INTERNATIONAL MONETARY FUND

IMF Country Report No. 16/327

SAUDI ARABIA

SELECTED ISSUES

October 2016

This Selected Issues paper on Saudi Arabia was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on June 30, 2016.

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International Monetary Fund
Washington, D.C.

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SELECTED ISSUES

June 30, 2016

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CONTENTS

FINANCING THE FISCAL DEFICIT – POSSIBLE OPTIONS AND THEIR POTENTIAL IMPLICATIONS ____ **4**

A. Introduction ____ 4
B. Financing the Fiscal Deficit: The Past, the Present, and the Future ____ 5
C. Economic and Financial Implications of Fiscal Financing ____ 14
D. Developing the Domestic Debt Market and Broadening the Investor Base ____ 20
E. Conclusions ____ 25
References ____ 31

BOX

1. Strengthening Debt Management Practices in Saudi Arabia ____ 23

FIGURES

1. Saudi Arabia Government Gross Debt and Assets, 1975–2015 ____ 6
2. General Government Gross Debt and Assets, 2015 ____ 6
3. Yields on Domestic Saudi and International EM Government Bonds ____ 11
4. Saudi Arabia Central Government Bonds ____ 13
5. General Government Domestic Bonds ____ 14
6. Bank and Pension Fund Assets (SAR Billions) ____ 16
7. Key Indicators: Scenarios I & II ____ 18
8. Key Indicators: Scenarios I, III, IV, V ____ 18
9. Domestic Bank Claims on Government (excluding SAMA) (1993–2015) ____ 21

TABLES

1. Debt Securities and Facilities 7
2. Indicators of Funding Cost and Asset Returns 9
3. GCC—Sovereign Bond Issuance, 2015–16 10
4. Central Government Debt Securities Characteristics, 2014 or Latest 12
5. Summary Assumptions: Scenarios 1–5 15
6. Allocation of Fiscal Financing and Key Indicators 19

APPENDICES

I. Projected Fiscal Financing Allocations 26
II. Local Capital Market and Instruments Development 27

PRIVATIZATION AND PPPS IN SAUDI ARABIA: PAST EXPERIENCE AND THE WAY FORWARD 32

A. Introduction 32
B. Past Experience 33
C. The Size of the SOE Sector and Potential Future Privatization 37
D. Lessons from International Experience on Privatization and PPPs 39
E. Some Fiscal and Macroeconomic Considerations 41
F. Public-Private Partnerships: Opportunities and Risks 45
G. Conclusions and Policy Recommendations 47
References 49

BOXES

1. Key Restructuring/Corporatization of State-Enterprises and PPPs 35
2. Privatization and Government Net Wealth 43

FIGURES

1. Stock Market and Foreign Investment 35
2. Government Stakes in Listed SOEs, 2015 37
3. IPOs Performance of Privatized Enterprises and Private Companies, 2003–15 39

TABLES

1. Saudi Arabia, Major Privatization Operations 34
2. MENA Regions: Privatization Proceeds in 1990 and 2000s 36
3. GCC: Net Present Value of Future Oil Proceeds as of End 2015 37
4. GCC: Government Ownership in Listed SOEs 38

GROWTH IN A LOW OIL PRICE ENVIRONMENT ____ **51**
A. Introduction ____ 51
B. Low Oil Prices, Fiscal Consolidation, and Growth in the Non-oil Sector ____ 52
C. The Impact of Low Oil Prices and Fiscal Consolidation on Potential Growth ____ 58
D. Structural Reforms to Boost Productivity and Growth ____ 64
E. Conclusion ____ 68
References ____ 71

BOXES
1. Estimating Fiscal Multipliers for Saudi Arabia ____ 56
2. Employment in a Low Growth Environment ____ 60

FIGURES
1. Real GDP Growth Rate ____ 51
2. Shares and Contributions to GDP ____ 52
3. Impact on Real Non-oil GDP Growth ____ 53
4. Real GDP, Oil Revenues and Expenditure Changes During Periods of Oil Price Declines ____ 54
5. Sector Contributions to Non-oil Private Sector Growth ____ 55
6. Estimating Potential Growth ____ 59
7. Actual and Potential Non-oil Growth ____ 59
8. Impact of Oil and Fiscal Reform Scenarios – Results from G20MOD ____ 63
9. Doing Business Indicators, 2015 vs 2016 ____ 66

TABLES
1. Fiscal Expenditure Multipliers ____ 57
2. Selected Structural Reforms Under Implementation in Saudi Arabia as Part of the G-20 Framework Working Group ____ 65
3. Major Industrial Projects in Saudi Arabia ____ 66

APPENDIX
I. A Summary of the IMF's G20MOD Module of FSGM ____ 69

FINANCING THE FISCAL DEFICIT – POSSIBLE OPTIONS AND THEIR POTENTIAL IMPLICATIONS[1]

To meet large financing needs over the coming years, Saudi Arabia has multiple financing options. It can draw down the large stock of government deposits held at the central bank, sell other financial assets, or borrow domestically or abroad. This paper uses an asset-liability management framework to discuss the benefits and risks as well as the macroeconomic implications of each of these options, and illustrates some of these aspects through a simulation analysis. It also reviews a number of policies that will help expand the investor base and reduce financing costs, while having broader positive implications for the economy. In particular, establishing a benchmark yield curve will encourage the development of the domestic debt market. Moreover, the fiscal and debt management frameworks and policies need to be strengthened in order to mobilize domestic savings and attract foreign financing.

A. Introduction

1. The large and sustained decline in oil prices since the second half of 2014 has turned Saudi Arabia's fiscal surpluses of more than a decade into deficits and increased the need for financing. Current staff projections suggest that large financing needs will continue over the medium-term. Initially, the government used its deposits at the central bank to finance the fiscal deficit, and since June 2015, it has started to issue domestic government securities. The government signed a syndicated loan with international banks for $10 billion in the second quarter of 2016.

2. Saudi Arabia is starting from a strong asset-liability situation. At end 2015, government deposits at SAMA stood at SAR 1050 billion (about $280 billion) and government debt was low at SAR 121 billion ($32 billion). The gross reserves position at SAMA, even after declining by $115 billion in 2015, remains strong, at $609 billion (about 32 months of import coverage). In addition, the government asset portfolio in the form of equity participation in SOEs and/or strategic investment projects increased over the last decade. The value of the government's ownership of listed domestic companies held through the Public Investment Fund (PIF) was estimated at $130 billion at end-2015. It also owns many non-listed companies including the very large oil company ARAMCO, which even if a small portion of it is privatized, the reinvested proceeds could generate sizable investment income for the budget.

3. The government is working to develop a comprehensive strategy to meet its budget financing needs. It is working to strengthen the regulatory and institutional framework, particularly the debt management framework, and to better integrate the two sides of the government balance sheet to efficiently meet the financing needs of the budget—both domestically and in the international financial markets. The government has extensive experience in managing its asset portfolio—including through the PIF (at home) and SAMA (for gross reserves). However, debt

[1] Prepared by Fahad Alhumaidah, Ryadh Alkhareif (all SAMA), Khalid AlSaeed (MCM), Nabil Ben Ltaifa (MCD), Ken Miyajima, and Guilherme Pedras (all MCM). Research support was provided by Zhe Liu and editorial support by Diana Kargbo-Sical (all MCD).

management capacity has declined over the years, with the dwindling need for budget financing. With the emerging need for borrowing, it will be necessary to integrate the management of both sides of the government balance sheet.

4. This paper discusses the options for financing the government fiscal deficit and the supporting institutional reforms that are needed. In particular, the paper discusses the main trade-offs between drawing down assets and various borrowing options and related risks and benefits, including the benefits of domestic market development and the role that could be played by Islamic finance. It also looks into the macroeconomic implications of the different financing options. The paper is organized as follows. Following a brief history of government assets and liabilities in Saudi Arabia, Section B discusses the investment-financing tradeoffs and the different budget financing options available to the country as well as their relative costs and benefits. Section C studies the economic and financial implications of a menu of financing options through simulations. Developing the domestic debt market and broadening the investor base are the focus of section D. Section E concludes.

B. Financing the Fiscal Deficit: The Past, the Present, and the Future

A brief history of government assets and liabilities in Saudi Arabia

5. The Saudi government's assets and liabilities structure has evolved over the past three and a half decades. Its evolution can be separated in four periods, reflecting in part oil price developments.

- A buildup in government assets (deposits at SAMA) which started in the 1970s continued through the early 1980s and peaked at over SAR 400 billion in 1983. However, estimated in percent of GDP, government assets exceeded 100 percent in the mid-1970s and declined to about 93 percent of GDP in 1983 as GDP grew larger over the period (Figure 1).

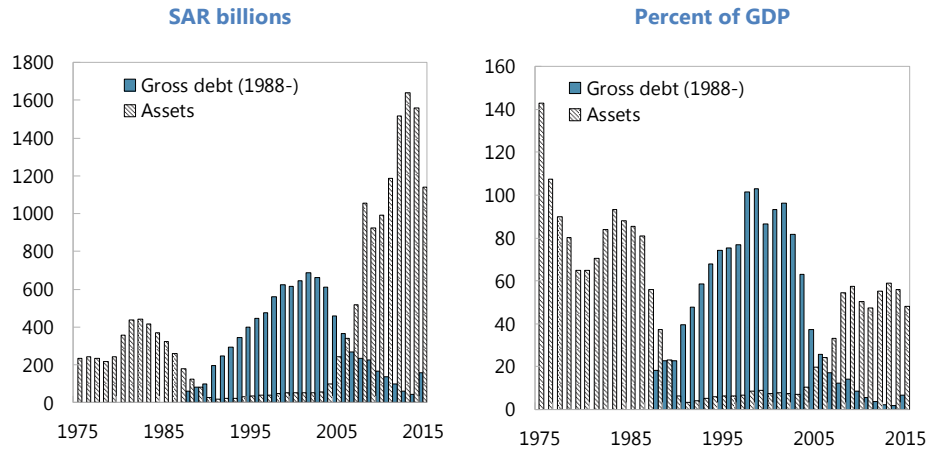
- During the 1990s, the government's "net debt" increased.[2] The stock of government assets declined to close to SAR 30 billion (about 5 percent of GDP) in 1999 and the stock of debt securities rose to about SAR 700 billion or 100 percent of GDP in the late 1990s.

- From the early 2000s to 2014, the government reduced its net debt into negative territory. The stock of government securities fell to about SAR 40 billion or less than 2 percent of GDP in 2014. Meanwhile, government deposits at SAMA rose to SAR 1.5 trillion or 54 percent of GDP in 2013, benefitting from high oil prices and prudent policies.

[2] Net debt is calculated by subtracting the stock of financial assets from debt outstanding.

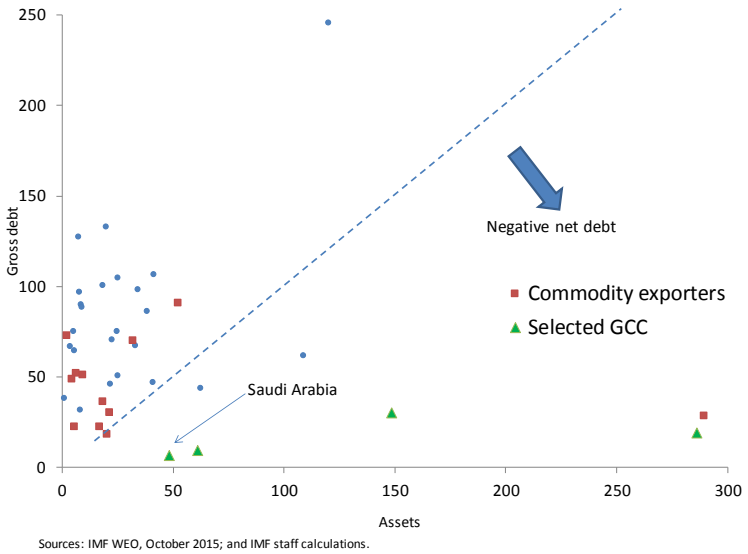
- However, the trend has reversed since mid-2015. The stock of debt securities is estimated to have risen again reaching close to 5 percent of GDP by end year as the government re-started bond financing in June while government deposits at SAMA fell. However, the Saudi Arabian government is still one of only a handful of countries with a net asset position (Figure 2). Estimates for 2015 show that the Saudi government held net financial assets equal to 38 percent of GDP.

Figure 1. Saudi Arabia Government Gross Debt and Assets, 1975–2015



Sources: IMF WEO, October 2015, Saudi Arabian Monetary Agency, and IMF staff calculations.
Note: Assets are implied by gross and net debt.

Figure 2. General Government Gross Debt and Assets, 2015
(Percent of GDP)



Sources: IMF WEO, October 2015; and IMF staff calculations.

6. Government issuance of debt instruments over the past 40 years has been intermittent. The government issued for the first time its own borrowing instrument (Government Development Bonds) in 1988, and in 1991, it started to issue Treasury bills (T-bills) to finance the fiscal deficit (Table 1, and Appendix II). However, issuance of these debt securities was stopped when the fiscal situation improved. To help promote the development of domestic debt markets and conduct monetary policy, SAMA issued its own instruments—including those that are Sharia-compliant to cater to the needs of Islamic banks. However, the secondary market has never fully developed, market liquidity remained low, and no benchmark yield curve developed. More recently, the government resumed issuance of debt securities to fund the fiscal deficit.

Table 1. Debt Securities and Facilities

Facility/Security	Initial Operational/Issuance Date	Latest Tenors	Current Status	
			Active	Inactive
Saudi Arabian Monetary Agency				
Repo Window	February.1984	Overnight	x	
Reverse Repo Window	May.1992	Overnight	x	
SAMA bills	December.2008	1, 4, 13, 26, 52 weeks	x	
SAMA Murabaha	July.2006	1, 4, 13, 26, 52 weeks	x	
BSDAs	February.1984	30, 91 and 181 days		x
Ministry of Finance				
Government Bonds	June.1988	5, 7 and 10 years	x	
FRNs	January.1997	5, 7 and 10 years	x	
Government Long-Term Murabaha	January.2016	5, 7 and 10 years	x	
Treasury Bills	November.1991	1, 4, 13, 26, 52 weeks		x
Government Short-Term Murabaha	April.2002	3 months – 3 years		x

Source: Saudi Arabian Monetary Agency.

Considerations in financing the current and future fiscal deficits[3]

7. As a resource rich country, Saudi Arabia needs to approach budget financing from an integrated balance sheet standpoint. Over the past decade, the government has built-up significant liquid assets in the form of deposits in the banking system and holdings of equity stakes in a large number of companies in Saudi Arabia (an estimate of the value of the stakes in the listed companies is 20 percent of GDP which excludes Aramco). These could be rundown or sold to investors. The government also has considerable opportunities for borrowing in domestic and international markets given outstanding debt is very low.

8. Against this background, the question is how much the government should borrow versus how much should it draw down/use its assets to finance the budget deficit. Indeed, the

[3] See IMF (2014) for more detailed analysis on sovereign asset liability management.

government could also consider borrowing more than it needs to finance the deficit and increase its asset holding (this issue is not discussed further in this paper). Ultimately, the government needs to balance the costs and risks of each option to arrive at an appropriate financing mix. In the 1990s, Saudi Arabia relied exclusively on drawing down its financial assets and domestic borrowing to finance the deficit. However, this time around, encouraged by a strong balance sheet and a low interest rate environment, the government is using a broader financing mix that includes borrowing in the international financial market.

9. There is merit to the government maintaining a stock of financial assets even in a situation of emerging financing needs. Financial assets are most useful during shocks when other financing resources become either scarce or very expensive and are therefore an important buffer against risks, particularly when the fiscal position is exposed to the volatility of the oil market. They also help reduce borrowing costs to the extent they serve as collateral for the lender.[4] The optimal size of such precautionary asset holding is difficult to know, but could perhaps be considered as what would be needed to finance the fiscal deficit for a one or two year period in an adverse oil price scenario.

10. Returns on government financial assets vary across countries and time. Little information is directly available about the returns on the Saudi government's financial asset holdings. The Public Investment Fund (PIF), which holds most of the government's equity stakes in Saudi companies, does not publish data on returns, but holdings include very profitable companies such as SABIC and a number of banks.[5] Also, returns of SAMA's foreign reserves are not published, although the implied rate of return on the external assets of Saudi Arabia was estimated at about 2.7 percent in 2015 (Table 2). By comparison, Norway's sovereign wealth fund reports it earned a nominal return of 2.7 percent in 2015. Clearly, returns depend on the types of assets held in the portfolio, while past returns do not provide a guide to the future.

11. Borrowing domestically has the primary advantage of avoiding exchange rate risk and encouraging the development of the domestic debt market (see later). Issuance of domestic government debt facilitates the development of domestic financial markets, benefits that should be factored into the financing decision. Establishing a risk free government yield curve also helps develop the private debt market. This in turn would help strengthen private sector development, economic diversification, growth, and the resilience of the economy to shocks. SAMA and the Ministry of Finance (MoF) have relied on a range of domestic debt securities and facilities (Table 1). Over the past year, the government has issued bonds of 5-, 7-, and 10-year maturities. The yields on 7- and 10-year domestic bonds were less than 3 percent, below the yields on comparable international debt securities.

[4] Some resource rich countries placed part of their financial surpluses (generated during period of booms) into sovereign wealth funds (SWF) which overtime have grown in size and are generally invested in less liquid-higher return/risk assets that have become a significant alternative source of income to their country.

[5] See accompanying paper on "Privatization and PPPs in Saudi Arabia: Past Experience and the Way Forward".

Table 2. Indicators of Funding Cost and Asset Returns
(Percent)

Saudi Arabia	
Yields on government debt (April 2016)	
Domestic	
5 years	1.90
7 years	2.35
10 years	2.72
International 1/	
5 years	2.42
7 years	2.63
10 years	2.87
Estimated returns on external assets (2015)	2.7
Estimated returns on external liabilities (2015)	3.3
Yields on International Emerging Market Sovereign Bonds (April 2016) 2/	
AA	2.81
A	3.67
BBB	4.65
Returns Earned by Sovereign Wealth Funds (2015)	
Abu Dhabi (20 yr ave., nominal) 3/	7.4
Norway (nominal)	
18 yr ave.	5.6
2015	2.7
Singapore (real, 20 yr ave.)	4.9

Sources: Saudi Arabian Monetary Agency, JPMorgan, Internet sources, and IMF staff estimates.

1/ The US dollar Libor-based funding cost reported by media swapped into a fixed rate.
2/ Average maturity is 5 to 7 years. In May 2016, Saudi Arabia was rated AA- by Fitch, A+ equivalent by Moody's, and A- by S&P.
3/ 2014

12. External borrowing could alleviate pressure on the domestic market, but creates new risks. Reliance on foreign investors may help further enhance transparency. Foreign investors' demand for diversification could also allow the Saudi government to enjoy attractive yields. However, foreigners could constitute a less stable investor base than local counterparts.[6] In addition, external debt risks relating to the currency composition of debt and the foreign exchange rate are more complicated to manage. For Saudi Arabia, exchange rate risk appears limited owing to the fact that a significant portion of government revenue is denominated in foreign currency and the country has a well-established peg. Exchange rate risk could further be reduced through careful management of its assets and liabilities, including matching its asset currency composition with its external debt. However, external borrowing is characterized by high (debt) rollover risk or what is known as risk of sudden stops (or reversal of private capital flows). The government has recently arranged a 5-year loan with international investors. Looking forward, foreign investors' demand for oil exporters' credit exposure could become constrained as many countries try to borrow at the same time after being affected by a common adverse shock (Table 3).

[6] A large presence of foreign investors in the domestic market can increase market volatility and abrupt capital outflows.

13. The relative cost of domestic versus foreign borrowing and the returns on government assets are likely to depend on market circumstances. Looking back on the 1990s and 2000s, yields on the Saudi Arabian government's domestic bonds were estimated to have remained below those on comparable international bonds. However, domestic liquidity conditions have tightened. More generally, emerging and low-income countries often face higher borrowing costs in local currency than in foreign currency. Domestic market tends to lack depth and domestic borrowing instruments are typically less liquid and have lower credibility than international instruments (IMF 2004). This may be also true of Saudi Arabia despite the relatively large domestic investor base, which extends beyond the banking system to include the Autonomous Government Institutions (AGIs) and the high net wealth individuals. Thus, over time, there is likely to be a net cost to holding financial assets (for emerging market countries like Saudi Arabia) because the cost of borrowing is likely to exceed the return on the investment portfolio, particularly if it is invested largely in safe assets like U.S. treasuries. A riskier investment portfolio could generate higher returns, but at the cost of taking on additional risks which the government would need to carefully consider as part of its asset/liability management strategy.

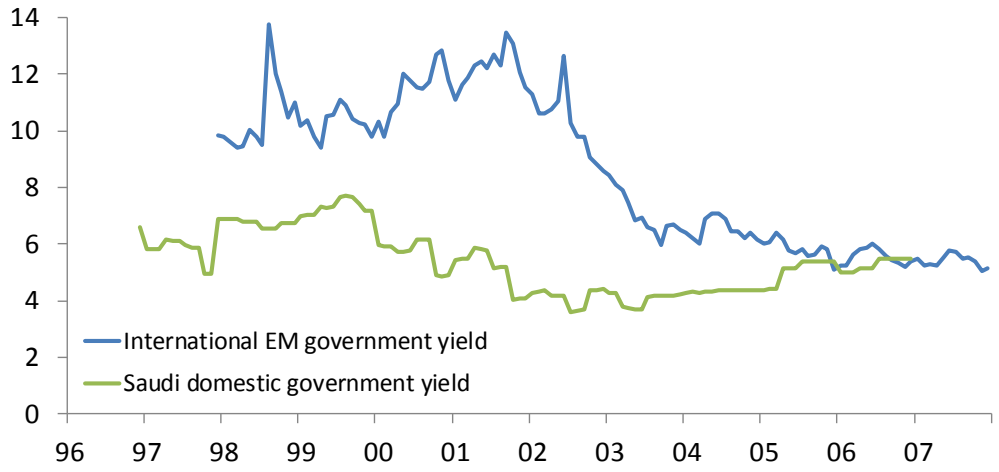
14. In sum, there are advantages and disadvantages of all three options (asset run-down, and domestic and external borrowing). In terms of liquid financial asset holdings, the net cost (of investing) could be considered as the insurance premium against shocks, and the balancing act for the government is how much coverage to buy given the potential risks ahead relative to the cost for the insurance premium. For debt issuance, the costs and benefits of domestic versus foreign borrowing will need to be weighed carefully. Overall, while difficult to be specific, some combination of all three options is likely to be optimal.

Table 3. GCC—Sovereign Bond Issuance, 2015–16[1/]

	Ratings			Amount issued (U$ billion)	
	S&P	Moody's	Fitch	2015	2016
Bahrain	BB	Ba2	BBB-	1.5	1.0
Kuwait	AA	Aa2	AA	0.0	0.0
Oman	BBB-	Baa1	...	0.0	3.5
Qatar	AA	Aa2	AA	0.0	14.5
Saudi Arabia	A-	A1	AA-	0.0	10.0
United Arab Emirates [1/]	AA	Aa2	AA	0.0	5.0

Sources: Bloomberg; and IMF staff estimates.
1/ Abu Dhabi. Dubai is not rated.

