…	0.0181	…	…	…	0.0292
Global output	0	0.0141***	0.0148***	0.0137***	0.0135***	0.0114***	0.0121***	0.0109***	0.0109***
Oil prices	0	-0.0203	-0.0257	-0.0175	-0.0220	-0.0122	-0.0219	-0.0096	-0.0140
Constant		-0.0120	-0.0153	-0.0112	-0.0110	-0.0130	-0.0170	-0.0115	-0.0117
Observations		175	175	175	175	145	145	145	145
R-squared		0.291	0.303	0.314	0.322	0.365	0.382	0.382	0.377

Sources: Penn World Table and IMF staff calculations.

13. Similarly, the strong growth impact of capital spending in Qatar weakens when capital stock is relatively high (Table 4; coefficients on capital spending represent total impact). Earlier models are further extended by introducing the Qatar country dummy to additionally tease out Qatar-specific effects. Results from model 16 show that for Qatar, estimated elasticity without distinguishing capital stock level implies long-run fiscal multiplier is close to 1.5 (it is insignificant for the GCC countries). When capital stock is relatively high, capital spending does not have significant growth effects (model 17). When the UAE is excluded from the sample, fiscal spending in the GCC becomes more impactful generally but Qatar specific elasticities are broadly unchanged (models 18 and 19).

Text Table 4. Qatar: GCC and Qatar: Determinants of Non-Hydrocarbon Output, Extension
(Estimated coefficients)

		Whole sample			Excluding the UAE		
Model		5	16	17	9	18	19
		Baseline	GCC and Qatar		Baseline	GCC and Qatar	
			Overall	By capital stock		Overall	By capital stock
	# of lag						
Current spending							
GCC	0	0.0524	0.0390	0.0449	0.0841**	0.0662	0.0756*
	1	0.0586*	0.0611*	0.0594*	0.0960**	0.0988**	0.0978**
	2	0.0268	0.0267	0.0131	0.0648	0.0632*	0.0476
Capital spending (total coefficients)							
GCC	0	0.0114	0.0050	0.0060	0.0063	0.0025	0.0073
	1	0.0468***	0.0228	0.0293*	0.0582***	0.0330*	0.0466**
	2	0.0375**	0.0185	0.0179	0.0452***	0.0250	0.0261
GCC, capital stock "H"	0			0.0068			-0.0034
	1			-0.0001			-0.0046
	2			0.0320			0.0284
Qatar	0		0.0049	-0.0210		-0.0019	-0.0244
	1		0.171***	0.183***		0.161***	0.173***
	2		0.123***	0.130***		0.120***	0.122***
Qatar, capital stock "H"	0			0.1620			0.1500
	1			0.1350			0.1460
	2			0.0638			0.0953
Global output	0	0.0141***	0.0122***	0.0123***	0.0114***	0.00997***	0.00974***
Oil prices	0	-0.0203	-0.0107	-0.0130	-0.0122	-0.0044	-0.0081
Constant		-0.0120	-0.0075	-0.0073	-0.0130	-0.0098	-0.0100
Observations		175	175	175	145	145	145
R-squared		0.291	0.383	0.399	0.365	0.439	0.459

Sources: Penn World Table and IMF staff calculations.

