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SAUDI ARABIA BEYOND OIL: THE INVESTMENT AND PRODUCTIVITY TRANSFORMATION

DECEMBER 2015

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SAUDI ARABIA BEYOND OIL: THE INVESTMENT AND PRODUCTIVITY TRANSFORMATION

DECEMBER 2015



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PREFACE

Global investors and business leaders are focusing on the Kingdom of Saudi Arabia as oil prices decline from their high levels of the past decade and the country enters a new era under the leadership of King Salman bin Abdulaziz Al Saud.

For the past year, the McKinsey Global Institute (MGI), together with McKinsey & Company's Middle East office, has conducted in-depth research into the Kingdom's economic situation, examining in detail its strong performance over the past decade and the challenges and opportunities it faces over the next 15 years.

When this research started in late 2014, King Abdullah bin Abdulaziz Al Saud was leading Saudi Arabia and oil had already fallen below \$100 per barrel. Since then, King Salman has come to rule the Kingdom with a significant change in the government composition, while oil prices have declined further to below \$50 per barrel at the time this report went to press.

Our analysis, set out in this report, suggests that the Kingdom could once again double its GDP and create as many as six million jobs by 2030, enough to employ the sizable cohort of young Saudi men and women entering the labor force over the next 15 years. This is an ambitious goal, and it will require the Kingdom to embrace significant change to its economic growth model. In this report, we identify eight non-oil sectors of the economy that could become motors of growth, productivity, and employment in the future. We also detail the transformations in labor, fiscal, and economic spheres that would be required to enable that growth. For our analysis and conclusions we have focused purely on economic factors, and for the purposes of this report we have not taken into account the security or the politics of the region.

The research was led by Gassan Al-Kibsi, managing director of McKinsey in Saudi Arabia, and Jonathan Woetzel, a director of MGI based in Shanghai. Tom Isherwood, a partner in our Middle East office; Jawad Khan, an associate principal in our Middle East office; and Jan Mischke, an MGI senior fellow based in Zurich, directed the research. Tarek Elmasry, managing director of McKinsey's Middle East office, and Eric Labaye, MGI chairman, along with Viktor Hediger, Amadeo Di Lodovico, Scott Nyquist, Jorg Schubert, and Hans-Martin Stockmeier, provided overall strategic direction and support. The project team was led by Hassan Noura, an engagement manager in the Middle East office, and comprised Hanan Alawadi, Salman Aldukheil, Joelle Awwad, Shady El Azab, Shafiq Dharani, Jhonny Jha, Plamen Kovachev, Maximilian Mahringer, Tim McEvoy, Angelos Plataniias, and Magda Davila Vicente. Three former McKinsey colleagues, Amer Afiouni, Tari Ellis, and Fraser Thompson, led and managed the first phase of the project. Thanks go to Peter Gumbel and Janet Bush for editorial support and to other members of the MGI communications and operations team—Tim Beacom, Marisa Carder, Matt Cooke, Rana Hamadeh, Deadra Henderson, Jason Leder, Julie Philpot, Mary Reddy, Margo Shimasaki, and Patrick White—for their contributions.

We are grateful for the advice and input of many current and former MGI and McKinsey colleagues, including Suhas Anand, Rima Assi, Kapil Bhatia, Urs Binggeli, Martin Checinski, Bushra Al Daoud, Tasneem Dargahwala, Nicklas Garemo, Nalin Garg, Zekeriyya Gemici, Panco Georgiev, Andrew Goodman, Solveigh Hieronimus, Ibrahim El-Husseini, Paul Jacobson, Astyanax Kanakakis, Najla El Khatib, David Kovara, Marc Krawitz, Mourad Limam, Jeffrey Lorch, Rachid Maalouli, Rachid Majiti, Tarek Mansour, Chadi Moujaes, Loay Al Mujadidi, Imraan Munshi, Hasan Muzaffar, Muneerah AlQassem, Sangeeth Ram, Alex Sawaya, Dirk Schmutzter, Ziad Soufan, Julia Sperling, Maha Talaat, Ahmed Youssef, Marco Ziegler, and Yassir Zouaoui.

We are grateful to the academic advisers who helped shape this research and provided challenge, insights and guidance: Martin N. Baily, Bernard L. Schwartz Chair in Economic Policy Development and senior fellow and director of the Business and Public Policy Initiative at the Brookings Institution, and Richard N. Cooper, Maurits C. Boas Professor of International Economics at Harvard University.

We are also grateful to a number of individuals from the private and public sectors in Saudi Arabia for offering their opinions and insights in private discussions.

This report contributes to MGI's mission to help business and policy leaders understand the forces transforming the global economy, identify strategic locations, and prepare for the next wave of growth. While grateful for all the input we have received, the report is ours, including any errors. As with all MGI research, this work is independent and has not been commissioned or sponsored in any way by any business, government, or other institution. We welcome your comments on the research at MGI@mckinsey.com.

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IN BRIEF

SAUDI ARABIA BEYOND OIL: THE INVESTMENT AND PRODUCTIVITY TRANSFORMATION

MGI is publishing this report on Saudi Arabia at a time of change in the Kingdom. After a surge in prosperity over the past decade, the economy is at a transition point. We see a real opportunity for the Kingdom to inject new dynamism into the economy through a productivity- and investment-led transformation that could help ensure future growth, employment, and prosperity for all Saudis.

- An oil price boom from 2003 to 2013 fueled rising prosperity in Saudi Arabia, which became the world's 19th-largest economy. GDP doubled, household income rose by 75 percent, and 1.7 million jobs were created for Saudis, including for a growing number of Saudi women. The government invested heavily in education, health, and infrastructure and built up reserves amounting to almost 100 percent of GDP in 2014.
- The Kingdom can no longer grow based on oil revenue and public spending, in the face of a changing global energy market and a demographic transition that will lead to a bulge in the number of working-age Saudis by 2030. Current labor participation is 41 percent, and productivity growth of 0.8 percent from 2003 to 2013 lagged behind that of many emerging economies. Foreign workers on temporary contracts who are paid considerably less than Saudi nationals today constitute more than half the labor force.
- We have developed a model that integrates Saudi Arabia's economic, labor market, and fiscal perspectives. It shows that even if the Kingdom introduces reactive policy changes such as a budget freeze or immigration curbs in the face of these challenging conditions, unemployment will rise rapidly, household income will fall, and the fiscal position of the national government will deteriorate sharply.
- However, a productivity-led transformation of the economy could enable Saudi Arabia to again double its GDP and create as many as six million new Saudi jobs by 2030. We estimate this would require about \$4 trillion in investment. Eight sectors—mining and metals, petrochemicals, manufacturing, retail and wholesale trade, tourism and hospitality, health care, finance, and construction—have the potential to generate more than 60 percent of this growth opportunity.
- To enable this transformation, Saudi Arabia will need to accelerate the shift from its current government-led economic model to a more market-based approach. In the labor market, greater workforce participation by Saudi men and women is essential to achieve higher household income. The proportion and number of foreign workers may decline but they would likely benefit from higher wages and better conditions. Faster productivity growth requires better business regulation and more openness to competition, trade, and investment. Improved efficiency of spending and new revenue sources, possibly including taxes and higher domestic energy prices, can help ensure fiscal sustainability.
- All stakeholders, including the private sector, foreign investors, and households, will need to be involved in this transformation. The state will have to embrace a new delivery philosophy while businesses adapt to a more competitive environment and the individual Saudi citizen takes more personal accountability. The transition will be challenging, but the new era of economic growth and employment it could usher in would be more sustainable than the oil booms of the past.

Saudi Arabia

A productivity-led transformation



After a decade of sustained oil-based growth, Saudi Arabia is at a transition point. Over the next 15 years, the Kingdom will face heightened competition in the energy market and a growing number of working-age Saudis.

To prevent economic difficulties, Saudi Arabia needs to realize the potential of the non-oil economy. A productivity-led transformation, if successfully implemented, could usher in a new cycle of prosperity.

Realizing Saudi Arabia's **full potential** by 2030



2 ▶ GDP could double again

4 ▶ \$4 trillion to be invested in the non-oil economy, primarily from private sources

6 ▶ 6 million additional Saudi nationals in the workforce

60%

increase in Saudi household income

\$800 billion

GDP increase

Eight sectors that will generate growth and jobs



Mining and metals



Petrochemicals



Manufacturing



Retail and wholesale trade



Tourism and hospitality



Finance



Construction



Health care

These sectors could contribute **more than 60%** of the growth needed to double GDP by 2030

Three pillars to transform Saudi Arabia

A more productive workforce

Increased employment and participation of Saudi men and women in the labor force

Eliminating the mismatch between skills and the needs of the labor market

Economic reform

More competition and greater openness to foreign investment and trade

Simpler, speedier processes to remove hurdles to private-sector growth

Sustainable fiscal management

An overhaul of the existing model based on oil revenue and public spending

More efficient spending and a new focus on value for money



More than half the Kingdom's population is younger than 25
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EXECUTIVE SUMMARY

Saudi Arabia's economy is one of the largest in the world and also one of the least understood. During the decade of 2003 to 2013, it almost doubled in size on the back of a protracted oil boom. At the same time it underwent a significant modernization that brought prosperity and change to Saudi society. Household income for Saudi nationals after adjustment for inflation grew by about 75 percent during the decade, 1.7 million Saudi jobs were created, and \$450 billion was invested in health, education, and infrastructure, helping to boost living standards and improve the quality of life.

This growth model, dependent on oil exports and public-sector spending, has been a recurrent topic over the past two decades for Saudi and international economists, many of whom argue that the Kingdom's economy should diversify away from oil to ensure sustainability. Several of the government's five-year development plans have also outlined diversification as a priority objective.

Today, achieving that goal has become essential. Over the next 15 years, the Kingdom is likely to face critical challenges, both fiscally and in its demographics, with heightened competition in the energy market and a big increase in the number of Saudis reaching working age. As a result, the economy is at a transition point. While much of the outside world has focused on the very real challenges, we believe there are also substantial opportunities for the Kingdom to transform its economy to become more sustainable and less oil-dependent.

To examine the implications of these changing internal and external conditions independently of Saudi government and other projections, we built a comprehensive model that integrates the Kingdom's economic, labor market, and public finance perspectives. It suggests that based on current trends, Saudi Arabia could face a rapid economic deterioration over the next 15 years. Even if the government were to react by freezing public spending or intervening in the labor market, household income would nonetheless likely fall, unemployment would rise and there would be growing fiscal strain. This outcome is not a foregone conclusion, however. Another, very different scenario is possible if the Kingdom is able to inject new dynamism into the economy through a productivity-led transformation. Significant reforms in the labor market, business regulation, and fiscal management would be required to realize the intrinsic potential of the non-oil economy. Successfully implemented, these reforms could usher in a new cycle of prosperity for the Kingdom.

Three numbers—two, four, and six—tell the potential benefits. By 2030, GDP could again double in size, adding an additional \$800 billion. The non-oil economy could be invigorated by \$4 trillion in investment, most of it from private sources, both Saudi and international. And the Kingdom could create as many as six million jobs, enough to absorb the influx of working-age Saudis into the labor market.

The transition required for the Kingdom to adopt the necessary reforms and realize this potential will not be easy. Saudi Arabia will need to shift from its government-led economic and social model to a more market-based approach that brings it into line with other modern economies. The government is already doing this in some areas and has accelerated its efforts in the past few months. In this report we outline a road map that may help the Kingdom attain even more ambitious goals.

For our analysis and conclusions, we have focused purely on economic factors. While we are conscious that the security and politics of the region could affect the potential transition we outline here, we have not taken them into account for the purposes of this report.

Saudi Arabia is the
19TH
largest economy in
the world

A DECADE OF RISING PROSPERITY FUELED BY OIL

The Saudi economy moved up from being the 27th largest in the world in 2003 to become the 19th largest in 2014. Its nominal GDP of about \$750 billion is larger than either Switzerland's or Sweden's. On a per capita basis, Saudi Arabia's nominal GDP of about \$24,000 is a little behind South Korea's and ahead of Portugal's, although the unique features of the Kingdom, including a sizable population of migrant laborers and a huge oil sector, make this figure misleading.¹

Saudi Arabia is the world's largest oil exporter, deriving about 90 percent of government revenue from oil. The sharp increases in oil prices, which rose from about \$30 per barrel in 2003 to a sustained peak of about \$110 per barrel in 2011 to 2013 before dropping back in 2014, fueled a doubling of GDP during the decade. At a time of growing indebtedness across major developed and emerging economies since the 2008 financial crisis, Saudi Arabia has been a rare exception: the Kingdom eliminated national debt and increased reserve assets to \$732 billion, the equivalent of almost 100 percent of GDP in 2014.²

For Saudi households, it was a decade of rising prosperity, with average household incomes rising by about 75 percent in total from 2003 to 2013. This was largely driven by the public sector, which employs more than two-thirds of all Saudi workers and which grew by more than one million employees during the boom decade. In the economy as a whole, 4.4 million jobs were created, of which 1.7 million were taken by Saudis. There were also sizable increases in public social transfers, in particular a new unemployment benefit scheme launched in 2011, as the Kingdom built out its welfare state during the decade (Exhibit E1). The share of household income coming from the government through public-sector wages or social transfers in this period rose from about two-thirds to about 80 percent.

These household figures apply only to Saudi nationals, and not to the growing numbers of non-Saudi migrant laborers, many of them from South Asia. These foreign workers and their families, the vast majority of whom are on fixed, short-term contracts, now constitute one-third of the population. The increase in their numbers during the 2003–13 decade contributed to a 36 percent increase in Saudi Arabia's population, from 22 million to 30 million.

The government used oil revenue to invest in a range of developmental priorities. Public spending quadrupled during the decade, and about \$450 billion of public capital investment was deployed in programs to improve education, health, social welfare, infrastructure, and transport.

Projects included a new financial district in Riyadh and the King Abdullah Economic City on the Red Sea, as well as new universities, new metro transit lines, and 81 new hospitals. The number of physicians has almost doubled since 1990, infant mortality has dropped by two-thirds, and life expectancy in the Kingdom has risen by almost seven years to 76 years, higher than in Hungary, Turkey, and China. Education today accounts for about 25 percent of government spending, and about 60 percent of each age cohort goes on to tertiary education, a proportion similar to that in France and Germany.³

¹ 2014 figures. Central Department of Statistics and Information, Saudi Ministry of Economy and Planning.

² Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; *Debt and (not much) deleveraging*, McKinsey Global Institute, February 2015.

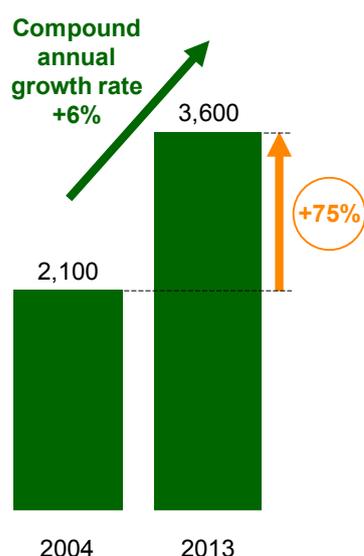
³ Gross enrollment rates for tertiary education, UNESCO Institute for Statistics, 2013.

Not all the investment was spent productively or produced desired outcomes. The overall quality of education remains low. Saudi schoolchildren score poorly in international comparative tests, and the university dropout rate is about 50 percent.⁴ Some of the infrastructure spending has been clouded by long delays and budget overruns for large prestige projects. In health care, the Kingdom has among the highest prevalence of obesity and diabetes in the world that all the new hospitals have not been able to reduce.⁵

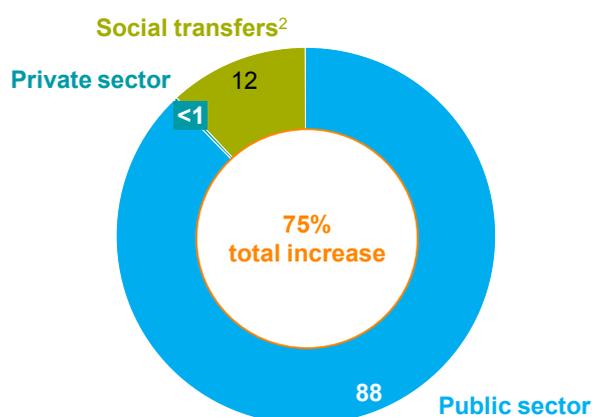
Exhibit E1

Saudi real household income rose by 75 percent during the “second oil boom” decade, driven by higher public-sector employment and wages

Real Saudi household incomes¹
\$ per month, 2013 prices



Sources of Saudi household income growth
% of total 2004–13 growth



1 Households of Saudi nationals only; does not include foreign workers.

2 Pensions, student stipends, and unemployment benefits.

NOTE: Numbers may not sum due to rounding.

SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi General Organization of Social Insurance; Saudi Ministry of Civil Service; McKinsey Global Institute analysis

About 83 percent of the Saudi population lives in cities, a degree of urbanization that is larger than in some Western European countries. MGI research has shown that vibrant cities are a key driver of economic growth, so the Kingdom’s high degree of urbanization is an asset.⁶ Most of the urban activity is concentrated in five large metropolitan clusters, of which Jeddah-Mecca-Taif on the Red Sea is the largest, with a population of seven million. Riyadh, the capital, has a population of six million.

A number of important developments in the Kingdom during this period are less well known than the overall macro story. The number of Saudi women participating in the workforce has been rising, albeit from a very low base, and in 2014 reached 1.2 million, or 18 percent of the female working-age population. Of this, 800,000 were employed. This is double the number of a decade previously, in 2003. The fastest job growth for women has come in the private sector, partly driven by the government, which made a push to get women into certain

⁴ Eighth-grade students in Saudi Arabia scored an average of 394 in the most recent Trends in International Mathematics and Science Study in mathematics in 2011. The TIMSS average is 500, and scores below 440 are usually interpreted as “poor.” *How the world’s most improved school systems keep getting better*, McKinsey & Company, 2010.

⁵ World Health Organization; International Diabetes Federation.

⁶ *Urban world: Mapping the economic power of cities*, McKinsey Global Institute, March 2011.

types of employment, especially retail.⁷ However, female unemployment totals 33 percent, and the participation rate of women, youths (15 percent), and senior adults (35 percent) still lags well behind that of adult Saudi men (65 percent). Restrictions on mixed-gender work environments and on female drivers create unique challenges and barriers to raising female participation and employment.

The limited role of women is not the only unusual aspect of the Saudi labor force. Foreign workers, largely from India, Pakistan, and Bangladesh, constitute more than half of the total workforce. They tend to be relatively unskilled and are paid far less than Saudi nationals; their average monthly wages of \$400 are less than one-third the average monthly wage for Saudi nationals in the private sector, and one-sixth the average for Saudi public-sector employees. One consequence is that Saudi Arabia's track record for labor productivity is weak. Annual productivity growth over the 2003–13 decade was just 0.8 percent, considerably below the 3.3 percent average annual productivity growth of the other G20 emerging economies (Exhibit E2). As a result, the Kingdom did not close a productivity gap with the United States, the world productivity leader, but fell further behind.

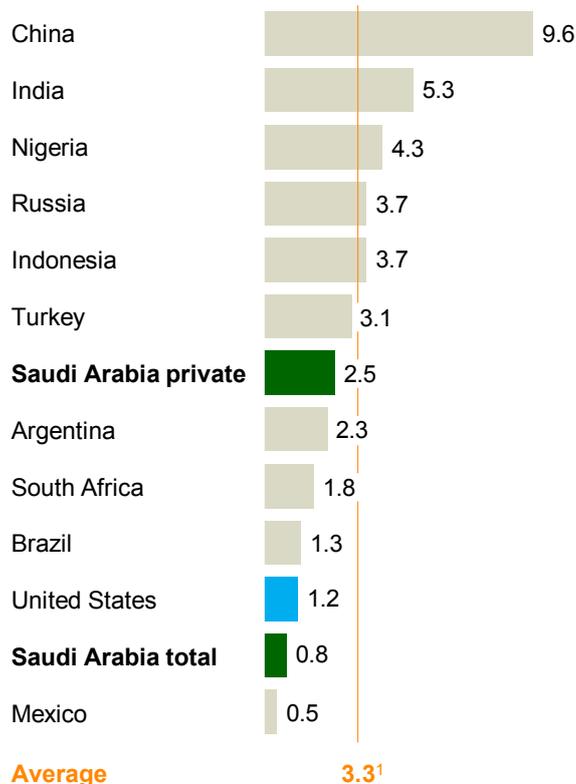
Exhibit E2

Productivity growth in Saudi Arabia lagged that of other major emerging economies and fell further behind the United States

G20 emerging markets + Nigeria, 2003–13

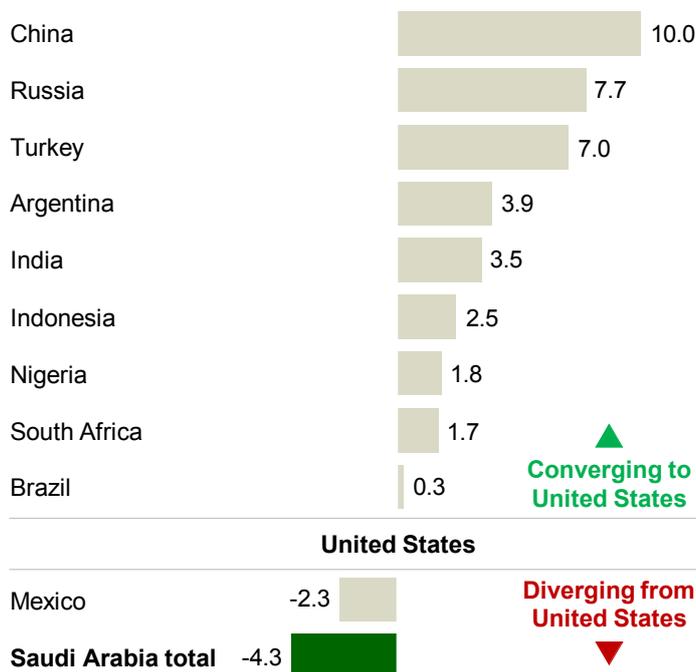
Productivity growth

Compound annual growth rate
%



Convergence to United States

Change in ratio to US productivity
Percentage points



¹ Unweighted average of all emerging economies in G20 and Nigeria.

SOURCE: The Conference Board Total Economy database; Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; ; McKinsey Global Institute analysis

⁷ The Saudi press has reported on stores being closed for refusing to employ women, for example. *Arab News*, "90 bridal shops shut for not employing women," June 8, 2015.

Despite the sizable increase in the number of jobs in the past decade, unemployment of Saudi nationals currently stands at about 12 percent.⁸ In part this is because generous family support and unemployment benefits, which can amount up to two-thirds of the minimum public-sector wage, provide little incentive to look for work.

TODAY'S CHALLENGES: A CHANGING ENERGY MARKET AND A DEMOGRAPHIC BULGE

More than half the Saudi population is younger than

25

After this decade of prosperity and change, the Saudi economy faces two critical challenges that will put its substantial oil and financial resources to a test. The first is external and relates to oil, today the lifeblood of the Kingdom's economy. The oil market, having boomed for a decade, is volatile. Prices dropped about 50 percent during the second half of 2014, and various forecasters including the International Energy Agency have outlined scenarios for a more competitive global energy landscape in the near to medium term. Global investment in oil is set to increase, and new sources of energy supply such as renewable energy and US shale oil, together with disruptive technologies in the energy sector, mean greater competition for the Kingdom's key export and revenue source.

These market shifts are already being felt. The Kingdom's budget swung from a surplus of 6.5 percent of GDP in 2013 to a deficit of 2.3 percent in 2014 as proceeds from oil exports dropped.⁹ With lower oil prices persisting into 2015, the IMF has projected continued fiscal deficits for the Kingdom for the foreseeable future, including a forecast deficit of 22 percent of GDP in 2015.¹⁰ In our model, we assume a gradual return to a \$60 per barrel oil price, in line with the futures curve from October 2015, and flat oil production after 2016. (For details of our assumptions please see the Technical Appendix at the end of this report).

The second challenge is internal and relates to the country's demographics and the projected workforce of Saudi nationals. More than half the Kingdom's population is younger than 25, and by 2030 the number of Saudis aged 15 years and over will likely increase by about six million.¹¹ Based on historical trends in participation, we estimate that this upcoming demographic bulge could bring at least 4.5 million new working-age Saudis into the labor market by 2030. That would almost double its size to about ten million—and more if accompanied by above-trend increases in female labor force participation. To absorb this influx would require the creation of almost three times as many jobs for Saudis as the Kingdom created during the 2003–13 oil boom.

There will also be a growing number of older people to support, which will increase the demands on the country's health system and finances.

These demographic changes come in a country with a dual labor market split between higher-paid Saudi jobs, mainly in the public sector, and lower-paid foreign workers, predominantly in the private sector. The Kingdom has a relatively weak record of private-sector job creation for Saudi nationals, which will be a major challenge and opportunity regardless of the future trajectory of oil prices (Exhibit E3).

Together, these two challenges pose a threat to the current development model. Our economic model suggests that even if the government were to freeze the level of public expenditure in nominal terms to contain the deficit and intervene in the labor market to stem rising unemployment by limiting the influx of foreign workers, these reactive changes would be insufficient to maintain current Saudi living standards or sound public finances. Even assuming that Saudi nationals replaced foreign laborers in more than 800,000 low-

⁸ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning.

⁹ Saudi Arabian Monetary Agency Annual Statistics, 2015.

¹⁰ *World Economic Outlook*, IMF, October 2015.

¹¹ In its official statistics, Saudi Arabia's Ministry of Economy and Planning defines the working-age population as comprising people between the ages of 15 and 59.

paid jobs, we estimate that only about three million jobs would be created for Saudis under this scenario by 2030. That would mean a shortfall of at least 1.5 million jobs, and the unemployment rate for Saudi nationals could exceed 20 percent. Real average Saudi household incomes could consequently fall by about 20 percent.

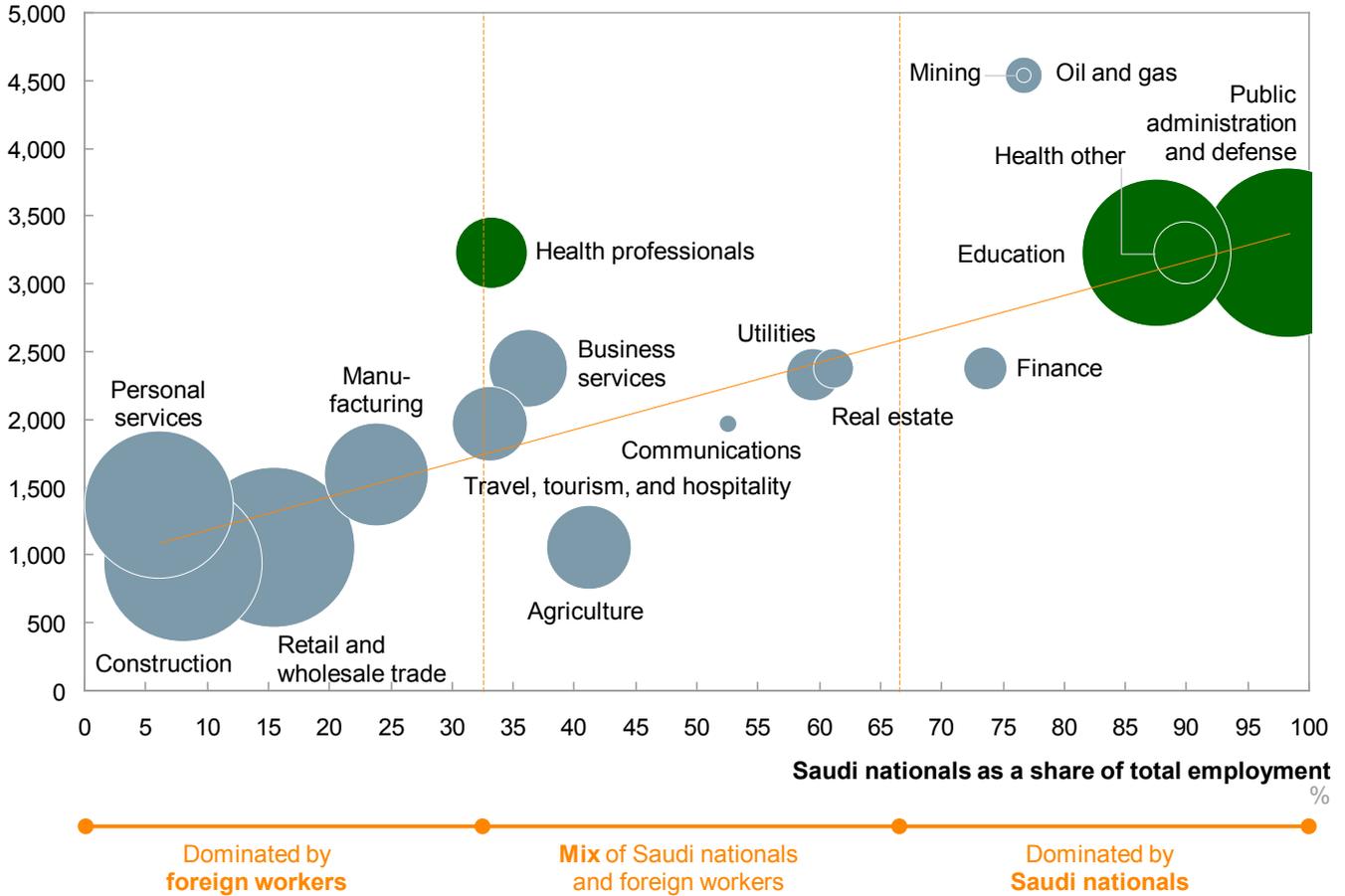
Exhibit E3

Saudi Arabia has a dual labor market, with Saudi nationals in higher-paying public-sector jobs, and non-Saudis in lower-paying private-sector jobs

2014

○ Size of bubble = Total employment in the sector ● Private ● Public

Average wages for Saudi nationals
\$ per month



SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi Ministry of Labor; Saudi Ministry of Health; McKinsey Global Institute analysis

Such a scenario would in turn have significant implications for the Kingdom's financial stability. The government had very substantial fiscal reserve assets equal to about 100 percent of its GDP in 2014, or twice the size of Russia's reserves in dollar terms.¹² Including those reserves, it has well over \$1.4 trillion in assets, including large shares of publicly listed state-owned companies that are currently worth about one-third the total value of the national stock market. Even so, a lack of action could be costly to the economy and the government. For every year of delay, we estimate that the additional cost to the government by 2030 in terms of more expensive operations and lower oil revenues would

¹² Saudi Arabian Monetary Agency; World Bank data on total reserves in 2014.

amount to about 190 billion Saudi riyal (SAR), or \$50 billion. Or put another way, it raises the break-even price of oil for the Saudi government in 2030 by \$18 per barrel.¹³

Without more comprehensive reform, the Kingdom might accumulate net debt of about 140 percent of GDP in 2030 and could still be running large fiscal deficits. This is even after assuming that public expenditure is frozen at today's levels in nominal terms till 2020, meaning not only no further growth but real declines by 2030, with public spending dropping from about 40 percent of GDP in 2014 to just under 30 percent in 2030.