Figure 3. Yields on Domestic Saudi and International EM Government Bonds
(Percent)



Sources: Bloomberg, JPMorgan, and IMF staff calculations.
Note: The Saudi domestic government yield index is estimated by interpolating individual issuance and broadly matching the average maturity of international EM government yield index. International EM government yield index is estimated to broadly match the Saudi government's credit ratings, assuming a BB rating before Moody's rated the government's credit for the first time in late-2001 at BB+ equivalent.

Additional Considerations for Debt Issuance

15. When issuing new debt, there are other important considerations, which are the maturity of issuance, the coupon type, borrowing domestically or internationally, and whether to issue traditional or Islamic instruments. Each type of borrowing will have its own costs and benefits and will appeal to different types of investor. These issues are discussed below.

Maturity

16. Maturity of debt securities affects funding costs and rollover risks. Shorter maturity instruments entail a lower cost of funding assuming the yield curve is upward sloping. They also help anchor the shorter end of the yield curve and deepen money markets, which is often considered a precondition for developing the yield curve for longer maturities. Longer-dated bonds reduce rollover needs but yields are higher, and because of the greater duration risk, they have more appeal to institutional investors (insurance, pension funds) than banks.

17. During its peak issuing years in the 1990s, the Saudi government generally issued debt at medium to long-term maturities. The average remaining maturity of Saudi government bonds was 6–7 years during times of active issuance. This is comparable to the median of 6.6 years for major advanced and emerging economies (Table 4). The average remaining maturity of the stock of Saudi government debt securities fell to about 3 years in 2014 as the amount outstanding declined in the absence of new issuance (Figure 4). Over the past year, the government has issued in five-, seven- and 10-year maturities.

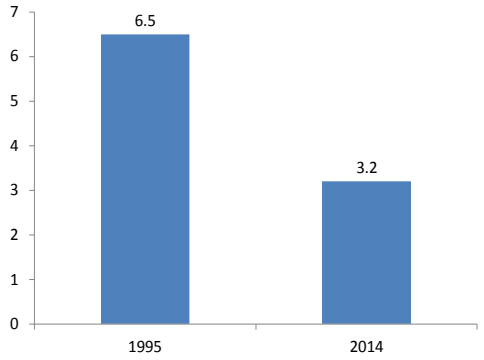
Table 4. Central Government Debt Securities Characteristics, 2014 or Latest

	Amount outstanding		Average maturity (years)		Year	
	Total		Original	Remaining	2013	2014
	(U$ bn)	(% of GDP)				
Argentina	62.3	10.0	15.2	10.9	x	
Australia	257.9	17.9	9.3	6.4		x
Belgium	381.3	71.4	12.4	7.8		x
Brazil	795.6	33.9	...	4.3		x
Canada	407.0	22.8	...	6.6		x
Chile	28.3	10.2	17.4	11.3	x	
Colombia	80.6	21.3	11.0	5.9		x
Czech Republic	52.2	25.4	10.5	5.2		x
Germany	1458.9	37.7	11.6	6.5		x
Hong Kong SAR	13.1	4.7	5.5	2.4	x	
Hungary	42.3	30.9	7.9	3.6		
India	642.0	34.2	13.5	9.7	x	
Indonesia	94.7	10.7	14.2	9.7		x
Israel	127.6	41.7	12.3	7.1		x
Korea	463.7	32.9	10.2	6.8		x
Malaysia	154.5	45.7	9.7	6.2		x
Mexico	309.6	24.0	...	8.0		x
Peru	14.5	7.2	17.9	12.2		x
Philippines	79.3	27.9	12.6	9.2		x
Poland	137.7	25.1	8.4	4.2		x
Russia	62.0	3.3	10.4	6.3		x
Saudi Arabia	11.8	1.6	...	3.2		x
Singapore	68.2	22.1	11.5	6.3		x
South Africa	117.0	33.4	21.3	14.2		x
Spain	889.6	63.2	10.2	6.0		x
Taiwan Province	168.9	31.9	15.0	9.5		x
Thailand	0.1	0.0	14.9	9.8		x
Turkey	179.2	22.4	6.7	4.5		x
United Kingdom	2241.0	76.0	...	15.8		x
United States	11046.9	63.7	...	5.7		x

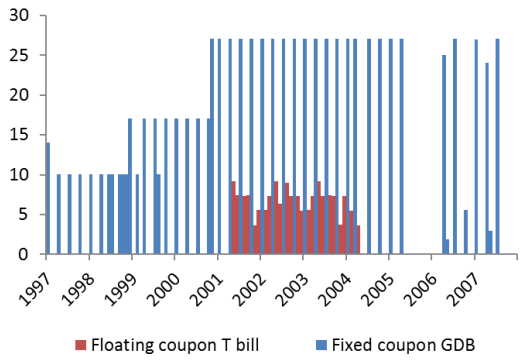
Source: BIS

Figure 4. Saudi Arabia Central Government Bonds

Average remaining maturity, 1995 and 2014
(Number of years)



Monthly issuance of fixed- and floating-rate bonds, 1997–2007
(Maturity-adjusted number of issuance)



Sources: BIS; Bloomberg; and IMF staff calculations
Note: In right panel, the number of issuance every month is multiplied by the maturity of the individual bond or T bill issuance. Data on issue amount not available.

Coupon type

18. The coupon type affects funding costs and interest rate risk. Fixed rate bonds are typically more expensive than floating rate bonds at longer tenors, because of a premium that investors demand to make up for potential "time inconsistency", or risk that the government may seek to reduce debt service costs in real terms by increasing inflation. However, fixed rate bonds are attractive because they reduce interest rate risk for the issuer and are a plain vanilla instrument that is easy to value and trade. Two other key coupon bond types are inflation linked and FX linked. During the period up to 2007 when the government was issuing actively domestic bonds to meet its financing needs, fixed-coupon government development bonds (GDB) dominated issuance. Floating-coupon Treasury bills were mainly issued during 2001–04.[7]

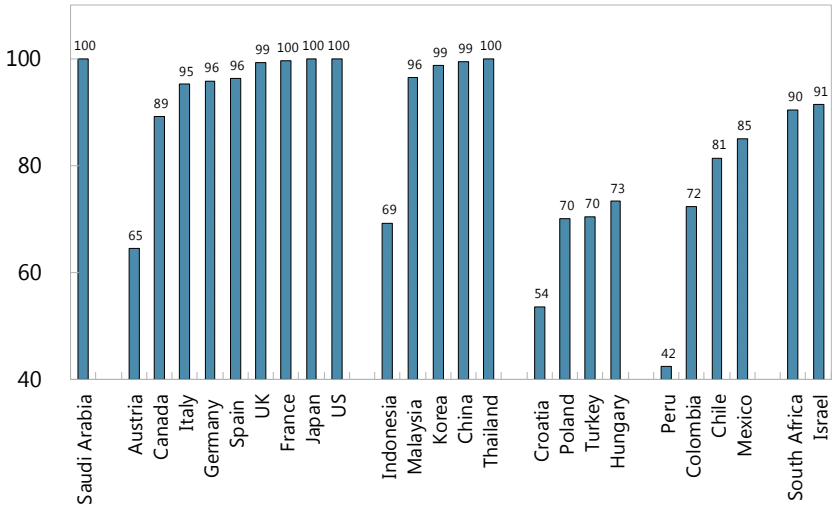
Domestic versus international borrowing

19. Borrowing could be domestic or international. Domestic bonds would typically target resident investors and mobilize domestic savings and international bonds target foreign savings. Investors in domestic bonds tend to be residents, but non-resident investors in some countries hold major shares of total domestic bonds outstanding. Investors can also be classified by institutions such as banks and non-banks. Non-banks include financial and non-financial institutions. Retail investors are part of the latter. Over the past decade, governments have generally shifted their funding to domestic sources, particularly in emerging economies (Figure 5). However, non-resident investors hold important shares of domestic bonds in many advanced economies, such as the United

[7]To assess the relative importance of fixed-coupon bond issuance, the number of monthly bond issuance of fixed- and floating rate bonds or bills is multiplied by maturity.

States, and some emerging markets—including Hungary, Indonesia, Mexico, and Poland. In some regions, governments have also relied on international borrowing. In EMEA and Latin America for example, governments issue more in foreign markets, and this could probably be attributed to their more open capital accounts. Until lately, Saudi Arabia has relied solely on domestic bonds, and in April 2016, it reached an agreement with a consortium of international banks on its first international loan for amount of $10 billion.

Figure 5. General Government Domestic Bonds
(Percent share of total, 2015)



Sources: BIS; and IMF staff calculations.

Traditional or Islamic instruments

20. The introduction of Islamic borrowing instruments has been relatively recent in Saudi Arabia as in the rest of the world. The first Sharia compliant instruments were introduced in the late 1990s-early 2000s. The Ministry of Finance led this effort with the issuance of Floating Rate Notes (FRNs) in 1997, and later, the short-term Murabaha securities in 2002. Long-term Murabaha securities were issued for the first time in January 2016 (Table 1 and Appendix I).

C. Economic and Financial Implications of Fiscal Financing

21. How should Saudi Arabia finance the projected fiscal deficits? Unlike in the 1990s, the country is entering this period of fiscal deficits with strong financial buffers. Therefore, the government will be able to combine a drawdown of its financial assets with domestic and external borrowing to finance the deficits. To this end, five different financing scenarios are considered to help assess key implications (Table 5). The cumulative budget financing needs for 2016–21 are estimated at around SAR 1460 billion ($389 billion)is the staff's baseline scenario in the staff report. In Scenario I, domestic banks absorb a large share of government domestic borrowing, crowding out private sector credit and tightening domestic liquidity conditions. Scenario II assumes domestic non-

banks absorb a larger share of domestic borrowing by shedding other assets (including deposits placed in the domestic banking system). Scenarios III–V considers ways to mitigate potential crowding out of domestic assets held by both banks and non-banks. Scenario III considers a case where a large amount of external bonds are issued to non-resident investors. Scenario IV assumes a larger drawdown of government deposits at SAMA, thus reducing financial buffers. Finally, Scenario V illustrates the benefits of greater financial deepening, which translates into higher growth of customer deposits in the banking system and credit to the private sector (while assuming the same financing mix as in Scenario I).

Table 5. Summary Assumptions: Scenarios 1–5

Scenario	I	II	III	IV	V
Key financing option	Large dom. bond purchases by banks	Large dom. bond purchases by nonbanks	Large intl. debt purchases by nonresidents	More gov. deposit drawdown	Greater deposit growth
Financing needs 2016-21	1460	1460	1460	1460	1460
Deposits with banks	Grow 2%-5% yoy	Drawdown by pension funds	S1	S1	Annual growth rises by 1.5 ppt
	Annual allocation of financing				
Gov. deposits drawdown	Maintain buffers 1/	S1	S1	Maintain less buffers 2/	S1
International debt / NR	International experience 3/	S1	Twice larger than S1 in outer years	S1 minus one third of increase in deposit financing	S1
Domestic bonds / bank	70% of remaining	30% of remaining	S1 (SAR terms) less increase in NR purchases	same as above	S1
Domestic bonds / nonbnak	30% of remaining	70% of remaining	S1 (SAR terms)	same as above	S1

Source: IMF staff calculations.
1/ Maintain government deposits of SAR500-600 billion in 2021, equivalent to estimated one-year fiscal deficits under a two standard deviation drop in oil prices from the WEO baseline.
2/ Maintain government deposits of SAR 250-300 billion in 2021.
3/ Some $10 to $20 billion per year relying on average of major EM sovereign international bond issuance and recent Saudi experience.

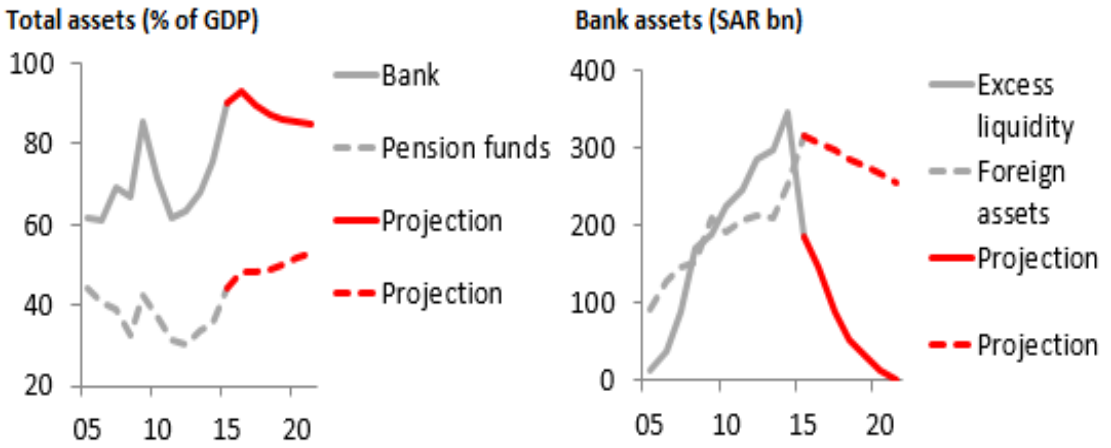
22. To start the simulation exercise, the balance sheets of banks and nonbanks are projected as follows (Figure 6):

- **Banks:** The overall size of the balance sheets is assumed to grow in line with customer deposits, which represent the majority of liabilities. Customer deposits grow at annual rates of 2–5 percent. No distinction is made between conventional and Islamic banks deposits and between bonds

and Sukuk financing. Foreign liabilities are assumed constant. The capital ratio remains 18 percent of risk-weighted assets (comfortably above the 12 percent implicit threshold). Other domestic liabilities grow moderately. On the asset side, excess liquidity (cash, current deposits, other deposits, and SAMA bills) is assumed to fall gradually and be exhausted by 2021. With the reserve requirements kept constant, statutory deposits with SAMA reflect the level of customer deposits on the liabilities side. Foreign assets decline moderately as banks allocate more funds to domestic assets. Other assets represent a small share of total assets and are calculated as residuals.

- **Nonbanks:** They include two pension funds, PPA and GOSI, and other nonbanks. The two pension funds absorb 80 percent of total non-bank purchases. Their balance sheet growth is projected by accumulating their net income, which in turn grows in line with non-oil private sector activity. Other non-banks absorb 20 percent of total non-bank purchases.

Figure 6. Bank and Pension Fund Assets (SAR Billions)



Source: IMF staff calculations.

Simulation results

The five sets of simulations yield the following results (Figures 7 and 8, and Table 6). Appendix I shows the sectoral allocation of fiscal financing:

- ***Scenario I***: Banks absorb 36 percent of total government financing needs during 2016–21. Bank holdings of government bonds rise to 22 percent of total bank assets by 2021, remaining below historical highs of close to 30 percent (Figure 7, middle left panel, red line). The loan-to-deposit (LTD) ratio remains at around 0.87 (Figure 7, top left panel, red line). Historically, it was below 0.7 when the share of government bonds on bank balance sheets was around 25–30 percent. Bank credit growth is 4 percent year-on-year on average (Figure 7, top right panel, red line). Non-banks are expected to absorb about 15 percent of total financing needs. PPA and GOSI holdings of government bonds reach 15 percent of their projected total assets in 2021 (bottom left panel, red line). Pension fund holdings of other domestic assets decline moderately as a share of total assets (bottom right panel, red line), leading to a moderate increase in holdings of

total domestic assets (middle right panel, red line). Non-resident investors absorb 21 percent of total. The remaining 28 percent of total financing needs is funded by a drawdown of government deposits which is consistent with keeping government deposits large enough to finance the fiscal deficits even if oil prices remained two standard deviations below the baseline projections for one year.

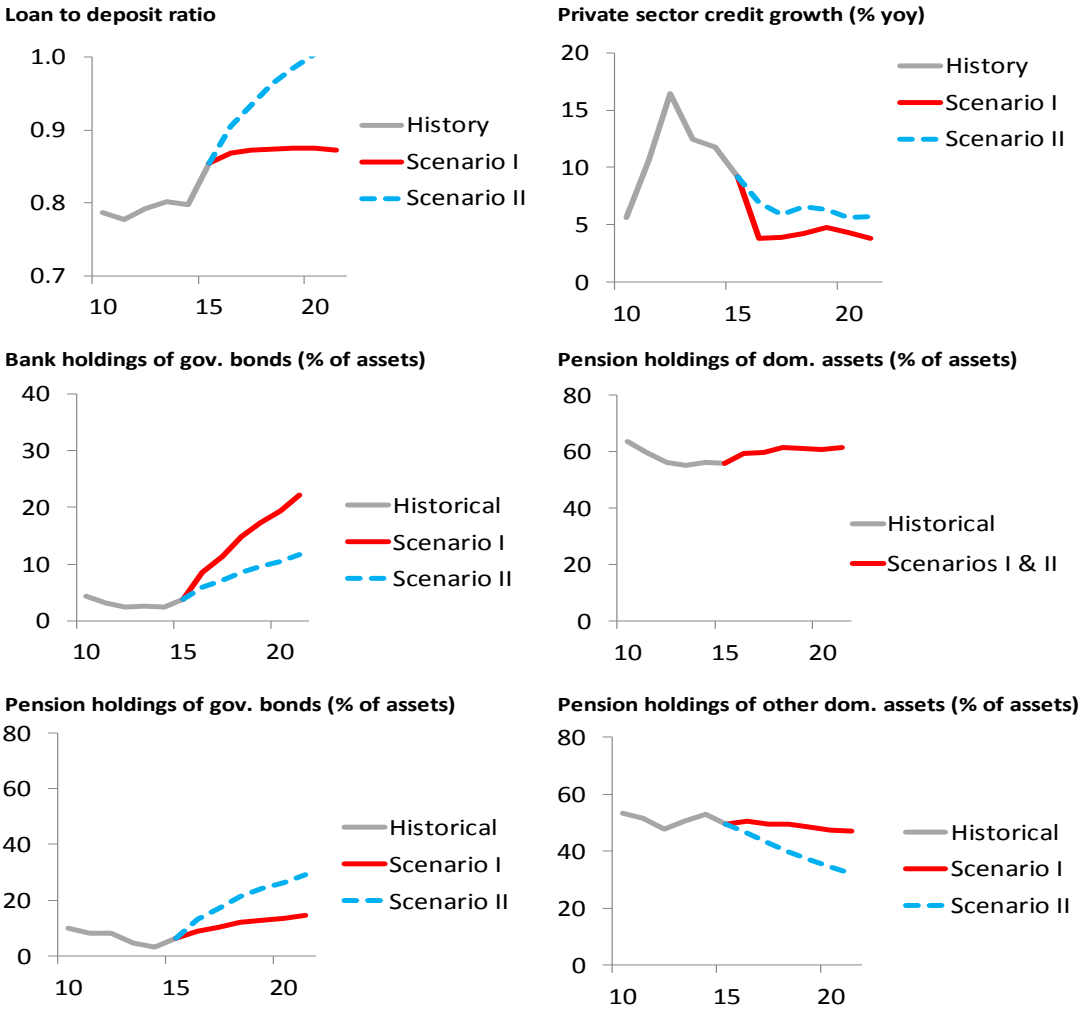
Scenario II: Nonbank absorption of bonds rises to 36 percent of total government financing needs. Pension fund holdings of government bonds are expected to represent nearly 30 percent of their projected assets in 2021 (bottom left panel, blue broken line). Pension fund holdings of other domestic assets, such as equity and bank deposits, decline, reducing corporate capitalization and banking system liquidity (bank deposits decline by the equivalent of 1/3 of additional bond purchases by pension funds each year). By contrast, bank absorption of government bonds declines to 15 percent of total financing needs. The share of government bonds held by banks rises by less, reaching 12 percent of total bank assets (middle left panel, blue broken line). As banks lend more, the loan-to-deposit ratio rises to 1.0, much above the 0.87 in Scenario I (top left panel, blue broken line) and the average growth rate of private sector credit increases to 6 percent (top right panel, blue broken line). As in Scenario I, non-resident investors absorb 21 percent of new issuance. The remaining 28 percent of total financing needs is funded by a drawdown of government deposits.

Scenario III: Non-resident investors absorb 50 percent more debt than under Scenarios I and II during 2016–21, or 31 percent of government financing needs. With 28 percent of the total financing needs still being funded by a drawdown of government deposits, bank absorption of government bonds declines to 26 percent of total budget financing needs from 36 percent under Scenario I. This reduces pressure on domestic liquidity, lifting the loan-to-deposit ratio and average growth of private sector credit to 0.95 and 5.6 percent, respectively (Figure 8, black lines). They are however lower than under Scenario II (1.0 and 6.2, respectively). Non-banks are assumed to continue absorbing 15 percent of total fiscal financing needs, similar to under Scenario I.

Scenario IV: The government maintains a smaller amount of deposits with SAMA as an insurance against future negative shocks. In this case, the drawdown of government deposits accounts for 52 percent of total financing needs, or nearly twice that in Scenarios I–III. Starting from the allocation in Scenario I, banks, nonbanks, and nonresidents each reduces lending to the budget by 1/3 of the additional financing provided through a drawdown of government deposit at SAMA. Bank holdings of government bonds rise to 18 percent of total assets. Compared to Scenario I, the loan to deposit ratio increases by 0.06 to 0.93 and the average credit growth by 1 percentage point to 5.2 percent (Figure 8, orange broken lines).

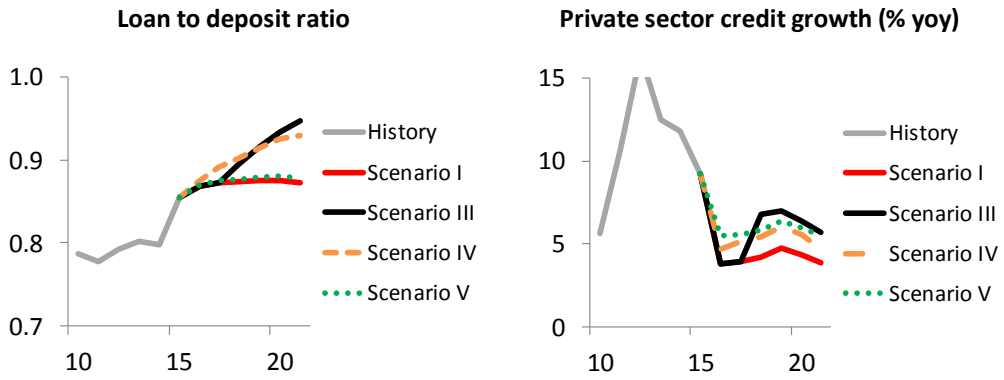
Scenario V: Financial deepening progresses and the investor base widens. As a result, deposit growth accelerates by about 1.5 percentage points every year during 2016-21. Starting from the allocation under Scenario I, greater customer deposit funding allows banks to extend more credit (5.8 percent yoy on average, right panel, green broken line) even as they absorb government bonds while maintaining the loan to deposit ratio broadly unchanged at 0.88 (Figure 8, left panel, green broken line).

Figure 7. Key Indicators: Scenarios I & II



Source: IMF staff calculations.

Figure 8. Key Indicators: Scenarios I, III, IV, V



Source: IMF staff calculations.