C. Estimating Fiscal Multiplier: A Single Country Approach (Qatar)

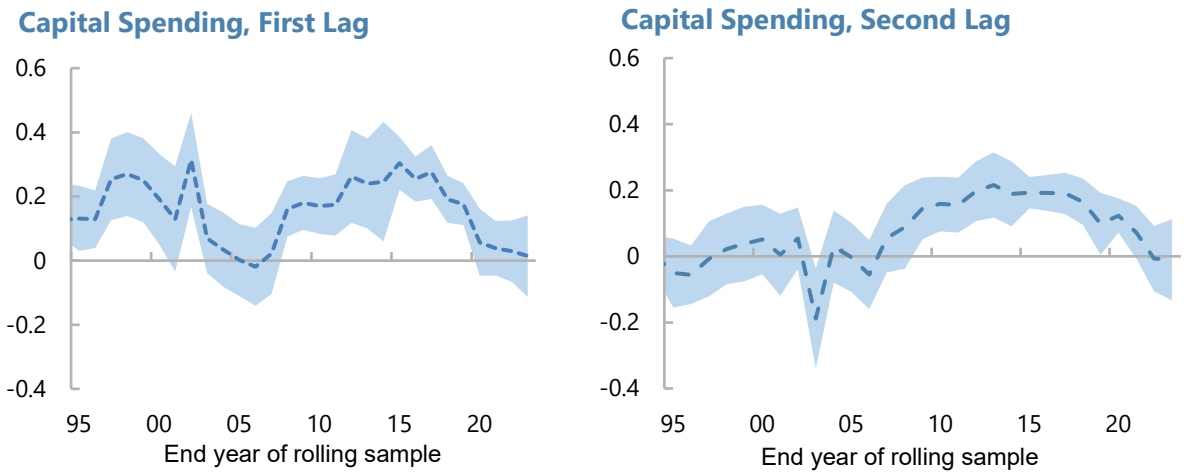
Estimation Strategy and Data

14. The panel analysis using data for the GCC is complemented by a single country analysis for Qatar. Similar to above, non-hydrocarbon output is regressed on central government spending (total, current, and capita), global output, and oil prices, all expressed in real growth rates. Data has greater length than before, spanning 1983–2023, which include estimates. We estimate static regressions and dynamic regressions, both vector auto-regression and local projection. In addition, time-varying growth effects of lagged capital spending are estimated using the same static model on a 12-year rolling basis.

Estimated Results

15. In the recent decade, growth effects of capital spending waned coinciding with maturing of the infrastructure investment cycle associated with the World Cup (Figure 4). Results from static and dynamic regressions confirm that growth effects of lagged capital spending are important in Qatar (Appendix I), which are further unpacked using rolling regressions. World Cup-related capital spending in the 2010s appears to have had "renewed" growth effects, particularly with greater persistence gauging from the second lag (right panel). These investments may reflect a more comprehensive infrastructure investment strategy and/or with high spending efficiency. These growth effects moderated as the infrastructure investment cycle started to mature. These interpretations are suggestive, as the model does not control for other potential determinants and the rolling approach further reduces the sample size.

Text Figure 4. Qatar: Non-hydrocarbon Growth Impact of Public Capital Spending 1/
(12-year rolling coefficient and 68 percent confidence interval)



Sources: Haver and IMF staff.
1/ Non-hydrocarbon output is regressed on current spending (L0 and L1), capital spending (L1 and L2), global output, and oil prices, all in real growth rates, on a 12-year rolling basis ending in the year indicated on the horizontal scale, using annual data for Qatar spanning 1983–2023. Coefficients on the first and second lag of capital spending are displayed.

D. Conclusions and Policy Implications

16. Results from this paper's analysis suggested that Qatar's strong capital expenditure multiplier became less impactful when the stock of capital reached a high level. This is consistent with this paper's results for a panel of GCC countries, and those from Fouejieu et al. (2018) that fiscal consolidation in the GCC may be less costly as fiscal multiplier declined over time, to the extent that the stock of capital generally rose over time.

17. The literature highlights key ingredients of productive fiscal spending relevant for Qatar. Reallocation to non-wage spending within current spending envelope, particularly to education spending that builds human capital, and higher capital spending relative to current spending tend to boost economic growth (Gupta et al., 2005; and Acosta-Ormaechea and Morozumi, 2013). However, seemingly productive expenditures, when used in excess, could become unproductive (Devarajan et al., 1996). Thus

investments in new areas, particularly to support a knowledge-based economy with higher value-added sectors and to enhance climate sustainability and promote “green” growth could have significantly larger multipliers than traditional infrastructure investment (IMF, 2023b). Moreover, the growth effects of public spending tend to be more sizable, long-lasting, and stable when institutional quality is higher (Avellan et al., 2020).