THE \$4 TRILLION INVESTMENT OPPORTUNITY

These outcomes are not a foregone conclusion. There is another path. In the next 15 years to 2030, Saudi Arabia could potentially double its GDP again, increase real Saudi household income by about 60 percent and create as many as six million new Saudi jobs. The GDP increase amounts to about \$800 billion, the equivalent of adding Turkey's economy today, or three Finlands. Unemployment would decline to about 7 percent (Exhibit E4). In this report we have projected outcomes for Saudi households. The size and nature of the foreign workforce in Saudi Arabia is highly changeable, and most of these non-Saudi workers do not permanently settle in the Kingdom. Projecting gains in their living standards and income is therefore challenging and subject to specific policy implementation. However, foreigners will benefit—as Saudis will—from changes that will make the entire workforce more productive, thus raising wages and improving working conditions.

This transformation would wean Saudi Arabia off its heavy dependence on oil: under this scenario, non-oil revenue could increase from 10 percent of total government revenue to 70 percent. The change could also fundamentally alter the dominant role of the public sector in society, with wages from private-sector employment rising from 19 percent of total household income to 58 percent.

Achieving such growth would require an acceleration of productivity growth combined with a continued high rate of investment. Together, these would drive a very robust expansion of the non-oil private sector. We estimate the investment needs at about \$4 trillion. This is about three times the size of the investment made in the Saudi economy during the 2003–13 oil boom, which in itself was three times the investment of the previous decade. Much of it would come from non-government sources including both Saudi and foreign investors.

While the non-oil private sector is relatively small in Saudi Arabia, it has potential to drive much of the growth. Already during the 2003–13 period, the non-oil private sector outperformed the economy as a whole, albeit starting from a low base. It grew at about 10 percent annually, much faster than the overall 6 percent GDP growth rate. Growth was broadly based, with consumption-based sectors such as transport, communications, retail and wholesale trade, and business services growing the fastest. The non-oil private sector's productivity growth was also more rapid than the rest of the economy, with an average of 2.5 percent per year. Sectors such as manufacturing were among the brightest spots. Between now and 2030, there are opportunities throughout the economy to supercharge this non-oil growth. In this report, we highlight eight sectors that analysis suggests have some of the biggest potential, and could contribute more than 60 percent of the overall growth needed to double GDP by 2030. They are mining and metals, petrochemicals, manufacturing, retail and wholesale trade, tourism and hospitality, health care, finance, and construction.

¹³ Additional cost is calculated as the incremental change in the fiscal balance between 2029 and 2030 in the full potential scenario minus the incremental change in the reactive policy scenario in the same period.

Exhibit E4

In the face of challenging conditions, Saudi Arabia could still double GDP by 2030 under a full potential scenario

Key outcomes in 2014 and 2030

Constant 2013 prices (assumes \$60 per barrel oil price)

	The Kingdom in 2014	Reactive policy change	Full potential
 Real GDP	\$800 billion	\$1,200 billion 1.5x or 3% compound annual growth rate	\$1,600 billion 2x or 4.5% compound annual growth rate
 Real monthly household income¹	\$3,800	\$3,000 -20%	\$6,000 +60% ²
 Saudis out of work Unemployment rate¹	660,000 12%	2,200,000 22%	800,000 7%
 Net government liquid financial assets³ Share of GDP	+\$900 billion 120%	-\$2 trillion -140%	-\$600 billion -30%
 Annual fiscal balance Share of GDP	-\$17 billion -2.3%	-\$170 billion ⁴ -12%	+\$40 billion ⁴ +2%

1 Saudi nationals only and does not include foreign workers.

2 After possible taxes (pre-tax increase is 80%).

3 Reserve assets plus government stock-market equity less gross debt (as of end 2014) minus cumulative fiscal deficits between 2015 and 2030.

4 Excludes interest payments if government chooses to finance deficits with debt.

SOURCE: McKinsey Global Institute analysis

- Mining and metals.** On the western side of the Arabian Peninsula are substantial deposits of metals and non-metallic minerals, including major phosphate resources, gold, zinc, bauxite and high-quality silica, gypsum, limestone, kaolin, and magnesite. They present an opportunity for the Kingdom to develop both additional resource sectors and manufacturing sectors. For now, while the reserves are ample, the mining and metals sector is still largely underdeveloped; combined GDP of the extraction and manufacture of these resources is estimated at less than 3 percent of the Kingdom's GDP. We estimate this sector could triple in value added and potentially create up to 500,000 new jobs for Saudi nationals. To develop the industry, the Kingdom will need to invest more heavily in exploration and create a competitive ecosystem that allows both public- and private-sector companies to thrive.
- Petrochemicals.** This sector already accounts for two-thirds of Saudi Arabia's non-oil exports, and the Kingdom is competitive in global markets. Saudi Basic Industries Corporation (SABIC), which is 70 percent owned by the government, is one of the top five global chemicals companies, and the Kingdom is home to four of the world's 20

biggest ethylene complexes. We estimate that by reducing current inefficiencies, further integrating its oil refining and petrochemical sectors, and investing in innovation to make higher-margin products, the Kingdom could boost the sector's GDP by up to \$30 billion and create thousands of attractive skilled research, engineering, and management jobs.

- **Manufacturing.** Saudi Arabia is a big market for a range of manufactured goods, including automobiles and electrical and mechanical machinery. As with other countries in the region, its needs for now are supplied from abroad. We see the Kingdom as having an opportunity to meet a larger share of its domestic demand, and potentially some regional demand, by leveraging the country's natural endowments, and relatively large market size. Already some private companies are starting to produce locally, including international firms such as Isuzu, which opened a truck assembly plant in the Kingdom in 2012. To ensure competitiveness in these segments would require a skilled and more productive workforce, stronger legal and investment protection, and the removal of a range of obstacles that hinder business, including high import duties, lengthy customs and visa procedures, and gaps in local supply chains.
- **Retail and wholesale trade.** Saudi Arabia's retail sector could boom as online retail and modern formats replace traditional *baqala* neighborhood "corner" stores. Overall, we estimate that retail and wholesale trade have the potential to employ as many as 800,000 additional Saudi nationals over the next 15 years and triple value added. Retail has been expanding rapidly, at a 12 percent annual rate over the past decade, propelled by the rise in household income. While the workforce now largely consists of low-paid foreign workers, the number of Saudis working in the sector doubled between 2010 and 2014. This is an area where Saudi women in particular have found employment; according to the Ministry of Labor, their number jumped from 10,000 in 2010 to 120,000 in 2014. This reflects a push by the government to encourage Saudization and feminization of retail categories catering to women, such as lingerie or cosmetics. Adapting modern retail formats, migrating rapidly online, and adopting best practices in merchandising, including supply-chain efficiencies such as more automation in warehousing, could significantly enhance productivity and growth.
- **Tourism and hospitality.** Saudi Arabia attracts ten million to 13 million Muslim visitors to the holy sites of Mecca and Medina every year, including more than two million during the annual Hajj pilgrimage period. Overall, however, the tourist industry is in decline; the total number of visitors dropped by 31 percent between 2004 and 2012 as Saudis preferred to vacation abroad. An onerous visa process also may have discouraged some international visitors. We see an opportunity to reverse this trend and develop a thriving private-sector leisure tourism industry for Saudis and foreigners alike that leverages the Kingdom's long Red Sea coastline, a wealth of archaeological treasures, and areas of natural beauty. Religious tourism could also be further developed and cater to tens of millions more pilgrims each year outside the peak Hajj season. Developing tourism, both religious and leisure, will require higher-quality facilities, better safety and service, and greater openness to foreign visitors. Potentially, the sector could employ as many as 1.3 million additional Saudi nationals and increase value added more than fivefold.
- **Health care.** Health care was one of the biggest beneficiaries of public spending during the oil boom, and there was a large-scale buildup of health-care infrastructure including 81 new hospitals. The Kingdom will need to continue spending heavily on health care, especially given the projected increase by 2030 in the number of Saudis over the age of 65. It faces three key challenges that are also opportunities: current suboptimal productivity and financing that could be increasingly covered by the private sector; a health-care workforce that is not structured to tackle the growing prevalence of non-communicable diseases such as diabetes, and an increased need for doctors, nurses, pharmacists, and other skilled professionals. For now, just one in three health-

care professionals is a Saudi national, and there are not enough health-care graduates to replace professionals who retire or leave their jobs, let alone fill additional posts. To reverse this trend, several initiatives will be needed to improve the perception of the health-care professions and to provide the educational capacity at colleges, universities, and appropriately equipped teaching hospitals.

- **Finance.** This will be an essential sector to enable economic growth in the private sector and at the same time contribute to it through a substantial expansion of its own. There is significant potential room for growth in lending to small and medium-sized business, as well as in better provision of financial services to households, including mortgages and investment products. Households will have an important role to play in helping to finance the Kingdom's big investment needs indirectly through their savings.
- **Construction.** The eighth sector is construction, which grew significantly over the past decade as the Kingdom built out its infrastructure. Over the next 15 years, further large-scale investments, increasingly from the private sector, should translate into continued demand for construction. For the investment to be productive, the sector must become more efficient, adopting modern techniques and improving operational management to be able to deliver projects on time and on budget. For now, more than nine in ten workers in the sector are foreign laborers. If the current Saudi stigma of working in construction could be overcome, the sector could become an important driver of future Saudi employment.

Saudi Arabia needs a more productive workforce with higher participation if it is to raise output and provide employment for the cohort of young people entering the job market by 2030.

TRANSFORMING THE ECONOMY THROUGH INCREASED LABOR PRODUCTIVITY, A STRONGER BUSINESS ENVIRONMENT, AND SUSTAINABLE FISCAL MANAGEMENT

The growth of the Saudi non-oil economy in size and in productivity will not happen on its own. It will come about only if it is supported by three strong pillars.

The first is a more productive workforce with higher participation, so that Saudi Arabia can raise output levels across all sectors and provide gainful employment for the large cohort of young people entering the job market between now and 2030. There are already some signs that this is happening. The increased employment and participation of women in the labor force is one. While more Saudi men will also need to participate in greater numbers in the workforce, our analysis suggests that without further increases in female participation, household income growth in Saudi Arabia will be limited.

The Kingdom will also need to overcome an important mismatch between the skills and costs of its labor force. Many of the incentives around work in Saudi Arabia are at odds with creating a more productive workforce: public-sector workers on average earn about 70 percent more than those in the private sector, unemployment benefits and welfare transfers are relatively high compared with wages, and many employers would rather hire low-skilled migrant workers than Saudi nationals, who can cost four to six times as much.

70%

Gap between public-sector and private-sector wages

Creating a more productive workforce will also depend on an overhaul of the education system to raise standards in schools, scale up vocational training, and ensure a better transition from education to employment, including for university students.

The second pillar is an economic and regulatory environment that is unambiguous, transparent, and conducive to business. This is essential to bringing in the large-scale private investment needed to finance the transformation. The Saudi economy has been opening up, including with its 2005 accession to the World Trade Organization (WTO) and the recent announcement of plans to allow 100 percent foreign ownership in the retail sector.¹⁴ But Saudi Arabia could do more to enhance its overall attractiveness as an investment destination. That means simplifying sometimes complex regulation, speeding up slow procedures such as customs clearance and visa processing, and improving licensing conditions and legal enforcement of contracts. More than a dozen sectors of the economy, including health-related businesses, remain closed to foreign participation.

The final pillar is sustainable fiscal management. This will be needed regardless of what happens to oil prices. The large number of additional working-age Saudis cannot derive their income from the public sector without substantial deficits even if oil prices were to rise back to \$90 per barrel.

The existing fiscal model, which is based on income from oil revenue and public spending, would need an overhaul, not just of its methods but also of its underlying philosophy. At a practical level, Saudi Arabia's government would need to find new sources of revenue as well as becoming significantly more efficient with spending. To achieve the full potential laid out in this report, it is likely that the government would need to increase its investment, especially over the next five years, to cushion the economy as it transitions from the high oil prices of the past decade and to lay the groundwork for the transformation of the economy. The reactive policy scenario projection is predicated upon a prolonged period of declining government spending in real terms, and declining government investment in the economy that would have the effect of reducing the economy's growth potential.

It is not our aim in this report to prescribe which fiscal reforms should be implemented, nor how, nor how quickly. These are political issues for the government to decide. But some clear policy decisions will nonetheless be needed. We outline five of the most significant options. Our analysis suggests that they have the potential to close the Kingdom's projected 2030 annual fiscal gap of about \$170 billion, which would likely open up even if the government adopted lesser—albeit still important—changes, including a five-year freeze on public spending in reaction to the changing economic and demographic conditions.

First, it is worth noting that the growth agenda laid out above will likely help reduce the fiscal gap, as faster economic growth leads to higher proceeds from existing non-oil revenue such as customs duties, and revenue from state-owned enterprises. Second, analysis suggests there is room for substantial savings in capital outlays and operating expenditure through more efficient and rigorous procedures. Third, the government could also better manage and monetize the \$1 trillion-plus financial and non-financial assets in its portfolio. Fourth, a comprehensive reform of low domestic energy prices aimed at spurring greater fuel efficiency among both producers and consumers could end wasteful use and free up as much as 1.5 million additional barrels of oil per day for export by 2030; calculating oil at a hypothetical price of \$60 per barrel, that would amount to 110 billion SAR (\$30 billion) annually in additional revenue. Finally, the Kingdom may want to consider the introduction of some taxes that are common throughout the world such as a value-added tax (VAT) or personal income taxes. While levying such taxes would be a departure for the Kingdom and would take time to implement, it would bring Saudi Arabia into line with sustainable fiscal

¹⁴ "Saudi Arabia to allow full foreign ownership in retail," Reuters, September 6, 2015.

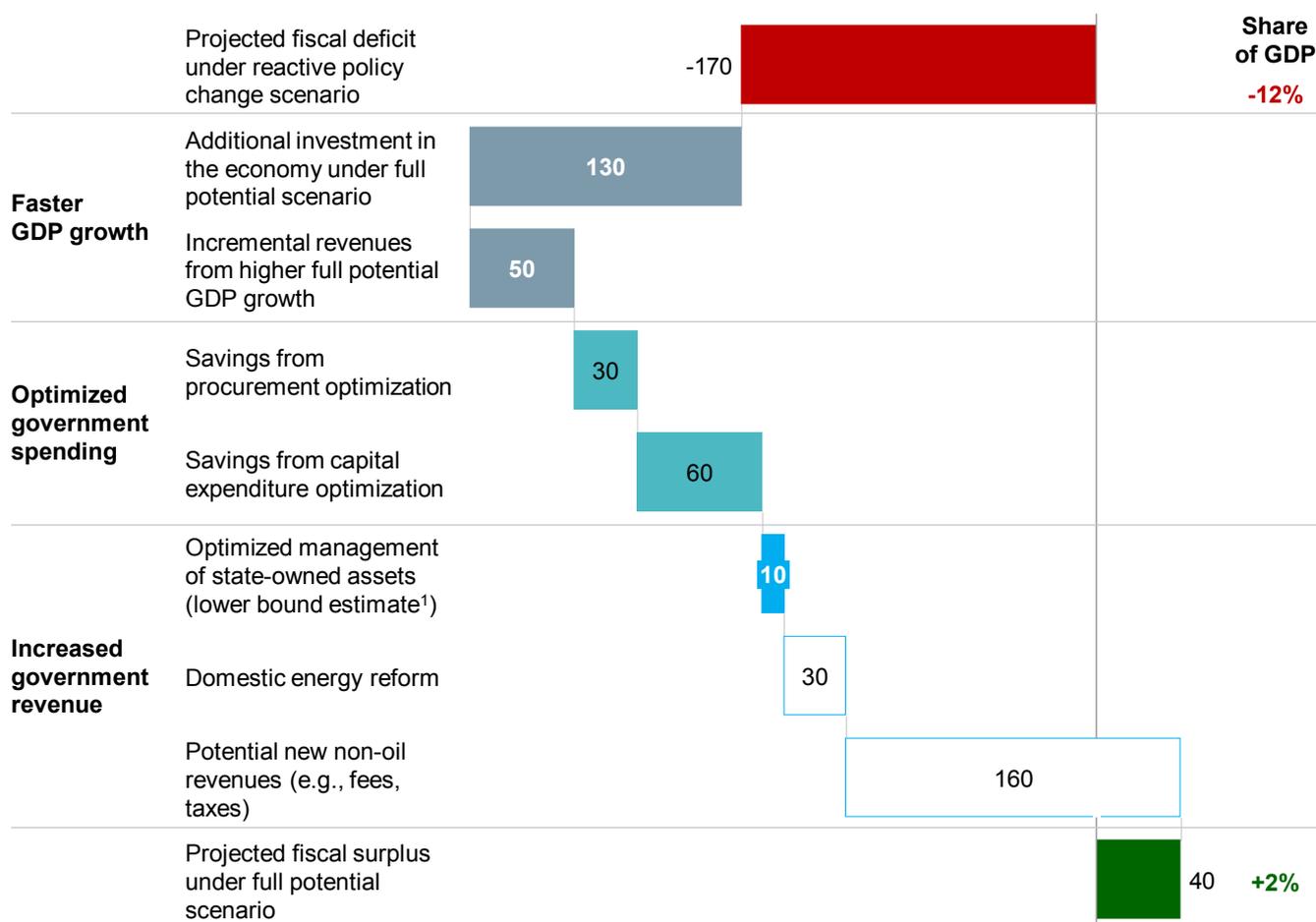
practices in all developed economies and G20 emerging economies. Taken together, these measures could more than close the projected fiscal gap (Exhibit E5).

Exhibit E5

The Kingdom's projected fiscal deficit could be eliminated by implementing a comprehensive set of expenditure and revenue reforms

Annual budget balance in 2030 for full potential scenario

\$ billion, 2015 prices



¹ Lower bound estimate as no public information is available on the total value of government assets, including those owned by the Saudi Public Investment Fund.

NOTE: Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute analysis

IMPLEMENTATION: A CHALLENGE FOR BUSINESS AND HOUSEHOLDS AS WELL AS GOVERNMENT

Without reform, the Kingdom could face unsustainable deficits and fast-rising debt. But beyond the practical measures, a shift of mindset will also be required. This would reorient the Saudi economy away from reliance on the public sector, and toward a greatly increased role for the private sector.

This is not just a government issue, but one that would directly affect business and households. The government would need to reframe its mandate away from providing cradle-to-grave dependence and security to focus on enhancing the potential and productivity of every Saudi citizen. For their part, Saudis would be able to engage in a greater range of business in exchange for a greater obligation to support society through taxes and fees. As is characteristic of modern economies, the government would play its

role in contributing to the prosperity and well-being of society, while individuals and the growing private sector would play a bigger part than they currently do, helping to finance the public goods they benefit from privately.

As is always the case with major transformations, how they are put into effect will be decisive. In Saudi Arabia, the government has long been the determinant factor for society. But the potential economic transformation outlined in this report hinges on all parts of society taking greater responsibility for their own economic destiny, and relying less on the state to do it for them. In that spirit, the transformation itself will need to be a collective effort.

Government will by necessity be the initiator of much of the change. It can modernize its approach in three fundamental ways: through a new income model based on facilitating private investment and then sharing in the proceeds; through a new social protection model for citizens that focuses on helping Saudis become productive and well-paid workers in competitive companies; and especially for itself through a sharp new focus on flawless government delivery. This will need to include more effective cross-ministry coordination, and a performance management system that emphasizes the setting of priorities and the accountability for their implementation.

Even if oil prices were to rise again, a transformation would be needed to put Saudi Arabia's economy on a more sustainable footing.

Yet government cannot succeed on its own. Private companies will need to help lead the way. Rather than waiting for easy, guaranteed returns, business will need to invest and share risks. Firms will need to move from relying on low-cost foreign laborers to nurturing and training a Saudi workforce. The productivity gains across any of the sectors we examined will ultimately be the sum of firm-level transformations led by boards and CEOs throughout the Kingdom. International businesses, too, will have opportunities and a role to play in helping to drive change. They will do so as Saudi Arabia opens up not just through their investments, which will bring required capital, but also through the increased competition that international companies will help to stimulate in the economy, and which will accelerate the Kingdom's modernization.

If the changes are to be successful, Saudi households and individuals will also need to embrace them. They will live them in their daily lives, in the form of more work opportunities, better training and skills, higher pay, and greater flexibility. In return, more Saudis of both sexes will need to work in the emergent private sector, and to work more productively. They will need to take a greater role in shaping their own destinies, making important choices about their education and their working lives.

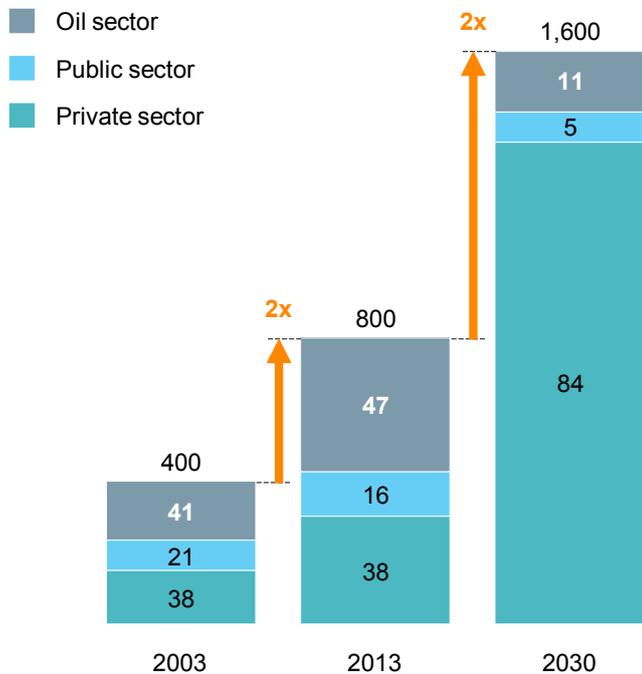
Ultimately, the transformation of the Saudi economy outlined here will be essential to deliver growth, regardless of anything else that may happen. It can create new opportunities for businesses and for individuals, and in the process bring about a fundamental change in the economic role of the state and its relationship with society. Future prosperity will likely depend to a far greater degree on Saudis themselves identifying opportunities to create jobs, start companies, acquire assets, improve their skills, and find gainful employment. As the private sector gains in strength, many more opportunities for well-paid work will become available to those who are willing to seize them. The rewards will come in the shape of greater prosperity for households, and for Saudi society as a whole (Exhibits E6 and E7).

How a full potential scenario could transform the Saudi economy

The private sector becomes the main driver of the economy, and Saudis play a larger role in the labor market

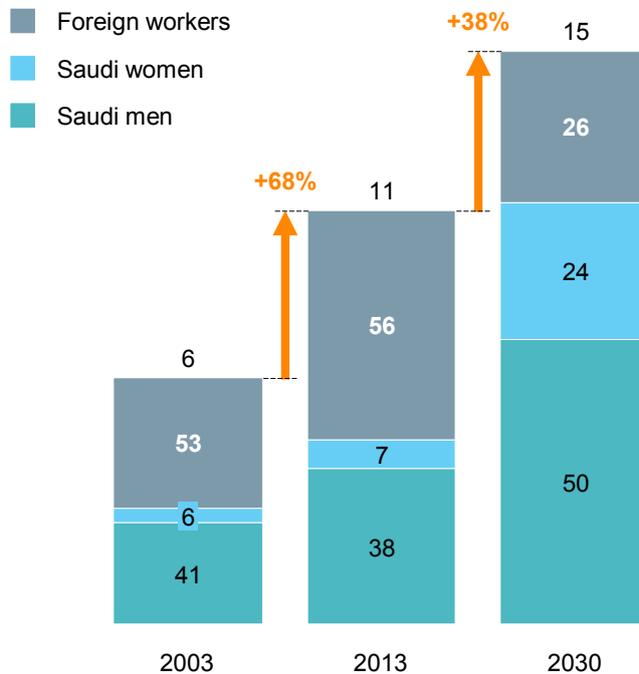
Real GDP by sector, 2003–30

% of nominal GDP; \$ billion, constant 2013 prices



Employment by segment, 2003–30

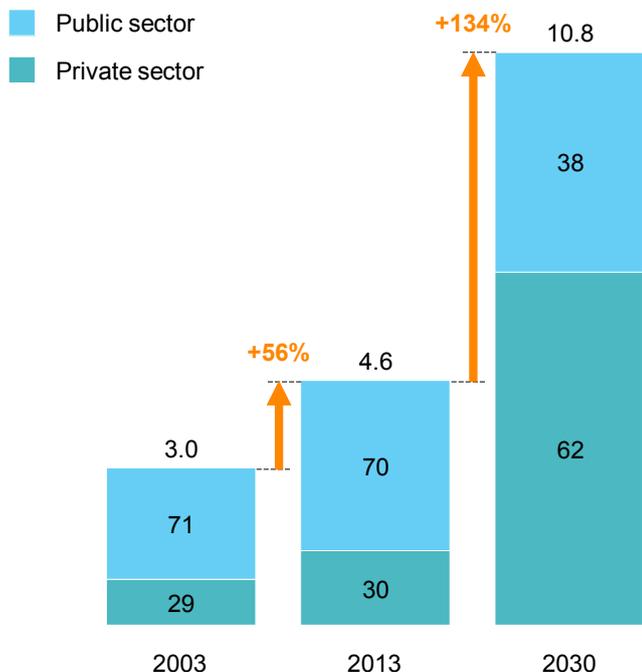
%; million



The private sector also becomes the main employer and source of income for Saudi nationals and households

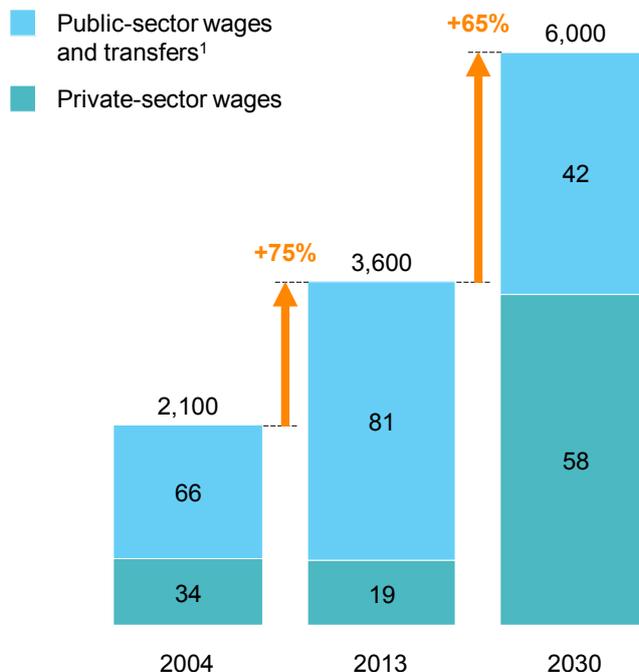
Employment of Saudi nationals by sector, 2003–30

%; million



Real household incomes of Saudi nationals, 2004–30

%; \$ per month, constant 2013 prices



1 Includes oil sector.

NOTE: Not to scale. Numbers may not sum due to rounding.