23. Domestic bond issuance to finance the projected fiscal deficits would lead to a crowding out of other assets. As commercial banks and non-banks increase holdings of domestic government bonds, domestic real interest rates would rise and other assets would be crowded out. Bank credit to the private sector would slow, eventually leading to slower private sector activity. Holdings of equities, bank deposits, and real assets by PPA and GOSI will be crowded out. The simulation results (Figures 7 and 8) show that, during 2016–21, as banks reduce the pace of accumulating government bonds on their balance sheets from 3 percentage points of total assets every year in Scenario I to an average of 1 percentage points in Scenario II, credit growth increases by 2 percentage points, from 4.1 percent year-on-year on average to 6.2 percent. Similarly, the loan-to-deposit ratio increases from 0.87 on average to 1.0. An econometric result presented in Box 1 of the staff report also suggests that as banks accumulated less government bonds, bank credit growth increases.

Table 6. Allocation of Fiscal Financing and Key Indicators

Scenario		I	II	III	IV	V
		Large dom. bond purchases by banks	Large dom. bond purchases by nonbanks	Large intl. debt purchases by nonresidents	More gov. deposit drawdown	Greater deposit growth
Allocation of fiscal financing, 2016-21 cumulative						
Total	(SAR bn)	1,460	1,460	1,460	1,460	1,460
Gov. debt purchases						
Bank	(SAR bn)	526	225	376	412	526
Nonbank	(SAR bn)	225	526	225	111	225
Nonresident	(SAR bn)	300	300	450	186	300
Gov. deposit drawdown	(SAR bn)	410	410	410	752	410
Gov.bond purchases						
Bank	(% of total)	36	15	26	28	36
Nonbank	(% of total)	15	36	15	8	15
Nonresident	(% of total)	21	21	31	13	21
Gov. deposit drawdown	(% of total)	28	28	28	51	28
Total	(% of total)	100	100	100	100	100
Key indicators						
Bank						
Loan to deposit ratio	(Ratio, 2021)	0.87	1.0	0.95	0.93	0.88
Private sector credit growth	(% yoy, 2016-21 ave.)	4.1	6.2	5.6	5.2	5.8
Deposit growth	(% yoy, 2016-21 ave.)	3.8	3.0	3.8	3.8	5.3
Gov. bond holdings	(% of assets, 2021)	22.2	11.7	16.7	18.1	20.8
Pension fund asset holdings						
Domestic assets	(% of assets, 2021)	61.5	61.4	61.5	61.5	60.9
Government bonds	(% of assets, 2021)	14.5	29.3	14.5	9.2	16.3
Other domestic assets	(% of assets, 2021)	47.0	32.1	47.0	52.3	44.6

Source: IMF staff calculations.

24. Alternative financing options could mitigate the crowding out effects of domestic borrowing but create new risks. Larger foreign financing (Scenario III) can mitigate crowding out of domestic assets, leveraging on the strong appetite for the Saudi sovereign credit from foreign investors, evidenced by the recent $10 billion syndicated lending deal with foreign banks. However, the cost of funding would likely rise over time, particularly if other oil and commodities producing countries turn to the international market for additional financing. With higher international borrowing, external debt rollover needs increase, and with it, the country's vulnerability to global financial market volatility. However, a greater drawdown of government deposits (Scenario IV) can also help, but also reduces financial buffers, exposing the country in a different way to adverse domestic/external shocks.

25. Financial deepening could help reduce crowding out of domestic assets (as illustrated in Scenario V). Greater financial deepening would help attract more customer deposits to the banking system. This moderates crowding out of private sector credit for a given increase in bank holdings of domestic government bonds. Financial deepening can be facilitated by institutional reforms and higher transparency. The following section discusses in more detail reforms and the priority measures that can be implemented to take advantage of the fiscal financing need.

D. Developing the Domestic Debt Market and Broadening the Investor Base

26. Broadening the investor base and ensuring the government's debt issuance supports the development of the private debt market could help alleviate some of the negative economic and financial effects of higher government debt. In case higher financing from non-bank sources can be mobilized, this would reduce pressures on bank balance sheets. Further, the development of a private debt market would provide companies with alternate financing sources to those currently available through banks and nonbanks.

Investor base

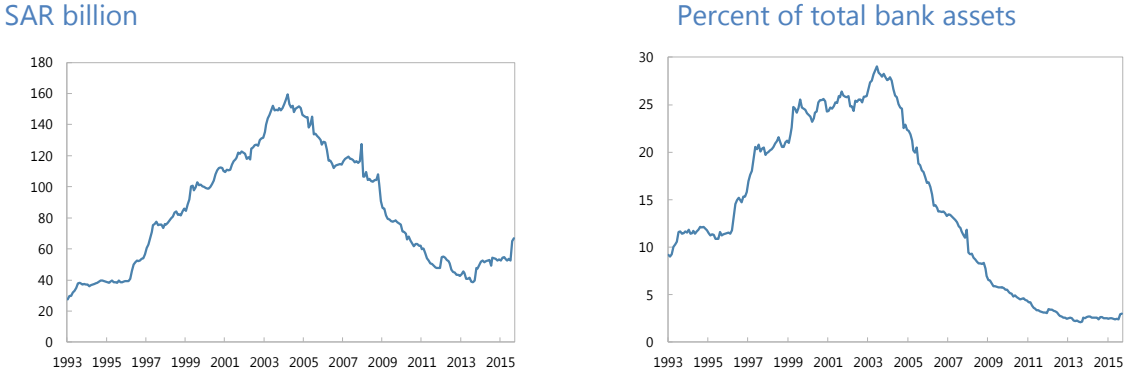
27. The investor base for government debt is not very diversified. Banks and pension funds are the main investors in the Saudi Arabian market holding more than 90 percent of government issued debt. Domestic bank holdings of government bonds peaked in 2003 at SAR 160 billion; close to 30 percent of total bank assets and 20–25 percent of the total amount outstanding (Figure 9). In 2015, the government issued just over $26 billion worth of bonds starting in June. Banks bought one-third, or $8.6 billion. Other local institutions absorbed the other two-thirds, or $17.5 billion. Foreign investors and domestic high net-worth investors did not participate.

28. Banks' demand for government bonds will likely remain high, including because of Basel III requirements. Bank capital regulations typically require institutions to hold a specific amount of capital compared to their risk-weighted assets. The zero percent risk weights make highly rated foreign government bonds or any domestic government bond relatively more attractive as banks do not need to hold capital for holdings these bonds. Basel liquidity regulations require banks to hold sufficient amounts of high quality liquid assets to cover their net cash outflows for a window of period in a stress scenario. Saudi banks already meet the Basel III capital, liquidity and leverage standards that international banks are expected to meet by 2019. However, greater supply of Saudi government bonds would increase the options for banks to manage their balance sheets in compliance with regulatory requirements. Meanwhile, banks may shy away from bonds with long duration as these would increase market risk.

29. Reforms to broaden the investor base would help with absorbing future government debt issuance. In particular, encouraging the further development of the insurance and mutual fund industries will help mobilize national saving. Consideration should also be given to the potential role of domestic high net worth individuals and foreign investors in the domestic securities market. International investors may find Saudi government bonds attractive from diversification perspectives,

and the recent discussion to allow foreign investors to purchase listed domestic bonds is a step in the right direction.

Figure 9. Domestic Bank Claims on Government (Excluding SAMA) (1993–2015)



Sources: Haver and IMF staff calculations

30. Islamic finance in general, and Sukuk markets, in particular has great potential in Saudi Arabia and an important role to play in financing the budget.[8] Demand for Islamic financial instruments is growing very strongly, and this growth has the potential to support the implementation of fiscal and monetary policies and enhance financial sector development. The authorities have already expressed interest in tapping the abundant Islamic finance market liquidity by debuting sovereign Sukuk in 2016 with the intent to expand the investor base beyond what could be otherwise tapped through conventional finance.

31. The investor base for Shari'a-compliant instruments is growing strongly. Currently, out of 12 domestic commercial banks in Saudi Arabia, four are full-fledged Islamic banks and a fifth, the biggest conventional bank, is in transition to become Shari'a-compliant. The four Islamic banks (Al Rajhi, Alinma, AlBilad, Al Jazira) together hold about 25 percent of the domestic banking system assets. The rest of the banks are conventional banks who offer a mix of Islamic and conventional banking services.[9] As of end-2015, the Islamic banking (IB) sector asset base in Saudi Arabia reached about SAR 1,151 billion, representing about 21.4 percent of global IB assets, with a growth rate of 8 percent in 2014. Furthermore, IB deposits exceeded SAR 1,250 billion with year-on-year growth of 10 percent. The market share of assets in the overall banking industry exceeded 50 percent in 2015. These banks provide a strong investor base for government Islamic instruments, although Sukuk securities would appeal to a wider investor base (both conventional and Islamic) and their issuance could eventually lead to a price competition on government securities across the board.

32. Important reforms are needed to encourage the development of the Sukuk market. In particular, for Sukuks to gain broader acceptance, there is need to promote greater instrument liquidity, accompanying risk management tools, and a more robust regulatory regime. The

[8] Sukuk is the plural form of "Sakk" in Arabic, which translates as title deed, as it underscores ownership in the underlying asset.

[9] "Islamic Banking Is Dominant in Saudi Arabia," Fitch Ratings, February 2016.

convolution of the instruments and sometimes limited understanding of the principles governing their structure expose investors to a number of risks, including credit risk, mispricing, legal uncertainty, and Shari'a compliance risk and related reputational risk. Issuing government Sukuk securities for funding development and/or capital spending against future underlying assets with plain vanilla structure could be the most suitable financing approach. Related government agencies should develop new budget measures for early planning and asset allocation in case of Sukuk issuance. Building consensus and institutionalizing the Shari'a ruling would help develop a broader investor base, necessary for the deepening and expansion of the Sukuk market.

33. Whether traditional or Islamic, clearly articulated and transparent fiscal and debt management strategies are likely to support higher financing availability at lower cost. Other things being equal, financing is likely to be available on more favorable terms if there is: (i) a well-articulated macroeconomic framework that lays out a clear government reform strategy and a clear path to fiscal and external sustainability; (ii) a Asset-Liability Management (ALM) strategy with clear targets and objectives, including, at least, an annual issuance plan; (iii) a clear legal and regulatory framework, a strong institutional capacity, and a communication strategy that articulates clearly the government macroeconomic objectives and its debt strategy.

Development of the domestic private debt market

34. The lack of an established government debt market and benchmark yield curve has inhibited the development of the corporate bond market. The size of the corporate bond market is small, but not negligible. It is estimated that the total size of Saudi corporate debt market is around SAR 175 billion (7 percent of GDP) and there is hardly any liquidity as most investors are of the buy and hold nature. Corporate issuances in Saudi Arabia are roughly split between private placement (equivalent to SAR 78 billion) and public offering (equivalent to SAR 98 billion). The preference for issuers to opt for private placements is mainly driven by the fact that it has a shorter timeframe to the market and requires less disclosure.

35. The limited corporate bond market means that companies are very reliant on bank financing (and in some cases financing from specialized credit institutions). Only large companies such as ARAMCO and SABIC are able to access international markets, and most companies would be adversely affected by the crowding-out discussed in the previous section given the absence of alternate financing options. Ensuring that government debt issuance is done in a way that supports the development of private debt markets is one way that some of the negative effects of this issuance could be alleviated.

36. The increased funding needs going forward provides a good opportunity for Saudi Arabia to implement measures to strengthen its debt management capacity and to jumpstart the deepening of local bond markets (Box 1). Efforts have already been made in the past to create a more liquid secondary market through reforms including the relaxation of tax laws and the creation of market makers. Nevertheless, these efforts were not complemented by a regular issuance policy in the absence of funding needs.

Box 1. Strengthening Debt Management Practices in Saudi Arabia

Saudi Arabia is borrowing domestically and internationally to finance the fiscal deficit. To this end, there is a need to strengthen the regulatory and institutional frameworks for debt management to help reduce borrowing costs and related risks.

Debt management capacity

Saudi Arabia is moving quickly to strengthen the debt management framework, including strengthening the institutional capacity. The government has recently established a Debt Management Office (DMO) and appointed a new head to consolidate the DMO functions in one single agency with an operational autonomy. In this regard, the new office function will be organized along industry's best practice, including (front, middle, and back-offices) with direct reporting to the minister/vice minister, who will help establish and maintain the agency's operational independence while enhancing its accountability and transparency. SAMA has been executing the debt management functions as an agent for the government. It has acted as the fiscal agent for the government and has conducted the debt management decisions regarding the instruments to issue, volumes, and rates.

Debt management strategy

The Ministry of Finance is leading the effort to define the debt management policy and its objectives and incorporate them in the legal framework. This would improve clarity for the debt manager and facilitate the accountability process. It would also be an important input when formulating the debt management strategy. Lately, the government has been relying mostly on SAMA to decide on the instruments to be issued at each moment of time, and their specific amount. The issuance decisions have followed an ad-hoc approach basically led by market demand close to the issuance date.

Legal framework

There is currently no comprehensive debt law or specific regulations related to debt management. At present, the Council of Ministers authorizes the Ministry of Finance (MOF) to issue debt on an annual basis, but no piece of legislation permeates a longer period. This should be addressed to allow for a more efficient management of the government liabilities.

Going forward, Saudi Arabia should consider developing a robust legal framework for debt management. A proper legal structure would provide confidence to DMO in executing its tasks. It should also be instrumental as a marketing tool to signal to foreign and domestic investors that Saudi Arabia is moving towards a modern debt management framework.

Comprehensive debt management legislation would regulate all aspects of government borrowing and issuance of guarantees. Debt legislation should ensure that the legal framework clearly sets out the authority to borrow (both domestically and externally), to undertake debt-related transactions (such as currency and interest rate swaps), and to issue loan guarantees.

Special considerations for Sukuk

As the Islamic finance industry expands, the need for a standalone legal and regulatory framework increases. Best practice requires producing a high-quality legal and operational infrastructure framework. The progress achieved by a stable government Sukuk market can be assessed in terms of the extent to which market efficiency, systemic transparency, and governance arrangements comply with international Islamic finance standards. Revamping the legal and regulatory framework to address Sukuk contractual aspects (to fund trade or production of tangible assets and add value to the real economy rather than providing finance through purchase of financial securities) would incentivize a wider market participation base. In this regard, establishing a clear mandate to securitize existing or new assets within financing vehicles is warranted. Furthermore, adopting the industry's standard-setters guidelines (e.g., AAOIFI and IFSB) for best practices and institutional adherence to broad Shari'a principals would ensure standardization of contracts and market harmonization.

37. Against this backdrop, Saudi Arabia is reviewing its debt management objectives, and this should include in particular reforms to support the development of the private debt market. Debt management objectives provide broad guidance on what the debt management activity should achieve. In most countries, debt management objectives refer to minimizing costs over the medium term, subject to a certain degree of risk.

38. In addition, the government's debt issuance policy and instrument mix should reflect a decision to develop local debt markets over the medium to long term, instead of purely being geared towards raising resources. The Debt Management Office (DMO) will formulate a medium-term debt strategy (MTDS) in which the choice of funding instruments optimizes the cost-risk trade-offs, as well as its impact on promoting market development. The MTDS should provide medium-term guidance on the share of domestic and external borrowing, and on conventional and Sukuk to be issued. This would take into consideration the investor base and market appetite for each type of instrument. The instrument mix should facilitate the creation of a yield curve in local currency. This will require the issuance of fixed rate instruments in meaningful amounts. Floating rate instruments could also be used to minimize costs, but the share of each should reflect this broader policy decision. Finally, the maturity mix needs to be carefully decided in a way that balances the cost of extending the curve against the lower refinancing risks of longer-term debt.

39. The DMO should gradually upgrade debt management practices towards international practices, which will help with market development. In particular, the DMO should champion the process of introducing auction mechanisms. This can be done gradually, and perhaps start with shorter-term instruments where demand is higher and interest rate risk less of a concern. Currently, instruments are issued through private placements, with insufficient transparency, which impedes market development.[10] MOF provides SAMA the yearly funding amounts that are needed, and SAMA decides (sometimes in consultation with MOF) the amounts to be offered in the monthly private placements. Consultations with the market and decisions on interest rates and specific funding instruments are undertaken by SAMA. However, limited information is released both before and after the placements. SAMA provides a yield range for each bond to be offered, but does not announce the size for each instrument allocation ahead of the placement. The lack of an issuance calendar also leaves investors with limited information on the funding intentions.

[10] See Appendix II for a more detailed analysis and coverage of existing money market instruments.

E. Conclusions

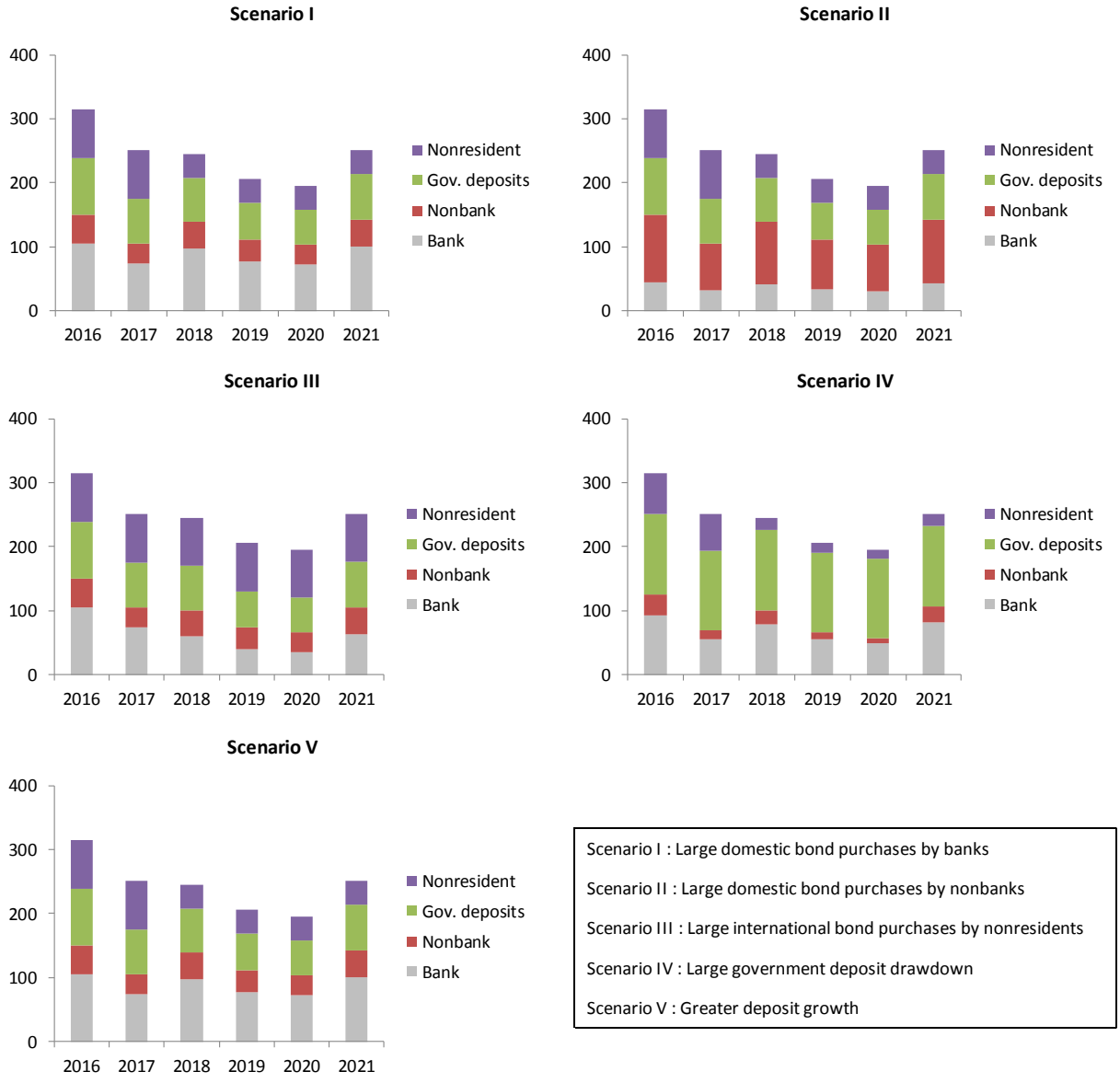
40. Saudi Arabia is starting from a very strong asset-liability position, but its financing needs are significant given projected fiscal deficits. It has a number of options for financing—reducing its deposits with the central bank, selling other financial assets, and borrowing domestically and internationally. Each of these has its own costs and benefits, which are likely to vary depending on market circumstances. While reducing deposits may be the least costly option in terms of relative interest rates, maintaining a stock of very liquid assets has insurance benefits against periods of difficult market conditions. Selling government stakes in companies could raise considerable financing for the fiscal deficit, but also comes at the cost of foregone future revenue streams if the company is profitable. Borrowing domestically and internationally also involves risk/cost tradeoffs. The composition of the domestic investor base will have implications for the effects of domestic borrowing on the domestic economy and financial system. In particular, higher domestic financing will likely crowd out private sector credit and nonbank holdings of other assets. Given the relative costs and benefits of each, some combination of asset drawdown and domestic and external borrowings is likely to be optimal.

41. A number of policies can help support the financing of the fiscal deficit and help mitigate the impact on the broader economy. Issuance of government debt can help develop a domestic yield curve, and a liquid secondary market in government securities would help support the private debt market that is currently underdeveloped in Saudi Arabia. By developing the private debt market, companies will have alternate sources of financing to banks. Broadening the investor base for government debt would support financing, including if foreign investors, other financial institutions, and high net individuals were allowed to participate in the secondary market. The development of the government Sukuk market would also provide valuable additional financing to the government.

42. Improvements in the fiscal and debt management frameworks would help reduce the risks and costs of government borrowing and increase investor interest. The government should announce a clear medium-term fiscal consolidation strategy and supporting reforms. They would reassure investors that the government will continue to act to reduce the fiscal deficit. Likewise, a medium-term debt strategy would give investors clear guidance about the government's issuance plans and allow them to plan better for the future.

Appendix I. Projected Fiscal Financing Allocations

Allocation of Projected Fiscal Financing (SAR Billions)



Scenario I : Large domestic bond purchases by banks

Scenario II : Large domestic bond purchases by nonbanks

Scenario III : Large international bond purchases by nonresidents

Scenario IV : Large government deposit drawdown

Scenario V : Greater deposit growth

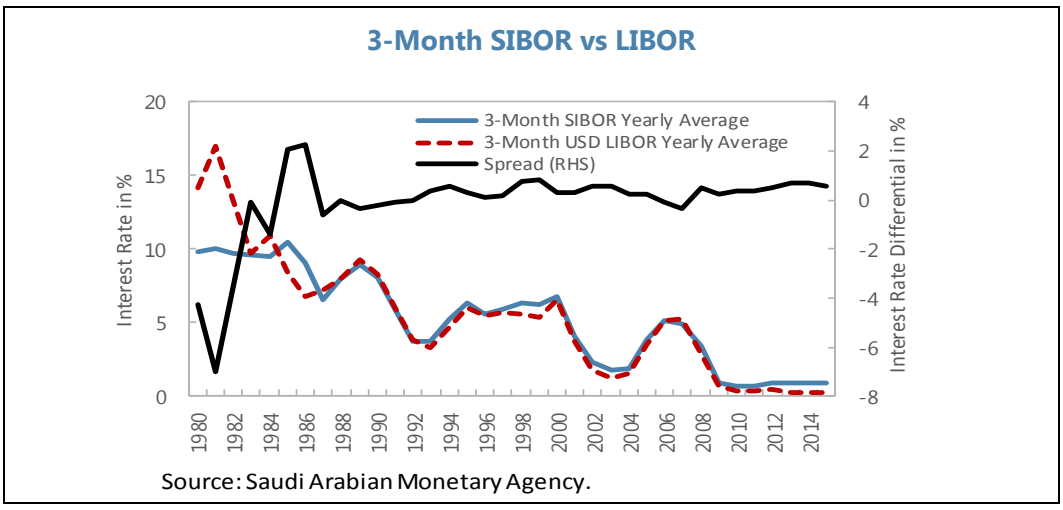
Source: IMF staff calculations.