18. The authorities’ plan to reorient spending to support knowledge-based growth could boost growth effects of fiscal spending. Qatar already has top-notch infrastructure (and excess supply in some areas) to help elevate growth potential. Therefore, public investment should focus on improving human capital, both for nationals and expatriates, providing a more conducive environment for businesses, enhancing climate sustainability, and continuing to adapt to the energy transition. Investment in human capital (education and health) is a welcome key pillar of NDS3 and there is scope to improve spending efficiency in Qatar. Further investment in climate adaptation would mitigate its vulnerabilities to climate stressors. More investment to facilitate decarbonization and promote renewables would help Qatar reach its emission reduction target and smooth the energy transition process. Crowding in private sector investment with efficient public spending would further economic diversification and accelerate the transition to private sector-driven growth.

Annex I. Additional Results

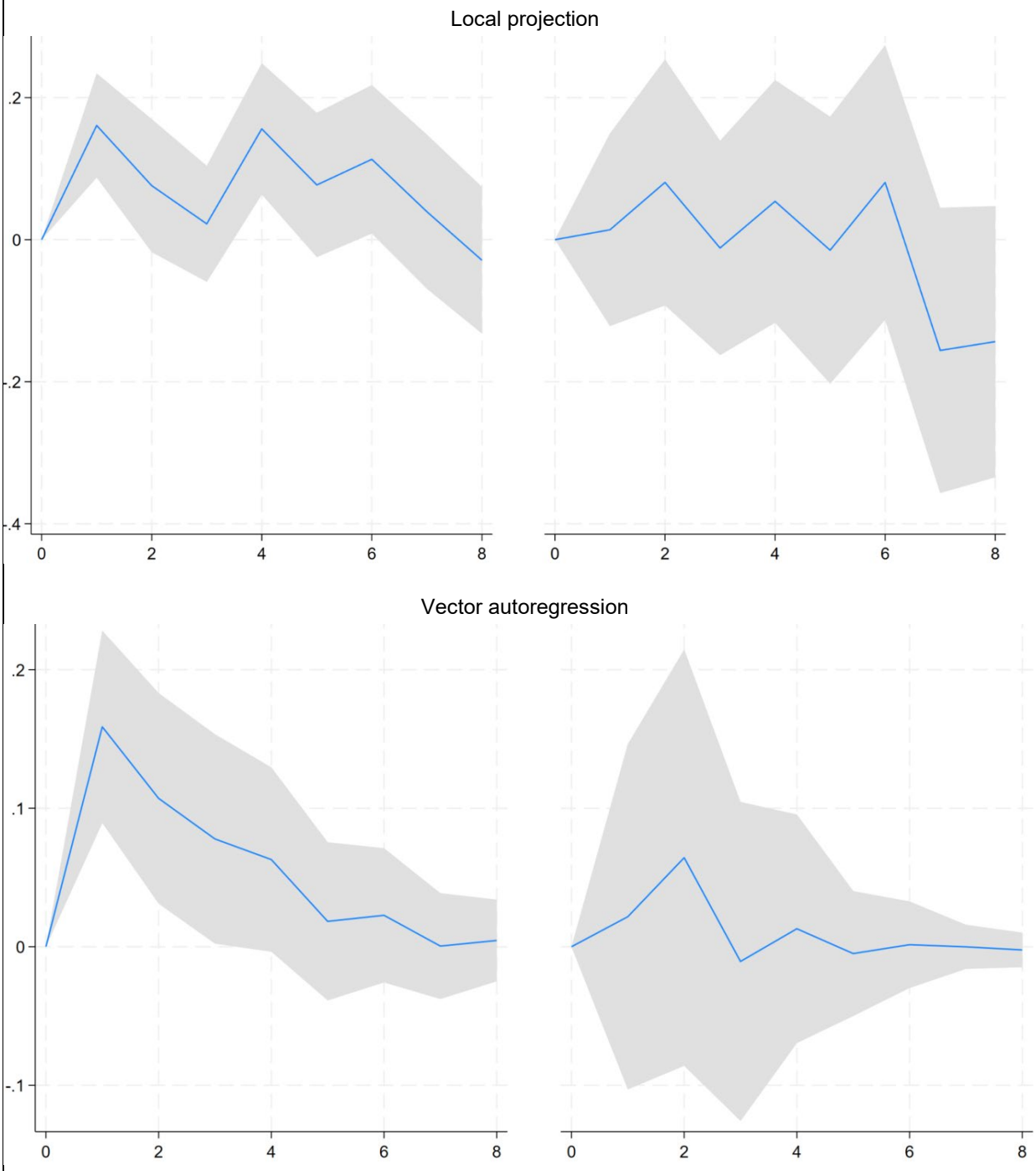
Annex I. Table 1. Qatar: Determinants of Non-Hydrocarbon Output 1/