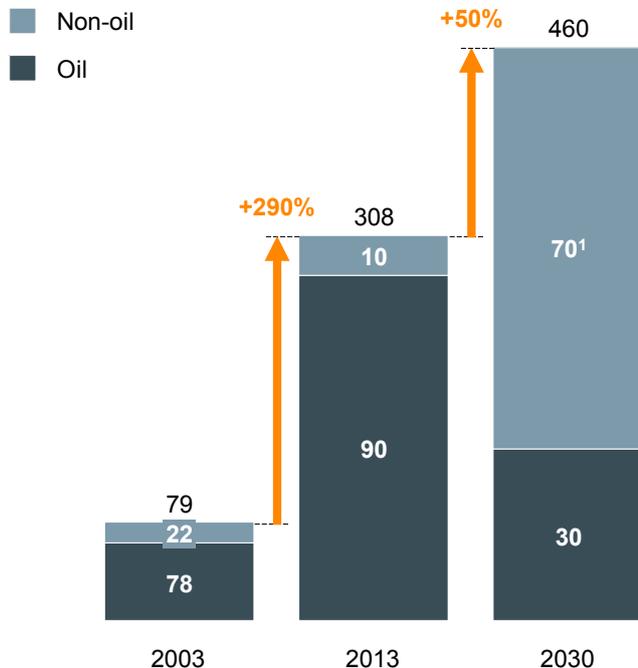
SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; McKinsey Global Institute analysis

How a full potential scenario could transform the Saudi economy (continued)

Non-oil revenue becomes the main income source for government, and investment triples

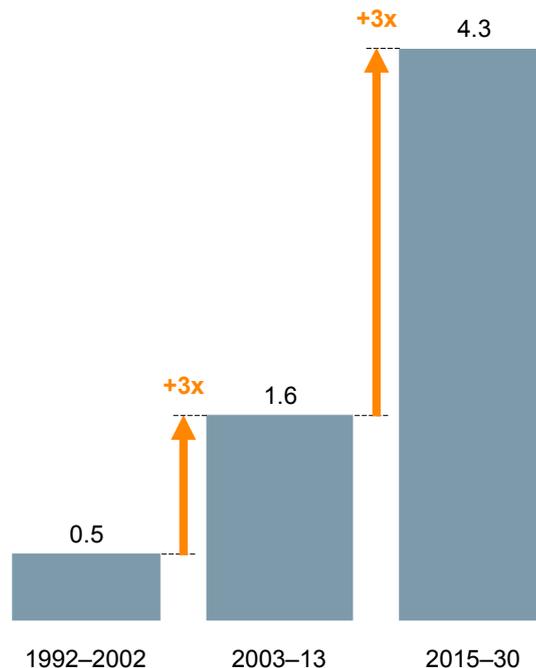
Government revenue by source, 2003–30

%; \$ billion, current prices



Total investment, 2003–30

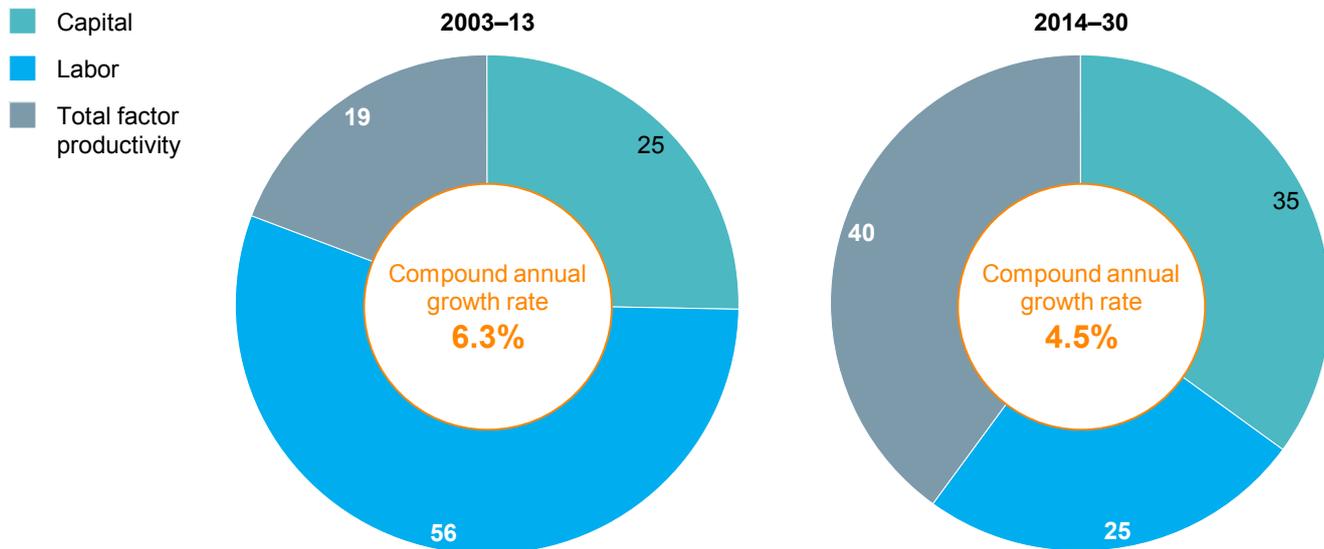
\$ trillion, constant 2013 prices



Productivity and investment take over from labor input as the main drivers of growth

Contributions to real GDP growth by factor of production, 2003–30

%



1 Assumes introduction of new non-oil revenue such as fees or taxes..
NOTE: Not to scale. Numbers may not sum due to rounding.

SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; McKinsey Global Institute analysis



The Kingdom of Saudi Arabia is emerging from an oil-fueled decade in a strong position to confront the key external and internal challenges it faces going forward. By tapping into the intrinsic potential of its economy, unleashing the private sector to raise productivity and create Saudi jobs, and introducing a more market-oriented approach to fiscal management and economic development, the Kingdom could not only ride through these more complicated times ahead, but thrive—and thrive in a more sustainable manner than it did during the recent oil boom. There are important signs of economic advancement in Saudi Arabia over the past decade, and a political understanding of the need for change. For the sake of the continued prosperity of the country as a whole, it is important that this understanding translates into bold and urgent action.



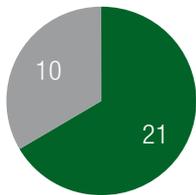
Saudi retailers are adopting modern formats
© Desert Publisher

At a glance: Saudi Arabia's economy, the world's 19th largest

Saudis constitute two-thirds of the population...

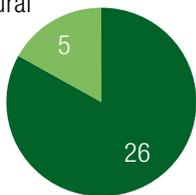
Total population, 2014
31 million

Non-Saudis

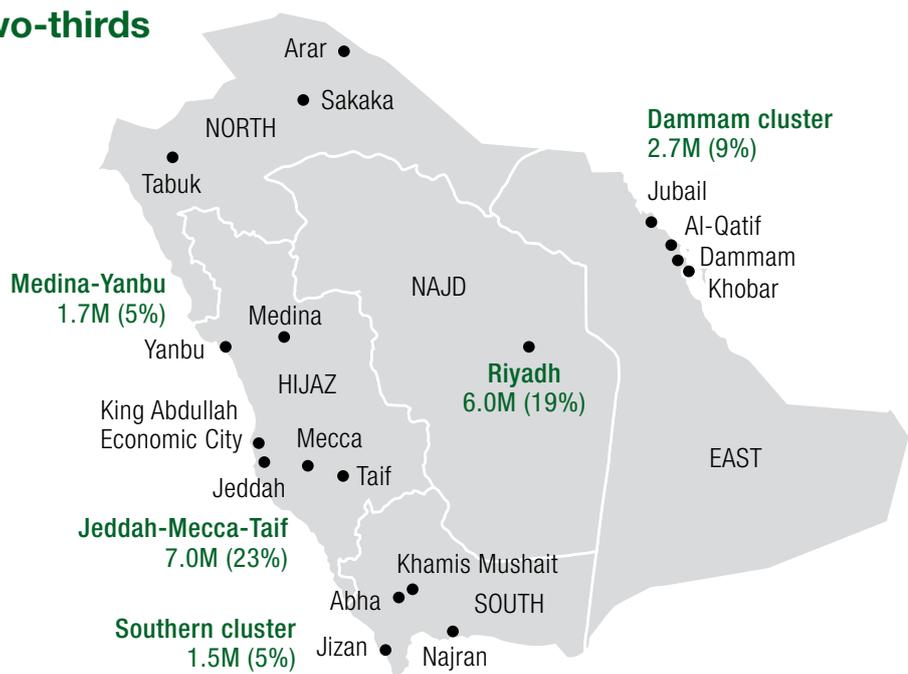


Saudis

Rural



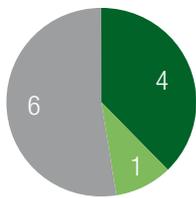
Urban



...but less than half the workforce in 2014

Total employment
11 million

Non-Saudis

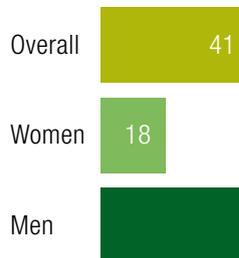


Saudi women

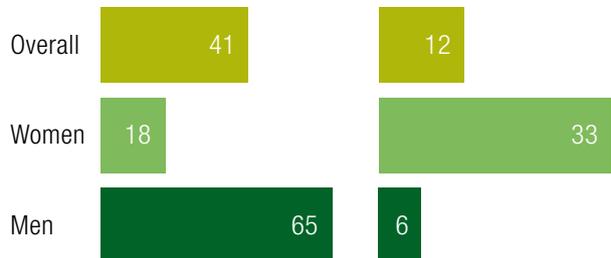
Average monthly wages
\$



Saudi labor force participation rate
%

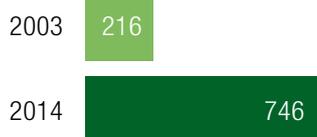


Saudi unemployment rate
%



Oil revenues and public-sector spending are principal drivers of the Saudi economy

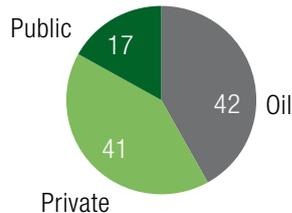
GDP nominal
\$ billion



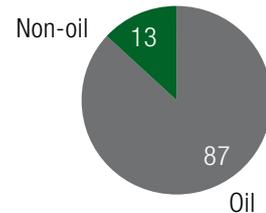
GDP per capita
\$ thousand



GDP by sector, 2014
%



Government revenue, 2014
%



NOTE: Numbers may not sum due to rounding.

SOURCE: Saudi Ministry of Finance; Saudi Central Department of Statistics and Information; Saudi Ministry of Economy and Planning; Saudi Ministry of Petroleum and Mineral Resources; Saudi General Organization of Social Insurance; World Development Indicators, World Bank; McKinsey Global Institute analysis

1. THE OIL BOOM AND BEYOND

The price of crude oil on world markets almost quadrupled in the decade from 2003 to 2013, and as the world's largest oil exporter, a country that derives about 90 percent of its government income from oil, Saudi Arabia quickly felt the effect. This was the Kingdom's second oil boom in three decades, an era of prosperity and change in which Saudi Arabia modernized, invested heavily in health, education, and infrastructure, and grew to become the world's 19th-largest economy, up from 27th largest in 2003 before the start of the boom.

Economic growth was more stable than during the first boom 30 years previously, in the 1970s. The wealth that the oil revenue generated flowed through to Saudi households and to the country as a whole in the form of more jobs and higher wages, especially in the public sector, and through increased social transfers such as pensions and unemployment benefits.

In this chapter, we examine the gains that resulted from this growth model based on oil revenue and public spending. But we also detail its downside of low productivity growth, a private sector that is small relative to the size of the overall economy, and a workforce in which Saudi nationals are a minority. This growth model is already coming under strain, and analysis suggests that it may not be sustainable. Over the next 15 years, the Kingdom will face changing external conditions including volatile oil prices, greater turbulence in the global economy, and a more competitive energy market. Internally, too, Saudi Arabia faces significant change, in the form of a coming demographic bulge. By 2030, an additional six million Saudis, both men and women, will reach working age. If 4.5 million of them enter the labor force, which would be in line with historical trends, the labor force will almost double in size to ten million. But it could grow even larger.

These developments will create a more complicated environment and an important adjustment challenge. Saudi Arabia is at a transition point. We have modeled two potential economic-development scenarios for the Kingdom to 2030. The first assumes that the government would react to changing circumstances by freezing public spending and intervening in the labor market to replace foreign workers with Saudi nationals. According to our model, such action would not be enough to prevent a deteriorating economic and fiscal situation with a steep rise in unemployment, falling household income, and rising deficits and debt. Our second scenario examines the potential impact of a larger and more transformational change in policy, driven by productivity gains and investment. If this course is followed, we estimate that over the next 15 years, Saudi Arabia has the opportunity to once more double its GDP; employ an additional six million Saudis, enough potentially to absorb the large numbers of working-age Saudis who will enter the labor market, depending on the replacement of foreign migrant workers; and increase domestic non-migrant household income by 60 percent.

The share of government revenue from economic activity other than oil under this scenario would jump from about 10 percent of the economy currently to as much as 70 percent, and non-government wages would go from 19 percent of total household income to as much as 58 percent. In other words, this would be a true transformation.

6%

Annual average
GDP growth from
2003 to 2013

THE SECOND OIL BOOM BROUGHT PROSPERITY AND CHANGE TO THE KINGDOM

Saudi Arabia's first oil boom kicked off in the early 1970s with significant price increases. From 1970 to 1981, a period of very brisk economic growth ensued, with real GDP expanding at an average annual rate of 11 percent. It was followed by a prolonged downturn from 1981 to 1987. High oil prices after 1980 were maintained principally by Saudi cuts in production. By 1987, Saudi real GDP had fallen 43 percent from its 1980 level. The 15-year period that followed, starting in the late 1980s, was characterized by moderate but relatively stable growth averaging about 3 percent per year.

Then came the second boom, from 2003 to 2013 (Exhibit 1). During this decade-long upturn, oil prices almost quadrupled from an annual average of about \$30 per barrel in 2003 to a sustained peak of about \$110 in the period 2011 to 2013 before dropping back in 2014. The higher oil prices immediately translated into higher government revenue; oil revenue increased more than fourfold in nominal terms between 2003 and 2013, and the cumulative proceeds over this period were six times greater than in the previous decade.¹⁵ This created a positive income shock for the economy, and real gross domestic income tripled (see Box 1, "Oil prices and the Saudi economy").

Overall, real GDP grew by 6 percent annually, doubling during the decade. The non-oil private sector grew even faster, racking up annual growth of 10 percent annually.

¹⁵ Saudi Ministry of Finance; Saudi Arabian Monetary Agency.

Box 1. Oil prices and the Saudi economy

Oil accounts for about 90 percent of Saudi Arabia's government revenue, and oil prices have several transmission channels into Saudi incomes and economic output.

The increase in oil prices first drove up the total value of Saudi exports, while leaving import prices largely unaffected. This improved the terms of trade of the economy and the purchasing power of residents, and was reflected in a threefold increase in Saudi Arabia's real gross domestic income (GDI) during the 2003–13 decade. GDI measures the purchasing power of total incomes generated by domestic production. During the oil price boom, due to terms of trade gains, real GDI in Saudi Arabia began to diverge strongly from the traditional measure of economic activity, real gross domestic product (GDP), which increased only twofold, measured in volume terms and reflecting oil output in constant prices.

GDP is also heavily affected by oil price gains on both the expenditure, or demand, side of the economy, and the production, or supply, side. As oil prices moved up during the 2003–13 boom, the government and its state-owned oil producer reaped windfall profits on oil exports. The

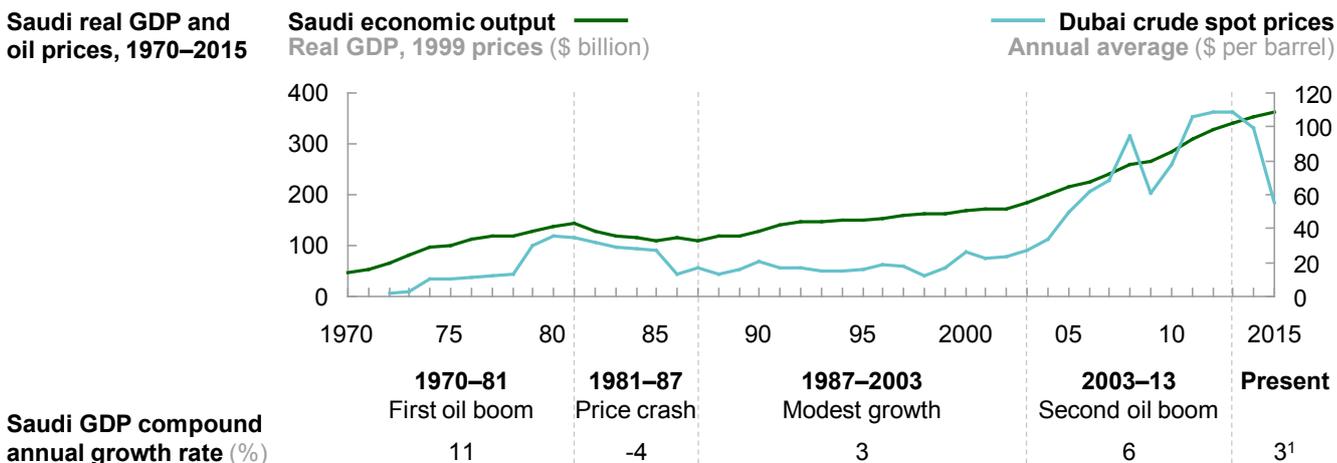
government used part of the proceeds to reduce public debt and build up reserves, but it also greatly increased spending, including on infrastructure, education, and health care. While some of the spending leaked to imports, particularly of capital goods, and remittances by migrant workers to their families abroad, the remainder constituted a positive demand shock to the economy.

Direct effects of this type of demand shock are that teachers and nurses are hired, construction companies win infrastructure contracts and expand, and the financial sector deepens to accommodate new investments. On top of that come indirect and induced effects that act as fiscal multipliers: new teachers, nurses, and construction workers start building homes, purchasing clothes, and spending money in restaurants, providing further income to home builders, retailers, waiters, and so on.

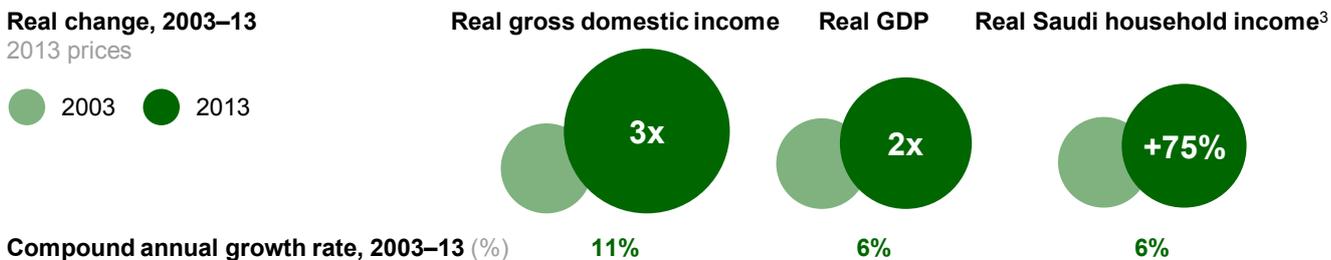
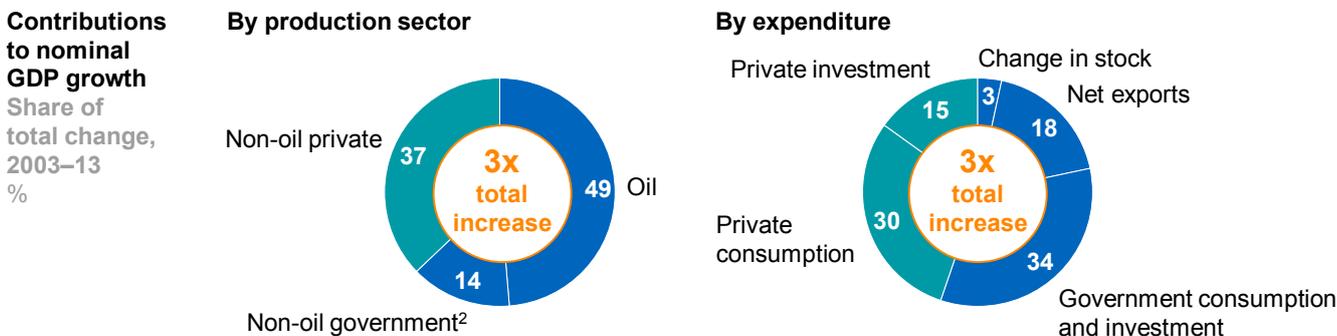
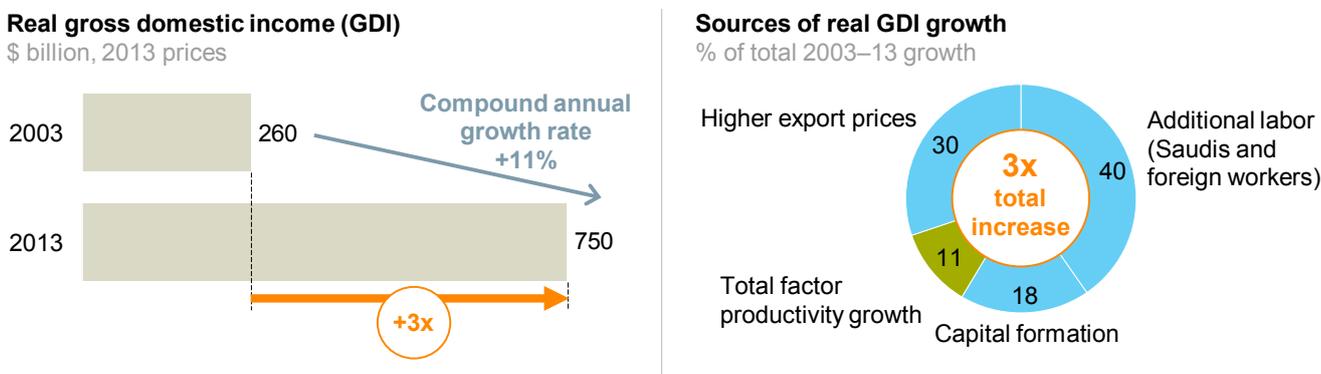
On the supply side, education spending expands the productive workforce, and infrastructure investments reduce transport cost and times, enhance energy supply, and improve digital network access, thus supporting productivity growth. Those investments—reinforced by strong demand—can "crowd in," or increase, private investment, including foreign direct investment, and in the process strengthen the private-sector economy.

Exhibit 1

Oil revenue fueled a decade of prosperity in 2003–13



Saudi Arabia’s growth model during the 2003–13 boom years was based on oil and public-sector spending



1 The Saudi economy grew by 3.5% in 2014. The IMF forecasts growth of 3.4% for 2015, and 2.2% for 2016.
 2 Includes import duties.
 3 2004–13 due to data availability.
 NOTE: Numbers may not sum due to rounding.

SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; US Energy Information Administration; Saudi Arabian Monetary Agency; IHS Global Insight; Saudi General Organization of Social Insurance; McKinsey Global Institute analysis

Propelled by the two oil booms and by an increase in population and the size of the workforce, Saudi Arabia's GDP growth over the past half century was the third fastest in the world, behind China and South Korea. Between 1964 and 2014, the Kingdom's average annual GDP growth was 5.1 percent, the same rate as India; ahead of Turkey (4.6 percent), Brazil (4 percent), Mexico (3.7 percent), and the United States (2.9 percent); and more than twice the rate of France (2.4 percent) and Germany (2.2 percent). Because of the growing Saudi population, GDP growth was not as strong on a per capita basis, averaging 1.7 percent, which put Saudi Arabia on a par with Western European countries and the United States.¹⁶

The 2003–13 boom was fueled by a surge in investment in the economy, which increased fourfold to about 6 trillion SAR (\$1.6 trillion). Compared with the preceding decade, investment rose by 6 percentage points to 26 percent of GDP. The government contributed directly 42 percent of this as it deployed part of its oil revenue into major publicly funded capital projects across the economy. Another change was an influx of foreign direct investment following the liberalization of FDI rules in 2000. The Kingdom attracted about 1.1 trillion SAR (\$300 billion) in net FDI inflows over the decade, particularly into the petrochemicals sector.

The 2003–13 boom was fueled by a surge in investment in the economy, including net FDI inflows of \$300 billion during the decade.

75%

Rise in Saudi household income during the decade 2003–13

Saudi households benefited from the oil boom

Saudi households were among the biggest beneficiaries of the second oil boom. Household income rose by an average of about 75 percent during the 2003–13 decade, after adjustment for inflation.

The benefits flowed to households in several ways. There was more employment during the period, especially in the public sector, which employs 70 percent of working Saudis. In all, the Kingdom created 1.7 million jobs for Saudis, of which 1.1 million were public-sector positions.

There was also higher pay for Saudi public-sector workers, including the military. Public-sector wages rose on average by 74 percent between 2004 and 2013 in real terms, with most of those gains coming in the period between 2010 and 2013. In May 2011, then King Abdullah bin Abdulaziz increased the basic salary of all Saudi civil servants by 15 percent and set the floor for public wages at 3,000 SAR (\$800) per month.¹⁷ For the average civil servant, this led to a monthly salary increase of about 1,200 SAR (\$360) per month to 9,000 SAR (\$2,400) per month.¹⁸ For education-sector employees, who account for about 40 percent of total civil servants, this led to an increase of about 1,800 SAR (\$480) per month, to about 13,500 SAR (\$3,600) per month.

¹⁶ *Global growth: Can productivity save the day in an aging world?* McKinsey Global Institute, January 2015.

¹⁷ Royal order number 4097, May 2011; "Custodian of the Two Holy Mosques orders new salary ladders," *Argaam News*, May 29, 2011.

¹⁸ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi Ministry of Civil Service.

By contrast, Saudis working in the private sector did not share in these gains; overall, private-sector wages remained flat in nominal terms, and fell by about 30 percent in real terms. This was at least in part due to a significant increase in the number of low-wage foreign workers who were brought into the Kingdom; more than three million entered Saudi Arabia over the decade. An influx of Saudi private-sector workers hired at lower wages as part of a drive to get more Saudis into the workforce also held back wages, especially in 2011–12.

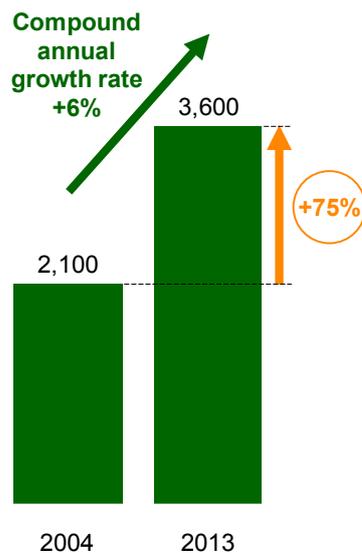
The result is that Saudi public-sector employees today are paid on average about 70 percent more than their private-sector counterparts, creating a disincentive for Saudis to enter the private sector. The average Saudi monthly private-sector wage is about 5,500 SAR (\$1,500).¹⁹

A third source of income for Saudi households during the decade took the form of higher social transfers, including pensions, student stipends, and unemployment benefits (Exhibit 2). Saudi Arabia built out its welfare state considerably during the boom decade.

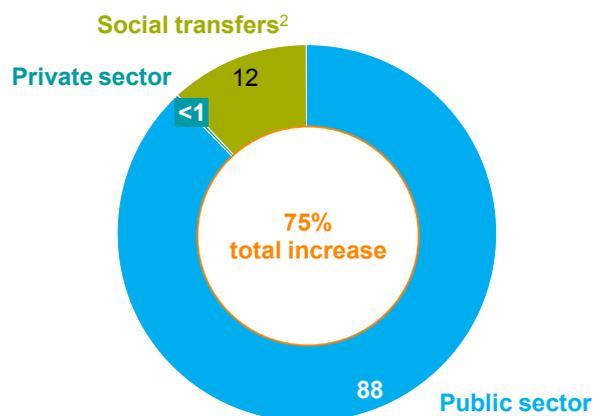
Exhibit 2

Saudi real household income rose by 75 percent during the “second oil boom” decade, driven by higher public-sector employment and wages

Real Saudi household incomes¹
\$ per month, 2013 prices



Sources of Saudi household income growth
% of total 2004–13 growth



1 Households of Saudi nationals only; does not include foreign workers.

2 Pensions, student stipends, and unemployment benefits.

NOTE: Numbers may not sum due to rounding.

SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi General Organization of Social Insurance; Saudi Ministry of Civil Service; McKinsey Global Institute analysis

¹⁹ General Organization of Social Insurance.

7

Years increase in life expectancy between 1990 and 2013

A SURGE IN GOVERNMENT SPENDING ON SOCIETAL AND DEVELOPMENTAL PROJECTS

The Kingdom used the windfall oil revenue of the boom decade to invest in a range of societal and urbanization projects that also benefited Saudi households. During the 1990s, there had been a dearth of public investment projects due to fiscal constraints imposed by the prolonged period of low oil prices. But with the second oil boom between 2003 and 2013, the government undertook a concerted investment program totaling about \$450 billion, or the equivalent of about 11 percent of GDP annually (Exhibit 3).²⁰

Large-scale construction projects were launched. They included more than a dozen new industrial or medical cities, the renewal of a large part of the Kingdom's road infrastructure, new airports, and airport expansions. A significant proportion of the investment went into utilities, both electricity and water. Over the decade, the Kingdom increased the amount of electricity generated by 32 percent.²¹

Some of the spending connected Saudi society to the digital age. Internet penetration in 2013 was reportedly the third highest in the world after the United Arab Emirates and South Korea.²² Saudi smartphone penetration is over 70 percent, and per capita use of popular applications such as YouTube and Twitter is also high. The government sought to promote greater use of digital and other technology, with the creation of a Riyadh technology cluster in 2008 and the 2010 launch of a National Science Technology Policy, among other initiatives.²³

Investment was especially heavy in health and education, two areas that touch Saudi households directly. During the decade, the Kingdom built 81 hospitals at a cost of 26 billion SAR (\$6.8 billion).²⁴ Education also received big infusions of investment, with 20 new universities built.