Note: Nonbank-PPA, GOSI, other.

Appendix II. Local Capital Market and Instruments Development

The history of public debt instruments in Saudi Arabia dates back to the 1980's, when SAMA started issuing securities for monetary policy purposes. Later on, in 1988 the government started to issue its own instruments to fund the fiscal deficits, but issuance was stopped when funding needs were eliminated. Perhaps partly as a consequence of interrupted issuance, the secondary market has never fully developed, and liquidity has been low. More recently, the government has resumed issuance of securities to fund the deficit, and this new issuance could help boost the development of the local markets.

In the absence of government securities, SAMA began in the 1980s experimenting with issuance of Bankers Security Deposit Accounts (BSDAs) for managing its monetary policy more effectively. SAMA created in 1984 the BSDAs (SAMA obligations) as part of domestic money market reform with a view to creating a domestic money market instrument to absorb excess liquidity and provide a domestic alternative to offshore interbank placements (Banafe, 1993). BSDAs aimed to help create a domestic money market to absorb excess liquidity, enhance monetary policy control in terms of influencing system liquidity and short-term interest rates, and offer an alternative investment to offshore interbank placements, thereby mitigating risks associated with foreign exchange outflows. The introduction of BSDAs contributed to the diminishing volatility in spread between the two reference rates (Libor and Sibor).



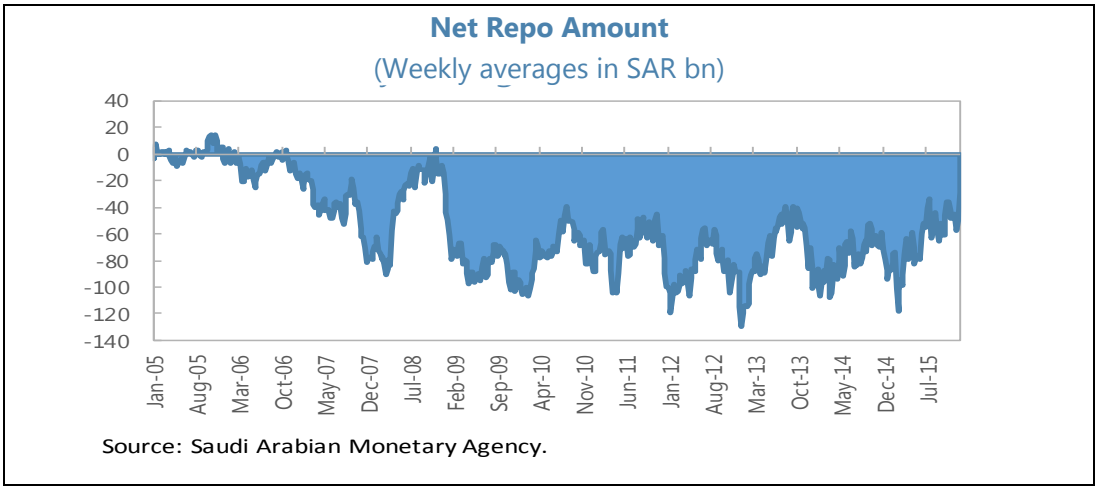
BSDAs issuances were restricted to domestic banks and were repoable. SAMA's repo window is an instant overnight facility for banks to engage in collateralized borrowing and was created and made operational on the same day as BSDAs. Repoability was an appealing feature of BSDAs as it provided ready means of accessing central bank liquidity for banks facing unexpected reserve shortages. Prior to this facility, banks were forced to keep higher reserves with SAMA in unremunerated accounts to meet unexpected withdrawals or clearing shortages. Repos are essentially meant to cover clearing shortages arising from unexpected withdrawals, returned checks or failure of counterparty payments, and are operated under strict guidelines to avoid abuse. Banks are not expected to finance their US dollar purchases from SAMA using this facility.

Despite the fact that BSDAs were freely transferable among banks, no secondary market activity took place. The lack of secondary market appeared to be due to the banks' perception of this instrument as a liquidity cushion rather than a trading product, although BSDAs were not substituted for statutory reserves (i.e. minimum reserve requirements), but counted for liquidity ratios purposes.

The government started to issue Government Development Bonds (GDB) to fund its deficits in late 1980s. Successive budget deficits led to the issuance of the first GDBs in 1988. As a fiscal agent to the Ministry of Finance, SAMA engaged in private placement borrowing from Autonomous Government Institutions (AGIs) and subsequently from domestic banks. GDBs were publicly first offered in June 1988, and later the central government broadened its offering to include Treasury Bills (T-bills), replacing SAMA's BSDAs in November 1991, shifting the liability from SAMA towards the Ministry of Finance. The change of instrument aimed to benefit from the potential wider application of T-bills in terms of their availability to non-banks and for deficit financing.

Unlike the BSDAs, T-bills were offered to bank and non-bank institutions to help them manage their short-term investment needs. This expanded the borrowing capacity of the government and allowed for greater flexibility to the Ministry of Finance in managing current fiscal operations. Given banks and non-banks exposure to offshore deposits at the time, T-bills were seen as an attractive instrument for diversification purposes. Moreover, there was a marked growth in bank deposits at that time that was partly attributed to the absence of any short-term alternative instrument.

In May 1992, SAMA introduced the reverse Repo facility in an attempt to stem foreign exchange reserve outflows and encourage banks to hold liquid funds in the system. At the time, banks held about one third of their deposits in US dollars to manage liquidity. At the same time, banks were willing to convert their dollar holdings in domestic investments to reduce their large foreign exchange exposure. Introducing the reverse Repo facility provided the banks with a mechanism for employing their excess liquidity in the domestic market. This also lent a hand to T-bill and GDB subscription activity. Both Repo and reverse Repo facilities helped to stabilize demand for the US dollar in the system and the overall Saudi money market structure.



Source: Saudi Arabian Monetary Agency.

Murabaha debt securities and Floating Rate Notes (FRNs) were introduced for the first time in January 1997 to cater for sharia-compliant banks. This helped expand the range of available instruments and diversify price risk in the face of increasing funding requirements.[1] FRNs attracted banks' appetite as they suited their balance sheet structure given their reliance on customer deposits and role in mobilizing domestic savings, and the fact that frequent coupon re-fixing minimizes the interest rate risk. While FRNs are deemed attractive in a rising yield environment from an investor's point of view, they allow the issuer to tap into longer maturities at short-term funding costs.

Benefits and Risks of Fixed vis-à-vis Floating Rate Instruments

	Fixed Rate Instruments	Floating Rate Instruments
Benefits	**Issuer**	
	Interest cost over the life of the security is known, which assists in planning and budgeting.	Floating rate instruments are often cheaper than fixed-rate instruments.
	Investor	
	Provides greater opportunity for capital gains than with floating rate instruments if market rates fall.	Investors are protected against significant capital losses in periods of interest rate uncertainty.
Risks	**Issuer**	
	If market rates fall after the bonds have been issued.	If market rates rise after the floating rate instruments are issued.
	Investor	
	Potential for capital losses if interest rates rise.	Limited opportunity for capital gains.

Source: Saudi Arabian Monetary Agency.

Government Murabaha were first offered in April 2002 for up to 3-year maturities. Government Murabaha and FRNs (like traditional liquidity instruments) are also all repoable with SAMA, widening the framework of system liquidity management. Banks can engage in sale and repurchase arrangements with SAMA to raise liquidity up to 100% (currently at 98%) of their gross holdings issued by SAMA, the MoF, or any quasi-government debt that is explicitly guaranteed by the central government (e.g. General Authority of Civil Aviation, GACA). SAMA additionally considered these holdings as eligible assets when calculating banks' liquidity ratios. Such holdings also carried a zero weighting under the risk-based capital adequacy scheme.

In 2005, SAMA created anew its own short-term security to avail domestic banks with a short-term instrument to park their liquidity. This was triggered by the suspension by the Ministry of Finance of its borrowing activity with T-bills, which limited banks' ability to manage short-term liquidity.

However, the secondary market never developed although banks were able to act as market makers. They resell SAMA bills and GDBs to government and quasi-government institutions, to resident and non-resident investors, as well as in the interbank market. Still, a secondary market in GDBs never really developed despite government promotion efforts. Tax laws were relaxed so that

[1] (BIS, 2003)

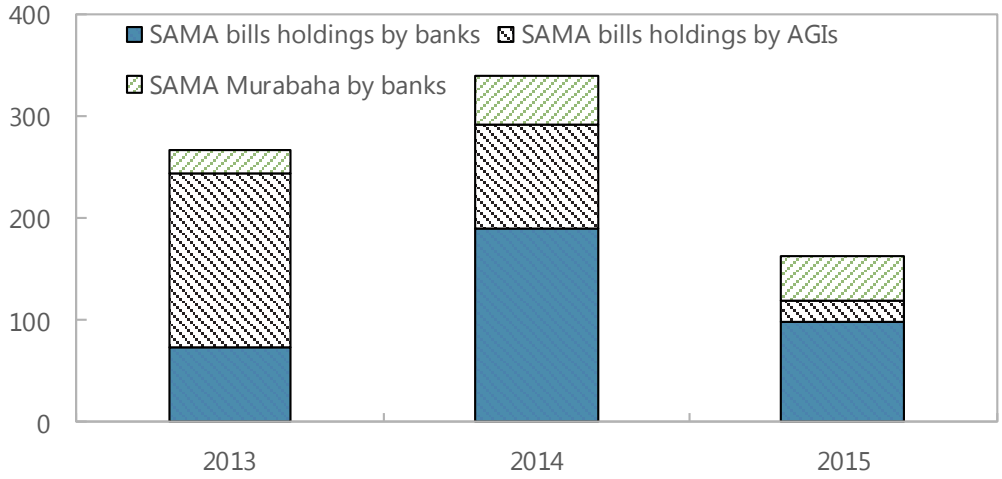
Saudi banks were able to deduct their GDB holdings from their net assets (net worth) before "Zakat", a special tax on income and trading assets, was calculated. SAMA also established procedures defining and governing the "market-maker" role for local banks as they acted as investors, distribution agents, secondary market makers and sub-custodians or paying agents.

Banks found it instead more convenient to hold debt instruments until maturity, especially, when the yield curve continued to steepen. Non-resident investors on the other hand were allowed to participate through domestic banks, but their involvement remained negligible. In retrospect, the lack of secondary market development may be attributed to the perception by banks that deficit financing would be temporary, their reluctance to promote secondary market trading because of conflict of interest as it undermines their objective to mobilize non-interest bearing deposits helpful to reducing banks funding costs, the absence of investment banks, the buy and hold culture of AGIs, and the narrow investor base.

In June 2015, the ministry of finance returned to the market following the drop in oil prices, and issued its first borrowing of SAR 15 billion in private placements. Since then, GDBs and FRNs with 5-, 7- and 10-year maturities were issued. In February 2016, the government also issued long-term Murabaha with 5-, 7- and 10-year maturities. The interbank deposit market is up to one year and interest rates are determined by the market.

Outstanding Holdings of SAMA Bills and Murabaha

(In SAR bn)



Source: Saudi Arabian Monetary Agency.

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PRIVATIZATION AND PPPs IN SAUDI ARABIA: PAST EXPERIENCE AND THE WAY FORWARD[1]

"We have great opportunities to create jobs in the private sector" His Royal Highness Deputy Crown Prince Mohammed bin Salman.

Saudi Arabia is considering privatization and Public-Private Partnership (PPP) programs as part of the policy response to the decline in oil prices. These programs have considerable scope to increase efficiency and productivity in the economy as well as unlock greater value of government assets. Implementation should proceed transparently with a clear time-table, and be underpinned by institutional, legal and regulatory frameworks. Lessons from international experiences with privatization and PPPs could usefully be incorporated in designing the policy frameworks. There are important fiscal and macroeconomic considerations that require appropriate policy response.

A. Introduction

1. The sustained decline in oil prices means that the government can no longer be the main driver of growth and employment. Fiscal consolidation already initiated and planned over the next years will have adverse implications on growth in the short-term not only due to the scaling back of public investment, but also the potential crowding out of financing the large deficits on private sector credit. Moreover, the government will not be able to absorb nationals into jobs in the public sector at same rates as previous years. The recently announced Vision 2030 and National Transformation Program (NTP) outlined goals and objectives to diversify and transform the economy. The Vision and NTP envisage a greater role for the private sector, including through privatization and expanding the use of PPPs, with a view to increasing efficiency, productivity, and job opportunities for nationals in the private sector.

2. Privatization and other policies to increase the role of the private sector have been an objective in Saudi Arabia over the past decades, but the government has nonetheless maintained a large role in the economy. This reflects mainly the dominance of the oil sector which has been largely untouched by previous privatization programs. It also reflects the slow and narrow implementation of previous privatization programs, focusing on profitable enterprises in a few sectors. More broadly, diversification policies have achieved limited progress in meaningfully increasing the share of the non-hydrocarbons output in GDP and the share of the private sector in economic activity, which increased by only 10 percentage points over the past 15 years. Research on the diversification experience in Saudi Arabia and other GCC countries point to the role of the presence of a large state-owned enterprises (SOEs) sector and their wide-ranging mandates as a barrier to entry that limits competition and diversification (Callen et al. 2014).

[1] Prepared by Gazi Shbaikat (MCD), Kusay Al Khunaizy (MEP), and Assem Algursan (SAMA).

3. Saudi Arabia has already initiated plans to step up its privatization and PPP programs. In 2015, ground services in all the airports were partially privatized and the timetable for the long standing privatization of the grain silos corporation and two airports this year has been released. A privatization committee has recently been formed and a unit established at the Ministry of Economy to prepare the broad guidelines for implementation of new privatization and PPPs programs. The Deputy Crown Prince has announced the possibility of the partial privatization of ARAMCO, and key mega projects are also planned for public private partnerships, including the Mecca and Jeddah metros. A number of elements in the design and implementation of privatization and PPPs need to be addressed to maximize the benefits of these programs. This paper sheds light on Saudi Arabia's past privatization programs (section B), considers the international experience with privatization and PPPs (section C), and discusses key fiscal and macroeconomic considerations that can arise in the implementation process (section D). The conclusion draws lessons and provides policy recommendations.

B. Past Experience

4. Privatization, broadly defined as the full or partial sale by a government of state-owned enterprises or assets to private economic agents, has been a key element of structural reform in many developing and transition economies. Governments undertaking privatization have pursued a variety of objectives: gains in economic efficiency, given the extensive prevalence of poor economic performance of SOEs in many countries and limited success with SOEs reform; improving the fiscal position, particularly in cases where governments have been unwilling or unable to continue to finance deficits in the SOE sector; and liquidity-constrained governments facing fiscal pressures have sometimes privatized with a view to financing fiscal deficits with the proceeds. Other objectives have included the development of domestic capital markets (Davis et.al, 2000).

5. In Saudi Arabia, privatization programs were part of a broader agenda to enhance the role of the private sector in the economy. As in other GCC countries, the size of the state in the Saudi economy has been historically dominant, reflecting the developmental role the government has assumed to address large physical and institutional infrastructure needs since the early stages of state building. Following the 1998-99 oil price slump, the Saudi authorities reinforced their structural reform effort with a view to enabling the private sector to take a leading role in the economy and help diversify the economy away from the oil sector. Divesture of public assets was part of this broader agenda and was officially adopted in 1997 by the cabinet's approval of a privatization strategy. However, it wasn't until 2001 that the objectives and priority sectors were identified and the administrative and implementation procedures enacted. The Supreme Economic Council was charged with the responsibility for supervising the privatization program, while a Privatization Committee was charged with implementation. The privatization process included autonomization of management of some public enterprises to be followed by deregulation (corporatization) and ultimately private ownership. Twenty sectors were identified for privatization, including telecommunications, electricity, industrial parks, postal services, water, railroads, education, and air transportation.

6. Importantly, the privatization program was accompanied by reforms aimed at building the institutional and legal infrastructure. This not only helped with divesting government stakes in state-owned enterprises, but it broadened the scope of private sector investment (including FDI) into areas that were previously limited to the public sector. These reforms included: enactment of new investment laws and establishing the associated investment authority (SAGIA) to facilitate foreign direct investment processing, including the establishment of a one-stop shop for investors; liberalization of restrictions on foreign capital inflows and foreign ownership so that capital and associated technologies are available to support privatization and private sector development (allowing a 100 percent foreign ownership of businesses in most sectors, including gas, power generation, water desalination, and petrochemicals); establishing a new capital markets law and strengthening regulations (the Capital Market Authority (CMA) was created in 2003); accession to the WTO in 2005; and cutting the highest corporate income tax on foreign companies from 45 percent to 20 percent. The opening up of sectors such as health, telecommunication, electricity, and other utilities has also contributed to increased competition and improved governance and reduced the role of the government in these sectors.

7. The implementation of the privatization strategy has moved slowly and achieved mixed results. The strategy tried to achieve a number of objectives including increasing efficiency and productivity in the economy and reducing the fiscal burden of supporting inefficient enterprises. The development of the capital market was a key consideration as well. Implementation, however, was sporadic and focused on divesting stakes in a few sectors mainly telecom, financial, and petrochemicals, although this reflects the narrow economic base given the oil dominance in the economy (Table 1 and Box 1). The government kept majority stakes in many of the enterprises, while asset divestures were mostly executed through IPOs and targeted to citizens. These operations have helped deepen and increase liquidity in the stock market, which witnessed a strong growth during the active period of privatization (Figure 1). Indeed, the IPOs of public enterprises represented more than 50 percent of total IPOs since 2003, while the market value of privatized enterprises accounts now for over 40 percent of total market capitalization. Privatization and the opening of sectors for foreign investors also correlated with a substantial increase in FDI inflows during the 2000s. At the firm level, some empirical work has shown that the performance of the Saudi Telecom Company and the Company for Cooperative Insurance improved after their IPOs as compared to the pre-IPO financial performance (see Alanazi, Liu, and Forster, 2011). However, the analysis does not account for the impact of other potential factors that may have affected these companies' performance.

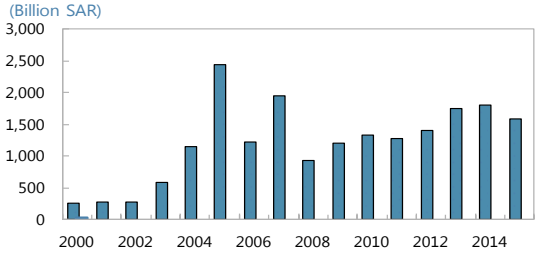
Table 1. Saudi Arabia, Some Major Privatization Operations
(US$ million)

Year	Company	Sector	Share sold
1984	Saudi Arabia Basic Industrial Corporation	Industrial	30%
2003	Saudi Telecom Company	Telecommunications	30%
2004	The Company for Cooperative Insurance	Financial Services	70%
2005	Bank AlBilad	Financial Services	50%
2007	Saudi Kayan Petrochemical Company	Oil and Gas	45%
2008	Saudi Airlines Catering Company	Transport	49%
2008	Alinma Bank	Financial Services	70%
2008	Saudi Arabian Mining Company	Mining and Metals	50%
2008	Rabigh Refining and Petrochemical Company	Oil and Gas	25%
2012	Saudi Airlines Catering Company	Transport	30%
2014	National Commercial Bank	Financial Services	25%
2015	Saudi Ground Services	Transport	30%

Sources: Bloomberg; and SAMA annual reports.

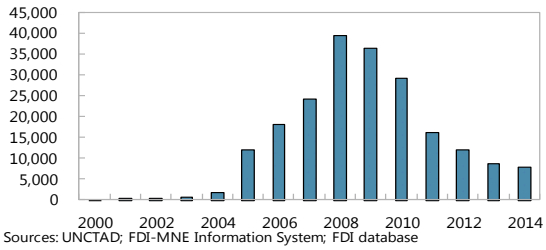
Figure 1. Saudi Arabia: Stock Market and Foreign Investment

Stock Market Capitalization, 2000–15
(Billion SAR)



Source: Haver.

Foreign Direct Investment, 2000–14
(US$ million)



Sources: UNCTAD; FDI-MNE Information System; FDI database (www.unctad.org/fdistatistics).

Box 1. Saudi Arabia: Key Restructuring/Corporatization of State-Enterprises and PPPs

Telecommunications

2005 The Communications and Information Technology Commission (CITC) granted a third-generation mobile license to the STC.

2007 Three new foreign companies were awarded licenses to provide land phone services. The licensing ended the monopoly of the state owned Saudi Telecom Company.

Postal Services

2002 The Saudi government transferred the responsibilities of the state-run postal services from the Ministry of Posts, Telegraphs, and Telephones to the private sector.

2003 Authorities reported that privatization of the postal services has been operating successfully, with about 100 agencies established by the private sector.

Saudi Railway Organization

2004 Three major rail projects approved by the Supreme Economic Council (SEC) for private investment.

Airline/Airports

2003 The opening of the Saudi aviation sector gave private companies the opportunity to provide domestic airline services.

2006 Sama, a start-up Saudi airline, was awarded a national air carrier license to operate flights in the kingdom.

2006 Saudi Arabian Airlines started a process of privatization in 2006 by splitting into six units: catering, cargo, maintenance, airlines, flight academy and ground handling. It plans to privatize each of the units individually and offer them to the public.

2008 Saudi Catering sold 49 percent of its shares to the Strategic Catering Company.

2012 Saudi Catering further sold 30 percent through an IPO.

2015 The Saudi Airline corporatized Ground Services and sold 30 percent in an IPO.

Ports Authority

2003 The Ports Authority has assigned several projects to the private sector to expedite the handling of goods and maritime services at the kingdom's eight seaports.

Education

2008 The Saudi Ministry of Education privatized some educational support services such as leasing of white land, recycling paper, schools transportation, and allowed the private sector to bid for building and to maintain schools.

Health Care Sector

2003 The Ministry of Health employed a private company to promote its pre- and postnatal health care education program. the authorities approved the formation of a joint stock company for medical care to establish, own, and manage health facilities, including hospitals.

Water and Wastewater Networks

2007 Two contracts were awarded for public-private partnership (PPP) projects for the operation and maintenance of water and sewerage facilities in Riyadh and Jeddah.

2008 The National Water Company (NWC) was licensed as wholly owned by the Public Investment Fund, to be sold through IPOs to the public in the future.