Model		1	2	3	4
	Lag				
Total spending	0	0.129	..	..	..
	1	0.236***	..	..	..
	2	0.228***	..	..	..
Current spending	0	..	0.212**	..	0.099
	1	..	0.115	..	0.030
	2	..	0.180**	..	0.088
Capital spending	0	..	..	0.011	0.007
	1	..	..	0.180***	0.155***
	2	..	..	0.128***	0.102**
Global output	0	1.198	1.404	1.973**	1.790**
Oil prices	0	-0.068	-0.072	-0.068	-0.082*
Constant	0	-0.356	-0.627	-2.383	-2.393
N		39	39	39	39
R^2		0.493	0.374	0.593	0.638

* p<.1; ** p<.05; *** p<.01

Sources: Haver, IMF WEO, and IMF staff calculations.
1/ OLS results. The dependent variable is real growth of non-hydrocarbon output. The independent variables are all in real growth rates.

Annex I. Figure 1. Qatar: Impact of Fiscal Expenditure on Non-hydrocarbon Output 1/



Sources: Haver, IMF WEO, and IMF staff calculations.
1/ Endogenous variables are current expenditure, capital expenditure, and non-hydrocarbon output (all in real growth rates) in this order. Exogenous variables are global output and oil prices (both in real growth rates). IRFs show the impact of the mentioned variables on non-hydrocarbon output.

References

Acosta-Ormaechea, Santiago and Atsuyoshi Morozumi. 2013. “Can a Government Enhance Long-run Growth by Changing the Composition of Public Expenditure?” IMF Working Paper 13/162.

Avellan, Leopoldo, Arturo Galindo, and John Leon-Diaz. 2020. “The Role of Institutional Quality on the Effects of Fiscal Stimulus,” IDB Working Paper Series, 01113.\

Bibolov, Aidyn, Ken Miyajima, Sidra Rehman, and Tongfang Yuan. 2024. “2022 FIFA World Cup: Economic Impact on Qatar and Regional Spillovers.” IMF Selected Issues Paper (SIP/2024/011). Washington, D.C.: International Monetary Fund.

Devarajan, Shantayanan, Vinaya Swaroop, and Heng-fu Zou. 1996. “The composition of public expenditure and economic growth.” Journal of Monetary Economics, 37, 313–44.

Espinoza, Raphael and Abdelhak Senhadji. 2011. “How Strong are Fiscal Multipliers in the GCC? An Empirical Investigation.” IMF Working Paper 11/61.

Fouejieu, Armand, Sergio Rodriguez, and Sohaib Shahid. 2018. “Fiscal Adjustment in the Gulf Countries: Less Costly than Previously Thought.” IMF Working Paper 18/133.

Gupta, Sanjeev, Benedict Clements, Emanuele Baldacci, and Carlos Mulas-Granados. 2005. “Fiscal policy, expenditure composition, and growth in low-income countries.” Journal of International Money and Finance, 24, 441–63.

Jamal, Usama, Yevgeniya Korniyenko, and Weining Xin. forthcoming. “GCC Growth and Diversification: The Role of Cross-Border Investment and Sovereign Wealth Funds.” International Monetary Fund.

International Monetary Fund (IMF). 2023a. “Qatar: 2023 Article IV Consultation-Press Release; and Staff Report.” IMF Country Report No. 2024/043.

International Monetary Fund (IMF). 2023b. “UAE reforms for more sustainable and greener growth.” IMF Country Report, No. 23/224.