Some of the outcomes of this spending are striking. In tertiary education, for example, total enrollment has risen eightfold in two decades, from 170,000 students in 1993–94 to 1.4 million in 2011–12.²⁵ In health, too, there have been significant advances. Infant mortality has been cut by two-thirds over the past 25 years, from 36 deaths per 1,000 live births in 1990 to 13 in 2013. In the same period, life expectancy in the Kingdom has increased by almost seven years, from 69 to 76 years. The ratio of physicians to total population rose by 79 percent, from 1.4 per 1,000 population in 2002 to 2.5 in 2012.²⁶

Not all of the outcomes of this decade of spending have been so positive. A number of the high-profile infrastructure projects have been hampered by significant delays and cost overruns, for example. The increased access to medical care has not necessarily translated into healthier lifestyles. Since the 1990s the incidence of several chronic diseases, including heart disease, respiratory ailments, and diabetes, has sharply increased. The Kingdom's obesity rate is double that of the OECD average, and the prevalence of diabetes, at 24 percent of the population, places Saudi Arabia at position 222 of the 228 countries ranked by the International Diabetes Federation, on an age-adjusted prevalence basis.²⁷

²⁰ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi Arabian Monetary Authority.

²¹ In kilowatt-hours per 1,000 people. World Bank; Saudi Arabia Eighth Economic Development Plan.

²² Statistical analysis of Google's "Our Global Planet" data; "UAE is world smartphone leader," www.spotonpr.com, August 29, 2013.

²³ *Saudi Arabia, Emergence of an innovative kingdom*, Aranca special report, 2014.

²⁴ *Annual statistical yearbook, 2010–2014*, Saudi Ministry of Health.

²⁵ *The Saudi economy in figures 2013*, Saudi Ministry of Economy and Planning, 2013.

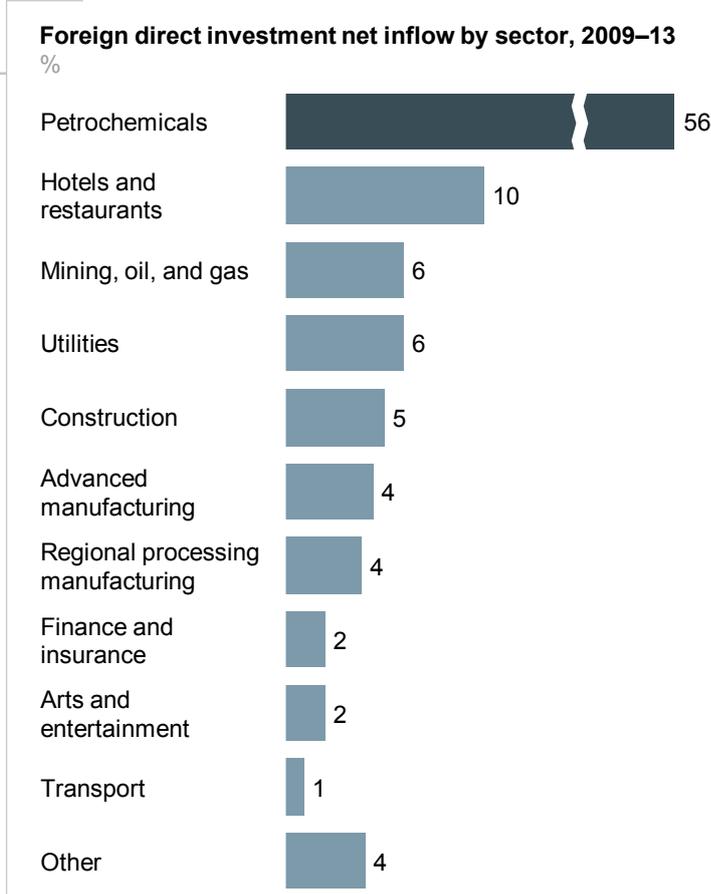
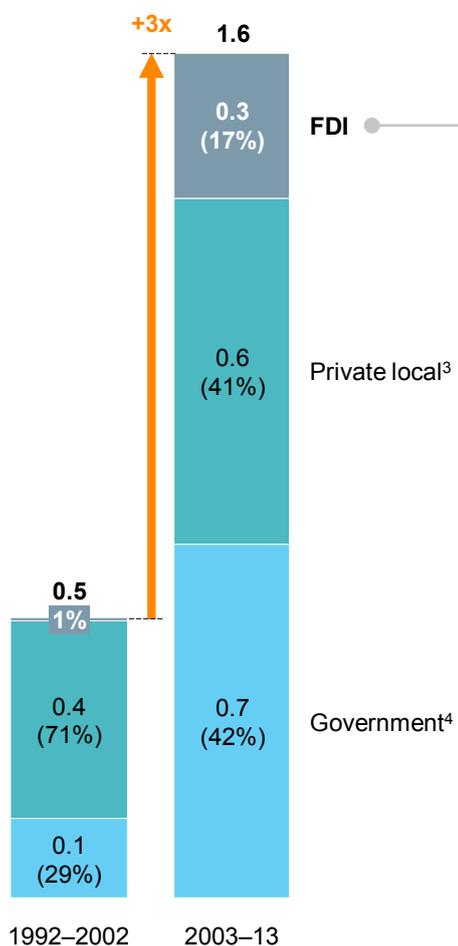
²⁶ World Bank.

²⁷ World Health Organization; International Diabetes Federation; Institute for Health Metrics and Evaluation, 2013. We estimate the global economic impact of obesity at about \$2 trillion, or 2.8 percent of global GDP. *Overcoming obesity: An initial economic analysis*, McKinsey Global Institute, November 2014.

Exhibit 3

The decade-long boom was fueled by a threefold increase in total investment, with FDI and especially government playing a larger role

Real total investment by source¹
 \$ trillion (%), constant 2013 prices²



Share of GDP

	1992–2002	2003–13
Total investment	20	26
Government investment	6	11

1 Gross fixed capital formation.
 2 Non-oil GDP deflator used to convert to constant prices.
 3 Includes publicly listed companies with large government ownership shares.
 4 Includes investment in oil sector, majority of which is assumed to be conducted or funded by Saudi Aramco, which is fully government-owned.
 NOTE: Numbers may not sum due to rounding.

SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi Arabian Monetary Agency; World Development Indicators, World Bank; FDI markets; Dealogic; McKinsey Global Institute analysis

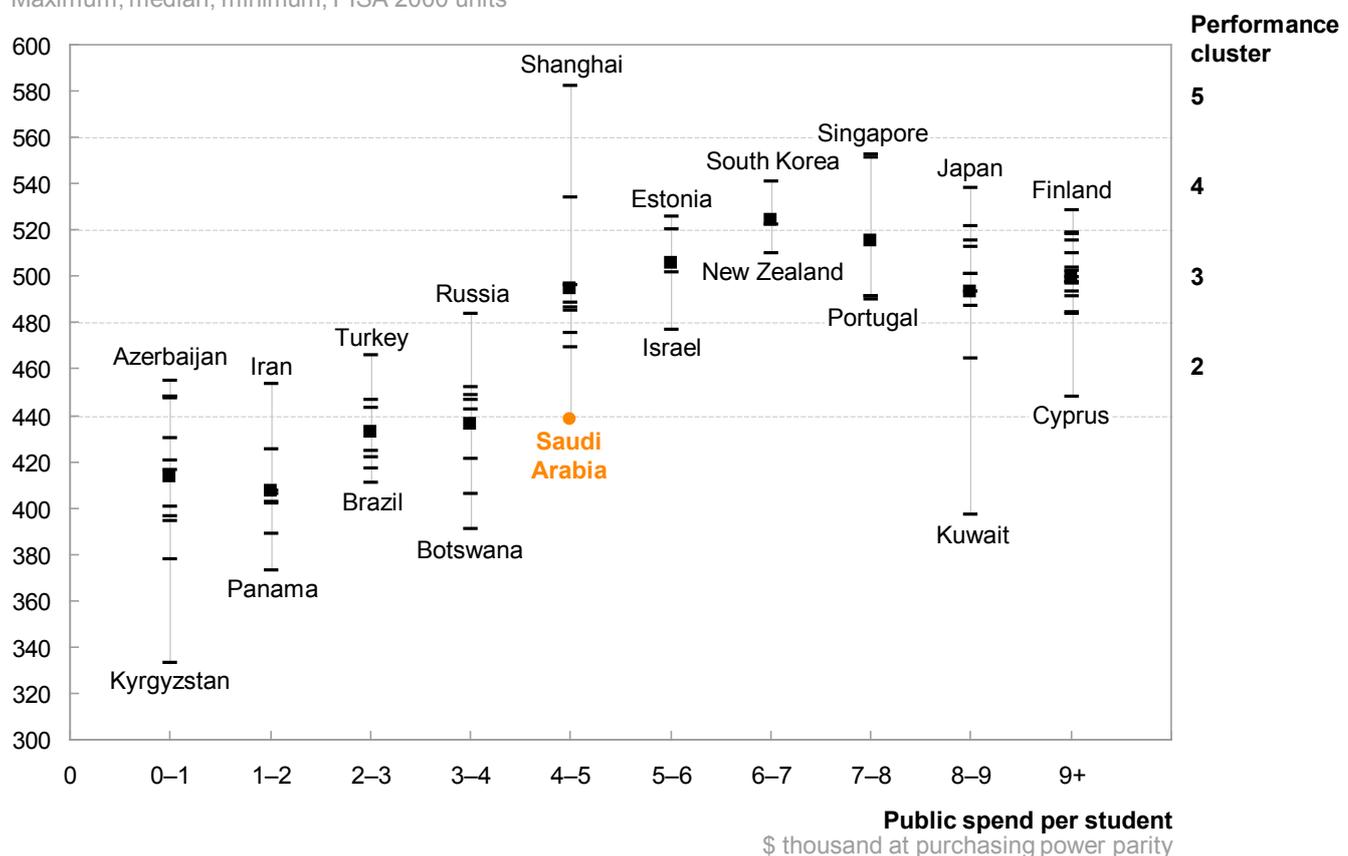
In education, the Kingdom's outcomes are low in relation to its level of spending. Access has improved across all levels; in primary and secondary education, capacity on average more than doubled every decade between 1970 and 2000 to reach 100 percent of the total student-age population.²⁸ In tertiary education, the Kingdom runs one of the world's most generous scholarship programs, the Two Holy Mosques scholarship program, formerly known as the King Abdullah Scholarship Program, which was established in 2005 with a founding commitment of more than \$2.4 billion. The program pays for students' studies abroad and more than 200,000 students are currently enrolled. Education, including the cost of building and operating schools, accounts for 25 percent of the government budget. However, scores of Saudi pupils in international comparative studies such as the Trends in International Mathematics and Science Study (TIMSS) have risen in the past decade but still lag behind international benchmarks including other Gulf Cooperation Council (GCC) countries (Exhibit 4).²⁹ And universities report a dropout rate of about 50 percent.

Exhibit 4

Saudi Arabia spends 25 percent of its budget on education, but the performance of schoolchildren for now remains below average

Universal scale score,¹ 2012²

Maximum, median, minimum; PISA 2000 units



1 Universal scale created by McKinsey & Company, based on Hanushek and Woessmann methodology, to enable comparison across systems. Based on OECD's Programme for International Student Assessment (PISA) 2000 units.

2 If country did not participate in 2012 assessment, most recent universal scale score used.

SOURCE: *The high cost of low educational performance: The long-run impact of improving PISA outcomes*, Eric Hanushek and Ludger Woessmann, OECD, 2010; World Bank EdStats database; IMF; UNESCO; PISA; TIMSS; PIRLS; IHS Global Insight; McKinsey Global Institute analysis

²⁸ World Bank data for primary and secondary school enrollment, 2013.

²⁹ Eighth-grade students in Saudi Arabia scored an average of 394 in mathematics in the most recent TIMSS study in 2011. The TIMSS average is 500, and scores below 440 are usually interpreted as "poor." *How the world's most improved school systems keep getting better*, McKinsey & Company, 2010.

Saudi Arabia
reduced its debt to

3%

of GDP

Rapid fiscal consolidation eliminated debt and deficits

The oil boom had a significant impact on the Kingdom's finances. The government accumulated 2.7 trillion SAR in cash reserves (\$732 billion), almost the equivalent of its total GDP. This buildup of reserves was rapid, with increases of more than 40 percent annually on average from 2005 to 2014.³⁰

The fiscal balance swung from an average deficit of 5 percent of GDP between 1993 and 2002 to an average surplus of 11 percent between 2003 and 2013. As a result, the Kingdom was able essentially to eliminate gross debt, which declined from 94 percent of GDP to 3 percent.³¹

At a time of growing indebtedness across major developed and emerging economies since the 2008 financial crisis, Saudi Arabia has thus been a rare exception in not taking advantage of low interest rates worldwide to borrow, and in deleveraging by paying down public debt rather than growing and inflating out of it.³² However, this situation is starting to change following the decline in oil prices, which is affecting the budget. In August 2015, the Kingdom sold 20 billion SAR (\$5.33 billion) of debt, in five, seven- and ten-year tranches, and announced it would issue additional sovereign bonds. It was only the second bond issue sold by the Kingdom since 2007.³³

SIGNIFICANT JOB GROWTH, BUT PRODUCTIVITY AND PARTICIPATION LAGGED BEHIND

In the second oil boom, a record number of Saudis participated in the labor force and obtained employment. The jobs mostly went to men but also increasingly to women, although they remain significantly underrepresented in the workforce compared to G20 countries. The number of foreign migrant workers also grew, so they continued to constitute a majority of labor in the Kingdom. A combination of high public-sector employment and a very sizable influx of foreign workers, mostly low-paid and with low skills, affected Saudi Arabia's productivity performance, which lagged behind all but one of the G20 emerging economies.

At a time of growing indebtedness globally,
Saudi Arabia has been a rare exception in not taking
advantage of low interest rates to borrow.

An unprecedented number of Saudis joined the labor force, but the participation rate remained low by international standards

In total, 4.4 million jobs were created in the Kingdom during this oil boom decade, of which 1.7 million went to Saudis (Exhibit 5).³⁴ The Saudi labor market is unusual by the standards of G20 economies because of its dual nature. Saudi nationals constitute a minority of the workforce, and many Saudis do not work at all, especially women and youths; as a result, the labor participation rate of Saudi nationals, at 45 percent, is considerably below that of other emerging economies such as Malaysia (59 percent) and Mexico (62 percent). Overall, the six million foreign workers in Saudi Arabia continue to account for about 56 percent of total jobs in the economy, largely unchanged over the decade, despite government efforts to

³⁰ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi Arabian Monetary Authority.

³¹ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi Arabian Monetary Authority.

³² *Debt and (not much) deleveraging*, McKinsey Global Institute, February 2015.

³³ "Saudi Arabia sells 20 billion riyal sovereign bond, plans more," Reuters, August 11, 2015.

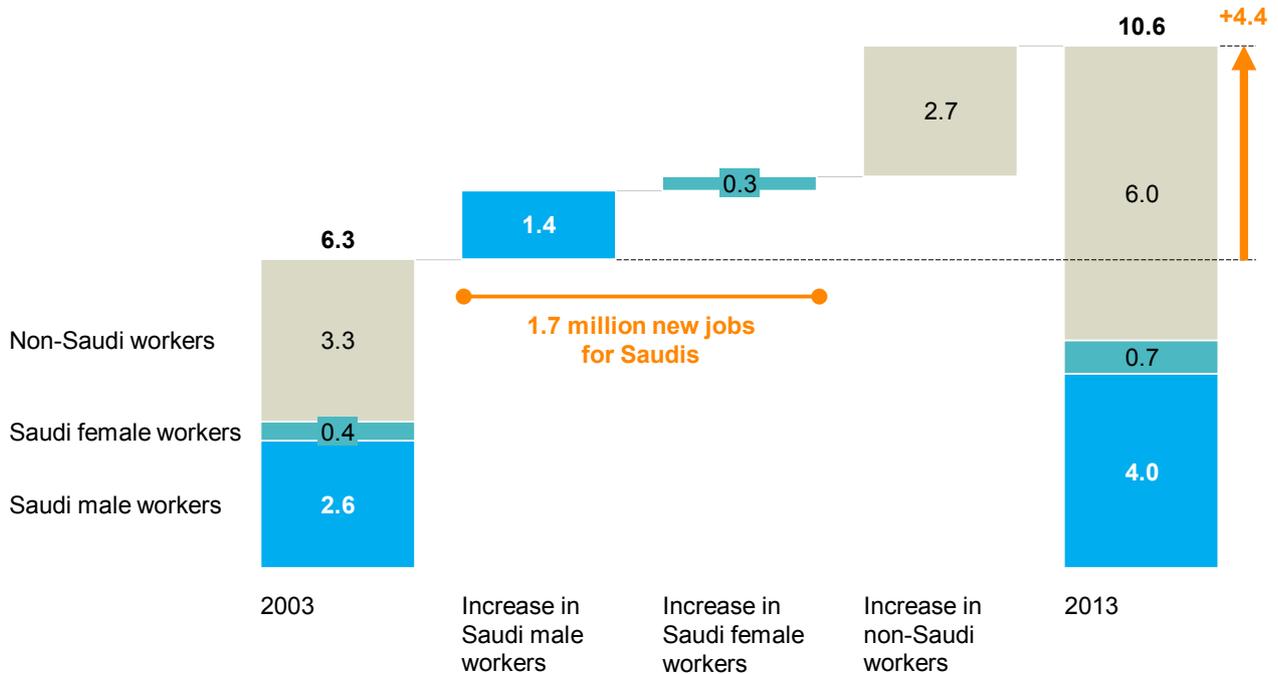
³⁴ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning.

promote “Saudization,” that is, increase the proportion of jobs held by Saudi nationals (see Box 2, “Two decades of ‘Saudization’”).

Exhibit 5

The Saudi economy created 4.4 million new jobs from 2003 to 2013, a 70 percent increase, including 1.7 million new jobs for Saudis

Change in employment, 2003–13
Million



Share of Saudi nationals 47 %

44

Compound annual growth rate
%

4

7

6

5

NOTE: Numbers may not sum due to rounding.

SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; McKinsey Global Institute analysis

Most jobs are filled by migrant laborers who are on limited-time work visas and are paid less than Saudi nationals. The vast majority of these positions are low- to medium-skill jobs in the construction, retail, and hospitality sectors. In construction, they constitute more than 90 percent of the workers. In general their productivity is low. During the 2003–13 oil boom decade, 2.7 million of the 4.4 million jobs created went to these foreign workers (see Box 3, “Migrant laborers in Saudi Arabia”).

Box 2. Two decades of “Saudization”

“Saudization,” or the replacement of foreign workers with Saudi nationals, has been a policy objective since the government’s first such program in 1994. Starting in the 1970s and 1980s, large numbers of foreign laborers came to work in Saudi Arabia, overwhelmingly on fixed contracts. One effect was to lock many sectors of the Saudi economy into a low-productivity pattern of growth, with relatively low labor participation by Saudi nationals. Changing that trend has proved to be very challenging.

The first Saudization program, like similar programs launched in other GCC countries, had little effect on the labor market because of lack of enforcement and unrealistically high targets.

In 2011, the “Nitaqat” program was launched to replace the previous Saudization program. Nitaqat (which means “zones” or “bands”) defines Saudization targets for each firm in the private sector with more than ten employees. Based on their performance it classifies them according to a color scheme: non-compliant companies are “Red” or “Yellow,” compliant ones are “Green,” and outperforming companies are “Platinum.”

Nitaqat differed from the previous program in a few important ways. First, it was more easily monitored by the government. Data on the numbers of Saudis and foreign workers employed by a company are collected on an ongoing basis from the government’s integrated social insurance and from visa records. Second, Nitaqat was designed to set achievable targets. The program distinguishes among more than 50 types of businesses and five different company sizes, setting quota targets in each segment based on Saudization levels already achieved by firms within that segment. For example, for a company with between ten and 49 employees, the Saudization requirement can range from 5 to 24 percent of the total workforce.

Unlike previous efforts, Nitaqat has real teeth. Firms in the “Red” band are effectively prevented from expanding due to limitations on renewing or issuing additional visas for foreign workers. Lesser restrictions are in place for those in the “Yellow” band, while those in the “Platinum” band are rewarded with access to expedited government services such as faster visa processing, or grace periods when licenses or registrations expire.

An active and lively debate in Saudi Arabia is taking place over the merits of Nitaqat. Advocates praise the program for driving increased Saudization in a way that is fair and tailored. Detractors say it has set targets in some sectors that are too aggressive and that it can incentivize companies to comply by registering Saudis as “fake employees.” The Saudi press has reported on employers that register the names of Saudi citizens no longer living

in the Kingdom, or that register disabled Saudi workers without giving them actual jobs.¹

Responding to these points, the government has pointed to the 250,000 Saudis in total who entered the private sector within the first year of the program’s launch. That was about the same number as had been achieved in the five years prior to launching Nitaqat.² One result was to drive down the average private-sector monthly wage, as many of the newly created positions were for relatively low-paying positions.

Several academic studies have been conducted on the effects of the Nitaqat program.³ One such study published in 2014 based on a data set from the Ministry of Labor concluded that the program succeeded in increasing the number of Saudis employed by the private sector, but at the cost of increasing the number of firms that shut down over the same period.⁴

During the decade-long oil boom between 2003 and 2013, the Saudization rate actually declined slightly, by about 4 percentage points, with the biggest falls in trade and transportation, according to an MGI analysis of official Saudi statistics. However, this took place at a time of rapid employment growth. While Nitaqat can be an effective tool for labor substitution, it has its limits, with Saudi nationals sometimes unwilling to work in sectors such as construction, or not having adequate skills and training.

All Gulf states face some variation of the same issues with foreign workers and nationals in the workforce. Willingness to open their markets to low-skilled labor from around the world has enabled them to import labor cheaply, especially from South Asia, and as a consequence they are locked into an economic growth path that is built on low cost, low skills and low productivity.⁵

¹ “Combating fake Saudization,” *Arab News*, March 16, 2014.

² “Nitaqat expanded,” *Arab News*, August 13, 2012.

³ They include Jennifer R. Peck, *Can hiring quotas work? The effect of the Nitaqat program on the Saudi private sector*, Massachusetts Institute of Technology, April 2014; Abdullah Alanezi, “Workforce localization policies in Saudi Arabia: The determinants of successful implementation in multi-national enterprises,” presented at Management, Knowledge and Learning International Conference 2012, in Celje, Slovenia, June 20–22, 2012; Hend M. Alsheikh, “Current progress in the nationalisation programmes in Saudi Arabia,” Gulf Research Center and European University Institute, 2015.

⁴ Jennifer R. Peck, *Can hiring quotas work? The effect of the Nitaqat program on the Saudi private sector*, Massachusetts Institute of Technology, April 2014.

⁵ IMF, “Labor market reforms to boost employment and productivity in the GCC,” October 5, 2013.

Box 3. Migrant laborers in Saudi Arabia

All GCC countries to a greater or lesser degree host migrant workers.¹ In Saudi Arabia, there are about ten million non-Saudi nationals, or about one-third of the total population. Some six million of them are employed, and they constitute 56 percent of the Kingdom's total workforce.²

More than half come from three South Asian nations—India, Pakistan, and Bangladesh. Nationals of other countries include Egyptians (14 percent), Filipinos (about 11 percent), Yemenis (6 percent), and Indonesians (4 percent).³ They are overwhelmingly male—about 90 percent of those who work are men—and they currently dominate the private-sector workforce: about four of every five private-sector workers are non-Saudis. In certain sectors the proportion is even higher, especially construction and personal services, where more than 90 percent of the workforce is foreign.

Four million of the six million who work are concentrated in just three sectors: retail, construction, and personal services. In personal services, men work in hospitality or as drivers and women are hired as maids and nannies.

An additional one million work in low- to medium-skilled jobs in agriculture, mining, oil, manufacturing, and utilities. About 800,000 are in more skilled sectors such as finance and especially health care. Some 200,000 health specialists from abroad constitute two-thirds of all health professionals in the Kingdom, including 82 percent of doctors, 74 percent of nurses, and 84 percent of pharmacists.⁴

The foreign workers make an important contribution to consumption and GDP in the Kingdom, although one that is proportionally smaller than their numbers. That is the result of their relatively lower average salaries and higher average savings compared to Saudi nationals, as well as their remittances to their home countries. In 2013, total remittance outflows by workers totaled \$36 billion, or around 5 percent of GDP, making Saudi Arabia the

world's second biggest source of remittances after the United States (Exhibit 6).

While foreigners constitute about one-third of the Kingdom's population and just over half of the workforce, they captured just 23 percent of total household income in 2013.⁵ They accounted for 19 percent of total household consumption in 2013, equivalent to 5 percent of GDP.⁶

The average monthly wage in the private sector for these foreign workers in 2014 was 1,648 SAR (\$440). However, there is a marked difference in both pay and conditions for those with skills, including those working in health care, and those who are unskilled manual laborers. The unskilled laborers are overwhelmingly male and live without their families in company-owned housing. The more skilled foreigners are accompanied by their families, and they earn substantially more than the average for foreign workers; 500,000 of them have wages above 5,000 SAR (\$1,300) per month, of which 200,000 have monthly salaries above 10,000 SAR (\$2,700).⁷

In contrast, Saudi nationals occupy about 70 percent of public-sector jobs as well as mid- to higher-skill jobs in the private sectors, and earn about four times as much as the foreign laborers, on average, although there the difference depends on the sector.

For these migrant workers, the duration of their stay in Saudi Arabia varies quite widely from industry to industry and from company to company. The average length for unskilled workers is reportedly about eight years. Their visas are tied to the company where they work through a sponsorship system by which they enter the Kingdom. This gives their employers more control over them than they would have over Saudi employees; for instance, in most circumstances, foreign workers cannot leave a job with their sponsor for another job in the Kingdom without permission from the original employer. This restricts their ability to stay in Saudi Arabia if they lose or leave their job.

¹ Labor market data in the GCC can be unreliable and differ by source. Saudi Arabia has the largest number of foreign workers by far, a reflection of its relative size, but migrant laborers constitute a large percentage of the total workforce in some other GCC countries including Qatar and Kuwait. Steffen Hertog, *National employment, migration and education in the GCC*, Gerlach Press, 2012.

² Saudi figures from the Central Department of Statistics and Information, Saudi Ministry of Economy and Planning.

³ "Eight nationalities account for 85 percent of foreign residents," *Alriyadh News*, September 16, 2014.

⁴ *Annual statistical yearbook, 2014*, Saudi Ministry of Health.

⁵ *Household Expenditure and Income Survey 2013*, Central Department of Statistics and Information, Saudi Ministry of Economy and Planning.

⁶ Saudi Arabian Monetary Agency; World Development Indicators, World Bank.

⁷ Private-sector wage data for foreign workers is from the General Organization for Social Insurance.

Box 3. Migrant laborers in Saudi Arabia (continued)

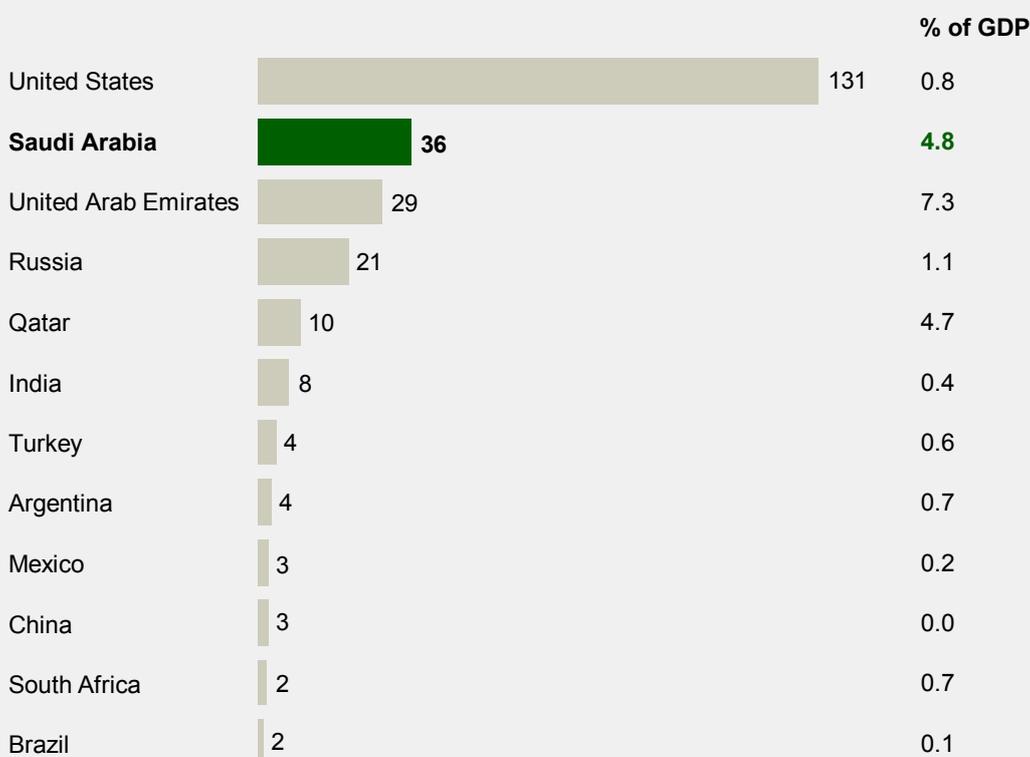
The International Labour Organization (ILO) and some human rights organizations have criticized the sponsorship system, which is widely used in the GCC. The ILO described it as “inherently problematic” because of the “unequal power dynamic” it creates.⁸ The Saudi government has been taking some measures to protect the rights of these foreign workers. In 2014, for example, the Labor Ministry launched a portal for foreign workers aimed at educating them about their rights and how to exercise them. The portal provides information related

to the contact details of relevant authorities, workers’ rights, contractual obligations and wages, working hours, training, qualification, work responsibility, disciplinary rules, and the calculation of end of service benefits. Foreign workers can also use the portal to lodge a formal complaint. Also in 2014, Saudi Arabia introduced a regulation that offered all foreign domestic workers basic protections including sick leave, work days of no longer than 15 hours, and paid vacation for one month every two years.