2008 A short-term management contract was signed with an international consortium, aimed at the formation of a self-sufficient, commercially robust organization.

Electricity

1999 The electricity sector was corporatized when the 10 regional electricity companies were consolidated into a single national electricity company, SECO, and mandated to operate on commercial basis. A regulatory authority was established to regulate sector and set tariff

Source: SAMA annual reports.

8. Compared to other countries in the region, Saudi Arabia's privatization program was limited. Unlike other countries in the region where privatization has typically targeted loss making enterprises, the Saudi program mostly focused on commercially run and profitable enterprises (such as SABIC, the petrochemicals company). Several key enterprises that were slated for privatization such as the airlines and airports and utility companies have been under or awaiting restructuring for many years. The water authority and electricity companies remain largely government owned and dependent on budget support despite their corporatization and some restructuring in preparation for privatization (the government has provided soft loans to the electricity company of around $50 billion since corporatization of SEC in 2000). In terms of the institutional and legal frameworks, the Saudi Arabian privatization program lacked an adequate legal base—there were no privatization laws per se and supervision and execution were charged to committees rather than special agencies, lacked clear timetables, and focused on mostly commercially oriented and efficiently run activities. A number of factors have contributed to the slower progress in Saudi Arabia including the lack of adequate legislations and institutional set-ups, long lead-time needed to restructure enterprises, the restrictive regulations on foreign investment— many of which have been recently removed—conditions imposed to protect workers, and other concerns about social implications of potential higher prices and unemployment.

9. The Saudi divesture programs, however, generated significant receipts from a handful of high value operations. Proceeds amounted to over $21 billion, equivalent to 1.1 percent of GDP annually during the main years of privatization (2003-08). In nominal terms, this is larger than what countries like Egypt, Jordan, Morocco, and Tunisia generated from over 300 operations since the beginning of the 1990s (Table 2). There have been an additional $6.8 billion of proceeds from privatization since 2008. While proceeds were used to finance spending and reduce public debt in many oil importers, most of the proceeds in Saudi Arabia accrued to the Public Investment Fund which may have allocated them to other assets portfolios, including investment abroad.

Table 2. MENA Region: Privatization Proceeds in the 1990s and 2000s

	1990s		2000s	
	US$ millions	Percent of GDP 1/	US$ millions	Percent of GDP 1/
Oil importers				
Egypt	4,736.8	0.9	11,558	1.6
Jordan	63.8	0.3	1,909	1.8
Lebanon	122.0	0.7	236	1.1
Morocco	3,101.1	1.0	7,920	2.5
Sudan			246	0.5
Syria			70	0.3
Tunisia	593.8	0.3	3,532	1.7
Algeria	55.1	0.1	1,541	0.3
Iran	18.1	0.0	720	0.1
Iraq	-	-	1,250	1.4
Libya			205	0.3
Yemen	0.8	0.0	234	0.7
Bahrain	10.3	0.2	800	2.9
Kuwait	92		3092	0.8
Qatar	717	3.8	3396	0.9
Oman	60	0.1	748	2.5
Saudi Arabia		0	21275	1.1
UAE	190	0.3	9297	2.2

Sources: World Bank Privatization Database (latest available data to 2008); and IMF staff estimates.
Source for the GCC counties is Zeya data on IPOs in the GCC stock markets, and staff calculations.
1/ Annual average in years of active privatization.

C. The Size of the SOE Sector and Potential Future Privatization

10. Despite the progress made in divesting assets in public enterprises, government ownership in the economy remains substantial, especially in the hydrocarbon sector. The national oil company, ARAMCO, has been state-owned and run since its full nationalization in 1980. Little information is available on the performance and size of ARAMCO which is believed to be well run and enjoy a high degree of operational independence. Activities of ARAMCO are extended to the downstream—refineries, petrochemical industries, and oil and gas services, including international operations—and to activities that go beyond its core commercial mandate such as building stadiums and universities. With the exception of some joint ventures in upstream gas production, recent privatization efforts in the hydrocarbon sector were limited to the petrochemical industries and downstream operations, notably the 2008 privatization of Petro Rabigh, a refinery and petrochemical joint venture between ARAMCO and Sumitomo Chemical. The oil reserves, to which ARAMCO is a de facto custodian, are vast–over $3 trillion in net present value terms, equivalent to over 460 percent of GDP (Table 3). This estimate, which is sensitive to the oil price and other assumptions used, is not an estimate of the value of ARAMCO because this will also depend on other factors such as the tax regime, but it does indicate that privatization revenues from the hydrocarbon sector could be substantial.

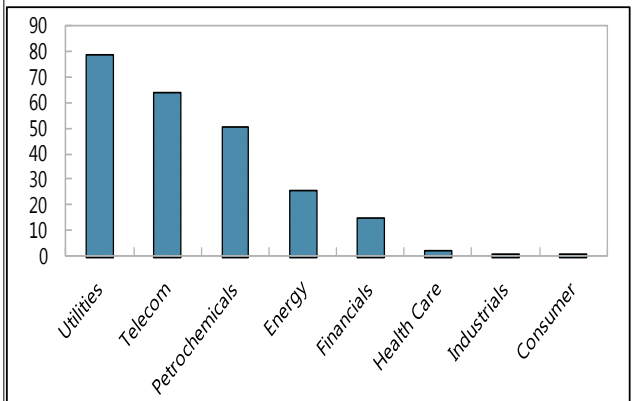
Table 3. GCC: Net Present Value of Future Oil Proceeds as of End 2015 1/
(US$ Billions)

	Value	Percent of GDP
Bahrain	77.3	254
Kuwait	818	678
Oman	282	482
Qatar	953	514
Saudi Arabia	3,046	466
UAE	1,253	354

Sources: BP statistical review, country authorities and staff calculations.
1/ Staff calculations based on current levels of oil production, proven oil reserves, and future oil prices using WEO projections, and assuming a growth of 2 percent in oil prices annually after 2021.

11. Outside the hydrocarbon sector, Saudi Arabia has a number of key enterprises that might gain from privatization. Compared to some countries in the region where the state has a stake in hundreds of low-productivity firms, potential privatization candidates in Saudi Arabia are concentrated in a few sectors which have been largely untouched by past privatization efforts. Even in the sectors that were partially privatized, the government has retained a large stake. Data on listed companies shows that government ownership is still large in a variety of sectors, notably utilities,

Figure 2. Government Stakes in Listed SOEs, 2015
(Percent)



Sources: Bloomberg; and IMF staff calculations.

communication, and petrochemicals (Figure 2). However, these numbers underestimate the government ownership stake in the non-oil sector given that many large public enterprises and entities are not listed on the stock market including Saudi Airlines, the airports, Railroads Saudi, Gulf International Bank, and SALIC (Saudi Agricultural and Livestock Investment Company). The government also still dominates the provision of services in education, health, and utilities despite the opening up of these sectors to private investment. For example, the government provides over 80 percent of total hospital beds and public universities account for close to 95 percent of total enrolled students.

12. Many SOEs have been corporatized and partially privatized in recent years and put on the same footing with private firms. Several SOEs are amongst the most successful and profitable enterprises that are recognized globally (for instance SABIC and MAADEN). The benefits from divesting stakes in such profitable enterprises are not straight forward compared to loss-making enterprises. These enterprises pay dividends which accrue to the Public Investment Fund (PIF) and are usually retained by the PIF, but the government has recently tapped into these funds for additional revenue of more than 10 percent of non-oil revenue in 2015.

13. Depending on the purpose of the privatization programs and the asset/liability management considerations, profitable enterprises represent a more readily available option for financing. Data collected from the stock exchange on government shares in listed companies shows that the value of these assets (based on market capitalization), and excluding shares held by the pension funds, are significant, amounting to close to $130 billion or 20 percent of GDP at end-2015 (Table 4). Again, these figures do not include several large and fully government-owned corporations, on which information is not available, and therefore considerably underestimate the total value of proceeds that the governments can generate from assets sale. Selling stakes in such enterprises could be an alternative to debt financing or part of the financing mix— in some countries using privatization proceeds to relax fiscal constraints could be a preferred option from a political economy perspective if assets sale is subject to less political opposition compared to other options.

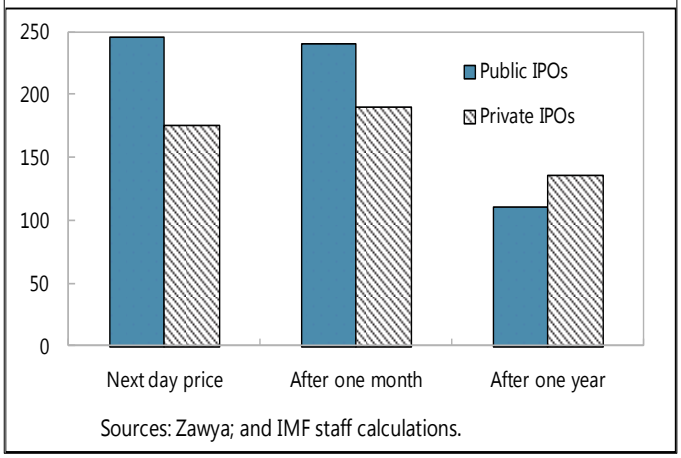
Table 4. GCC: Government Ownership in Listed SOEs
(US$ millions)

	Share in listed SOEs	
	Value	Percent of GDP
Bahrain	2,396	7.9
Kuwait	6,933	5.7
Oman	2,862	4.9
Qatar	42,807	23.1
Saudi Arabia	129,096	19.8
UAE	77,194	21.8

Sources: Bloomberg; and IMF staff calculations.

14. The objective of maximizing the value of the government's assets should be a priority. Figure 3 shows that the the stock prices of privatized enterprises increased on average by 250 percent on the first day of trading following the IPO, compared to 176 percent for private sector IPOs. Price increases after sale ranged from 10 percent for the National Commerical Bank to 1,430 percent for Bank Al Bilad IPOs.[2] The government could have potentially more than doubled its privatization proceeds if it had been able to realize the market price after the IPO. While underpricing is a well documented phenomenon worldwide, empirical evidence suggests that it is more evident in Saudi Arabia and other GCC countries compared to other regions, reflecting perhaps the governments' desire for privatization to be a channel through which oil wealth is shared with citizens (see Al-Hassan, Delgado, and Omran (2007)). A number of actions prior to and during the privatization process can help increase the price of privatized enterprises (see next section).

Figure 3. Saudi Arabia: IPOs Performance of Privatized Enterprises and Private Companies, 2003–15
(Percent)



Sources: Zawya; and IMF staff calculations.

D. Lessons from International Experience on Privatization and PPPs

15. International evidence generally suggests positive outcomes of privatization. Privatizations are found to be strongly correlated with a lasting improvement in macroeconomic performance. Econometric work by the IMF showed a significant and positive relationship between privatization and growth rates (Davis et. al, 2000), consistent with findings in the literature that growth tended to be more rapid where the share of the private sector in GDP was higher. It is likely that privatization was serving as a proxy in these regressions for a range of structural measures that may be characterized as a change in economic regime. These findings are supported by findings at the micro level where privatized firms in most case studies were found to have become more efficient, more profitable, and financially healthier, and to have increased their capital investment spending—for a comprehensive review of empirical findings, see Megginson and Netter (2001).

16. Job losses could result in the short term, but over the longer term the overall impact of privatization on employment is positive. Layoffs did occur during restructuring and privatization operations in many countries, but as the privatized enterprises expand their operations, employment increased (privatized enterprises employment follow a U shape) (see Gupta, Schiller, and Ma' (1999) for a review). Moreover, privatization, particularly when accompanied by deregulation, can lead to enough new business formation that the overall level of employment in

[2] In 2013, the CMA adopted a fluctuation limit of 10 percent on the first day of trading, so this limited the increase in the NCB share price after the IPO which took place in 2014 (the increase in the share price reached 30 percent after one week of trading).

the sector rises, even if employment and wages in the former state firms falls. In Zambia, for example, the liquidation of the state airline and bus company led to two new airlines and several new bus firms, and in both cases sectoral employment ended up higher (Kikeri (1998)). In Argentina and Mexico—the two countries where employment cutbacks were largest in Latin America—a significant proportion of laid-off workers was eventually reemployed within the same sector (45 to 50 percent within one year in Mexico and 80 to 90 percent within four years in Argentina). Even if employment in the privatized enterprises declined permanently, the number of layoffs was generally small compared to the size of the labor force and therefore didn't lead to higher unemployment rates. In Latin America, the proportion of the laid off labor force ranged from a low of 0.13 percent in Bolivia to 2 percent in Argentina (see McKenzie and Mookherjee, 2005).

17. However, not all privatization cases have been viewed as having been successful. Some have argued that the observed improvement in performance at the firm level after privatization could be attributed to other supporting reforms such as sector deregulation and competition rather than the change in ownership (Nellis, 2012). In some studies corruption was found to be associated with privatization (sales to well connected individual at low price), especially in countries lacking institutional capacity and well-functioning legal/judicial systems. Evidence suggests that transparency and homogeneity in procedures, speed, and limited restructuring prior to privatization lead to better outcomes and less room for corruption and discretion (see Chong and Lopez-de-Silanes, 2005)).

18. The fiscal effects of privatization have been generally positive. Privatization strengthened the fiscal positions; there were generally positive impacts on revenue from the improvement in efficiency and growth of privatized firms as well as from enhanced compliance and administrative scrutiny; transfers declined markedly following periods of privatization; and broader indicators of consolidated SOE accounts for some countries indicate a large decline in deficits, and probably also in quasi-fiscal operations. Dividends to the budget from public enterprises declined in some countries but these losses were at least partialy offset by increased tax collections. Countries tended to save the proceeds from privatization rather than spend them, i.e. they were used as a substitute for domestic financing and did not lead to a larger deficit. Privatization was also associated with a decline in public debt; some countries (Argentina, Egypt, Hungary, and Mexico for instance) expressed an explicit intention to use privatization proceeds for debt reduction and were able, during the years of active privatization in the 1990s, to sharply reduce their debt which initially ranged between 40 percent and 130 percent of GDP, though this involved many other factors in addition to the use of the privatization proceeds. In addition, this helped shift public spending away from expensive debt-service obligations and the funding of operating losses in SOEs (see Davis et al (2000) and McKenzie and. Mookherjee (2005) for discussion on fiscal implications.)

19. International experience points to a number of good practices in privatization:

- The privatization process must be carefully designed, sequenced, and have a clear time table for implementation. Privatization is most efficient if preceded by institution-building and the establishment of appropriate regulatory and governance frameworks. Lack of adequate

regulation and competition after privatization could lead to market power and exploitation of consumers—the water privatization case in Bolivia (Chong and López-de-Silanes, 2005).

- Pre-privatization restructuring may increase the sales price and help smooth employment adjustment, but it represents a major cost and is better left to the private sector which may be able to restructure the enterprise more efficiently than the government. Evidence from some country experiences even points to a counterproductive role of the restructuring process; restructuring programs lengthen the privatization process considerably and lowered prices for firms sold-in the case of Mexico, for instance, each month of delay is estimated to have reduced the sale price by 2.2 percent (see Chong and Lopez-de-Silanes, 2004).

- Restrictions on foreign direct investment and other conditions attached to the privatization including those limiting the redundancy of workers led to substantial price discounts for firms sold and negatively affected performance after privatization. Hungary's very successful privatization program is believed to be partly attributed to the involvement of foreign investors compared to other transition countries.

- Transparency of the privatization process can have important implications for the number of bidders and for the sale price. It could also help reduce risks of corruption and increase support for reforms.

- Post-privatization regimes such as the tax and regulatory regime can also affect the price of privatized assets and future fiscal revenue— for instance firms with monopoly power, and which are likely to be regulated only lightly, will likely sell for a better price than those which will be more heavily regulated.

20. On methods of privatization, international experience suggests that auctions and IPOs have served to increase transparency and generate higher returns to the government than trade sales (see review of country cases in Berg and Berg, 1997, and Moginsson and Netter, 2001). Negotiated bilateral deals could allow the government to influence the divestiture to achieve its social objectives or to exclude unwanted buyers. However, constraints on the new owner can lead to a lower sale price, reducing the revenues that the government can use to finance social safety nets (Gupta, Schiller, and Ma', 1999). Evidence, including from the GCC experience, suggests that countries that have privatized through large scale IPOs have experienced rapid growth in their national stock market capitalization and trading volumes.

E. Some Fiscal and Macroeconomic Considerations

21. Further privatization reforms could have a substantial impact on public finances. The impact will depend on the amount and use of the proceeds and the current financial position of the targeted SOEs. The current focus of the privatization effort on the largely government provided health and education services is expected to generate permanent fiscal gains; currently budget allocations to these sectors represent over 30 percent of total expenditure. Proceeds from assets

sale, especially if a stake in ARAMCO is sold, would be substantial. In this regard, particular attention should be given to the following issues:

- Privatization proceeds are one off, uncertain revenues that need to be carefully used and transparently recorded and subject to oversight. In particular, off-budget placement of privatization proceeds can lead to limited control and lack of transparency in their use. Receipts should be recorded on a gross basis and as a financing item, while the cost of restructuring, recapitalization, or writing off enterprises should be recorded as spending.

- Additional proceeds should not postpone the needed adjustment or be used to increase spending beyond what is considered appropriate by the overall macroeconomic objectives and fiscal sustainability.

- In general, the use of proceeds should be assessed in terms of the effect on government net wealth (GNW) and should be determined by asset/liability management considerations. In this context, proceeds can be used as an alternative option of financing the deficit and therefore reduce the need for debt financing or running down more liquid fiscal buffers. They can also be used to repay existing public debt, expand productive capital expenditures, or build financial assets domestically or abroad that will diversify the government's existing asset holdings (Box 2).

- Using privatization proceeds to finance the deficit or repay debt would reduce debt service costs, especially when borrowing costs are large. Some countries have earmarked part of the proceeds to cushion social impact of higher prices or workers layoffs arising from privatization.

- Use of proceeds to finance additional capital expenditure need not reduce GNW if spent efficiently and used to address pressing infrastructure bottlenecks which lead to higher growth—when the expected rate of return on new assets is not less than that on financial assets. Privatization in this case would simply involve a change in the composition of the government's assets. The implications of additional investment for recurrent government spending would need to be taken into account.

- To minimize the permanent impact on the budget from the loss of investment income as a result of selling profitable enterprise, improvements in the tax policy to broaden the tax to corporations and strengthen administration would be warranted.

Box 2. Privatization and Government Net Wealth

The Government Net Wealth (GNW), defined as the difference between total assets and total liabilities, is a useful concept to use in the assessment of the fiscal implications of privatization. Assets include external and domestic financial assets, the government ownerships in SOEs and physical capital stocks, while liabilities could include in addition to domestic and external debts, contingent liabilities such as government guarantees and unfunded pension schemes. GNW, as such, provides a full picture of the fiscal position and makes apparent all sources of fiscal strengths and vulnerabilities that are not captured by the traditional "flow" fiscal variables (expenditure, revenue, deficit, financing) or the stock of public debt.

A GNW measure that incorporates under-the-ground resources is particularly useful for Saudi Arabia; it links these nonrenewable resources to long term fiscal sustainability, brings to the fore the related issues of productive and unproductive use of oil revenues, and in view of the possibility of privatization in the oil sector, it incorporates an important and potentially large source of change in the level or composition of GNW. Privatization reduces GNW unless proceeds from assets sales are used to build other assets (financial or nonfinancial) or reduce debt.

Evaluating the impact of privatization in this context does not, however, imply the government should maintain GNW constant or maximize its level. This depends on the fiscal rule that the government follows as well as on the objectives of privatization—for instance using proceeds to smooth large adjustments or compensate groups affected by privatization could result in lower GNW. Still, it is important to keep an eye on the impact of privatization on the GNW and track its changes over time.

In practice, however, application of the GNW concept is not straightforward. The approach is very demanding in terms of data needed to construct the government balance sheet. Even the government sometimes does not know what assets it has acquired over the years, what it owes, and to whom (for instance with contingent or uncertain future liabilities). Moreover, the prices at which assets and liabilities need to be recorded on the balance sheet (market or nominal book values) make an important difference and some are extremely difficult or even impossible to value.

The table below presents an accounting exercise of the Saudi government balance sheet from which the GNW is derived. Assets include (i) government deposits at SAMA, (ii) the value of stakes held by the government in SOEs through the PIF (estimated at SAR 600 as mentioned in Vision 2030), (iii) government capital stock (the initial stock is estimated using the perpetual inventory method and accumulated by capital expenditures, discounted by the rate of depreciation), and (iv) the government share in future oil proceeds (estimated based on a budget share of 82 percent of oil exports representing royalties, taxes, and dividends of proven oil reserves)-the latter is calculated as the Net Present Value of oil exports proceeds using the WEO oil prices). On the liabilities side, only the government public debt is included.

The coverage is not complete and could be further improved if data can be made available on the many other large enterprises owned by the government, investments abroad, and the actuarial position of the pension funds.

Box 2. Privatization and the Government Net Wealth (concluded)

	2014 Actual	2015 Actual	2016 Projections
	(SAR billions)		
Assets	16,850	16,949	17,374
Deposits in the banking system	1,413	1,050	956
Value of government ownerships by the PIF 1/	644	600	616
NPV of government share in proven oil reserves/2	12579	12887	13317
Capital stock/3	2215	2413	2485
Other assets			
Liabilities	44	121	346
Central government debt	44	121	346
Other liabilities			
Net worth	16,805	16,828	17,028
percent of GDP	594	695	702
Memorandum items			
Nominal GDP	2,827	2,423	2,424
Proven oil reserves, billion barrels	262	258	255
Average Saudi oil export price US$/barrel	95.7	49.8	43.1
SAR/US$	3.75	3.75	3.75
Oil production (mbd)	9.7	10.2	10.2
Government financial guarantees	15	15	15
Civil aviation sukuk	15	15	15

1/ Shares in companies held through PIF. Number for 2015 is from the Saudi Vision 2030. Projections of growth of assets in line with non-oil GDP growth.

2/ Estimated net present value of share of the budget in future oil exports using a share of 82 percent. Export projections are based on current levels of oil production, proven reserves, and future oil prices using WEO projections.

3/ The capital stock is estimated by accumulation of capital expenditure since 1969 using annual depreciation rate of 4 percent.

Sources: Saudi Arabian authorities, Saudi Stock Market, BP statistical review, and staff calculations.

22. Privatization could have other implications that require a policy response.

Macroeconomic effects will depend on whether receipts from privatization are saved or spent, from domestic or foreign sources, the degree of capital mobility, and the exchange rate regime. Broadly, the effects of an increase in the deficit financed by privatization receipts would be similar to those resulting from a debt-financed fiscal expansion. The way proceeds are used could also affect domestic liquidity. Selling assets to foreign investors would increase FDI. If large and sustained, capital inflows could contribute to the appreciation of the real effective exchange rate.

23. While there will be important fiscal effects of privatization, in the longer run, the most significant gains should be in terms of improved efficiency and productivity of the privatized enterprises. Productivity has been relatively weak in Saudi Arabia (and other GCC countries) and moving to a more diversified and dynamic economy that is less reliant on oil will require reforms to strengthen productivity growth (see accompanied SIP on "Growth in a Low Oil Price Environment"). A well designed privatization program should over time help with this goal.