Exhibit 6

Saudi Arabia is the second largest remittance country in the world after the United States, with \$36 billion sent home by foreign workers in 2014

Remittances by sending country, 2014
\$ billion



SOURCE: World Bank; Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; McKinsey Global Institute analysis

⁸ Helene Harroff-Tavel and Alix Nasri, Tricked and trapped: Human trafficking in the Middle East, International Labour Organization, 2013.

12x

Increase in number of women working in retail between 2010 and 2014

More women have been entering the workforce, although Saudi Arabia is far from closing the gender gap

One of the biggest labor-market changes in the Kingdom has been the increase in the number of women joining the workforce, especially a younger generation of educated women. The total female participation rate rose from 10 percent in 1999 to 18 percent in 2014. The participation rate among 25- to 39-year-old women (32 percent) was double that of women aged 40 to 54 (16 percent). Moreover, of the women in the workforce, almost 80 percent have a college degree or another postsecondary qualification.

Despite this increase, Saudi Arabia remains an outlier in terms of the numbers of women in the workforce. The female participation rate in the Middle East in general is lower than in most other regions, and the Kingdom lags behind its fellow members of the Gulf Cooperation Council; its female participation rate is about half that of Bahrain and Kuwait, for example.³⁵ MGI research shows that, worldwide, Saudi Arabia ranks among the 12 countries that have the furthest to go in closing the gender gap. It also ranks in the bottom group of countries in a World Bank study that measures legal restrictions on women's employment and entrepreneurship by identifying gender-based legal differences.³⁶

While some legislation has changed in recent years to enable more women to work in the Kingdom, there remain considerable legal and practical hurdles. For example, women do not drive, and Saudi Arabia is the only country in the GCC that has restrictions on mixed-gender work environments.³⁷ All Saudi organizations employing women must invest in separate facilities such as working and eating areas. For many organizations, uncertainty about what these rules mean in practice, and their cost, can create a disincentive to hire women.³⁸ A lack of child care is also a major impediment.

Such issues notwithstanding, more Saudi women are now finding work. Most of them take employment in the public sector, but there are also indications that female employment in the private sector has been growing.

Data published by the Ministry of Labor, which differs from that published by the Central Department of Statistics and Information, show a rise in the number of women working in the private sector from a low base of just over 50,000 in 2010 to about 400,000 in 2014. The official data published by the Central Department of Statistics and Information show a less dramatic, but still significant increase.

Almost all of these jobs were created in the retail, hospitality, and construction sectors; the first two sectors in particular have been the focus of major government Saudization and feminization campaigns aimed at encouraging women to enter the workforce.

According to the Ministry of Labor's statistics, the number of women working in retail has seen a particularly large increase, rising 12-fold from about 10,000 in 2010 to 122,000 in 2014. This followed a decision in 2011 by the Ministry of Labor to order the women's sections of department stores and shops specializing in cosmetics and women's clothing to begin shifting to all-female Saudi sales staff.

³⁵ *GCC women in leadership— from the first to the norm*, McKinsey & Company, July 2014.

³⁶ *The power of parity: How advancing women's equality can add \$12 trillion to global growth*, McKinsey Global Institute, September 2015; *Women, business and the law 2016: Getting to equal*, World Bank, September 2015.

³⁷ *GCC women in leadership— from the first to the norm*, McKinsey & Company, July 2014.

³⁸ *Women, business and the law 2016: Getting to equal*, World Bank, September 2015.

Most of these women work in women-only retail stores. A survey of female shoppers by students at the Effat University Department of Psychology found that two-thirds of the women surveyed felt more comfortable being served by saleswomen, but a majority of the shoppers complained about the saleswomen's level of training and sales skills.³⁹

The rise in female labor participation over the past decade continues to outpace the increase in the number of jobs available for them, however. As a result, female unemployment rose from 23 percent in 2003 to 33 percent in 2013.

2.5%
Annual average
productivity
increases in non-oil
private sector

Productivity growth was low except in some non-oil private sectors

Productivity growth has been a particular focus of MGI research over the past 25 years. It is an essential driver of long-term economic growth and national wealth.⁴⁰ Given the structure of Saudi Arabia's labor market, with its heavy reliance on low-wage, low-skilled migrant labor, the Kingdom's productivity record is poor compared with that of many other countries. Average annual productivity growth overall during the 2003–13 oil boom was just 0.8 percent, the second lowest among the G20 emerging economies, just ahead of Mexico (0.5 percent), but far behind leaders China (9.6 percent), India (5.3 percent), and Nigeria (4.3 percent). In relation to the United States, the world productivity leader, Saudi Arabia's productivity actually fell further behind rather than catching up (Exhibit 7).

In fact, productivity accounted for only about 11 percent of the Kingdom's national income growth over the past decade. Most of the gains in income were driven by the deployment of additional factors of production in the form of more labor and capital. One-third of these gains came from higher export prices for oil. These factors are prone to external shocks and are typically not sustainable drivers of growth.

The strongest productivity growth took place in some parts of the non-oil private sector, which averaged productivity growth of 2.5 percent over the decade. This was three times the national average, and it was driven by mining; transport and communications; and retail and hospitality.

At least part of these private-sector gains reflect pro-market reforms undertaken during the decade, such as trade liberalization, including WTO accession in 2005, an improved business and regulatory environment, and a partial privatization of state-owned companies. Milestones in policy changes include the Foreign Investment Act of 2000, which allowed foreigners greater access to the Saudi economy. The Saudi Arabian General Investment Authority was created in the same year to oversee and foster the business and investment environment in the Kingdom. In 2001, Saudi Arabia enacted a Telecommunications Act and proceeded to open the telecommunications market to competition, breaking up the monopoly of the Saudi Telecom Company and establishing an industry regulator.

Even in the private sector, several large sectors, including agriculture, construction, and real estate, have productivity gaps and experienced a further decline in productivity during the 2003–13 decade. In construction, low productivity growth stemming from an influx of new non-Saudi private-sector workers hired at lower wages resulted in private-sector wages remaining flat in nominal terms. This meant that, over the decade, given the importance of construction demand, total private-sector wages adjusted for inflation actually declined by about 30 percent.

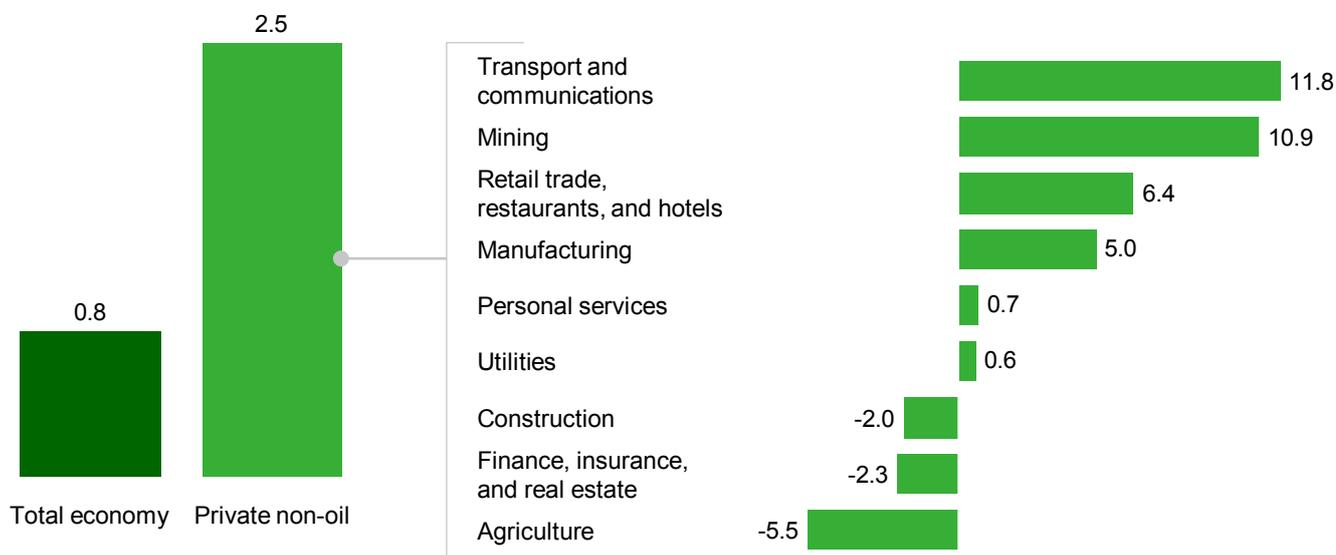
³⁹ *Feminization of jobs in Saudi Arabia: Challenges and opportunities*, Effat University, 2014.

⁴⁰ See, for example, *Global growth: Can productivity save the day in an aging world?* McKinsey Global Institute, January 2015.

Exhibit 7

Private-sector productivity growth accelerated over the 2003–13 decade, but overall the Kingdom’s productivity lags behind other G20 economies

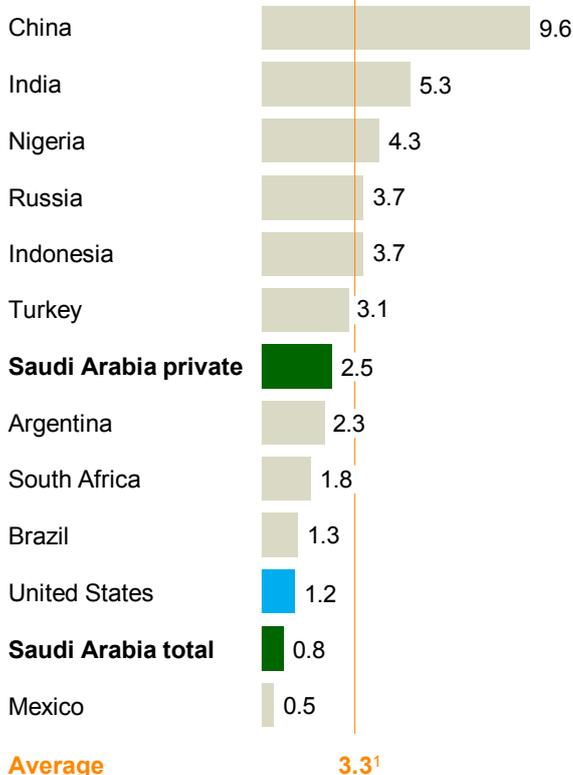
Private-sector productivity grew by 2.5 percent during the boom, helping offset declines in the rest of the economy
 Labor productivity growth by sector (compound annual growth rate, 2003–13, 1999 prices, %)



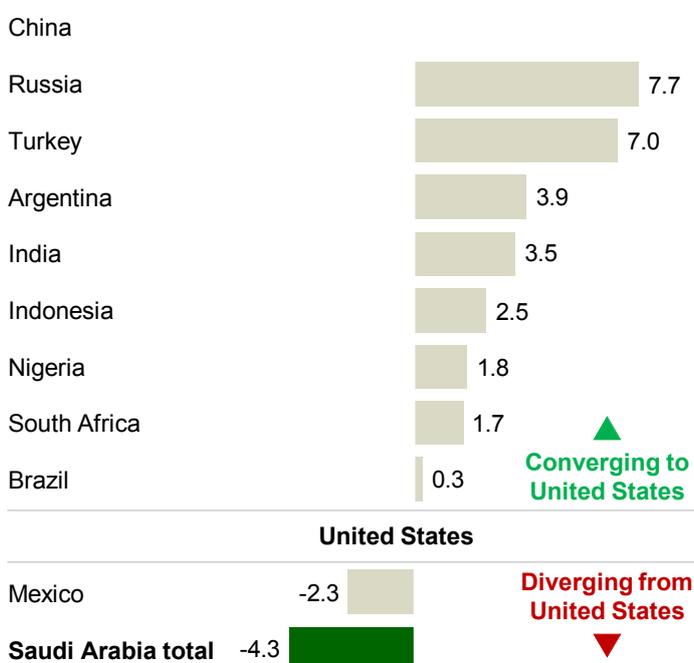
Productivity growth in Saudi Arabia lagged that of other major emerging economies and fell further behind the United States

G20 emerging markets + Nigeria, 2003–13¹

Productivity growth
 Compound annual growth rate
 %



Convergence to United States
 Change in ratio to US productivity
 Percentage points



¹ Unweighted average of all emerging economies in G20 and Nigeria.

SOURCE: The Conference Board Total Economy database; Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi Arabian Monetary Agency; IHS Global Insight; US Energy Information Administration; McKinsey Global Institute analysis

CHANGING EXTERNAL AND INTERNAL CONDITIONS THREATEN THE SAUDI GROWTH MODEL

Given the Kingdom's heavy reliance on oil revenue, the sharp fall in oil prices in the second half of 2014 pushed the budget from surplus into deficit. MGI does not forecast oil or commodity prices, but we do see two shifts that could have a significant impact on the Saudi economy over the next ten to 15 years: an evolving global energy market with a changed international competitive environment, and considerable pressures on the labor market at home as six million additional Saudi men and women reach working age by 2030, almost doubling the size of the Saudi workforce assuming historical improvements in participation rates.

Both of these developments threaten the Saudi growth model based on oil revenue and public spending. They will require policy adjustments by the Saudi leadership to avoid a potentially serious decline in living standards, rapid deterioration of the fiscal situation, and rising unemployment.

A changing energy market and a more global competitive environment

After the 50 percent decline in oil prices in the second half of 2014, various forecasters including the International Energy Agency outlined scenarios for a more competitive global energy landscape. Forecasts for oil prices in the medium term range widely from \$50 to \$100 per barrel. Goldman Sachs, for instance, expects that oil prices will "be lower for longer," as a result of the sharp increase in shale extraction in the United States, and as energy producers enter a new exploitation phase, which is typically characterized by low and declining commodity prices.⁴¹ The International Monetary Fund has said that a weak commodity price outlook could be a drag on global GDP growth between 2015 and 2017, and that the slowdown may be more than a cyclical phenomenon.⁴² For its part, in the third quarter of 2015, the Organization of the Petroleum Exporting Countries (OPEC) is assuming that oil prices will rise gradually to \$80 a barrel in 2020 as supply growth weakens.⁴³

The impact on the Saudi economy of a sustained period of oil prices below their 2013 peak would be significant. With oil accounting for about 90 percent of the Kingdom's government revenue and 47 percent of GDP, market shifts quickly feed into the rest of the economy. As a result of the 2014 oil price decline, the Kingdom's budget swung into a deficit of 2.3 percent of GDP from a surplus of 6.5 percent the previous year.⁴⁴ With the lower 2014 level of oil prices persisting into 2015, the IMF has projected continued fiscal deficits for the Kingdom to 2020, including an estimated deficit of about 22 percent of GDP in 2015.⁴⁵

An upcoming demographic "bulge" will create opportunities and challenges

Internally, the Kingdom's development over the coming decades will be marked by a demographic transition that we believe will play an even more powerful role than oil prices in changing the future of the Kingdom. Overall, the population of Saudi nationals is forecast to keep growing at a brisk pace and expand by six million people, to 27 million, by 2030, a 28 percent increase over the population in 2014 (Exhibit 8).⁴⁶ Half of the Kingdom's native population is under the age of 25, and 35 percent is younger than 15. As this young population comes of age over the next 15 years, the Kingdom's demographic profile will shift dramatically. We estimate that the working-age segment will expand by about six million people to 19 million, or more than 70 percent of the total Saudi population. At the same time,

50%

Decline in global oil prices in 2014

6M

increase in Saudi working-age population to 2030

⁴¹ "The new oil order," Goldman Sachs, www.goldmansachs.com/our-thinking/pages/the-new-oil-order.

⁴² *World Economic Outlook*, IMF, October 2015.

⁴³ "OPEC sees oil prices returning to \$80/barrel by 2020," Reuters, September 17, 2015; "OPEC assumes oil price will recover gradually to \$80 in 2020," Bloomberg, September 17, 2015.

⁴⁴ Saudi Arabian Monetary Agency Annual Statistics 2015.

⁴⁵ *World Economic Outlook*, IMF, October 2015.

⁴⁶ Estimates based on overall population growth in line with official forecasts; Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi national census.

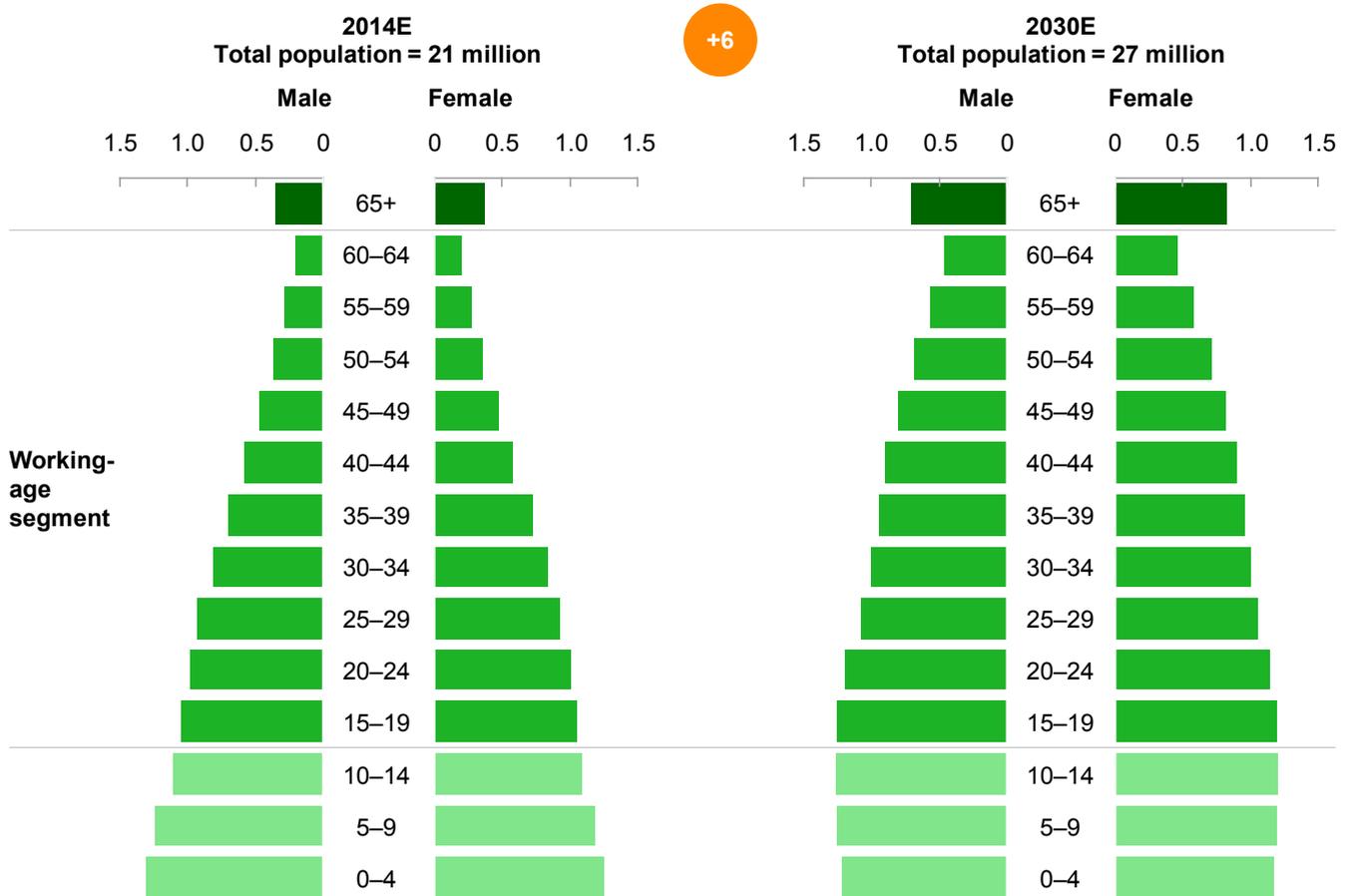
the number of Saudis at or above the current retirement age of 60 could as much as double to 2.5 million, or about 9 percent of the total.

Exhibit 8

The Kingdom will undergo a major demographic transition over the next 15 years, with a growing number of working-age and older Saudis

Age distribution of Saudi population (excluding non-Saudis), 2014E–2030E

Million



NOTE: Estimates based on overall population growing in line with Central Department of Statistics and Information population forecasts, with age breakdown developed via rolling forward current age groups from census and labor force surveys and historical birth rates. Numbers may not sum due to rounding.

SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi national census; McKinsey Global Institute analysis

These demographic trends will present dual challenges of creating more jobs and supporting a larger number of retired workers and older people. Without efforts to encourage greater workforce participation across all segments of the Saudi population including women, youths, and older workers, the country’s economic dependency ratio—the number of people supported by each worker—could rise further. This will place a growing financial burden on individual households and society at large. At the same time, a significant increase in participation—such as the entry of just one more person per household into the labor market—could lift the living standards of the average Saudi family.

This demographic structure, with a young and growing population, could in the short term be a considerable asset and a generator of economic growth. It comes at a time when many nations, both developed and emerging, will experience a decline in their working-age population and a corresponding drop in economic growth unless productivity rises sharply to compensate for the falling birthrate.

Given Saudi Arabia's progress on access to education over the past two decades, this new cohort entering the workforce will be increasingly educated, with the share of workers with a postsecondary qualification such as a vocational diploma or bachelor's degree reaching 43 percent, rising to 77 percent for women in the labor force. Of the eight million working-age Saudis who are not in the labor force, 40 percent are in education or training.

However, the Kingdom's demographic developments also conversely carry the risk of high youth and adult unemployment if these young Saudis are not equipped with skills they can use in the workplace or if their talent and energy do not find an outlet. Youth unemployment in Saudi Arabia among those aged 15 to 24 was already 41 percent in 2013, and youth labor participation was just 14 percent in 2014.

Two trends will determine whether the demographic bulge will be a burden or an asset. The first is the number of these new working-age Saudis who choose to enter the workforce. Based on historical trend increases in participation rates for men and women, we estimate that more than four million working-age Saudis will enter the labor force by 2030, in which case the Saudi workforce would grow by 80 percent, to about ten million. However, if participation rates exceed historical trends in response to changing economic and social conditions or in response to policy changes, the number of new entrants could be even higher. If, for example, labor participation rates rose to the average for G20 and other emerging markets—that is, 76 percent for men and 45 percent for women—the number of Saudis entering the workforce by 2030 would be nearer six million, doubling the Saudi workforce to about 12 million.

The second factor is how many of these Saudi women and men are able to find a job. To employ all of them would require the creation of up to six million Saudi jobs, or more than three times as many jobs for Saudis as the Kingdom created during the 2003–13 oil boom. This will be a major challenge and opportunity, regardless of the future trajectory of oil prices. Success in job creation for Saudis would be a powerful driver of higher average incomes for Saudi households. Failure implies large-scale unemployment or underemployment, and the related social problems that come with those conditions.

TWO SCENARIOS FOR THE ECONOMY TO 2030

Saudi Arabia thus enters choppy waters. If it drifts, the currents could be rough and cause damage; the Kingdom would find itself confronting rising unemployment, declining household income, and a deteriorating fiscal situation. But it could also find a way to navigate through the turbulence in the energy market and absorb the large influx of Saudis into the workforce, generating powerful new growth and prosperity.

To better understand what the impact of these changing internal and external conditions could be, we built a comprehensive and robust economic model of the Saudi economy and tested some scenarios. Our model integrates the economic, labor market, and public finance perspectives. These include the outlook for the economy by sector, labor productivity by sector, the number of workers per Saudi household, wage levels, the percentage of overall labor participation, and the proportion of Saudi nationals in the labor force, alongside a range of fiscal elements such as expenditure, revenue, and debt (for full details, see Technical Appendix at the end of this report).

It should be noted upfront that it is not our objective in this report to focus on the oil sector and its dynamics. That has been widely discussed and analyzed elsewhere.⁴⁷ Rather, we examine how the economy could diversify and grow beyond oil. In our modeling of the Saudi economy, we therefore make two important simplifying assumptions about the oil sector.

⁴⁷ For market forecasts and scenario planning, see McKinsey Energy Insights, www.mckinseyenergyinsights.com.

First, we assume a gradual return to a flat oil price of \$60 per barrel in line with the futures curve as of early October 2015. Second, we assume that oil production will remain flat after 2016.

Our baseline case is that the government will inevitably react to changing conditions. We have not modeled a “frozen state” scenario under which the status quo would extend to 2030, since that would be unrealistic. Indeed, the Saudi government that took office in 2015 has already put in place or announced several new policies addressing issues such as opening the economy further to foreign investment. The government has also resurfaced as a borrower on financial markets after a long break.⁴⁸ We assume for the purposes of this analysis that it will continue to adjust its economic policy as the conditions change.

Consequently, the baseline scenario that we have modeled is for adjustment that we are calling “reactive policy change.” It assumes two major policy responses to the changing conditions the Kingdom is likely to face over the next 15 years. First, we assume that the government will take action in 2016 to contain the large fiscal deficit by halting the growth in public expenditure and freezing public-sector salaries. Specifically, we assume that there will be zero growth in nominal public expenditure between 2016 and 2020, followed by growth in line with economy-wide inflation of about 2 percent between 2021 and 2030. This implies almost no public-sector employment growth over the next 15 years. We also assume that public sector salaries are frozen in nominal terms throughout the entire period from 2016 to 2030. This would amount to a major departure from the oil boom decade when public expenditure grew at an average rate of 14 percent per year, public-sector employment grew by 4 percent per year, and public-sector salaries grew by an estimated 10 percent per year.

These policy assumptions imply large real cuts in public spending over the next five years and real cuts of about 40 percent in public-sector salaries by 2030. This could have an impact on the quality of service provision in education, health, and other government services as well as on the standards of living of Saudi households that depend on public-sector employment. With no new public-sector jobs forthcoming, Saudis seeking employment will need to turn to the private sector.

Second, we assume that the government will take action to limit the number of foreign workers in the Kingdom if the unemployment rate of Saudi nationals rises significantly in the future. Specifically, we assume that the government would increase Saudization quotas by as much as is needed to prevent the unemployment rate of Saudi males rising above 10 percent (from 6 percent today) and that of Saudi women rising above 50 percent (from around 33 percent today). Given the prospect of unemployment that is generated by the economic outlook and the projected increase in the working-age population, we assume that this policy action will come into force by 2020, and that the employment of foreign workers will grow by less than 3 percent per year by 2030. This again would be a major departure from the oil boom decade when the employment of foreign workers grew at an average rate of 6 percent per year. More Saudi nationals will by necessity occupy relatively low-skill and low-paid jobs, given both the lack of alternative jobs in the public sector and the lack of alternatives available to firms.

Despite these measures, economic conditions under this scenario would be insufficient to maintain sound public finances, and Saudi living standards would drop sharply. Overall GDP growth of 3 percent would lead to job opportunities for an additional three million Saudis by 2030. But with the demographic bulge, this would imply a gap of about 1.5 million jobs for Saudis, even assuming a reduction in the growth rate of migrant workforce.

⁴⁸ “Saudi Arabia borrows \$4bn as oil price reality hits home,” *Financial Times*, July 12, 2015.

Unemployment would likely rise in this scenario to as high as 22 percent of the working population, even assuming that the government pursued Saudization more aggressively in response to rising unemployment and that, therefore, Saudis replaced foreign workers in about 800,000 low-paying jobs. Real average household incomes would consequently fall by about 20 percent.

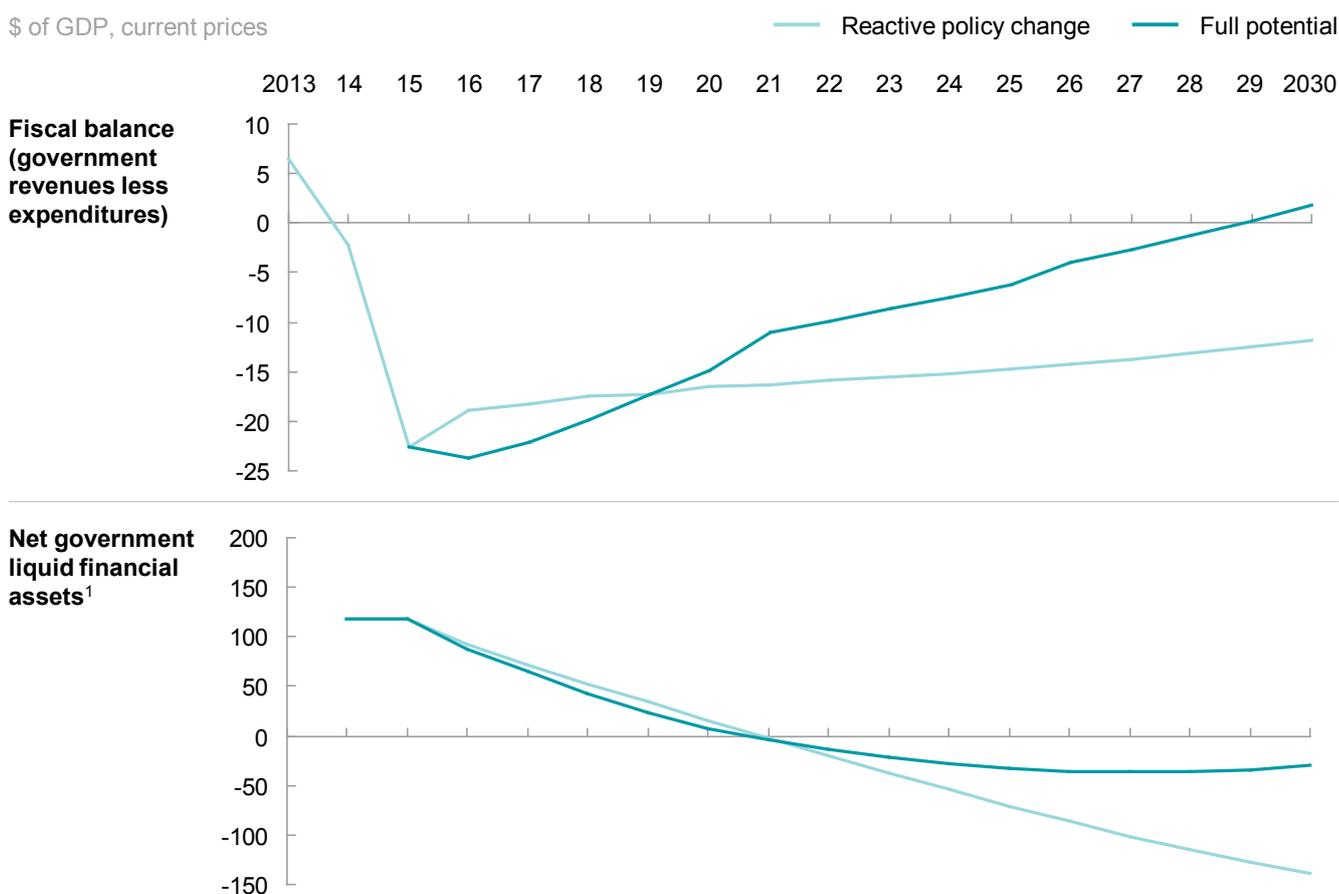
This scenario—if it were to come to pass—would also have serious repercussions on financial stability. The Kingdom has substantial fiscal reserves, the equivalent of its total GDP, and more than \$1 trillion in financial and non-financial assets, including state-owned companies with about one-third the total value of the national stock market. Even so, by 2030, without more comprehensive reform, the government could accumulate fiscal deficits of up to 180 percent of GDP.

The government could seek to finance this fiscal gap through a combination of selling assets, reducing reserves, and taking on debt. However it configured this combination of financing, the Kingdom's balance sheet would deteriorate from a net asset position of 120 percent of GDP today to a net debt position of about 140 percent of GDP in 2030. Moreover, under this scenario, the government would still not be back on a path to fiscal sustainability. It would need to take on additional debt to finance ongoing, albeit declining, deficits that would still be about 12 percent of GDP in 2030 (Exhibit 9).

Exhibit 9

Given changing conditions, fiscal reform will be needed to ensure long-term fiscal sustainability

\$ of GDP, current prices



¹ Reserve assets plus government equity in publicly listed companies less current gross debt and cumulative deficits.

NOTE: Assumptions: For both scenarios, flat \$60 per barrel oil price 2016–30; for "reactive change" scenario only, public-sector wages frozen in nominal terms; no new government revenue levers; slowdown in energy consumption growth to 2% per year.

SOURCE: McKinsey Global Institute analysis

The second scenario we have modeled has far better outcomes. For this scenario, we assumed that the Saudi government would move more aggressively to adapt its growth model to changing times. It would seek to reduce its very heavy dependence on oil revenue and instead would strive for a sharp increase in productivity, which would in turn feed into job creation, domestic income, and government revenue (Exhibit 10).

Exhibit 10

In the face of challenging conditions, Saudi Arabia could still double GDP by 2030 under a full potential scenario

Key outcomes in 2014 and 2030

Constant 2013 prices (assumes \$60 per barrel oil price)

		The Kingdom in 2014	Reactive policy change	Full potential
	Real GDP	\$800 billion	\$1,200 billion 1.5x or 3% compound annual growth rate	\$1,600 billion 2x or 4.5% compound annual growth rate
	Real monthly household income¹	\$3,800	\$3,000 -20%	\$6,000 +60% ²
	Saudis out of work	660,000	2,200,000	800,000
	Unemployment rate¹	12%	22%	7%
	Net government liquid financial assets³	+\$900 billion	-\$2 trillion	-\$600 billion
	Share of GDP	120%	-140%	-30%
	Annual fiscal balance	-\$17 billion	-\$170 billion ⁴	+\$40 billion ⁴
	Share of GDP	-2.3%	-12%	+2%

1 Saudi nationals only and does not include foreign workers.

2 After possible taxes (pre-tax increase is 80%).

3 Reserve assets plus government stock-market equity less gross debt (as of end 2014) minus cumulative fiscal deficits between 2015 and 2030.

4 Excludes interest payments if government chooses to finance deficits with debt.

SOURCE: McKinsey Global Institute analysis

We are calling this the full potential scenario, and we have made sure that none of our assumptions is unrealistic. (Full details are in the Technical Appendix at the end of this report.) We use as targets productivity and labor participation levels that other countries have already reached. Given some of the policy changes it has announced in the past months, including the liberalization of foreign ownership restrictions in retail, taxation on undeveloped land, and the opening of the stock market to foreign investors, the Kingdom is already heading in the general direction that our model indicates, albeit slower than our scenario suggests would be necessary to reach the full potential.

The starting point of our full potential scenario is that productivity becomes the driver of economic growth. This would require considerable investment from a range of sources, both private and public; we calculate the total investment need at about \$4 trillion.⁴⁹ Labor productivity growth in the private sector would accelerate in this scenario to about 5 percent per year on average between now and 2030, raising the overall rate of productivity growth in the economy from 0.8 percent over the past decade to 2.5 percent. The 5 percent rate of growth in the private sector is consistent with what India achieved during its growth spurt between 2003 and 2013 and is half the rate that China achieved over the same period. Labor productivity in the private sector would rise from 180,000 SAR (\$48,000) annually to 430,000 SAR (\$113,000), and the average worker would be more than twice as productive.

In this scenario, the Saudi private sector, which currently employs just 30 percent of the Saudi labor force, would become the Kingdom's major source of Saudi employment, accounting for over 60 percent of Saudi jobs by 2030. As a result of higher productivity, wages for Saudi nationals in the private sector would rise, from an average of 5,000 SAR (\$1,400) per month today to 9,000 SAR (\$2,400) in 2030 after adjusting for inflation, making employment in private companies more attractive and reducing the wage gap with public-sector employees.

A final assumption is that more Saudis would seek employment in the private sector, incentivized by the higher wages on offer. Labor participation by men and especially by women would rise. For men, our analysis assumes the increase would be from the current 65 percent to 76 percent, the average of middle-income countries today. For women, the percentage increase assumed would be much larger, from 18 percent currently to 45 percent in 2030, the rate of Malaysia today, a similarly sized resource-rich country with a majority Muslim population.

The increase in private wages due to rising productivity combined with the entry of about one person from every household into the private sector would raise average domestic non-migrant household income by as much as 80 percent, to 25,000 SAR (\$6,700) by 2030, before tax. Since our scenario also assumes that some taxes would be introduced by then, the actual increase post-tax would be about 60 percent, or about 23,000 SAR (\$6,000). On the employment front, depending on the rate of replacement of migrant workers with Saudi nationals, the needs of the private sector for workers would likely drive employment higher, to the point where Saudi Arabia could experience near-full employment.

⁴⁹ For more details of the calculation, see Box 4 (“\$4 trillion in investment”) in Chapter 3.

On the fiscal side, in the full potential scenario, public-sector spending would continue to grow with inflation but would decline as a percentage of GDP. The government would continue to invest in the Saudi economy, but do so more efficiently and productively, at the same time as finding new sources of revenue that currently do not exist in the Kingdom. We estimate that the growth of the non-oil private sector alone could generate annual revenue of up to 320 billion SAR (\$67 billion) by 2030, enough to compensate for an important amount of lost revenue from oil and to help close a fiscal deficit that could otherwise widen sharply.

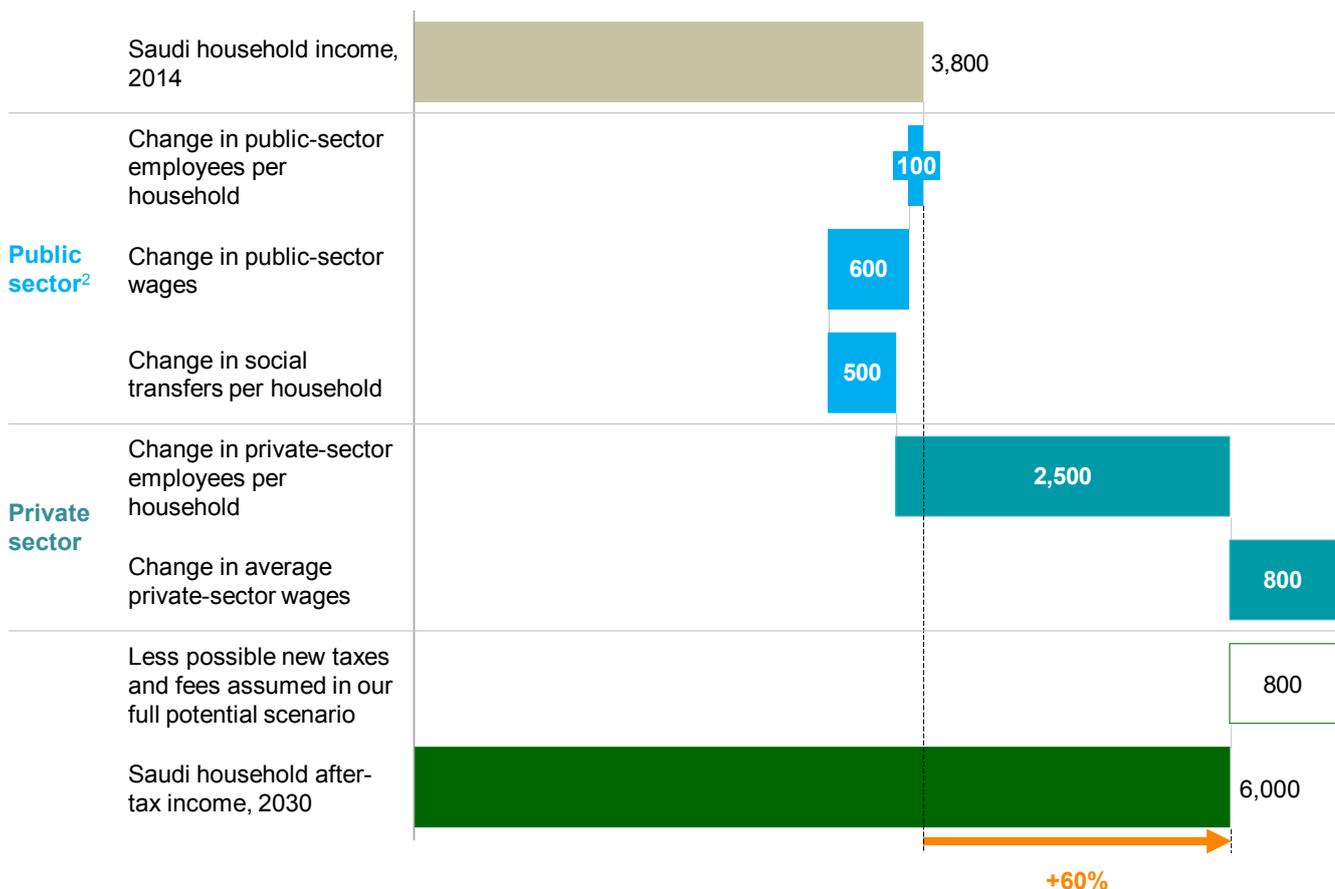
If Saudi Arabia's development were to follow the full potential scenario, our model shows that over the next 15 years, by 2030, the Kingdom could again potentially double its GDP and employ an additional six million Saudis, enough to potentially absorb the large numbers of working-age Saudis who will enter the labor market. The economy overall would flourish, energized by the unleashing of the private sector, which would account for all the gains in employment (Exhibit 11). Alongside the creation of millions of jobs and a doubling of GDP, the Kingdom's finances would prosper anew.

Exhibit 11

All the gains in average Saudi household income under the full potential scenario are driven by the private sector

Change in monthly Saudi household income by source under full potential scenario, 2014–30¹

\$, constant 2013 prices



1 Income figures exclude private investment income due to lack of available data.

2 Public sector includes public administration and defense, education, health, and oil and gas sectors; private sector covers all other sectors.

NOTE: Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute analysis



The 2003–13 decade was one of prosperity and modernization for Saudi Arabia. Saudi households were among the main beneficiaries of increased employment, higher public-sector wages and benefits, and greater access to health and education. Going forward, more competitive energy markets and the expected near-doubling of the workforce by 2030 will create important new challenges for the Kingdom. Even if oil prices were to rise again as high as \$90 a barrel, a transformation would be needed to put Saudi Arabia's economy on a sustainable footing, reduce its overdependence on oil, and, at the same time, break the dependence of Saudi households on government jobs and handouts. Continuing along the present path with only reactive policy changes could lead to an erosion of living standards and fiscal stability. But an alternative approach that boosts both labor force participation and productivity levels at the same time as putting government finance on a more sustainable footing would create far better outcomes, including as much as a doubling of GDP, near-full employment and rising household income. A key element of this scenario is for the private sector to supplant the public sector as the principal driver of growth and jobs. It's a nice model on paper, but could it happen in reality? In the next chapter, we try to answer that question by examining Saudi Arabia's intrinsic potential beyond oil.



The industrial city of Jubail is a center of Saudi industry
© Corbis

2. THE \$4 TRILLION INVESTMENT OPPORTUNITY

In the minds of many, the Saudi economy conjures up just one image: oil. That is perhaps not all too surprising for a country that is the world's second-largest oil producer after the United States, and, as we have seen, one that derives about 90 percent of its government revenue from oil.

Yet Saudi Arabia's intrinsic economic potential goes far beyond oil. The Kingdom has an abundance of rich deposits of metals and minerals including copper and gold that were first discovered some 3,000 years ago. It has long stretches of Red Sea beaches and archeological sites that could become domestic and international tourist destinations, alongside the religious sites of Mecca and Medina. It has a bubbling retail sector and a young middle class that is starting to embrace e-commerce. It has a big domestic market for manufactured consumer goods including automobiles with next to no production or assembly of its own, and yet it has the capacity, raw materials, and abundant energy to make many of the products that could form the basis of a manufacturing sector. Already, it is one of the world's leading players in petrochemicals, a sector that is attracting billions of dollars of investment by foreign companies, including Royal Dutch Shell and China National Petroleum Corporation.

The potential for a resurgent non-oil private sector in Saudi Arabia unquestionably exists, but how big is it? This chapter addresses the size of the potential by looking at eight sectors of the economy that could lead the way, helping to shift the Kingdom's economy from one that is driven by oil and public spending, to a private-sector powerhouse. The sectors are mining and metals, petrochemicals, manufacturing, retail and wholesale trade, tourism and hospitality, health care, finance, and construction (Exhibit 12). In some of these sectors, especially mining and petrochemicals, the state plays a preponderant role that may or may not change. In other sectors, such as retail and tourism, it is the private sector that has the brightest prospects.

This is not an exhaustive list. For example, we deliberately do not look in detail at oil and gas, since this sector has been studied more thoroughly by others than the non-oil sectors we highlight, and we do not expect it to grow as rapidly. We also do not focus on agriculture or utilities, both of which are undergoing significant changes with major shifts in crop mix and a changing energy mix. While these are important sectors, they are largely limited in opportunities for job growth. However, if the full potential scenario is to be realized, there will need to be a multipronged approach that simultaneously addresses all sectors of the economy: tradable and non-tradable, manufacturing, and services.

There will also need to be some very substantial investment, if the opportunity these sectors offers is to be taken up. To meet the full potential scenario, with a productivity-led doubling of GDP by 2030 and the employment of six million more Saudis, we estimate that investment in the order of \$4 trillion will be required. That is about three times the size of investment made in the Saudi economy during the 2003–13 oil boom, which in itself was three times as much as the investment in the previous decade. The government has no debt and huge reserves—about \$700 billion in cash and financial and non-financial assets worth much more than that—but it would still need to attract private capital from abroad and from domestic investors who have their money elsewhere. It would also need a banking system that encourages Saudis to save (see Box 4, “\$4 trillion in investment”).

Exhibit 12

Eight sectors could potentially account for more than 60 percent of GDP and job growth to 2030

■ Services
■ Industry

Potential change in annual GDP, 2014–30 \$ billion, 2013 prices	Compound annual growth rate %	Contribution % of total growth
Travel, tourism, and hospitality 150	11	18
Retail and wholesale trade 100	7	12
Mining and metals 70	6	9
Advanced manufacturing 60	22	7
Banking and finance 50	6	6
Construction 40	5	5
Petrochemicals 30	5	4
Health care 10	4	1
Other ¹ 300	3	38
Total 800	4.5	100

61%

Potential change in Saudi employment, 2014–30 Saudi nationals, thousand	Saudi share %	Contribution % of total growth
Travel, tourism, and hospitality 1,300	90	18
Retail and wholesale trade 800	55	12
Mining and metals 500	66	9
Health care 400	67	7
Advanced manufacturing 300	68	6
Construction 200	39	5
Banking and finance 200	90	4
Petrochemicals 30	46	1
Other ¹ 2,200	81	38
Total 6,000	74	100

63%

¹ Includes agriculture, other manufacturing, communications, utilities, personal services, business services, and real estate.
NOTE: Numbers may not sum due to rounding.

SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi Arabian Monetary Agency; IHS Global Insight; McKinsey Global Institute analysis

Box 4. \$4 trillion in investment

Previous MGI work has established a strong empirical relationship between a country's investment rate and its growth rate. We call this the "rule of 2.5." In essence, this rule stipulates that it takes additional investment of 2.5 percentage points of GDP to bring about each additional 1 percent of GDP growth.¹ We have used this formula as the basis of our calculation of Saudi Arabia's \$4 trillion investment needs.

To understand the linkage between investment and growth, you need to look at the capital-output ratio, the ratio of a country's stock of physical capital assets to its GDP. For most countries, this ratio is between 2 and 3. Using this ratio, we can do a rough calculation of how much investment an economy needs to support growth. Each percentage point of additional GDP growth requires additional investment of 2.5 percentage points of GDP if the capital-output ratio is to be held at a constant 250 percent. This implies that countries that grow faster than others need higher rates of investment, in the same way that a growing company needs to invest more.

In addition to investment for growth, countries—like companies—must maintain their current capital stock as it depreciates. Economists estimate a depreciation rate of 5 to 6 percent annually for physical capital, which implies an annual investment of roughly 14 percent of GDP to renew assets as they become obsolete or unproductive (assuming the country's capital-output ratio is 250 percent). Putting these two figures together provides a rough estimate of what a country's investment rate will be.

How solid is the rule of 2.5 in this digital era? Digital is certainly a transformative new element in the global economy, and digital industries are often less capital-intensive and have a higher return on invested capital than traditional industries.² For now, it remains unclear what impact the trend toward increased digitization will have on the 2.5:1 ratio we have established for investment and GDP growth.

In Saudi Arabia's case, while digital technology does have a role to play in the full potential scenario, including by enabling the productivity-driven modernization of retail and wholesale trade, there remains a continuing need for capital-intensive investment such as transport infrastructure, housing, mining, petrochemicals, and other manufacturing. Residential and commercial real estate typically also require substantial investment.

To bolster our top-down calculation using the 2.5 rule, we have also done a bottom-up analysis of the investment needs of different sectors of the Saudi economy. We see particularly strong needs for investment in transport infrastructure, mining, and manufacturing, which could create new engines of economic growth, and in hard infrastructure across utilities, housing, health care, and education. We also expect continuing high levels of investment in oil and gas to maintain the existing capital stock and sustain sector size in real terms.

For transport alone, we estimate investment needs of about \$450 billion. This includes rail and metro infrastructure and bus transit development of about \$200 billion, construction of highways, roads, and connecting infrastructure of about \$130 billion, and airport and seaport infrastructure of about \$100 billion.

In manufacturing, we have identified investable opportunities across important subsectors including transportation equipment (for example, rolling stock and rail components), industrial equipment (pumps, valves, and compressors), and health care (hospital beds, imaging devices, and pharmaceuticals).

¹ *Farewell to cheap capital? The implications of long-term shifts in saving and investment*, McKinsey Global Institute, December 2010.

² For a discussion of the transformative nature of digital to global competition, see *Playing to win: The new global competition for corporate profits*, McKinsey Global Institute, September 2015.

Box 4. \$4 trillion in investment (continued)

In mining, we estimate investment needs exceeding \$200 billion. This includes more than \$100 billion in new project investment opportunities in phosphate, aluminum, bauxite, and other minerals, in addition to another \$100 billion in investments in existing capacity.

The utilities sector in Saudi Arabia is expected to undergo massive capacity growth in the next 15 years including more than 30 gigawatts of traditional power capacity, significant amounts of renewable energy (mostly solar), and also new water and desalination capacity.

We also expect significant construction of housing and commercial space over the next 15 years. The housing shortfall is widely estimated to be about 500,000 units. In addition, commercial and economic cities under construction, including the King Abdullah Financial District and the Prince Abdulaziz bin Mousaed Economic City, will likely continue to drive investment for much of this period.

The hospital system is set for significant expansion against the backdrop of the growth in the aging population and the rising prevalence of non-communicable diseases such as diabetes. The next 15 years will likely see a sizable increase in capacity in public and private hospitals as well as the number of primary health-care centers as the Kingdom seeks to catch up to regional and OECD benchmarks for health-care access and per capita spending on health. This buildup in physical infrastructure will require investment of more than \$30 billion, and about the same amount will be required to expand capacity and refresh the current installed base.

Similarly, education is in the midst of an expansion, and the Ministry of Education has a large pipeline for new physical infrastructure. Many of these projects have yet to break ground. In addition to the new infrastructure, we estimate that Saudi Arabia's education system will require about \$30 billion in investment over the next 15 years to maintain and upgrade existing facilities.

Where could Saudi Arabia turn for the sources of this investment? The Kingdom would likely have no difficulty tapping capital markets, given that currently it has virtually no debt and several trillion dollars in financial and non-financial assets, including holdings in listed companies worth one-third of the total value of the national stock exchange and about 50,000 square kilometers of land, as well as its vast oil reserves.

At the same time, the logic of our full potential scenario is that Saudi Arabia would be able to attract even larger amounts of private capital than it does today. Overall investment grew threefold in the 2003–13 decade, to about \$1.6 trillion, with more than half of that coming from private sources. The Saudi government provided 43 percent of the total.

Foreign direct investment during that decade rose sharply to \$300 billion, with an important proportion of the money being invested in petrochemicals.

Going forward, a fast-growing private sector including international investors could continue driving the growth in investment. The government will need to fast-track the development of debt capital markets and launch bonds specifically to finance major projects such as infrastructure, mining, and utilities. These bonds would need to be accessible for both local and international investors, to help create further investment and saving opportunities. Saudi investors who have placed their money abroad could be encouraged to invest more at home. Moreover, there would be an important role for the Saudi financial sector, to help orient Saudi households away from immediate consumption into longer-term savings that could then be reinvested in the economy.

A more robust mortgage market could also enable Saudis to finance home buying. For now, mortgages represent just 23 percent of retail loans, a relatively small proportion by international standards (see the finance sector later in this chapter for more detail).

It is not just a question of money. Even \$4 trillion will not be enough to unleash Saudi Arabia's intrinsic potential if some essential preconditions are not met. To drive the sort of productivity growth that will be required, a country needs the energy resources, the low cost of capital, and the increasingly modern infrastructure that Saudi Arabia already has. But it also needs a skilled, qualified, and productive workforce and a system to value, nurture, and train human capital that includes women. It needs to be an open market with easy access and have an efficient bureaucracy that can speed up such essential tasks as processing visas, exploration licenses, and the passage of shipments through customs. It needs a favorable regulatory environment and a legal system that inspires confidence. It needs more and even better infrastructure to connect remote mining communities, access possible tourist destinations, and speed up delivery times for online retail. It needs to embrace modern formats, best practice business processes, and state-of-the-art technology, machinery, and equipment. In this chapter, we will examine the Kingdom's potential.

In the following one, we will look at the factors that could make that potential become a reality—or stand in its way.

Very substantial investment will be needed if the opportunity offered by these sectors is to be realized.

MINING AND METALS: TAPPING RICH VEINS AND SEAMS, PROCESSING THE RESOURCES

Mahd ad Dahab mine is

3,000
years old

In the Precambrian rocks on the western side of the Arabian Peninsula are substantial potential deposits of metallic and non-metallic minerals, including precious and base metals. Saudi Arabia also has major phosphate and bauxite resources, which could be coupled with the Kingdom's energy resources, as well as high-quality silica, gypsum, limestone, kaolin, and magnesite, for use as fertilizers as well as in construction, transportation, and packaging.

This mineral and metallic wealth presents a major opportunity for the Kingdom to develop both additional resource sectors and manufacturing sectors based upon these minerals, in a manner that would boost productivity, contribute to a rise in private-sector growth, and create new employment opportunities.

While the reserves are potentially ample and have long been known about—mention of rich gold mines can be found in texts from the Abbasid Caliphate (750–1258 CE), and one working mine, Mahd Ad Dahab, dates back more than 3,000 years—the Kingdom's mining and metals sector is still largely underdeveloped. Modern, commercial-scale development began in the 1950s, and until the 1990s the main focus was on import substitution of cement and steel. Today, the combined GDP of the extraction and manufacture of these resources is estimated at 78 billion SAR (\$21 billion), equivalent to more than 2 percent of total GDP.⁵⁰ Approximately one-quarter of the total is in upstream mining, while three-quarters is in activities further downstream, that is, in the production of metals, mineral-based products, and inorganic compounds. The sector overall currently employs about 260,000 people, predominantly in downstream mineral processing and metal fabrication.⁵¹ For now, most of these jobs, particularly in the non-metallic mineral processing and metal fabrication sectors, are low value-added positions held by foreign laborers. However, Ma'aden, the national champion, employed more than 4,000 Saudis in 2014 and may raise

⁵⁰ Sector GDP calculated as a sum of coal mining, mining or metals, quarry, basic industrial chemicals, fertilizers, paints and varnishes, mineral-based products, basic metals, and fabricated metals; IHS Global Insights.

⁵¹ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning, 2010 numbers.

the total to more than 8,000 by 2022, as part of a planned 13,000 increase in the size of its workforce. It currently has a Saudization rate of 65 percent.⁵²

To date, the majority of mining, including of gold, phosphate, and bauxite, and basic manufacturing such as steel, aluminum, and cement, has been led by companies that are fully or partially government-backed.

Ma'aden is the largest player. It was created by royal decree in 1997 and partially privatized in 2008.⁵³ The company is active in phosphate, aluminum, gold, and select industrial minerals, and has revenue of about 10.8 billion SAR (\$2.9 billion) and total assets of 84.5 billion SAR (\$22.5 billion).⁵⁴ These figures are expected to grow with new projects in the pipeline, including the Wa'ad Al Shamal phosphate project in the northern region. As the largest industry player, it is likely to play a key role going forward as the sector develops. But there is also room for private-sector players. For now, they have driven downstream manufacturing, which is highly disaggregated. Thousands of small private-sector players operate in such activities as the fabrication of copper wire, aluminum products, and brass fixtures.

Should the Kingdom take the necessary steps to develop the mining and metals sector, including more spending on mineral exploration and efforts to develop a competitive ecosystem, we estimate it could triple in GDP and potentially create hundreds of thousands of new jobs.⁵⁵ Due to the rural location of most major mines and the potential for job creation around them outside of the major cities, mining could also prove to be a significant driver of regional economic development.

Exploiting the potential

The Kingdom has three primary strengths that it can exploit to maximize the potential of the mining and metals downstream sector.

- **Abundant local mineral potential.** Saudi Arabia has discovered 48 commercially important minerals across the country, in more than 2,400 sites.⁵⁶ The Kingdom has a world-class phosphate resource totaling almost 2.2 billion tonnes and ample resources of precious and base metals in the Arabian Shield, including almost 15 million ounces of gold.⁵⁷ A bauxite resource in the center of the country is unique in the region. Furthermore, there are plentiful resources of industrial minerals including high-quality silica, gypsum, limestone, kaolin, and magnesite. These resources create a large upside potential for industry, for two reasons. First, Saudi Arabia is moving rapidly toward developing mines for large-scale deposits; in the past five years alone it has discovered 21 new gold deposits and four significant copper deposits.⁵⁸ Second, Saudi Arabia has an opportunity to increase its resource extraction rate (that is, mine more each year), given its track record of new discoveries. If Saudi Arabia were to ramp up production to meet global benchmarks for extraction, it could increase its rate of material extraction by two to three times (Exhibit 13).