24. In the short run, privatization could result in job losses and in some cases where price subsidies are removed, higher prices for consumers. Empirical evidence generally shows that employment contractions were significant within privatized enterprises, but small relative to the overall size of labor force, and in most cases studies, workers tended to reallocate to other sectors, so the impact on employment is smaller over the longer run (McKenzie and Mookherjee, 2005). This, however, may be of particular concern in the GCC given the structure of the labor markets. Concerns about loss of jobs should ideally be addressed in the context of an overall policy to enhance employment in the private sector, a policy that Saudi Arabia has been pursing in recent years. Mitigating impacts on workers can be achieved through smoothing adjustments during the restructuring process, and passive and active labor policies such as severance payments, retraining, and other programs to upgrade skills, and a robust social safety net. Such policies can help reduce workers resistance and increase public support for the privatization process.

F. Public-Private Partnerships: Opportunities and Risks

25. Since the early 1990s, the use of PPPs has increased significantly worldwide. Countries have adopted PPPs in a wide range of social and economic infrastructure projects, but mainly to build and operate hospitals, schools, prisons, roads, bridges and tunnels, light rail networks, air traffic control systems, and water and sanitation plants. PPPs can be attractive to both the government and the private sector. For the government, private financing can support increased infrastructure investment without immediately adding to government borrowing and debt, and can be a source of government revenue. At the same time, better management in the private sector, and its capacity to innovate, can lead to increased efficiency; this in turn should translate into a combination of better quality and lower cost services. For the private sector, PPPs present business opportunities in areas which it may have previously been excluded. Many projects that address clear bottlenecks in roads, railways, ports, power, etc., are likely to have high economic rates of return, and therefore to be attractive to the private sector (IMF, 2004).

26. In Saudi Arabia, the large potential for PPPs could alleviate spending pressures and further engage the private sector. So far, there have been only limited initiatives to encourage private sector involvement in public investment and little progress in the development of a policy framework for PPPs. This is notwithstanding some successful PPPs in the power, water and port services implemented in the early 2000s. There is a strong case for expansion of PPPs given the infrastructure needs and rising fiscal constraints. Partnerships with the private sector could be a viable alternative to traditional public investment to help support growth. It is important, however, that the decision on whether to undertake a project as a PPP should be based on the project's efficiency and value for money analysis, rather than short-term fiscal gains. Experience shows that

using PPPs solely to reduce upfront costs has led governments to take forward low quality and in the longer-term fiscally costly projects that would not otherwise have gone ahead.

27. The government is considering the use of PPPs in strategic mega projects and provision of services. These include the Mecca and Jeddah metros and selected services in five ministries notably Education and Health that were identified based on criteria that measure favorability for private participation including alignment with national priorities, ministry potential for increased private sector participation, level of participation in best practices, the level of autonomy in service delivery, the size and reach of service offering and quality enhancement potential.

28. Establishing the institutional, legal, and regulatory frameworks for PPPs should be given high priority. There are currently no laws in Saudi Arabia that specifically govern PPPs and there is no specific procurement/tender process for a PPP transaction; the PPP tender process operates under the procurement law in the same way that typical procurements do. The institutional set-up is also less developed compared to other countries; the Council of Economic and Development Affairs oversees PPPs, while implementation and coordination with line ministries is usually charged to ad hoc committees. Investment in skills building to manage a PPP program, and in particular to refine project appraisal and prioritization, would also be warranted.

29. When regulated effectively, PPPs allow for flexible risk sharing between the public and private sectors, encourage the private sector to take long term investment decisions, and mitigate potential fiscal risks. Successful programs in many countries have been associated with the existence of special laws for PPPs. For example, the comparative success of Chile's PPP programs in the 1990s can be attributed to the fact that it is backed by a comprehensive concessions law, while Brazil's 2004 PPPs law complemented existing legislation in the fiscal area, including the Concessions Law and the Procurement Law. Italy and Spain have also revamped legal frameworks that for many years were an obstacle to PPPs (Akitoby, Hemming and Schwartz, 2007). A number of countries in the MENA region who were active in PPPs programs such as Jordan and Egypt have adopted special legislation for PPPs–the adoption of the PPP law in Egypt has been associated with a significant increase in the number of PPPs. In the GCC region, Kuwait embarked on a number of PPPs in the power and clean fuel projects and enacted a comprehensive PPP law in 2014 and established a technical bureau for implementation. The bureau is in charge of the financial and technical evaluation of PPP projects and is involved in all phases of a project, from inception to financial close.

30. International experience underscores the importance of adequate risk transfer from the government to the private sector (IMF, 2004). This is a key requirement if PPPs are to deliver high-quality and cost-effective services to consumers and the government. Risks could be associated with: (1) construction risk; design problems, and cost and schedule overruns; (2) financial risk—cash flow falling short of the level needed to repay project loans and capital invested; (3) demand risk—demand for the services provided declines; (4) availability risk—lack of continuity and quality of service; (5) political risk—government actions could impair private sector's earnings potential; and (6) natural disaster risk. Services have to be contractible so that payments to service

providers can be linked to their performance and the need for costly contract renegotiation is minimized, and there has to be either competition or incentive-based regulation, which is essential for efficiency. Country experience also shows that a significant amount of PPPs get renegotiated–on average, renegotiations occur every 2 years while incidence of cancellation of contracts is low. Renegotiations tend to favor the private sector; operator increases in tariffs, delays in providing the service, and decreases in investment obligations, increases in cost with automatic pass-through to tariffs and decreases in concession fees paid to the government.

31. PPPs carry important fiscal risks that can be mitigated through adequate contracting, reporting, and disclosure. Risks can arise from moving spending off budget and bypassing expenditure controls and creating contingent liabilities. This could also potentially threaten the integrity of the budget process and undermine efforts to safeguard macroeconomic sustainability, and make it more difficult to achieve fiscal discipline and good governance. When a decision to move ahead with a project has been taken in favor of a PPP rather than procured traditionally, it is important that the process of preparing the project continue to be geared toward achieving value for money and safeguarding fiscal affordability. This is best achieved through a gateway process which is an institutional arrangement to empower the Ministry of Finance to stop or suspend a PPP project during its preparation and negotiation, as well as during the construction and operation if certain conditions are not met (Schwartz, 2007).

32. Government guarantees are one of the main fiscal risks associated with PPPs and must be well designed and limited in scope and duration. For example, early PPP contracts in Colombia included large demand guarantees from the government that were subsequently triggered and entailed substantial fiscal cost. Partial guarantees may help limit moral hazard and adverse selections. Good disclosure practice is to publish detailed information on guarantees. This should cover the public policy purpose of each guarantee or guarantee program, the total amount of the guarantee classified by sector and duration, the intended beneficiaries, and the likelihood that the guarantee will be called. Information should also be provided on past calls of guarantees. Best practice is to publish quantitative estimates of the potential fiscal impact of guarantees that, based on past experience, are likely to be called (i.e., the expected value of guarantee payments). For example, the United States requires systematic estimates of the potential costs of loan and pension guarantees, deposit and other forms of insurance, and most other contingent liabilities. Where the cost of calls on guarantees is potentially of fiscal policy significance, allowance should be made in the budget to meet the expected cost (IMF, 2004).

G. Conclusions and Policy Recommendations

33. Privatization and PPPs have been part of Saudi Arabia's broader effort to increase the role of the private sector in the economy. The overall impact of these policies has been positive and the private sector role has been rising gradually since the early 2000s. Nonetheless, the size of the government remains large in terms of its stake in public enterprises and its spending and investment. The hydrocarbon sector remains largely government owned and run, while the government retains large stakes in other sectors such as petrochemicals, telecommunications,

financials, and utilities. Capital expenditures are large by international standards, and the role of the private sector in infrastructure investment remains limited.

34. A deepening of the privatization and PPP programs could be an important part of reducing the government's involvement in the economy and boosting productivity. Increasing efficiency and productivity should be the main objectives of these programs which may need to shift focus to less efficient enterprises and government services. Of concern is the potential negative impact of these programs on short-term employment which can be mitigated through the continuation of ongoing reforms to increase the employment of nationals in the private sector through a re-alignment of incentives and programs to upgrade skills.

35. Privatization and PPPs programs could also help address fiscal pressures. Proceeds from assets sale can be part of the financing of the fiscal deficit or could be used to reallocate and diversify the government's asset portfolio, while PPPs can be an alternative to public investment which will likely bear the brunt of fiscal adjustment to lower oil prices. Proceeds are a one-off financing source and should not postpone fiscal adjustment. They should be transparently recorded and subject to oversight.

36. A broader tax regime will need to be developed as privatization moves forward. As more of the economy is in the hands of the private sector, an efficient tax regime in the oil and non-oil sectors will be needed. Contractual clauses may make it more difficult to introduce such a tax regime at a later stage. The possibility of selling a stake in ARAMCO raises the issue of taxing profits of a future private investor in the oil sector which will need careful study.

37. A number of good practices from international experience can be usefully adopted in the design and implementation of future privatization and PPPs in Saudi Arabia. Establishing the legal framework and institutional set-ups should be the first step to ensure timely and effective implementation, reduce potential future fiscal risks, and ensure adequate regulation of privatized sectors to foster competition and protect consumers. Restructuring prior to privatization should be carefully considered and in some cases may be better left for the private sector. Finally, limiting upfront restructuring costs, allowing broad participation of bidders, and using transparent sales mechanisms will help maximize sale proceeds.

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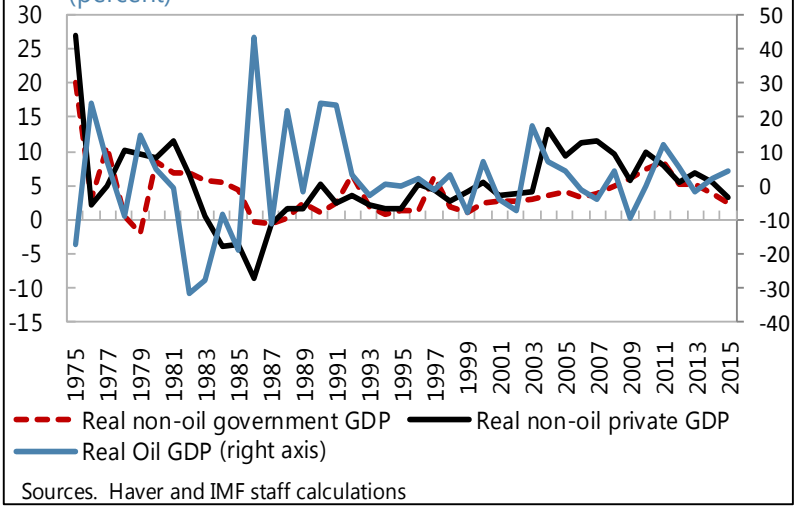
GROWTH IN A LOW OIL PRICE ENVIRONMENT[1]

High oil prices and rapid growth in government spending have been important drivers of growth and have led to an economy where factor inputs rather than productivity and human capital development have supported growth. Looking forward, fiscal consolidation will result in slower economic growth in the near-term, and an acceleration of ongoing structural reforms is critical in spurring stronger productivity growth and private investment to offset slower public investment over the medium term.

A. Introduction

1. The economic structure in Saudi Arabia has evolved over the past 40 years, but growth is still importantly driven by developments in the oil and non-oil government sectors. Strong real oil GDP growth was the key driver of growth in the 1970s and 1980s. Oil GDP grew very strongly in a number of years in the 1970s, but then declined sharply in the 1980s following the oil output cuts in response to the decline in oil prices (Figure 1). The share of oil-GDP in total GDP fell in the 1990s and 2000s from 65 percent to 40 percent. In the 2000s, growth in the non-oil private sector accelerated and its share in overall GDP increased from 20 percent to 40 percent. In recent years, 60 percent of overall GDP is accounted for by the oil and government sectors (Figure 2). Real GDP has become less volatile in recent years as the volatility of oil output has fallen, structural reforms that have been underway since the early 2000s have increased the role of the private sector, and large fiscal buffers have meant that government spending has become more delinked from volatile oil revenues. Overall growth has been stronger in periods of high and rising oil prices than in periods of low and declining prices.

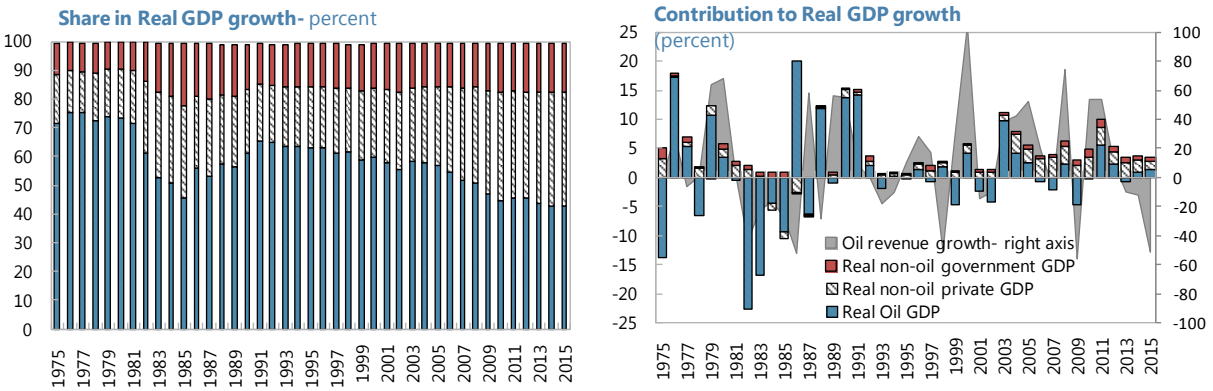
Figure 1. Real GDP Growth Rate
(percent)



Sources. Haver and IMF staff calculations

[1] Prepared by Malika Pant (MCD), Keiko Honjo (RES), Salah Alsayaary, and Fares Rawah (both SAMA).

Figure 2. Shares and Contributions to GDP

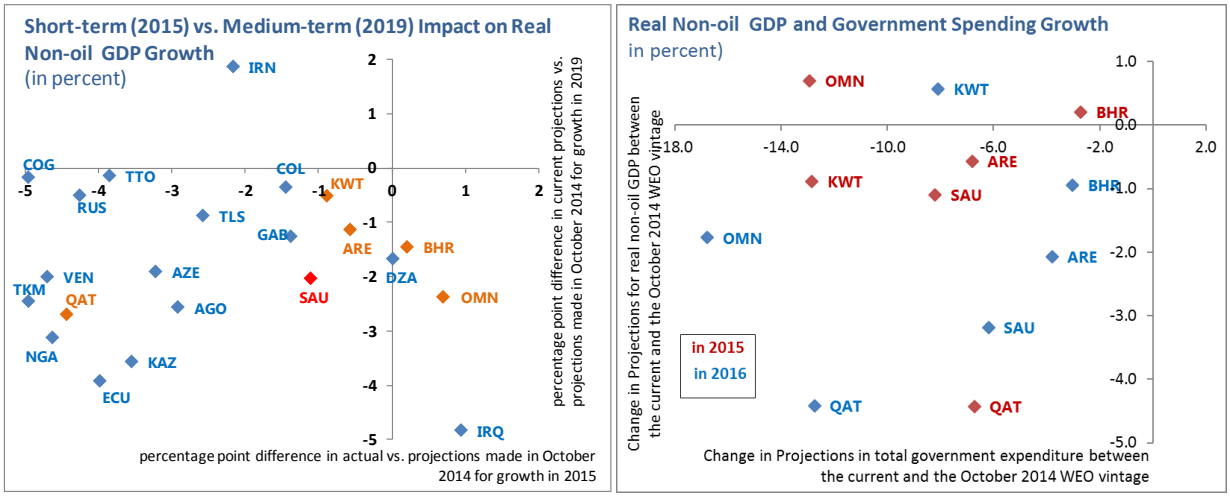


Sources. Haver and IMF staff calculations

B. Low Oil Prices, Fiscal Consolidation, and Growth in the Non-oil Sector

2. Lower oil prices and the associated fiscal consolidation would be expected to reduce growth in an oil exporting country such as Saudi Arabia (Figure 3). Indeed, non-oil growth in most oil-exporting countries slowed between 2014 and 2015 and was below IMF forecasts made in the October 2014 WEO. On average, actual non-oil GDP growth for oil exporters in 2015 was 2.7 percentage points below the one-year ahead projection made by the IMF in October 2014. With oil prices expected to only gradually recover over the medium term and remain well below the levels seen in the first half of 2014, downward revisions to non-oil growth over the medium-term (through 2019) have also been substantial. These downward revisions to non-oil growth are significantly correlated with actual and expected reductions in government spending. Use of fiscal buffers helped Saudi Arabia to delay the need for immediate cuts in government spending in 2015, although expenditure consolidation was underway in the second half of the year. In 2016, the impact on growth in expected to be larger as it includes the lagged impact from consolidation in 2015 along with the consolidation expected in 2016.

Figure 3. Impact on Real Non-oil GDP Growth



Sources. Haver, WEO IMF and IMF staff estimates.

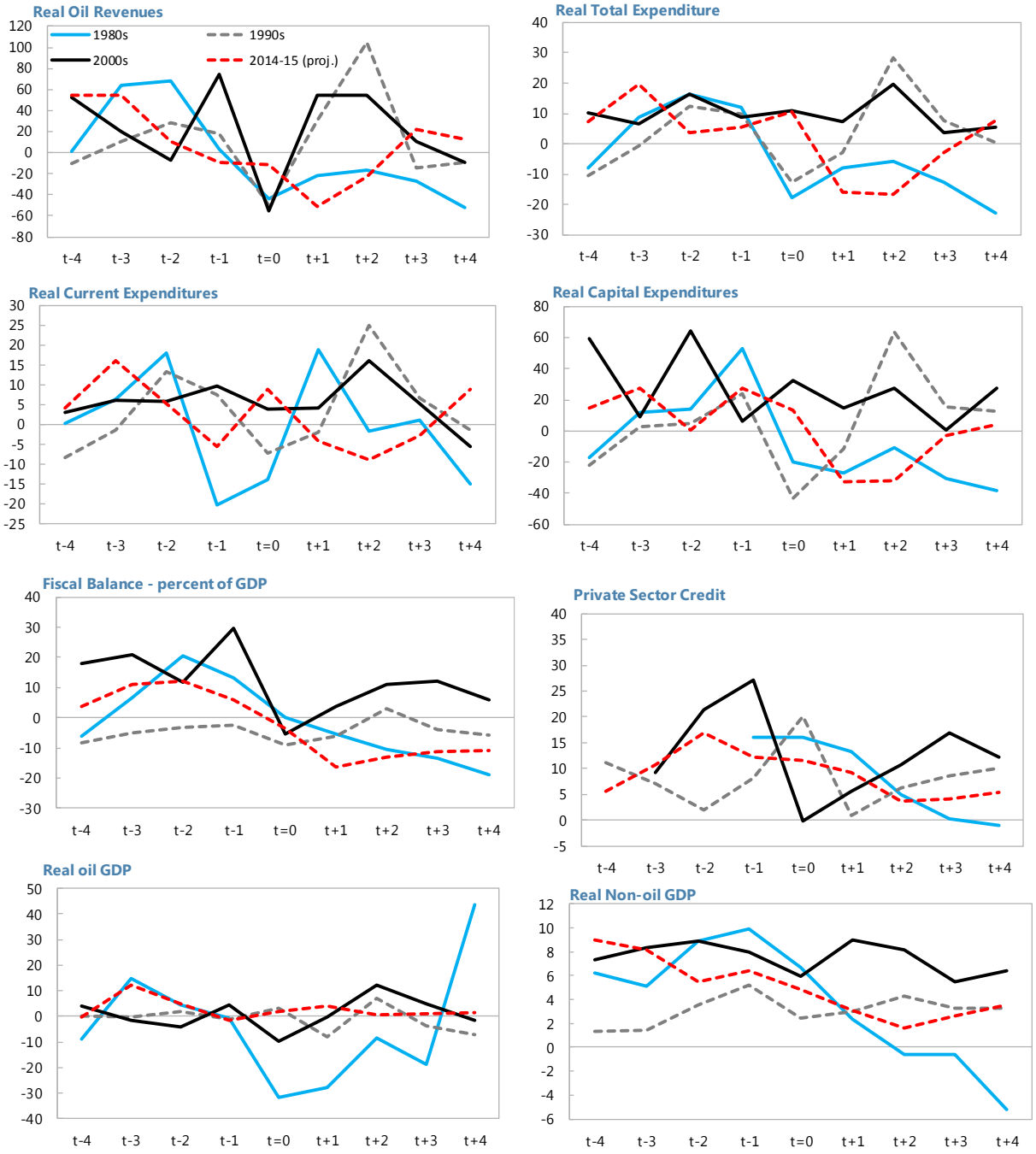
3. Looking back at past oil price shocks, the impact on growth in Saudi Arabia has varied depending on whether the price drop is short or long-lived (Figure 4).

- During the 1980s, the decline in oil revenues was long-lived as prices dropped and Saudi Arabia reduced its oil output. As fiscal revenues declined, the government undertook substantial fiscal consolidation, but the fiscal balance still moved from surplus into a large deficit. The government relied mainly on large cuts to capital spending, although current spending was also reduced. This was associated with a sharp slowing in non-oil growth.

- During the oil price drops in the 1990s and 2000s, which were relatively short-lived, the drop in oil revenues was quickly reversed. Expenditure adjustment was sharp, but short-lived, in 1998-99, and real non-oil GDP growth only slowed temporarily. In the 2008–09, the large fiscal buffers that had been built-up allowed the government to maintain spending and again non-oil growth only slowed modestly.

Figure 4. Real GDP, Oil Revenues and Expenditure Changes During Periods of Oil Price Declines

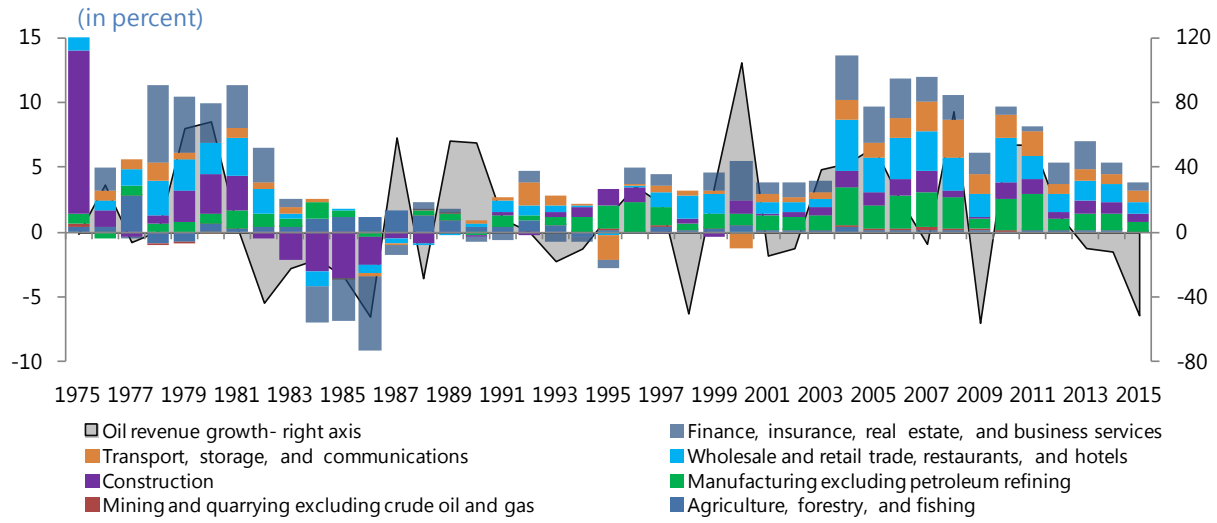
(In percent)



Note: Year t=0, corresponds to 1982, 1998 , 2009 and 2014 for the '1980s,' '1990s, '2000s,' and '2014-15' price decline events, respectively.
Sources: Haver and IMF staff calculations.