15M

Saudi Arabia's
gold resources,
in ounces

⁵² Ma'aden annual report 2014.

⁵³ The company is publicly listed, but the government owned 67 percent of the equity as of March 2015; Zawya.com.

⁵⁴ Ma'aden Financial Report 2014.

⁵⁵ For the assumptions we use for this and the other sector calculations in this chapter, see the Technical Appendix.

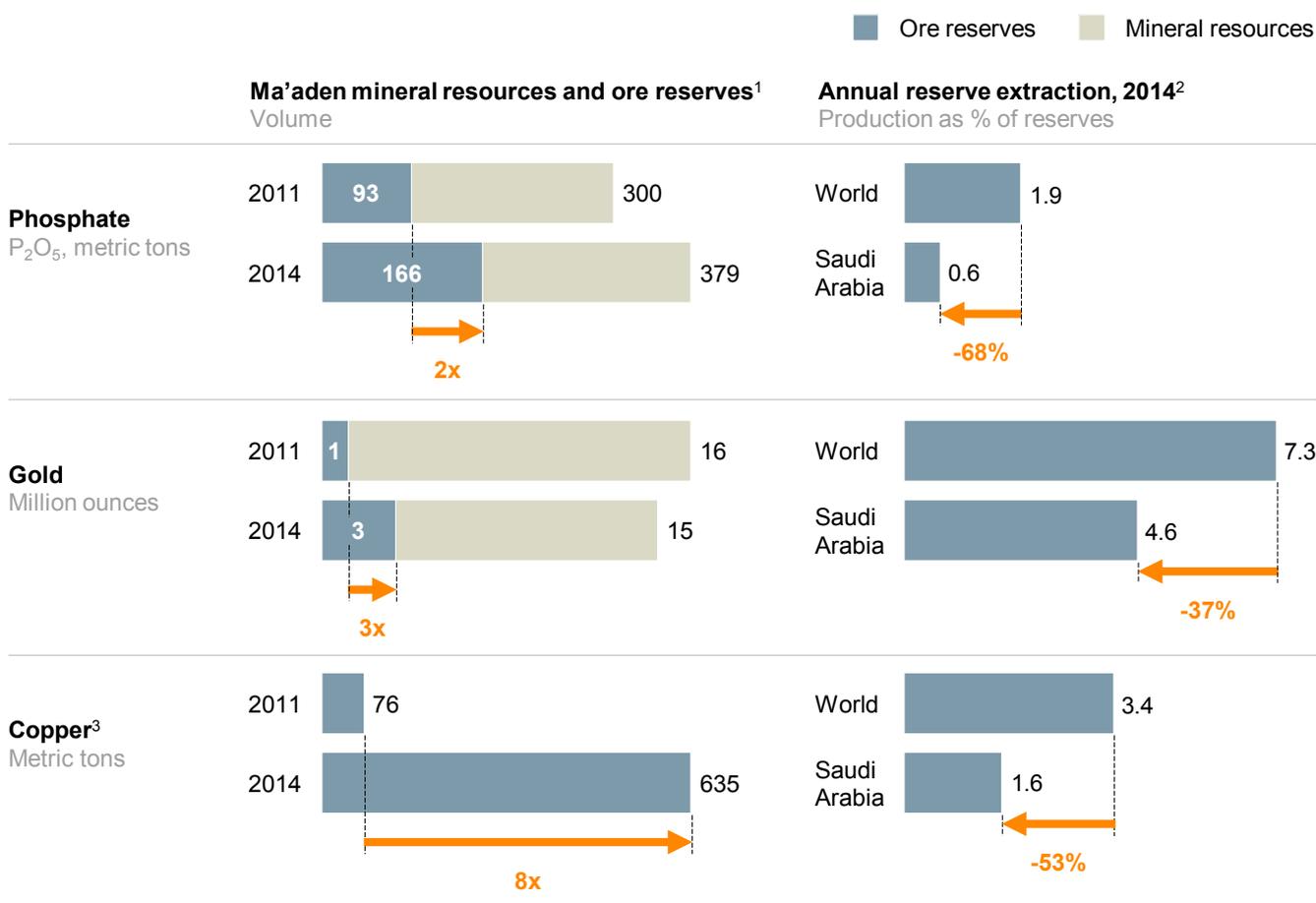
⁵⁶ Saudi Geological Survey 2014.

⁵⁷ Ma'aden annual report 2014.

⁵⁸ "Saudi Arabia discovers porphyry copper for the first time," Akhbaar24.com, May 19, 2015; "Geological Survey: We have found 6 gold resources and other copper ones," *Al Hayat*, February 22, 2014; "Discovery of 15 gold resources in Madina and 11 entities refuse to invest in them," Okaz.com, April 23, 2011.

Exhibit 13

In mining, recent large increases in reserve discovery and low extraction ratios indicate the sector's potential



1 As reported in annual reports; resources and reserves reported in terms of metal content.
 2 Saudi annual extraction benchmarked against the average of top five producers of each material.
 3 Data on copper mineral resource not readily available; growth in reserves a result of acquisition, not discovery.

SOURCE: Ma'aden annual reports, 2011, 2014; US Geological Survey; McKinsey Global Institute analysis

- Local demand.** Unlike many other mineral producers, Saudi Arabia benefits from high levels of domestic demand. This potentially enhances the competitiveness of its resource sector by having mines and downstream sectors serve the local market. The rapidly growing population and resultant need for real estate and infrastructure create a natural market for a range of mineral products. Steel and cement are the most obvious sectors affected, but this is also the case for dimension stones (granite, marble, limestone) as well as ceramic products such as wall and floor tile.

For now, local demand has often outstripped local production in many commodities. For example, Saudi Arabia produced less than 100 million square meters of ceramic floor and wall tiles in 2012, but that was not enough to cover local demand. As a result, the Kingdom imports nearly two-thirds of wall and floor tiles, making it one of the top importers in the world by volume, just behind the United States.⁵⁹ In 2013, ceramic wall and floor tile imports totaled more than \$650 million.

⁵⁹ UN Comtrade.

In steel, local production grew at 4 percent per year between 2004 and 2013, while imports grew at 9 percent annually during the same period.⁶⁰ Market sources estimate that Saudi steel demand could grow from 13.5 million tonnes in 2012 to 20 million to 25 million tonnes by 2030, given the growth in the construction, oil and gas, and manufacturing sectors. This growth offers Saudi Arabia the opportunity to add approximately 15 million to 20 million tonnes of crude steel capacity to meet the increasing domestic demand (Exhibit 14).

The government could also seek to spur growth in demand for Saudi-made metallic and non-metallic mineral products. This could happen in the construction industry, where the government plays a central role through its funding of large-scale projects. For example, the Kingdom imported 55 percent of steel products in 2013 (by volume), even though it could potentially build up its own domestic industry.

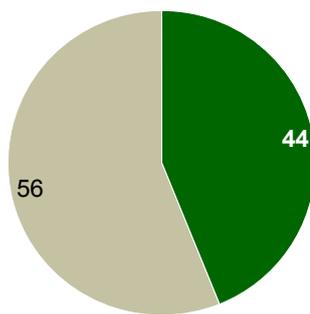
Exhibit 14

The Kingdom has the potential to produce more metals and non-metals to meet domestic demand

Saudi Arabia only produces a fraction of its domestic demand by volume today across key products ...

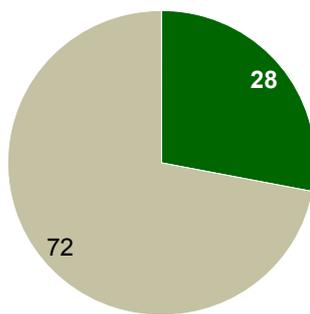
Product volumes, 2013
%

Steel
100% = 12.1 million tonnes



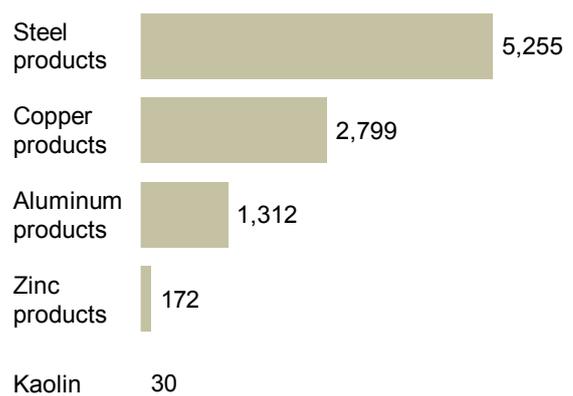
■ Domestic production ■ Imports

Kaolin
100% = 233,000 tonnes



...leading to local opportunities for the Kingdom, particularly in steel, copper, and aluminum

Net imports, 2013
\$ million



SOURCE: UN Comtrade; Ma'aden annual report, 2014; US Geological Survey; McKinsey Global Institute analysis

- Low energy costs.** Saudi Arabia's cheap energy—currently in oil and gas, and potentially in solar energy—and gas feedstock is a major competitive advantage for the second stage in a number of value chains, especially in aluminum and phosphate. Energy typically is the largest cost component in making aluminum, which requires approximately 14 megawatt-hours of electricity per tonne. Similarly, the solid economics of Saudi Arabian granulated phosphate fertilizer relies on low-cost ammonia, and to a lesser extent on sulfuric acid that is derived from sulfur, a by-product of the oil and gas industry. Energy is also important in other mining value chains such as copper, steel, and zinc, although to a lesser extent.

⁶⁰ *Steel statistical yearbook 2014*, World Steel Association, 2014.

Creating a competitive ecosystem

The Kingdom's mining sector requires the development of a competitive ecosystem to thrive. This involves a range of large and small interventions to make it easier for companies to operate profitably in the sector, including greater participation by domestic and foreign private-sector players.

- **Exploration and licensing.** For the mining and metals sector to reach its potential, the Kingdom will first need to have a clearer idea of the resources at its disposal. Spending on mineral exploration in Saudi Arabia exceeded \$50 million in 2014, nearly ten times the amount a decade earlier, but it remains small relative to global exploration budgets estimated at \$21 billion in 2013 for non-ferrous metals.⁶¹ One point of comparison is Kazakhstan, which has announced plans to spend almost \$1 billion on exploration.⁶² Given the size of the land areas involved in Saudi Arabia and the expectation for large-scale discoveries, Saudi Arabia would need to ramp up exploration spending significantly to create the potential for large-scale discoveries, particularly of precious and base metals. Saudi Arabia will also need to codify its geology into a national geological database and make it more accessible to potential investors.

Any growth in mineral exploration spending would require significant geological, geophysical, and geochemical expertise that is currently in short supply in the Kingdom. To spur higher private-sector spending on mineral exploration, Saudi Arabia could actively promote its rich mineral resource endowment and encourage foreign participation in the exploration of precious and base metals. Saudi Arabia could also consider a state-backed mineral exploration fund that would drive increased spending by the private sector. One of the major bottlenecks today is exploration licensing. Average exploration licensing time will need to be reduced; mineral exploration licenses currently take years to acquire, whereas best practice turnaround time is only two to three months. In Ontario, for example, exploration regulations stipulate that a decision needs to be made within 50 days.⁶³ Similarly, Saudi Arabia could revisit its mining law to allow for a more liquid market for discoveries and more attractive exploration introducing “farm in/out” practices for mining licenses.

- **Financing.** One reason for the limited exploration to date is the difficulty that domestic exploration companies can have in accessing financing. Smaller, junior companies that rely on equity financing, unlike larger intermediates and majors that rely on revenue, are often unable to undertake certain projects because of a lack of financing.⁶⁴ The Kingdom could look abroad to find a solution to this issue. Peru, for example, has developed an indigenous stock market for secondary listings by mining juniors focused on exploration. A potential interim solution for the Kingdom might be to establish a state-backed financing vehicle until sufficient private-sector participation can be achieved, potentially through reform of stock market listing requirements.
- **Energy allocation.** Growth in aluminum, steel, copper, and zinc smelting and in phosphate (among others) will require large-scale allocation of electricity and fuel resources, such as natural gas, at competitive prices. Currently the energy pricing system in the Kingdom distorts the market, focusing both electricity and fuel on household consumption and away from productive industry. Reallocation of energy to these industries would generate higher returns in terms of job creation over competing industries, particularly given that mineral resources have longer in-country value chains and non-energy-driven competitiveness.

⁶¹ SNL-MEG Webplatform (SNL Metals & Mining).

⁶² Cole Latimer, “Kazakhstan allocates \$950 million to exploration program,” *Australian Mining*, May 15, 2014.

⁶³ Ontario Regulation 308/12, www.ontario.ca/laws/regulation/120308.

⁶⁴ *Corporate exploration strategies 2013*, SNL Metals Economics Group, October 2013.

- **Talent.** A rapid growth in employment in the sector in the future would create both an opportunity and a challenge for Saudi Arabia. The Kingdom would need to make significant investments in education for mining and metallurgical-based programs including mineral-focused geology, mining engineering, and metallurgy. Currently fewer than 200 geologists graduate each year in Saudi Arabia, with many going to the oil and gas sector rather than to metals and mining. The Kingdom could expand its vocational schools to create a cadre of operators and technicians to ensure broad-based Saudi participation in the sector. These human capital challenges are further compounded by the remote location of most of the mining industry. Not only is there greater scarcity of talent in these areas but jobs in these regions are also less attractive than jobs in larger cities or industrial towns.
- **Infrastructure.** Large-scale opportunities create a challenge and an opportunity for infrastructure development. The remote location of many mine sites will require sizable infrastructure investments if the mines are to be better connected to the broader economy. A cluster-based infrastructure development strategy wherever possible could reduce costs per mine, enabling more rapid development.⁶⁵

PETROCHEMICALS: FUNCTIONAL EXCELLENCE AND A REBALANCED PRODUCT SLATE

Petrochemicals are a fast-growing and increasingly important industry for the Kingdom, accounting for about 10 percent of total exports and two-thirds of non-oil exports.⁶⁶ Over the next 15 years, Saudi Arabia has an opportunity to increase the value added and global competitiveness of the sector, generating additional export revenue and potentially creating thousands of jobs. This will require a push to achieve functional excellence in manufacturing operations, marketing and sales, supply chain, and execution of capital projects, as well as the production of more complex downstream petrochemical products in line with local market demands.

Petrochemicals account for about 3.5 percent of Saudi GDP, and the sector grew at an average of more than 10 percent per year during the 2003–13 decade. Exports of petrochemical products increased from just under 42 billion SAR (\$11 billion) in 2003 to more than 144 billion SAR (\$38 billion) in 2013.

The Kingdom is already competitive in world markets, largely thanks to its low raw materials prices including for gas feedstock. Today, four of the world's 20 largest ethylene complexes are in Saudi Arabia, including the third-ranked Petrokemya plant at Al Jubail in the Kingdom's Eastern Province. With revenue of almost 200 billion SAR (\$50 billion) in 2014, more than double the amount a decade ago, Saudi Basic Industries Corporation, which is 70 percent state-owned, in 2014 was the fifth-largest chemicals company in the world, behind China's Sinopec, BASF, Dow Chemical, and ExxonMobil, although it dropped from third place the previous year, in 2013.⁶⁷ The sector now employs an estimated 40,000 workers, the vast majority of whom are low-skilled migrant workers. About 8,000 SABIC employees are Saudis earning average salaries of about 17,000 SAR (\$4,500) per month.

Petrochemicals production is projected to continue growing to 2030 in line with global demand, at a pace of about 3 percent per year.⁶⁸ This assumes the addition of new petrochemical plants, as well as increasing integration between the plants and refineries. Some of the capacity is already being added; for example, one of the world's largest

SABIC ranks
5TH
among world's
petrochemical
companies

⁶⁵ For more details, see *Reverse the curse: Maximizing the potential of resource-driven economies*, McKinsey Global Institute, December 2013.

⁶⁶ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi Arabian Monetary Agency; UN Comtrade; World Bank.

⁶⁷ "Billion dollar club Sinopec grabs top spot," *Chemical Week*, October 12, 2015.

⁶⁸ ICIS industry forecasts.

chemical complexes is being constructed in Jubail Industrial City by Sadara Chemical Company, in a joint venture with Dow Chemical.

Much of the past growth has been supported by input regulations, with gas feedstock at a nominal price of about \$0.75 per million British thermal units (mmBtu). This is between 10 percent and 40 percent of feedstock prices in the United States after the shale boom, and is 5 to 10 percent of the prices in Europe.

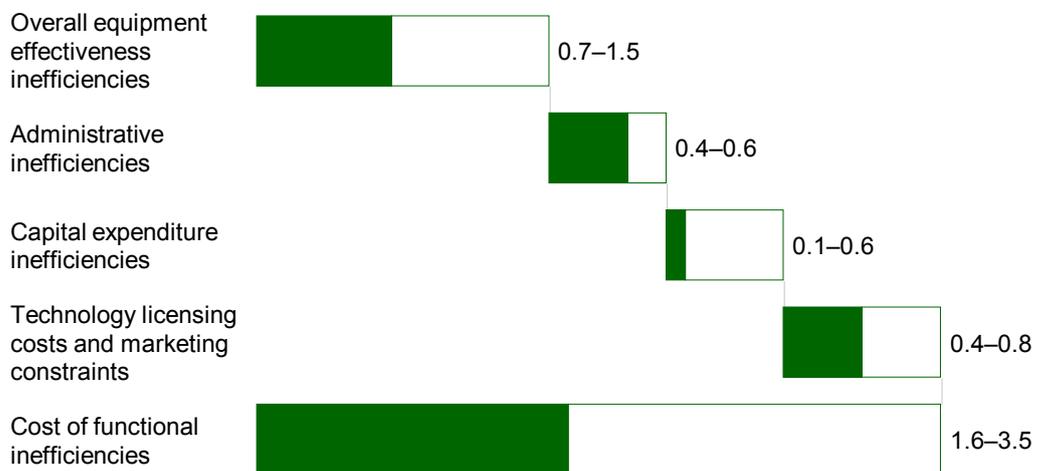
This nominal cost advantage is eroded by operational inefficiencies, higher-than-average operating and capital expenses, technology licensing fees for foreign partners, and related marketing restrictions (Exhibit 15).

Exhibit 15

Saudi Arabia's advantage in low-cost feedstock is weakened by various controllable factors that raise costs

Estimated cost impact

\$ per mmBtu



SOURCE: US Energy Information Administration; World Bank; McKinsey Global Institute analysis

To compare the impact of these controllable factors to the impact of input regulations, we articulated our estimates in the same units as the price of gas, in US dollars per mmBtu, as compared with best in class global petrochemical companies in the United States. Overall inefficiencies and additional costs in Saudi Arabia put the costs for petrochemical players in the Kingdom at \$1.60 to \$3.50 per mmBtu higher. This is between two and five times as much as the price of gas as established by the regulator, and it puts the Kingdom almost on a par with the United States (post-shale boom) in terms of investment attractiveness in upstream performance, albeit still ahead of Europe.

The Kingdom could remain competitive and create a high netback from feedstock if the industry focuses on overall cost competitiveness and targets higher value and higher margin products downstream—keeping in mind that the downstream products need to be aligned with local demand, as well as with the technology and application know-how of producers.

We estimate that a drive toward functional excellence, along with a shift in strategy to align the Saudi petrochemicals product mix more closely to the global product mix, could increase the petrochemicals sector's GDP by up to \$30 billion and create as many as 30,000 additional jobs that could be attractive to Saudis, including technical ones in maintenance and transportation.

10%

Petrochemicals' share of Saudi exports

Promoting functional excellence and capability building

We estimate that greater functional excellence in the sector could significantly increase revenue and margins without additional allocations of feedstock. Currently, many assets tend to operate below capacity and the industry average for effectiveness of equipment. They can also endure frequent shutdowns because of the lack of world-class manufacturing capabilities and infrastructure. Capital expenditure costs are generally higher than for global competitors such as the United States and China, and a lack of dedicated project management capacity and capabilities can lead to project delays.⁶⁹

To stay competitive globally, the chemicals industry will need to match the best practice operations established by companies in more mature markets that have already upgraded their operations in response to competitive pressures. Key areas of improvement are manufacturing excellence, marketing and sales, research and development, procurement, and human resources.

For example, manufacturing excellence programs that identify ways to improve plant reliability and throughput can help drive down fixed and variable costs and improve margins. Upgrading the skills of marketing and sales departments can lead to more detailed understanding of markets and customers, more effective allocation of marketing resources, and more sophisticated pricing algorithms, all of which can increase sales and margins.⁷⁰ To attract talent and build internal capabilities will require some initiatives, including working with Saudi education providers to ensure that vocational training is geared toward producing the skilled manpower required. At the same time, the Kingdom could launch global talent attraction programs to bring in experts who have driven similar programs in more mature markets. Saudi companies could also explore models beyond joint ventures to acquire capabilities in-house, for example, acquisitions, partnerships, and technology transfers.

We calculate that this upgrading of petrochemicals operations to functional excellence could increase the sector's potential impact on Saudi 2030 GDP by 13 billion to 27 billion SAR (\$3.5 billion to \$7 billion), because of higher sales and lower imports, with manufacturing excellence and marketing and sales contributing the largest gains. These improvements could add up to 6,000 new Saudi jobs, especially in manufacturing areas, supply chain, and product development.

Increased integration and a changed product mix

The Kingdom has room for greater integration between its oil refining and petrochemical sectors, via further building of petrochemical plants at refining sites, and is already moving in this direction. For example, the construction of the Sadara complex and Phase II of the Petro Rabigh project 150 kilometers north of Jeddah will double the share of ethylene produced in integrated sites. Going forward, an even greater focus on large integrated sites in which chemicals investments are integrated with refineries can significantly improve refinery economics and enable the Kingdom's producers to compete more effectively with gas-based projects in the United States.

⁶⁹ IHS Chemical (IHS PEP), 2012.

⁷⁰ *The GCC chemical industry: Maintaining global competitiveness in a changing environment*, Gulf Petrochemicals and Chemicals Association, November 2014.

The scarcity of additional cheap gas will require more liquid feedstock processing. This will be an opportunity to upgrade the sector's product mix. For now, the Kingdom's petrochemicals sector largely focuses on transforming ethylene and propylene into basic molecules like polyethylene and polypropylene. Further conversion along the value chain into more complex derivative products could increase the value added of the sector and boost employment. While the chemical industry in Germany and the United States produces 60 to 70 percent of the basic single-step conversion products such as polyethylene and monoethylene glycol, this ratio reaches up to 98 percent in Saudi Arabia. The Kingdom could generate more value by transitioning from these simpler products to a more sophisticated product mix.

Based on a high-level opportunity scan across more than 100 molecules, we estimate that about 35 molecules could yield an internal rate of return greater than 15 percent, and at the same time boost margins sufficiently to justify channeling ethylene away from single-step conversion products. Such a program would require \$15 billion to \$25 billion in investment by 2030 and could result in additional GDP of 20 billion to 40 billion SAR (\$5 billion to \$10 billion), with the possible addition of 10,000 to 20,000 jobs. To realize this potential, an export-oriented industrial base would need to be developed in Saudi Arabia, similar, for example, to the textile industry in Turkey.

For sector leaders and policy makers who play a role in setting the strategic objectives of this largely government-owned sector, a key consideration will be the possible trade-off between value creation and job creation. Labor-intensive molecules tend to generate lower returns. Given that the sector is not a major employer and that this is unlikely to change even if greater integration takes place, the Kingdom should consider moves further down the value chain only when the overall business case is sound.

Moreover, there is a large capability gap that needs to be filled. Over the next decade, the Kingdom is planning to add more than Germany's current total existing ethylene and propylene capacity. However, it will produce just 10 to 20 percent of the number of chemical engineers Germany is expected to graduate over the same period.⁷¹

MANUFACTURING: BRINGING GLOBAL INNOVATION TO THE SAUDI MARKET

Saudi Arabia is a sizable import market for a range of manufacturing, including automobiles and electrical and mechanical machinery, but along with other countries in the region, its needs are supplied from abroad. Longer term, the Kingdom may want to strive to develop its own global innovation for local markets sector, including automotive and transport equipment, electrical equipment, and machinery.⁷²

Manufacturing in Saudi Arabia today contributes only about 10 percent of GDP.

Nurturing a manufacturing ecosystem that is a prerequisite for such a strategy can be risky and controversial, and it often requires government incentives. The Kingdom has long sought to develop an industrial strategy, with mixed results (see Box 5, "Building a manufacturing sector in Saudi Arabia").

⁷¹ Tecnon OrbiChem (www.orbichem.com/default.aspx) and German Federal Statistical Office.

⁷² The global innovation for local markets segment is defined by MGI as a sector where R&D is done globally but production is operated on a regional basis, either due to high transport costs or other benefits from being close to final markets. For Saudi Arabia, this is done in four segments: automotive; other transport equipment; electrical machinery; and machinery, equipment, and appliances.

Box 5. Building a manufacturing sector in Saudi Arabia

Manufacturing in Saudi Arabia today directly contributes only 10 percent of total GDP, a share that has been relatively flat for more than two decades. While that is on a par with the contribution of manufacturing in some advanced economies such as the United States and the United Kingdom, it is below the average of 20 percent of total GDP in other major developing economies such as Brazil, India, Indonesia, Mexico, Thailand, and Turkey.¹ Moreover, the Kingdom's manufacturing base is very narrow and dominated by low value-added segments that are dependent on and often only a few steps removed from the oil sectors.

The country's history in part explains the atypical evolution of manufacturing. Reflecting its large natural resource endowment, which was discovered in the late 1930s, Saudi Arabia's manufacturing sector did not develop outside resource-intensive industries. Classic "Dutch disease" effects made it difficult to build competitiveness in non-oil export sectors.² The second oil boom from 2003 to 2013 further reduced the competitiveness of the sector and constrained its development.

Despite this underlying reality, diversifying the Kingdom's economy and growing the manufacturing sector has long been a government priority. Considerable efforts and resources have been invested over several decades. The current National Industrial Strategy announced in 2009 aims to increase manufacturing's share of GDP to 20 percent by 2020, double its share currently. However, the continued dominance of oil, the failure of some past initiatives, and the relatively high input costs have led to skepticism about the viability of the government's ambitious plans for developing large-scale industry.

Nonetheless, the Kingdom did develop a globally competitive petrochemicals industry. This dates to 1975, with the establishment of the Royal Commission for Jubail and Yanbu, an autonomous organization of the Saudi government set up to govern, develop, and manage the purpose-built industrial cities of Jubail (on the east coast near Dammam, the heart of the oil industry) and Yanbu (on the west coast close to Medina). An initial investment of \$25 billion was deployed to build world-class infrastructure for these cities, offer interest-free loans

to newly established companies, and set up industrial colleges and technical institutes to provide advanced technical and vocational training for Saudi workers. The commission continues to receive about 9 billion SAR (\$2.4 billion) per year in annual budget appropriations (65 billion SAR, or \$17 billion, in total from 2005 to 2014).³

Today, the cities of Jubail and Yanbu are home to 120,000 employees and form the center of a globally competitive petrochemicals industry. The commission was recently expanded to build the new city of Ras Al-Khair, 60 kilometers north of Jubail, which aims to exploit the mineral deposits of phosphate and bauxite recently found within Saudi Arabia. The city will include a diammonium phosphate plant, an aluminum smelter, an ammonia plant, an alumina refinery, and facilities to produce phosphoric and sulphuric acid.

Since the establishment of the commission, there has been a proliferation of other government initiatives and agencies aimed at expanding the Kingdom's manufacturing sector. In 2001, the Saudi Industrial Property Authority (MODON) was established under the jurisdiction of the Ministry of Commerce and Industry to help develop more than 30 industrial cities across the Kingdom, mainly focused on light manufacturing and employing about 300,000 people. In 2007, the National Industrial Clusters Development Program was jointly established by the Ministry of Commerce and Industry and the Ministry of Petroleum and Minerals to create five new industrial clusters including automotive.

The National Industrial Strategy was developed in 2009 by the Ministry of Commerce and Industry, with the aim of expanding manufacturing from 11 percent to 20 percent of GDP.

Finally, the Economic Cities Authority was established under the supervision of the Saudi Arabian General Investment Authority to oversee the construction and regulation of four major new economic cities across the country, including the flagship King Abdullah Economic City on the west coast near the city of Jeddah. At its inception, the four cities aimed to support 4.5 million people by 2020 and employ 1.3 million. The initial investment planned was about \$70 billion.⁴

¹ The manufacturing sector grew at 7 percent per year on average between 2003 and 2013, compared with overall GDP growth of 6 percent.

² "Dutch disease" is the negative impact on an economy of an event or circumstance that leads to a sharp inflow of foreign currency, such as the discovery of large oil reserves. The currency inflows lead to currency appreciation, making the country's other products less price competitive on the export market.

³ Saudi Ministry of Finance.

⁴ Saudi Arabian General Investment Authority.

Nonetheless, Saudi Arabia has a number of structural advantages that could potentially enable it to compete successfully in sectors downstream of mining as well as in select advanced manufacturing.