4. The negative impact of lower oil prices on private sector activity was stronger in some sub-sectors than in others during past episodes (Figure 5). During the shock in the 1980s, activity slowed in most sub-sectors, but the construction, finance and real estate sub-sectors were most affected as capital expenditure was cut. These two sectors contributed on average 5 percentage points to the overall decline in non-oil private sector GDP during 1983–86. In the 1990s and 2000s, the slowdown in growth was most marked in the construction and manufacturing sectors, while the trade and hospitability sector was little affected during these years. More generally, since government spending was maintained in the 2000s, the impact on growth in most sub-sectors was contained.

Figure 5. Sector Contributions to Non-oil Private Sector Growth



Sources. Haver, WEO IMF and IMF staff estimates.

5. Fiscal multipliers estimated for Saudi Arabia and the GCC generally indicate that capital spending has a larger impact on non-oil growth than current spending (Box 1). Espinoza and Senhadji, 2011, estimate spending multipliers for Saudi Arabia on data from 1975 to 2009. They find a short-term multiplier of 0.2 and a cumulative long-run multiplier of 0.5 for total spending, with a higher multiplier for capital spending. Multipliers used in SAMA's macroeconomic model are similar to the Espinoza and Senhadji estimates (Table 1). Re-estimating the same model using the recently revised and updated GDP data for the period 1980–2015, suggests somewhat lower multipliers (Box 1). Looking at estimates of fiscal multipliers for the GCC as a whole—where the panel of data may allow more precise estimation than the relatively limited data sample for an individual country—suggests a range from 0.2 in the short run to 1.4 cumulatively, maximum over a 2–4 year period.

Box 1. Estimating Fiscal Multipliers for Saudi Arabia

Model: The VAR model specified by Senhadji and Espinoza (2011) for Saudi Arabia is re-estimated on revised and updated data. This model links real world real GDP growth, Saudi real government expenditure growth (with nominal expenditure deflated by the non-oil GDP deflator) and Saudi real non-oil GDP growth (Figure 2). The model is estimated with annual data from 1980-2015, using two lags as identified by various lag selection criteria. The identification procedure is based on a Choleski orthogonalization, with world growth ordered first to capture the impact on demand side factors affecting oil revenue through oil production and oil prices. No significant endogeniety of fiscal policy is assumed and hence fiscal variables are ordered before non-oil growth- expenditure allocations are made at the start of the year and are not affected by growth in that year. The model is estimated separately for current and capital expenditures.

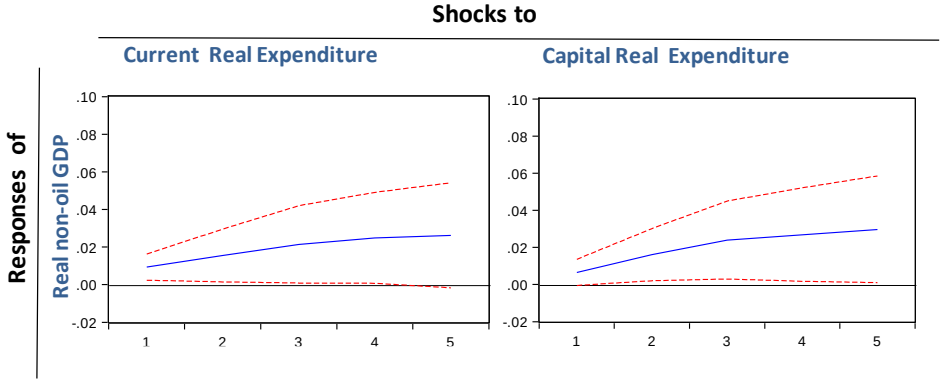
Results: For each specification, since the variables are converted to growth rates, impulse responses can be interpreted as elasticities and used to estimate the multiplier for each expenditure type. The impulse responses show that the impact of an increase in non-oil GDP has little effect on government expenditures even after a few years, confirming the prior view of little endogeniety in fiscal policy. The multiplier estimate for current spending is higher at 0.3 in the short term and 0.5 cumulated over 2 years, while the multiplier for capital spending is lower at 0.2 in the short run and 0.8 cumulated over three years. Lower multiplier for capital spending compared other estimates in the literature (paragraph 4) may be due to its high import content in terms of goods and services and labor.

Estimated Cumulative Fiscal Multipliers for Saudi Arabia

		Current Real Expenditure	Capital Real Expenditure
Ratio of real expenditure to non-oil	average (1980-15)	0.48	0.19
Standardized impulse responses of non-oil GDP to expenditures	year 1	0.15	0.04
	year 2	0.25	0.11
	year 3		0.16
Multiplier 1/	year 1	0.32	0.23
	year 2	0.53	0.56
	year 3		0.83

1/ Multiplier is computed by dividing the standardized impluse responses/ elasticities by the ratio of real expenditure to real non-oil GDP.

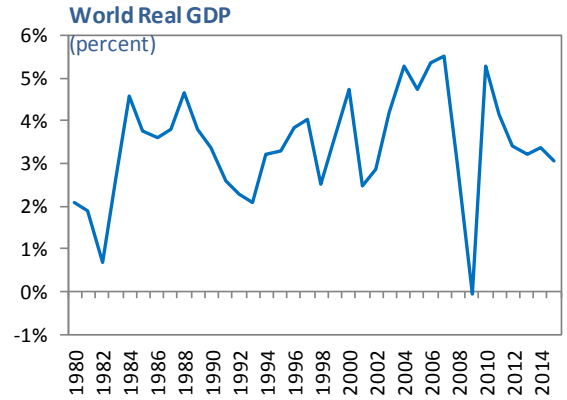
Impulse Response of Non-oil Growth to Expenditure Shocks 1/

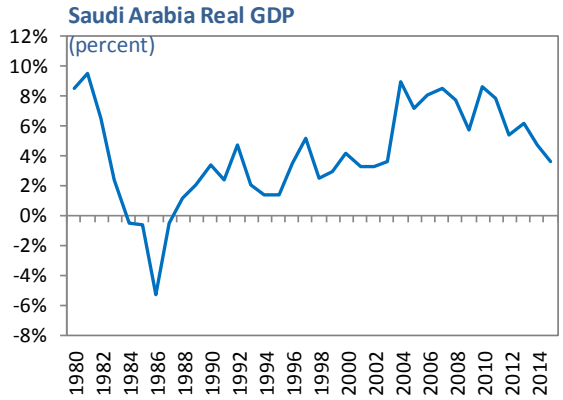


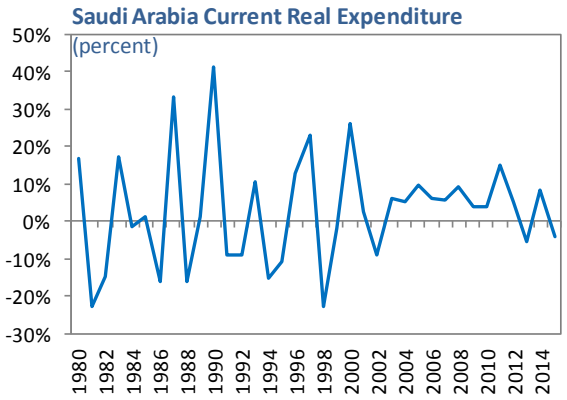
1/ Variables are in growth rates and the impluse responses are cumulated. Impluses are presented for a one standard deviation shock of the orthogonized errors.

Box 1. Estimating Fiscal Multipliers for Saudi Arabia (concluded)

Real GDP and Government Expenditure







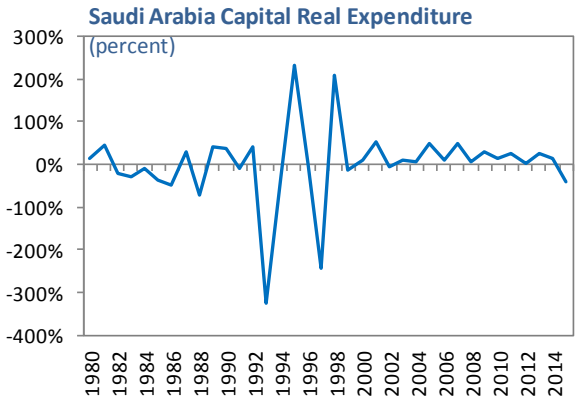


Table 1. Fiscal Expenditure Multipliers

	Current Spending		Capital Spending		Total spending		Tax Revenue	
	ST	LT/ Cumulative	ST	LT/ Cumulative	ST	LT/ Cumulative	ST	LT/ Cumulative
Espinoza and Senhadji - Saudi Arabia	0.4	--	0.5	1.0	0.2	0.5	--	--
Espinoza and Senhadji - GCC	0.2 to 0.4	0.3 to 0.7	0.2 to 0.3	0.6 to 1.1	--	--	--	--
Cerisola and others - GCC	--	0.7 to 1.2	--	1.4	--	--	--	-0.4
SAMA	--	0.5	--	1.1	--	0.6	--	--
This paper (Annex 1)	0.3	0.5	0.2	0.8	--	--	--	--

Sources. IMF publications, SAMA and IMF staff estimates.

6. It is also possible that the fiscal multipliers change over time depending on the conditions in the economy and the type of spending undertaken. For example, part of the increase in government expenditures in recent years has been spent on land acquisition for the Mecca and Medina expansion projects which may have very low multipliers if the sellers save the receipts. Further, there has been a substantial increase in military spending which likely has a high import content, which would mean even lower multipliers and limited pass-through to private sector growth.

7. Fiscal reforms should yield long-term gains and improve efficiency even though they incur short-term costs. For instance, while the impact on growth from energy price reforms could be negative in the short run, estimated real income gains from improved efficiency, even after consumers are compensated, range between 1.5–2.1 percent of GDP for Saudi Arabia in the long-run (see IMF 2015b). Similarly, improving the efficiency of capital spending would be important to maximize the growth dividend. IMF (2015) argues that the growth impact of closing the public investment efficiency gap could be substantial. The study finds that a one-off 1 percent of GDP increase in public investment increases output by just 0.3 percent in countries in the bottom efficiency quartile, but 0.6 percent for countries in the top efficiency quartile. The period of strong reforms seen in Saudi Arabia in the first half of the 2000s had a substantial positive effect on productivity growth.

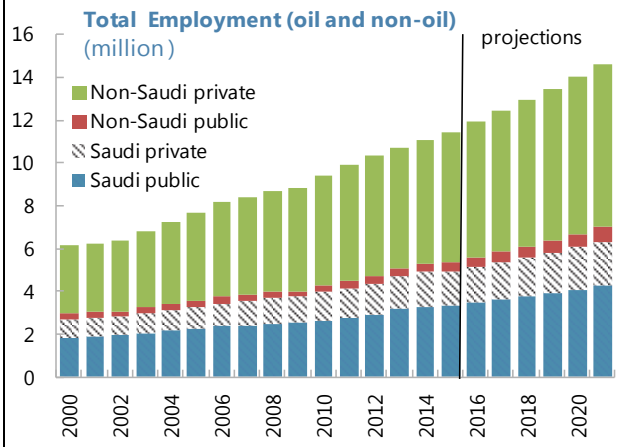
C. The Impact of Low Oil Prices and Fiscal Consolidation on Potential Growth

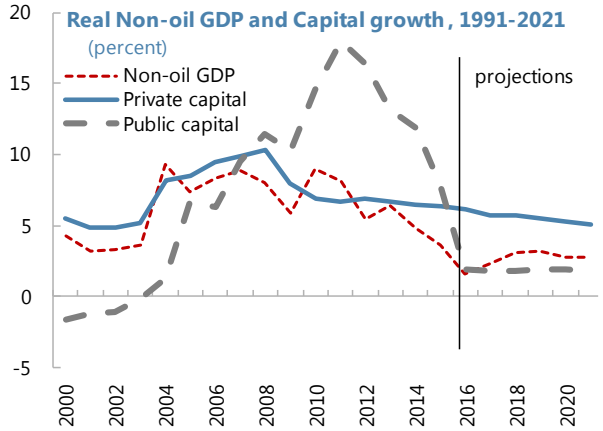
8. Non-oil growth in Saudi Arabia has been driven by capital and labor inputs rather than productivity growth in recent years (Figure 6). A growth accounting approach is used to estimate the role of factor inputs and total factor productivity (TFP)- a measure of how efficiently capital and labor inputs are being used in the production process (Solow,1957).[2] Both capital and labor inputs have been the main drivers of non-oil growth, while TFP has made a small or negative contribution for most periods, including since 2010. Growth of labor and capital inputs has been strong due to the large increase in foreign workers in the private sector and the strong growth in public capital stock since mid-2000s as the government used the opportunity of rising oil revenues to boost its investment in infrastructure.

9. With public investment falling as fiscal consolidation proceeds, it is likely that without reforms to boost productivity growth, potential non-oil sector growth will slow. Using staff projections of trend growth in the capital stock, labor force and TFP, potential growth in the non-oil sector is projected to slow to 2.4 percent on average during 2016–21. Growth in the public capital stock is expected to slow to an average of about 2 percent during this period compared to 13.2 percent on average during 2009-2015. Similarly, using an HP filter, trend growth is estimated to slow from an average of 5.6 percent during 2009–15 to 3.5 percent over the medium term (Figure 7, right panel).

[2] The Cobb-Douglas production function is defined as $\Delta Ln(Yt) = \Delta Ln(At) + \alpha\Delta Ln(Kt) + (1-\alpha)\Delta Ln(Lt)$, where $\Delta Ln(Yt)$ is output growth in period t, $\Delta Ln(Kt)$ is the capital accumulation rate in period t, $\Delta Ln(Lt)$ is employment growth in period t, and $\Delta Ln(At)$ is TFP growth. The cost share of capital is assumed to be 0.4 (see 2013 Selected Issues Paper, "Productivity Growth And Potential Ouput In Saudi Arabia. ")

Figure 6. Estimating Potential Growth





Average Contribution to Non Oil Sector Growth
(Percent)

Cost Share of Capital (α) = 0.4		
	2000-08	2009-15
Growth	6.3	6.2
TFP	1.3	0.2
Capital (non-oil)	2.5	3.5
Labor (non-oil) 1/	2.5	2.4

1/. Overall employment data is used prior to 2000 due to unavailability of non-oil employment data from the labor survey (share of oil sector is small, between 1 and 1.5 percent of total employment). 2000 onwards non-oil employment series has been used which is constructed based on the sectoral breakdown from the labor survey and is recalculated taking into account the change in methodology in the survey around 2010-11.

Sources. Country authorities and IMF staff calculations.

Growth Decomposition
(percent)

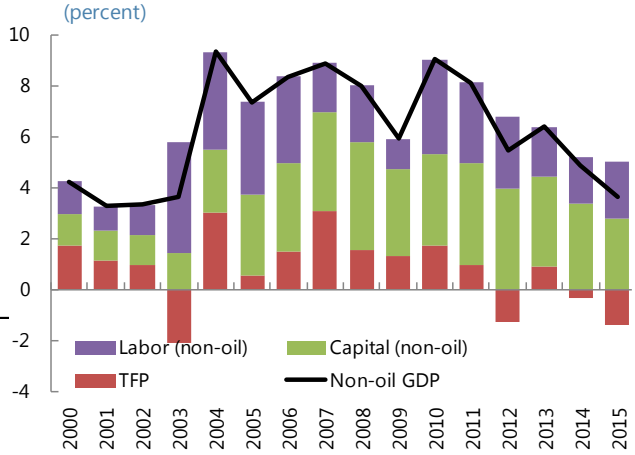


Figure 7. Actual and Potential Non-oil Growth

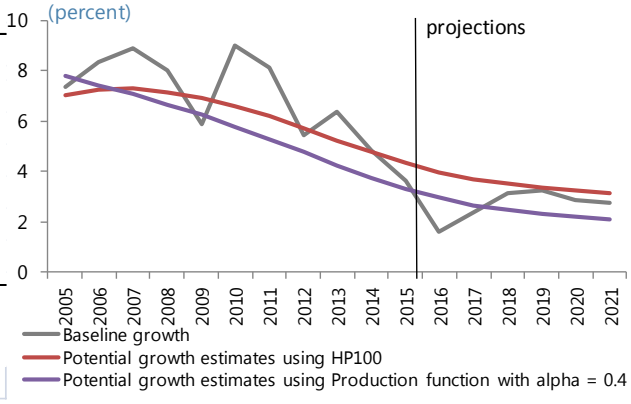
Average Contribution to Potential Non Oil Sector
(Percent)

Cost Share of Capital (α) = 0.4		
	2009-15	2016-21
Growth	6.2	5.4
TFP 1/	0.2	1.3
Capital (non-oil)	3.5	1.7
Labor (non-oil)	2.4	2.4

1/. For 2016-21. we assumes increase in capital stock as projected in the baseline staff projections, continued employment growth and TFP fixed at 2000-08 average.

Source. IMF staff calculations.

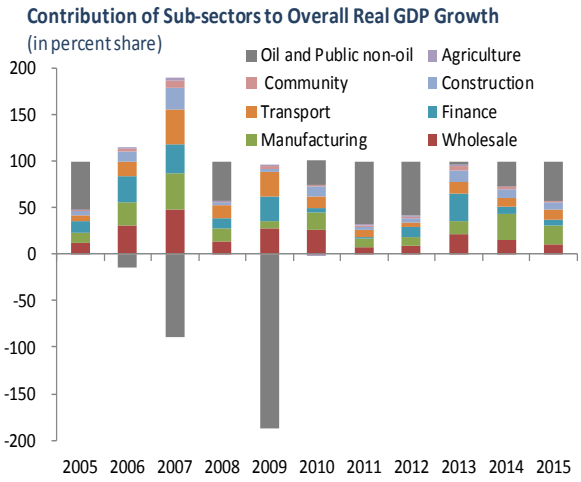
Real non-oil GDP Actual and Potential growth
(percent)

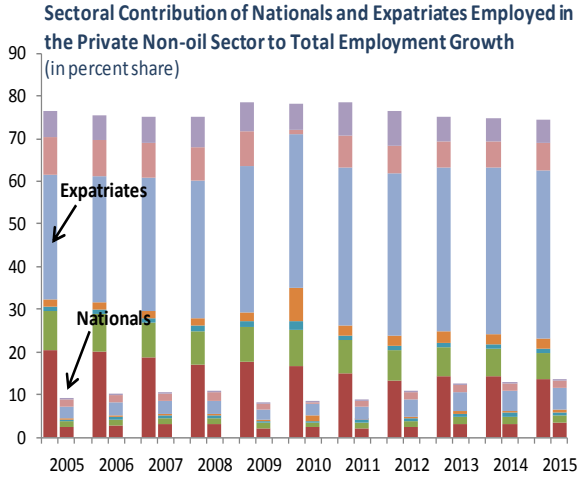


10. Measures to improve productivity, encourage private investment, and increase labor force participation will be critical to limit the slowdown in potential growth in the coming years. Structural reforms that improve TFP growth and increase employment from past trends would help offset the projected decline in potential growth that is being driven by fiscal consolidation. If TFP growth increases to 1.3 percent a year, same as the average in 2000–08, a period of significant structural reform in Saudi Arabia, and employment continues to growth at 4 percent, then non-oil potential growth could be increased to an average of 5.4 percent during 2016–21 (Figure 7, left panel). Maintaining employment growth at 4 percent as public sector employment slows with fiscal consolidation will require stronger employment growth in the private sector going forward (Box 2).

Box 2. Employment in a Low Growth Environment

Despite stronger growth contributions by the private sector in recent years, employment of nationals in the private sector has remained weak. Over last few years, the main growth drivers, such as the manufacturing and trade sectors, have contributed to far less jobs for nationals compared to expatriates. The real non-oil private sector grew on average by over 7 percent a year since 2005 and created more than 3.6 million jobs, but only one fifth of these private sector jobs went to nationals. Job creation for nationals has been concentrated in the government and community service sectors, which contributed more than 70 percent of total jobs created for nationals, but only 15 percent to GDP growth. The weak responsiveness of employment of nationals to private sector growth reflects the uneven sectoral distribution of national employment.





Box 2. Employment in a Low Growth Environment (concluded)

Unless further reforms are introduced to increase the employment of nationals in the private sector, the unemployment rate among nationals could rise significantly over the medium term, if the absorption of nationals by the government is limited. The table below presents projections for the Saudi work force and unemployment for 2021 under different scenarios using assumptions on population growth and participation rates to estimate the number of new labor force entrants. Under these assumptions, around 1.7 million people are projected to enter the labor force by 2021. In scenario 1, employment of nationals in the public sector is assumed to continue to grow at 4 percent a year based on past trends and the increase in employment of nationals in the private sector is projected using the private non-oil growth rates in the staff's baseline scenario and the recent elasticity of national employment in the private sector to private non-oil growth. Given the expected slowdown in growth in this scenario, the private sector does not create enough jobs to absorb the new labor market entrants and unemployment increases to 17.2 percent by 2021. However, the need to contain the wage bill would hinder the government from increasing employment at the rate in scenario 1. Scenario 2 assumes a slowdown in the annual growth of national employment in the public sector to 2 percent. With this assumption, the unemployment rate increases further to 23.5 percent. Reforms to increase the share of nationals working in the private sector will therefore be crucial to contain unemployment. Scenario 3 shows that with public sector employment increasing by 2 percent a year,to keep the unemployment rate at 11.5 percent in 2021 (which is still high compared to the targeted reduction in unemployment rate to 9 percent by 2020 in the NTP), 1.1 million jobs will have to be created for nationals in the private sector between 2016 and 2021. To achieve this target, reforms are needed to increase private non-oil growth, increase the elasticity of private sector employment of nationals to non-oil private sector growth sharply (and unrealistically) from 0.74 (average for the past 5 years used in scenarios 1 and 2) to 3.2, or to substitute nationals for expatriate workers in existing jobs (assuming this has no impact of total jobs available). In reality, some combination of these three will likely be needed to keep unemployment from increasing.

Saudi Arabia- Employment of Nationals 2015-2021

Thousands unless otherwise specified

	2015	2021		
		Strong Public Scenario and Increased Labor Supply Scenario 1/	Lower Public Employment Scenario 2/	Reforms Scenario 3/
Saudi labor force	5623	7323	7323	7323
Employed in public sector	3341	4228	3763	3763
Employed in private sector	1635	1836	1836	2716
Total Unemployed	647	1259	1724	844
Unemployment rate (percent)	11.5	17.2	23.5	11.5

1/ Assumes national labor force to increase in line with increase in labor participation rate from 40 percent to 43.5 percent and a 3.1 percent annual increase in national population. Employment of nationals in the public sector continues to growth at an annual rate of 4 percent and the share of nationals in the private sector is assumed to remain unchanged at 21 percent.

2/ Additionally assumes employment growth of nationals in the public sector to reduce by half to 2 percent.

3/ To keep unemployment rate constant at 11.5 percent compared to 23.5% in scenario 2, the responsiveness or elasticity of private sector employment to non-oil output needs to increase from 0.74 historically to 3.2. Alternatively, the share of nationals in the private sector employment needs to increase by 10 pp from 21 percent historically to 31percent.

Source: Country authorities and IMF staff calculations.

11. G20MOD, a module of the IMF's Flexible System of Global Models (Appendix I), can also be used to assess the impact of lower oil prices and fiscal consolidation on growth in Saudi Arabia and the role that structural reforms could play in offsetting this impact (Figure 8). Four scenarios are considered to assess these policies. In each scenario, oil prices drop by 60 percent, broadly what has been seen since mid-2014. The first scenario looks at the impact on the economy if the fiscal deficit does not adjust. The second looks at the impact of a fiscal consolidation of roughly 10 percent of GDP. The third and fourth scenarios look at the role that structural reforms to boost labor force participation and productivity would need to play to offset the negative effects of fiscal consolidation on real GDP by 2021.

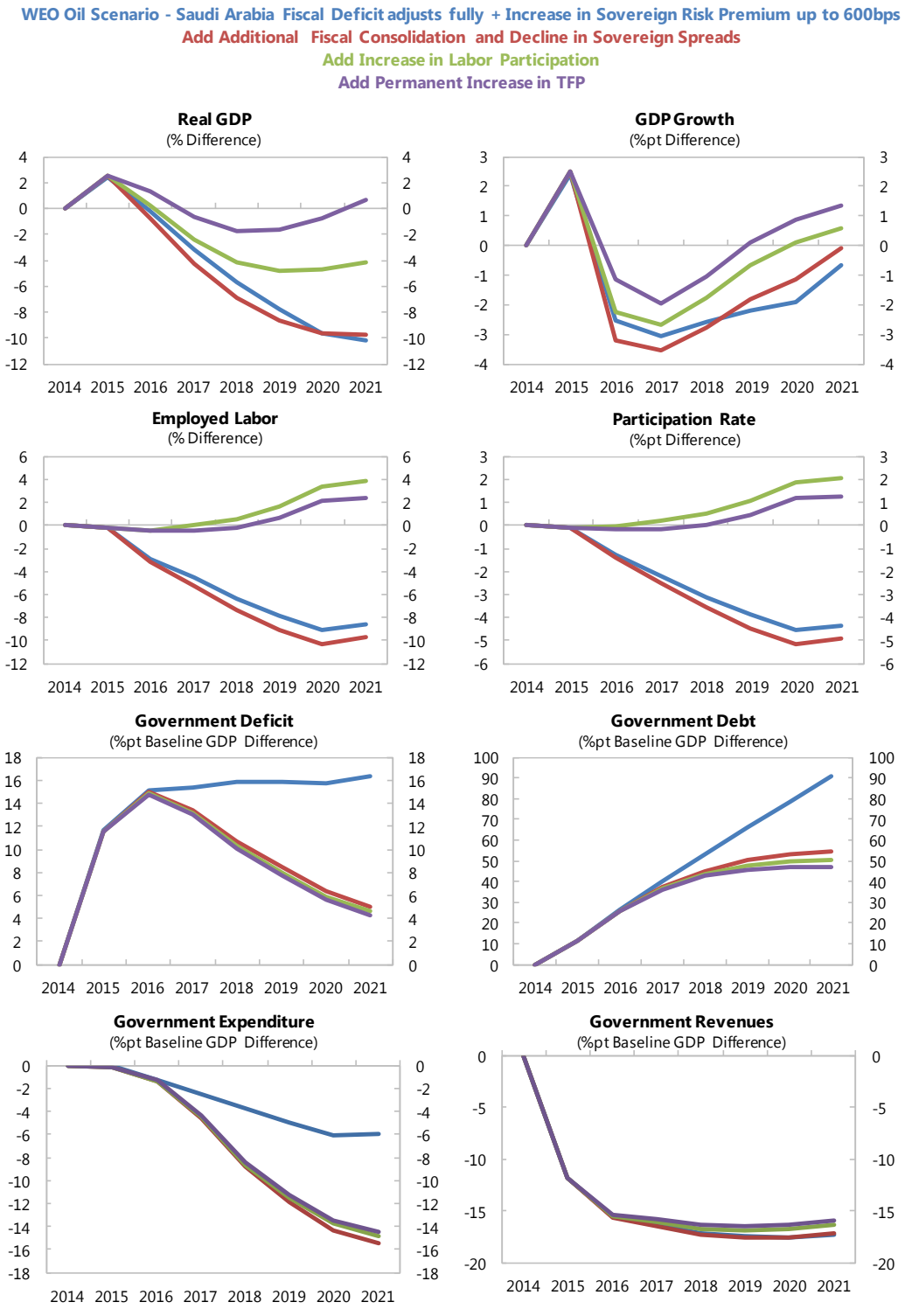
- In the first scenario, primary expenditure is reduced by 6 percent of GDP, but with the sharp decline in oil revenues and rising borrowing costs, even by 2021 the fiscal deficit is still high. The sharp increase in government debt results in higher risk premium and an increase in borrowing costs, which together with the reduction in government spending results in a drop in real GDP of about 10 percent below the baseline (the interpretation of this is that if real GDP was growing by 5 percent a year on average during 2016–21, after the oil price drop it would grow on average by 3.3 percent).

- The second scenario assumes the fiscal deficit declines by 10 percent of GDP as spending and transfers decline. While these additional fiscal measures reduce output in the short-term below that in the first scenario, over the longer-term, lower government debt reduces risk premium and boosts growth above the first scenario. The decline in sovereign risk premium reduces real interest rates which stimulates private investment. At the same time, the lower burden of interest payments creates fiscal room.

- The third scenario assumes an increase in the labor force participation rate of 7 percentage points and increased employment by about 13.5 percent. This offsets a little more than one-half of the real GDP loss by 2021. This increase in the labor force participation rate, however, is high compared to the maximum historical increase of 4.6 percentage points experienced in a 6-year period in the last decade.

- The fourth scenario adds to the third scenario an assumed increase in TFP growth which closes the remaining real GDP gap relative to the initial baseline. TFP growth rate would need to increase by 0.8 percent a year on average to achieve this.

Figure 8. Impact of Oil and Fiscal Reform Scenarios – Results from G20MOD



Source: IMF staff calculations.

D. Structural Reforms to Boost Productivity and Growth

12. Structural reforms have been ongoing in Saudi Arabia since the early 2000s, although the pace of reforms has generally slowed in times of higher oil prices. These reforms have included accession to the WTO, privatization of state-owned assets, education reforms, and ongoing efforts to improve the investment environment. Saudi Arabia has made some progress in reducing regulatory barriers and improving the business environment. The introduction of the new companies' law, which reduces the administrative burden on SMEs, strengthens minority shareholder rights, and improves corporate governance, is a step in the right direction. To increase the contribution of the SME sector, the SME Authority has been set up to oversee all government policies affecting the SME sector and reduce the legal and administrative burden of setting up a business, along with continuation of the Kafalah loan-guarantee program. Moreover, a number of sectors have been opened to foreign investment, especially in the early 2000s, and the Saudi Arabian General Authority (SAGIA) introduced several measures aimed at simplifying licensing procedures for foreign companies planning. A number of state assets have been privatized (see accompanying paper on Privatization and PPPs in Saudi Arabia: Past Experience and Way Forward). There has been continued progress with educational reforms, though these will have to be more broad-based and will take time to filter into the workforce. Also, work is ongoing on a new insolvency law and stronger contract enforcement.

13. Recently, the government has been pursuing a growth strategy through the G20 framework working group where reforms are focused on three broad areas of economic diversification, labor markets, and education (Table 2). These structural reforms are expected to deepen as the new policies highlighted by the National Transformation Plan (NTP) underpinning Vision 2030 are rolled-out. One of the key economic targets of the NTP is to increase the share of the private sector to 65 percent of GDP from 40 percent currently; the SME sector contribution is targeted to be increased from 20 percent of GDP to 35 percent.

14. Several large industrial projects aimed at developing the non-oil sector are underway and close to completion. The aim is to produce high value-added export products and increase domestic energy production capacity. Table 3 presents a list of some major projects that is expected to stimulate non-oil sector growth in the near term.

Table 2. Selected Structural Reforms Under Implementation in Saudi Arabia as Part of the G-20 Framework Working Group

Area of Reforms	Objectives	Achieved/Potential Target	Years
Economic Diversification	Boost investment by maintaining a regulatory environment that is supportive of investment, elaborating a Road-Map for investment in major economic sectors, and usinggovernment investment spending to develop infrastructure without prejudicing coordination between government investments and private investments.	Expected to contribute to finance development projects of the major sectors, including the human resources, economic resources, social and health, and infrastructure.	2014-2020
Economic Diversification	Shift to greater private sector by establishing regional - wise investment councils to encourage and develop investment in all Saudi regions, and promoting private investment in economic cities and industrial zones.	Improve the investment environment across the targeted regions. Support private investment in non-oil sector.	2016-2018
Economic Diversification	Increase competition by reviewing laws governing the government purchases and tenders and maintenance contract regulations, and reviewing and updating the contractors classification system.	Improve the business environment; Support growth of SMEs sector; Promote competition in all economic activities; Encouraging local and foreign strategic partners.	2014-2016
Economic Diversification	The establishment of new industrial zones and technology parks and incubators and financial centers.	Currently under implementation with the establishment of 34 industrial cities in 21 areas throughout the Kingdom. Coordination between the Ministry of Commerce and Investment and the Industrial Estates and Technology Zones Authority is being strengthened to expand and continue to establish the industrial cities and technology zones.	2014-2020
Labor Reforms	Boost female labor force participation by establishing training schemes, removing transportation barriers, removing child care barriers, assisting with relocation, and supporting teleworking.	Increase female participation in the workforce by removing barriers to participation and equipping young women with the on-the-job skills they need to succeed.	2015-2016
Labor Reforms	Promote employment of Saudi nationals in the private sector. New adjustments to the Nitaqat program focused on female saudization, Saudi employees wages, and Saudis in managerial positions. Training program combining e-learning with a mentor and on the job experience.	First Structured On-the-Job Training (S-OJT) pilots conducted in late 2015. Soft launch until April 2016: 7 end-to-end pilots with select employers and 8 different job qualifications available. Then start national scale-up during second half of 2016. Aim to certify ~200 trainees by end of April 2016 and ~1,700 by end of 2016.	2014-2020
Labor Reforms	Coherent and comprehensive social protection package: which is a new compulsory unemployment insurance for all citizens with jobs effective beginning 2014. It will lead to more of the country's younger workforce to seek employment at private companies.	Policy has been implemented in 2 phases: Phase 1: Collection of contributions from employees/employers. This has already been actioned in August 2014. Phase 2: Payout of benefits to individual who were laid off after completing 12 months of contribution initiated in August 2015.	2014-2015
Education	Enhance technical and vocational training by establishing 50 technical training institutes, (Colleges of Excellence).	The expected impact is to increase employment of Saudi youth.	2014-2020
Education	Establishing an employment readiness program for young Saudis. The objective of the project is to design and launch a Career Education and Development (CED) program aimed at ensuring the best use of human resources, fostering life-long learning in career education, and activating interest in the labor market.	Status of implementation: Strategy Track: CED programs fully implemented, providers have been engaged as planned. Fast Track: Elements in the Fast Track have been fully implemented and are currently ongoing.	2014-2016

Source: Saudi Arabia's Adjusted Growth Strategy, 2015 for the G20 Framework Working Group.

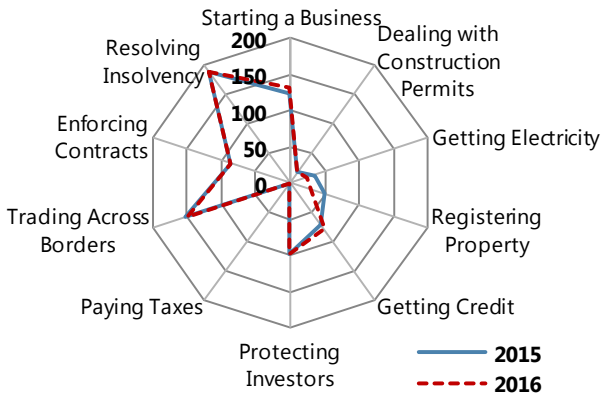
Table 3. Major Industrial Projects in Saudi Arabia

■ **Rabigh 2 Independent Power Producer (R2IPP)** is expected to be completed in June 2017 with expected electrical generating capacity of 2,060 megawatts, with Samsung C&T as the Engineering, Procurement and Construction (EPC) contractor.
■ **Jeddah and Yanbu Power Plants** with expected power production of 2600 (mw) and 2500 (mw), respectively and both are expected to commence operations during 2016. In addition, the desalination plant in Yanbu is expected to produce about 550 thousand cubic meter per day of water, which is also expected to start during 2016.
■ **SADARA Petrochemicals Complex**, in Jubail, is the world's largest integrated chemical plant, consisting of 26 chemical manufacturing units. It is a joint venture with Dow Chemical Company and is expected to be fully operational in 2016 with a capacity of 3.2 million tons per year of diversified high-value-added chemical and engineering thermoplastic products. At full capacity, the plant will produce over $10 billion/year of products. Dow has supplied the industrial processing technologies for the complex and will be responsible for marketing the products in other parts of the world.
■ **Kemya Elastomers Plant** is a 50-50 joint venture between SABIC and Exxon Chemical Arabia that is expected to start in 2016 with a capacity of more than 400 thousand tons per year of rubber and elastomer products including halobutyl, styrene butadiene, polybutadiene, and ethylene propylene diene monomer rubbers, thermoplastic specialty polymers, and carbon black.
■ **The Petro Rabigh** Phase II expansion project is expected to be completed in the first half of 2016. Products to be manufactured include chemical intermediates such as naptha and ethylene, as well as higher value-added petrochemical products such as ethylene propylene diene monomer (EPDM), thermoplastic polyolefin (TPO), cumene, phenol, and nylon-6 resin (used for fibers and engineering thermoplastics). Total plant capacity will be over three million tons/year. Some of these products will be manufactured for the first time in Saudi Arabia.

Source: Country authorities.

15. These ongoing reforms and further measures to boost productivity, raise the employment of nationals in the private sector, and encourage private investment in the non-oil sector will be critical to offset the impact of lower oil prices on the economy. In the area of doing business, enforcing contracts, protecting investors, resolving insolvency, trade, and starting a business are areas that deserve attention (Figure 9). These areas will be particularly important for attracting foreign investment which also provides the opportunity of knowledge transfer which could help boost productivity. The development of a local private bond market would also help support private investment. Increased competition, particularly in a number of service and professional sectors, could help boost productivity growth. A greater focus on the quality of education and skills development in

Figure 9. Doing Business Indicators, 2015 vs 2016



Sources: Doing Business 2015–16 and World Bank.

areas needed by the private sector would help increase employment and productivity, and other labor market reforms which incentivize both workers and private firms to increase employment of nationals are critical (IMF, 2014).

16. Privatization and PPPs have been part of Saudi Arabia's broader effort to increase the role of the private sector in the economy. The overall impact of these policies has been positive and the private sector role has been rising gradually since the early 2000s. Nonetheless, the size of the government remains large in terms of its stake in public enterprise and its spending and investment. The hydrocarbon sector remains largely government owned and run, while outside the non-hydrocarbon sector, the government retains large stakes in sectors such as petrochemicals, telecommunications, financials, and utilities. Capital expenditures are large by international standards, and the role of the private sector in infrastructure investment remained limited.

17. The recently announced NTP envisages a greater role for the private sector. The NTP has outlined reforms and policies that could help expand the size of the private sector and more broadly diversify and transform the economy. The plan envisages a greater role for the private sector, including through privatization and expanding the use of PPPs, with a view to increasing efficiency and productivity and increasing job opportunities for nationals in the private.

18. In terms of the sequencing of these structural reforms, it is important that a focus is put on those that can have a relatively quick positive impact on growth. Recent cross-country evidence suggests that policies to boost trade and FDI have the potential to significantly boost productivity and output, and the gains appear to materialize rather quickly within one to five years (IMF 2016). More generally, this research has also found that product market reforms, which include deregulating retail trade, professional services, telecommunications, the utilities sectors, and certain segments of transportation sector have an expansionary effect on output in the short-term through their impact on investment for credit-constraints firms and by improving productivity. Labor market reforms, however, often have a short-term growth cost, although this will depend on the exact type of reform. Raising the cost of labor will likely reduce growth in the near-term, whereas easing restrictions on female participation would have a positive effect on growth. Similarly, to give the corporate sector time to adjust, it will be important to phase-in reforms gradually those reforms which increase their input cost and discourage future investment. Also, with the planned fiscal adjustment, other reforms that are growth-friendly or at least do not further add to the negative short-term effects of fiscal policy should also be implemented.

19. The growth impact of the government's reforms will also depend on how the reforms are prioritized, sequenced, and implemented. While very much needed, fiscal consolidation will likely have a negative effect on growth in the near-term, although the size will likely depend on the composition of the adjustment. It will therefore be important that fiscal reforms are introduced over a period of time so the economy does not suffer a large shock. Further, the broad array of reforms laid out by the NTP will need to be carefully prioritized and sequenced in order to help reduce the risks of implementation bottlenecks, minimize potential negative short-term economic and employment effects, and reduce the risk of pushback and reform fatigue from the population. Poor sequencing and implementation will not only weaken the effectiveness of the reforms, but will also

increase the risks that they are reversed at a later date. Besides, the government will need to carefully assess its own implementation capacity and ensure coordination to effectively deliver on the planned reforms within the time period envisaged.

E. Conclusion

20. Lower oil prices and fiscal consolidation are resulting in slower economic growth. Non-oil growth has already weakened over the past year, and is likely to slow further in 2016, while employment of Saudi nationals in the private sector has come to a halt. In 2016, the impact on growth in expected to be much larger as it includes the lagged impact from consolidation in 2015 along with the consolidation expected in 2016. This weakening economy provides the backdrop against which the structural reforms would need to be implemented.

21. Going forward, an acceleration of ongoing structural reforms is critical to spur stronger productivity growth and private investment to offset slower public investment. Structural reforms have been ongoing in Saudi Arabia, but will need to deepen. Vision 2030 and the NTP have outlined reforms and policies that could help expand the size of the private sector and more broadly diversify and transform the economy. In terms of the sequencing of these reform measures, it is important that a focus is put on those that can have a relatively quick positive impact on growth. Poor sequencing and implementation will not only weaken the effectiveness of the reforms, but will also increase the risks that they are reversed at a later date.

Appendix I. A Summary of the IMF's G20MOD Module of FSGM

This annex provides a broad summary of G20MOD, a module of the IMF's Flexible System of Global Models (FSGM). G20MOD is a 25-bloc global general equilibrium model encompassing each of the G-20 countries and 5 additional blocs that effectively complete the rest of the world. The model is presented in greater detail in Andre and others (2015).

1. G20MOD is an annual, multi-economy, forward-looking, model of the global economy combining both micro-founded and reduced-form formulations of economic sectors. G20MOD contains individual blocks for the G-20 countries, and 5 additional regions to cover the remaining countries in the world. The key features of a typical G20MOD country model are outlined below, noting any special circumstances that are applied for Saudi Arabia.

2. Consumption and investment have microeconomic foundations. Specifically, consumption features overlapping-generations households that can save and smooth consumption, and liquidity-constrained households that must consume all of their current income every period. Firms' investment is determined by a Tobin's Q model. Firms are net borrowers and their risk premia rise during periods of excess capacity, when the output gap is negative, and fall during booms, when the output gap is positive. This mimics, for example, the effect of falling/rising real debt burdens.

3. Trade is pinned down by reduced-form equations. They are a function of a competitiveness indicator and domestic or foreign demand. The competitiveness indicator improves one-for-one with domestic prices—there is no local-market pricing. For Saudi Arabia, most exports are oil, so competitiveness changes play a small role in the model.

4. Potential output is endogenous. It is modeled by a Cobb-Douglas production function with exogenous trend total factor productivity (TFP), but endogenous capital and labor. For Saudi Arabia, potential output also moves one-for-one with the long-run average production of oil (but not cyclical swings in oil production).

5. Consumer price and wage inflation are modeled by reduced form Phillips' curves. They include weights on a lag and a lead of inflation and a weight on the output gap. Consumer price inflation also has a weight on the real effective exchange rate and second-round effects from food and oil prices. Given that energy prices in Saudi Arabia do not respond to global oil price developments, there is no feed-through from oil price changes to CPI inflation in the Saudi Arabia bloc. While the role of expatriate labor in Saudi Arabia is not directly modeled, the effects are approximated by having a low-weight on the output gap.

6. Monetary policy is governed by an interest rate reaction function. For most countries, it is an inflation-forecast-based rule working to achieve a long-run inflation target. For Saudi Arabia, the monetary reaction function defends its fixed nominal exchange rate against the U.S. dollar. This means in tandem with the risk-adjusted uncovered interest rate parity condition, Saudi Arabia must, in the face of shocks, set its monetary policy interest rate equal to that of the United States in order to defend its peg.

7. There are three commodities in the model—oil, metals, and food. This allows for a distinction between headline and core consumer price inflation, and provides richer analysis of the macroeconomic differences between commodity-exporting and importing regions. The demand for commodities is driven by the world demand and is relatively price inelastic in the short run due to limited substitutability of the commodity classes considered. The supply of commodities is also price inelastic in the short run. Countries can trade in commodities, and households consume food and oil explicitly, allowing for the distinction between headline and core CPI inflation. All have global real prices determined by a global output gap (only a short-run effect), the overall level of global demand, and global production of the commodity in question.

8. Commodities can function as a moderator of business cycle fluctuations. In times of excess aggregate demand, the upward pressure on commodities prices from sluggish adjustment in commodity supply relative to demand will put some downward pressure on demand. Similarly, if there is excess supply, falling commodities prices will ameliorate the deterioration.

9. In Saudi Arabia, oil is the only commodity that is produced and exported, and is a dominant feature of the model. Exports of oil respond largely to Saudi production decisions. Eighty-five percent of oil revenues are assumed to accrue to the government, the remainder to Aramco, the state oil company. This means that oil price fluctuations affect government revenues, but have little effect on household wealth as households have no direct ownership stake in the oil sector. Oil prices also have little effect on households' and firms' decisions, as oil prices are held fixed domestically. The government, which has a large stock of financial assets, is assumed to set long-run fiscal policy with the aim of maintaining this asset stock, although in the short-run fiscal policy can result in significant deviations away from this target.

10. Countries are largely distinguished from one another in G20MOD by their unique parameterizations. Each economy in the model is structurally identical (except for commodities), but with different key steady-state ratios and different behavioral parameters. As noted above, the parameterization of Saudi Arabia is strongly determined by the fact that its economy is dominated by oil.

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