First, it has large natural endowments of many key inputs to advanced manufacturing such as metal and mineral resources. Second, it is geographically situated at the crossroads of East Africa, the Middle East, and South Asia, one of the fastest-growing regions in the world. Third, Saudi Arabia has easy access to key global shipping lanes, including the nearby Suez Canal, which opens up routes to European markets. The Kingdom's massive investment in new ports, including the King Abdullah Port on the west coast that began operations in late 2014, could help reduce transport costs and give the country an added advantage in the years ahead.

The Middle East and East Africa region today is a \$250 billion annual import market for manufactured goods, with automotive contributing \$87 billion, electrical machinery \$37 billion, and engines and turbines \$34 billion. Other subsegments that contribute to imports are smaller and remain fragmented (Exhibit 16). Saudi Arabia alone imports \$70 billion worth of advanced manufactured goods from the rest of the world each year. The majority of the imports are sourced from East Asian markets, with only 5 to 10 percent sourced from within the region.

If Saudi Arabia were to successfully penetrate growing neighboring markets across advanced manufacturing segments in line with benchmark success stories, we estimate it could increase its annual exports by as much as 245 billion SAR (\$65 billion) in real terms.⁷³ The biggest export markets for the Kingdom under this scenario would be other GCC countries, other Arab countries such as Egypt, Iraq, and Jordan, as well as East African countries such as Ethiopia and Kenya. Exporting to these markets could potentially add as much as 225 billion SAR (\$60 billion) to GDP by 2030, implying strong growth of 22 percent per year to 2030.

Even if development plans were focused more narrowly on production for the domestic Saudi market, the Kingdom represents a reasonably sized market on its own. In automotive, for example, 800,000 cars were sold in the Kingdom in 2013, on a par with Thailand and Malaysia. This could present sufficient scale for automotive makers to consider local production. Similarly, consumer appliances sales reached 11 million units in 2014, on a par with the Netherlands and Sweden.⁷⁴ The expansion in infrastructure is driving a rapid increase in demand for electrical and mechanical machinery. Moreover, there is a geographic gap in the market with relatively few manufacturing hubs between India, Turkey, and South Africa that the Kingdom could potentially exploit.

At the same time, Saudi Arabia would need to overcome multiple challenges. For instance, transport costs are relatively high as a consequence of its predominantly domestic-oriented manufacturing activities, limited rail and port infrastructure, and the resulting dependence on road logistics. The cost to export a container is about \$1,300, about double the rate in the United Arab Emirates (\$665) and 50 percent higher than the average for other GCC countries (\$850).⁷⁵

⁷³ Calculation is based on Saudi Arabia achieving market share growth in regional trade similar to that of other high-performing nations in recent decades such as South Korea, Mexico, and Thailand. McKinsey FDI location selection tool; IHS Global Insight; UN Comtrade.

⁷⁴ Euromonitor.

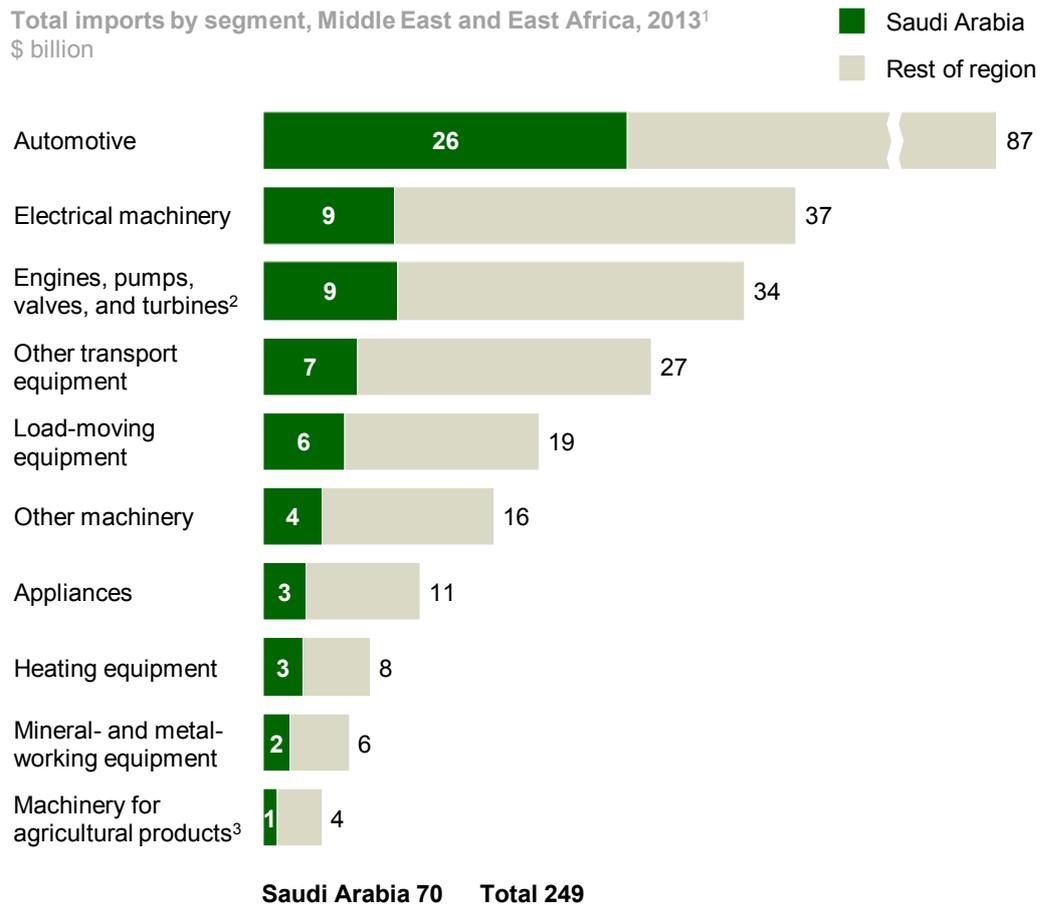
⁷⁵ *Doing business 2014: Understanding regulations for small and medium-size enterprises*, World Bank, October 2013.

While low-skilled foreign labor is plentiful, higher skilled talent is relatively lacking. High import duties can also be an obstacle that inhibit the entry of international manufacturers and complicate the sourcing of components from abroad. Finally, the slow visa application process can be a barrier to hiring non-Saudis. Some manufacturers build substantial in-house technical capabilities and expertise to avoid long waiting times for technicians from abroad.

Exhibit 16

Advanced manufacturing industries are a large regional import market, with automotive and machinery the biggest segments

Total imports by segment, Middle East and East Africa, 2013¹
\$ billion



¹ Excludes Israel, the Palestinian Territories, and Iran.

² Synonymous with mechanical machinery.

³ Includes machinery for agriculture, textiles, leather, food processing, and pulp and paper.

NOTE: Numbers may not sum due to rounding.

SOURCE: UN Comtrade; McKinsey Global Institute analysis

Examples from other countries that have sought to build domestic advanced manufacturing sectors show mixed results. Several national industrial hubs either have become uncompetitive through poorly arranged subsidy regimes or have collapsed with the removal of subsidies once they became poor value for money. Thailand is one example of a successful strategy to develop as a regional hub for auto manufacturing, but the effort took several decades and gradual government incentives, including required local content for passenger cars and, for a period, specially reduced import duties for parts and components

that could not be manufactured locally. Malaysia, by contrast, failed to emerge as an automotive manufacturing hub despite a major push over several decades.⁷⁶

A possible push into manufacturing in Saudi Arabia could build on three segments where there are some existing achievements.

The first is the motor vehicle industry. Sustainable automotive assembly plants typically require local demand of 100,000 units a year on top of regional export potential. While there is a large and diverse group of brands that currently sell in the Saudi market, both Toyota and Hyundai have reached this level.

Local demand is just a starting point, however. In order to produce in Saudi Arabia, automotive companies would need to be convinced that they could achieve sufficient scale. At the same time, they would need to weigh the opportunity against the relatively low cost of importing automobiles from outside the region.

The establishment of automotive assembly plants would also require the development of competitive parts manufacturers (Tier 1 and 2) that can supply manufacturers and export to regional assembly sites. The Kingdom already has some local producers supplying global automotive groups that it could build on to develop a supplier ecosystem. For example, Abdul Latif Jameel established a subsidiary, ALJ Accessories and Conversion Services, to design and develop specialized accessories and components to Saudi specifications for Toyota. Products include customized alloy wheels, car bumper protector, navigation, and Bluetooth systems to adapt the Toyota Hilux pickup truck as a passenger vehicle.

Two examples illustrate the potential and the risks of an automotive assembly push. Isuzu opened its first manufacturing plant in Saudi Arabia in 2012, located in a 12,000-square-meter site in Dammam, a second industrial city, close to an after-sales center. The cost of the plant was estimated at \$133 million. Approximately 600 trucks were produced in the first year, and there are plans to increase the output to 25,000 units per year by 2017. The primary focus of demand is the Saudi market, the second largest for trucks in the Middle East, but 40 percent of production is aimed for export to other nations in the Gulf Cooperation Council. Cheap energy costs and low tariffs to GCC were cited as key reasons for locating in Dammam.⁷⁷

However, another high-profile project involving Jaguar Land Rover was reported to be abandoned in September 2015, 18 months after it was announced, after an incentive package was not secured. The plans had involved construction of a \$167 million factory in Eastern Province, with production of the Land Rover Discovery model growing to 100,000 cars a year.⁷⁸

A second possible manufacturing segment is electrical machinery, in products such as transformers and wiring. This segment accounts for most of the Kingdom's advanced manufacturing exports, totaling about 3 billion SAR (\$800 million) in 2014. Wires are the bulk of exports. Local players include Wescosa (established in 1976), a producer of transformers for oil, gas, and petrochemical companies, whose key clients include Saudi Aramco and SEC. The expansion of infrastructure projects in the Kingdom has boosted demand for the company's products; it has also benefited from high import duties on finished transformers. Riyadh Cables is the largest cable manufacturer in the Middle East, with roughly one-fifth of

⁷⁶ Peter Wad and V. G. R. Chandran Govindaraju, "Automotive industry in Malaysia: An assessment of its development," *International Journal of Automotive Technology and Management*, volume 11, number 2, January 2011.

⁷⁷ Saudi Ministry of Water and Electricity; Enerdata; *Global Water Intelligence*, World Bank.

⁷⁸ Beatrice Thomas, "Jaguar Land Rover plans new \$167m Saudi factory," *ArabianBusiness.com*, March 3, 2014; Andy Sharman and Simeon Kerr, "Jaguar Land Rover scraps plans for Saudi car factory," *Financial Times*, September 3, 2015.

the Saudi market, and large clients in both the Kingdom and across the GCC. The company has benefited from growth in the telecommunications industry and the preference of some large clients for local production.⁷⁹

A third possible manufacturing segment comes from industrial machinery, centered in Dammam, in products such as turbines, valves, and pumps. This segment has not yet become a significant exporter, but local manufacturers are estimated to supply about one-tenth of local consumption. Iscosa, a joint venture by the E. A. Juffali Group and Siemens founded in the early 1970s, is one of the players in the turbine market, specializing in servicing, maintenance, and assembly of turbines. Flowserve Abahsain, founded in 2012, has rapidly captured a 20 percent market share for valves in the Kingdom. ITT, founded in 2009, manufactures a wide range of centrifugal pumps for oil and gas and petrochemical companies in the Kingdom, including local giants Saudi Aramco and SABIC.⁸⁰

RETAIL AND WHOLESALE TRADE: STRONGER PRODUCTIVITY GROWTH, MORE EMPLOYMENT, HIGHER WAGES

1.5M
People working in retail, one in six

Retail and wholesale trade in the Kingdom has been expanding at a robust 12 percent annual rate over the past decade, propelled in large part by the rise in household income from the oil boom, a growing population, and a demographic shift toward people with higher disposable incomes and a greater propensity to consume.⁸¹ The fastest growth rates over the past decade have been in discretionary segments including electronics and appliances (13 percent) and health and beauty (12 percent). Online sales have also been growing rapidly, at an annual rate of 26 percent, albeit off a low base.⁸² As a result of this robust decade of growth, the trade sector has increased its share of GDP from about 4 percent in 2003 to about 7 percent in 2013.⁸³

The number of Saudi women working in retail grew twelve-fold, from just 10,000 in 2010 to 120,000 in 2014, according to the Ministry of Labor.

Retail is also one of the Kingdom's largest employers. About one in every six people working in the Kingdom, more than 1.5 million workers, is employed in the sector.⁸⁴ About 80 percent of these jobs are filled by low-cost foreign workers earning minimum wages of about 1,200 SAR per month (\$320) in 2013.⁸⁵ However, as already noted, there has been significant change in the sector in recent years in response to government initiatives to encourage Saudization. The number of Saudis working in the sector was about 300,000 in 2014, double the number in 2010. The number of Saudi women working in the sector has grown especially fast, from just 10,000 in 2010 to 120,000 in 2014, a 12-fold increase.⁸⁶ As a result of these developments, Saudis now make up almost one in five workers in the sector,

⁷⁹ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Euromonitor industry reports; UN Comtrade.

⁸⁰ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Euromonitor industry reports; press search; expert interviews; UN Comtrade.

⁸¹ The share of the population aged 20–49 has increased from about 40 percent in 2003 to about 50 percent in 2013. Central Department of Statistics and Information, Saudi Ministry of Economy and Planning.

⁸² Euromonitor data.

⁸³ The sector accounts for an average of around 10 percent of GDP in the United States, the EU3, and Australia. IHS Global Insight.

⁸⁴ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning. The Saudi Ministry of Labor puts the figure at 1.9 million.

⁸⁵ Saudi Ministry of Labor.

⁸⁶ Ibid.

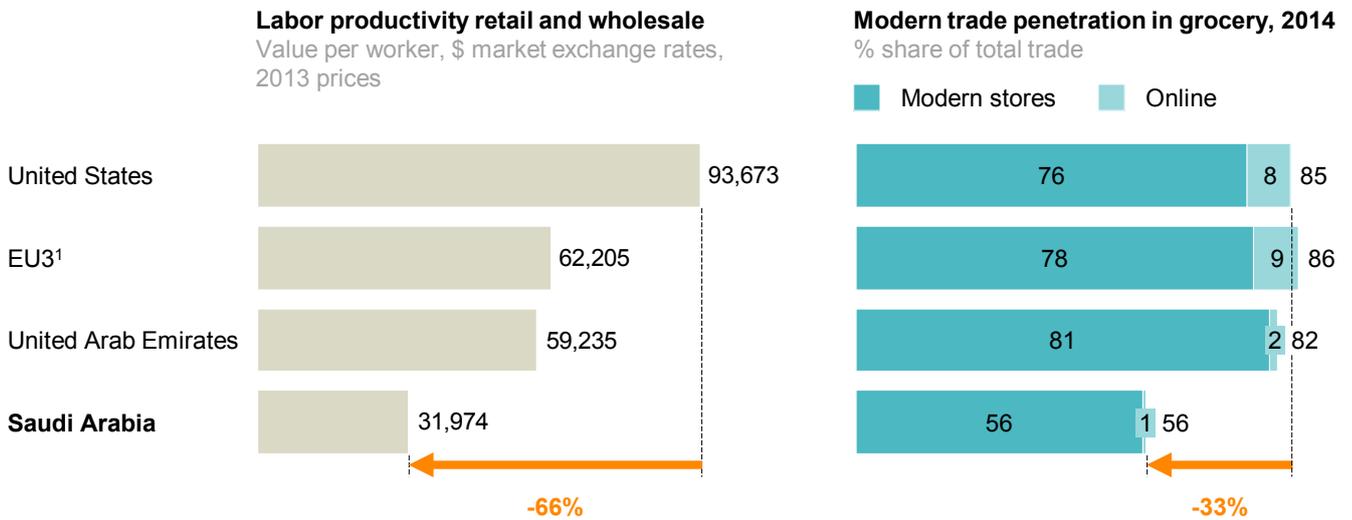
up from about one in ten in 2005. They command a wage of about 5,000 SAR per month (\$1,300), four times the wages of foreign workers.

Our analysis suggests the retail and wholesale sector could be ripe for further growth and change, and could become an important driver of Saudi Arabia’s private-sector growth. We estimate the sector could as much as double its productivity between now and 2030 and generate up to 800,000 additional jobs for Saudis. The GDP contribution could grow by as much as \$100 billion.

The opportunity presents itself because Saudi retailers are currently inefficient and highly fragmented; productivity is low and they lack the sophisticated supply-chain management and procurement methods that have become the hallmarks of successful retailers elsewhere. Approximately 98 percent of total grocery retail outlets are traditional outlets. Labor productivity in the sector is two-thirds lower than in the United States and half the level of major European countries (France, Germany, and the UK) and the neighboring United Arab Emirates (Exhibit 17).

Exhibit 17

Labor productivity in the Kingdom’s trade sector is low by international standards



1 Average of Germany, United Kingdom, and France.
NOTE: Numbers may not sum due to rounding.

SOURCE: IHS Global Insight; Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; IMF; World Bank; EU KLEMS; CIA; UAE National Bureau of Statistics; *Retail and wholesale: Key sectors for the European economy*, Institute of Retail Management, Said Business School, University of Oxford, April 2014; McKinsey Global Institute analysis

Part of this gap can be explained by the limited penetration of modern formats, including modern stores and online platforms, which account for only 56 percent of total retail sales in the Kingdom’s grocery segment, nearly a third less than in the United States and the neighboring United Arab Emirates.⁸⁷ Online shopping in particular appears to have big potential, given the high penetration and use of smartphones by the Saudi population. Online sales in the Kingdom have been growing strongly at about 30 percent per year over the past five years, driven by players such as Souq.com and Amazon, but they started from a very low base.

⁸⁷ The grocery segment accounted for around 36 percent of total retail sales in 2014 and is indicative of trends in the overall retail sector. Euromonitor.

A key feature of Saudi retailing today is the traditional *baqala* corner grocery store, which often sells on credit to patrons and delivers straight to their door as a free added-value service. Baqalas have a unique positioning and remain the most popular grocery outlet in the Kingdom. In a 2014 McKinsey survey, 100 percent of respondents mentioned having made at least one purchase at a baqala in the previous month.⁸⁸ Some baqalas have closed in the past few years as the government tightens regulations on the low-skilled foreign workers who staff them.

The government could help boost the sector by encouraging greater competition, improving the business environment to remove existing barriers, and providing greater support for training. But Saudi Arabia has a long-standing, entrepreneurial trading tradition, and the key impetus will most likely come from the private sector itself. Rapid growth will come from a drive for efficiency and greater productivity throughout retail and wholesale trade. It will also imply a broader shift in the shopping and working habits of Saudi households, including online.

Adopting more modern formats, best operating practices

MGI research has shown that retail productivity in emerging economies could be doubled over the next 20 years, largely through a shift to modern formats, migration online, and the adoption of merchandising best practices.⁸⁹ Operational excellence, including supply-chain efficiencies, lean store operations, advanced analytics, and advanced automation, is essential. Changing the format mix is also important because traditional trade can be 70 percent less productive than modern trade, and online formats are typically 80 percent more productive than modern brick-and-mortar stores.

Baqalas maintain their hold on grocery shopping not just because of tradition. Bigger formats, especially hypermarkets outside city centers, are at a disadvantage because of a dispersed population, a lack of roads, and restrictions on women drivers. Convenience stores and discounters have a more limited store size, usually between 200 and 700 square meters, which provides operators more flexibility in terms of location and operations. This has enabled them to compete effectively with baqalas. For example, Panda—the largest grocery supermarket player in the Kingdom—opened 132 new Pandati convenience stores in 2014, while Dukan operates more than 40 discount stores in Jeddah alone, within a year of starting operations.⁹⁰

Switching to more modern formats could spur overdue market consolidation; the Kingdom's top five grocery markets together hold a market share that is below 10 percent, compared with 25 percent in the United States. In the pharmacy segment, the market is concentrated at the top but very fragmented at the bottom. The top six players, including brands with a long history and wide outlet network of 500 or more stores such as Nahdi and Al Dawaa, account for about 25 percent of the total outlets. However, the remaining 75 percent of outlets are highly fragmented into about 7,000 small or micro pharmacies scattered across Saudi territory. These small pharmacies have a limited customer base and predominantly local coverage. Moreover, there are no foreign players in the market, because of regulation banning non-Saudi ownership of pharmacies.⁹¹

Online sales over the next five years are expected to grow strongly, at a rate of as much as 40 percent per year.⁹² Such predictions are built on market assessment of growth of online spend as well as current levels of online spend as a percentage of the total.

40%
Potential annual
growth rate of
online retail

⁸⁸ Proprietary consumer retail survey conducted by McKinsey & Company in 2014 with 300 respondents.

⁸⁹ *Global growth: Can long-term productivity save the day in an aging world?* McKinsey Global Institute, January 2015.

⁹⁰ McKinsey proprietary Middle East and North Africa e-commerce survey.

⁹¹ Saudi Ministry of Health.

⁹² Euromonitor, 2014.

Online retailers must overcome three important challenges, however. First, consumer research has shown that shoppers in the Middle East and North Africa region have a strong focus on “inspiration-driven” shopping. Consumers still prefer traditional outlets and want to test products live. Second, there remains a general perception of lack of safety and convenience with online payments; there is a clear preference for cash. Finally, scale is a key success factor, but scale is hard to achieve in the Middle East and North Africa region where, even at the aggregate level, the market remains small compared with global benchmarks such as Amazon.

To date, there is limited use of best practice in merchandising or lean operations in purchasing, supply-chain management, and in-store operations. Use of technology and automation in warehousing operations is also less widespread than in mature markets. That creates opportunities for Saudi retailers to make important gains by adopting best practices from around the world (Exhibit 18). For example, several retailers are exploring the construction of large automated warehouses to drastically improve productivity.⁹³ As a result of inefficiencies, we estimate that grocery stores in the Kingdom generate about 50 to 60 percent less revenue per worker than grocery stores in the United States or the United Kingdom.⁹⁴

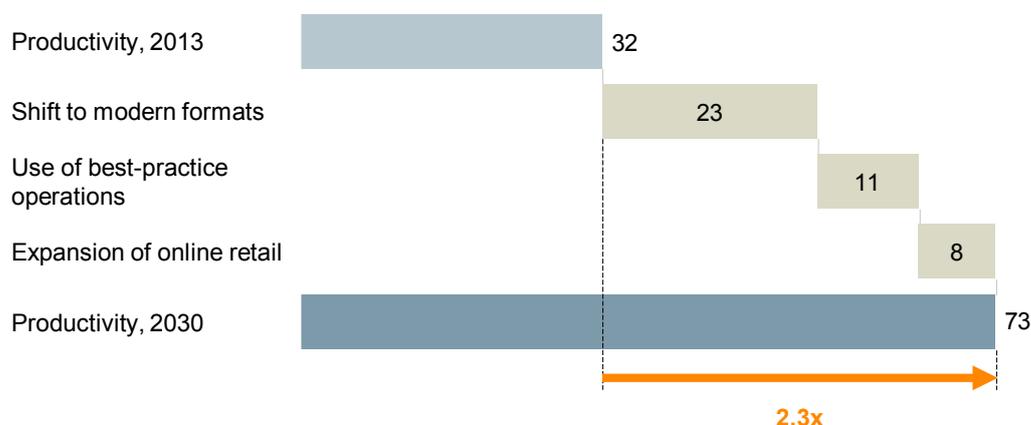
Exhibit 18

Modernizing the retail sector could as much as double productivity and drive up wages

Retail and wholesale productivity

Value added per worker, 2013 prices

\$



NOTE: Numbers may not sum due to rounding.

SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; World Bank; annual reports; expert interviews; McKinsey Global Institute analysis

Our projection for the growth of Saudi retail and wholesale sector is based on a substantial increase in modern trade’s share, from 56 percent in 2013 to 84 percent in 2030. The rate of this increase is in line with the evolution of retail and wholesale in some other emerging economies, including Russia and Poland.

We also assume that the productivity of the modern trade formats will by 2030 have reached the 2013 levels in the United States and that online retail will reach 18 percent of total retail sales by 2030, in line with the projected average for G20 benchmarks in 2030.

⁹³ McKinsey & Company expert interviews.

⁹⁴ Retailers’ annual reports; press search; US Bureau of Labor Statistics.

More flexible regulation and a more skilled, higher-paid Saudi workforce

To achieve these productivity goals will require a number of measures aimed at encouraging and facilitating modernization of retail and wholesale, as well as upgrading the workforce to higher value-added jobs requiring better capabilities.

The government currently restricts foreign ownership in the retail sector to 75 percent and requires a minimum foreign investment of 20 million SAR (\$5 million), although it announced plans in September 2015 to lift this restriction in the near future.⁹⁵ Foreign firms face restrictions on ownership of land and can encounter slow processes for securing labor visas, licenses, and permits. For example, according to the Ministry of Labor, it takes about six months on average to issue a residence visa, compared with an average of two to three weeks to do the same in the United Arab Emirates.⁹⁶ Clearance times in ports for imported goods can also be slow.

There are several global precedents for successful modernization of retail and wholesale sectors. They include South Korea, which in 1996 fully opened up its retail market to foreign retailers. The impact was a reduction in the number of stores, but a rapid modernization and a significant increase in labor productivity.⁹⁷ Thailand also opened up its retail sector to 100 percent foreign ownership and put in place a range of measures to support the modernization of trade, which rose from 25 percent of the total in 2000 to 45 percent in 2014.⁹⁸

One area where the Saudi government could play an important role is with the labor force. The current dominance of low-skilled labor would need to give way to higher-skilled and higher-paid employees. The Kingdom could seek to build greater capability through joint training programs with major retailers.

Saudis could be attracted to retail jobs through competitive salaries, but also through attractive and challenging jobs with possible career paths to management positions. There are already examples of this happening today in the Kingdom. For example, the retail franchise operator Alshaya International Trading Co.'s Retail Academy has trained 1,300 Saudi women through an introductory retail training course. In July 2015 it launched a nine-month advanced Store Management Trainee program for Saudi graduates and diploma holders. The program guarantees successful graduates a job as a store manager or an assistant store manager at one of the more than 40 international leading brands Alshaya operates in 25 cities across the Kingdom.⁹⁹

The combination of higher productivity, better training, and continued efforts to encourage Saudis to work in the sector could raise salaries. Historically, wages in the sector have grown in line with labor productivity growth. If this relationship holds going forward and the sector is able to achieve a doubling in productivity, we estimate that wages could double in real terms to about 7,000 SAR per month (\$1,900) by 2030.

⁹⁵ "Saudi Arabia to allow full foreign ownership in retail," Reuters, September 6, 2015.

⁹⁶ McKinsey & Company interviews.

⁹⁷ Sang Young Moon and Bongchan Ha, "The effects of market opening on the Korean retail industry," *Korean Economic Review*, winter 2009; Yong-Gu Suh, "Korea's retail market: Opportunities abound with modernization and opening," *KIET Economic Review*, volume 3, number 3, 1998.

⁹⁸ Euromonitor; www.doingbusinesssthailand.com.

⁹⁹ "Alshaya launches new management program for Saudi women," *Arab News*, July 28, 2015.

3,000
Kilometers of
coastline on the
Red Sea and the
Gulf

TOURISM AND HOSPITALITY: AN UNDEREXPLOITED POTENTIAL

As a tourist destination, the Kingdom of Saudi Arabia has much to offer, for both domestic and international visitors. The two holy sites of Mecca and Medina already draw millions of religious visitors from around the world every year, particularly during the five-day Hajj. The Kingdom is also endowed with a wealth of natural and other treasures, including the spectacular archaeological remains at Mada'in Saleh, a UNESCO World Heritage Site; the Al Bahah region in the country's southwest, which has mountains, forests, and exotic wildlife; and more than 3,000 kilometers of coastline on the Red Sea and the Gulf that includes 1,300 islands, an underexploited paradise for beachgoers and divers.

Despite these significant tourism assets, the Kingdom's tourism sector has not been a strong performer over the past decade. Its contribution to the economy overall is modest, about 3 percent of GDP, and has been declining; growth in the sector, at just 4 percent on average over the past decade, has lagged behind that of the overall economy.¹⁰⁰ This relatively weak performance reflects an overall decline in overnight tourists between 2004 and 2012. It also highlights contrasting trends in the two main segments: the number of domestic tourists dropped by almost 50 percent, while international inbound tourist numbers rose by about two-thirds to 14 million per year, driven by religious tourists.

This negative trend in domestic and non-religious tourism is explained by the underdeveloped nature of the sector. Premium hotels and the sort of high-quality customer service and facilities that could attract more tourists are generally lacking. Labor productivity is two-thirds lower than in the United States and half the level of major European countries (France, Germany, the UK) or the neighboring United Arab Emirates (Exhibit 19). Quality also appears to be uneven; less than one in three of the four-star hotels in the Kingdom receives a score of four quality stars or more on TripAdvisor, for example, while a majority of four-star hotels in competing destinations do.¹⁰¹

Fragmentation of the industry explains some of the gap. Hotel formats are small. Average room rates are low compared with the rest of the GCC. At the same time, the abundance of low-cost labor reduces the incentive for hotels to adopt best practice labor-saving operations and technology.

The tourism industry is nonetheless a large and growing employer, with about 750,000 workers, or 7 percent of total employment in the Kingdom in 2013 (up from 3 percent in 2004). Most of these jobs are currently filled by low-cost foreign workers earning minimum wages of about 1,200 SAR per month (\$320), especially in restaurants and cafes, where foreigners account for 90 percent of all workers. However, between 2005 and 2014, the number of Saudis working in the sector is estimated to have quadrupled to more than 200,000 (and from 20 percent of the total to 27 percent). Most Saudis found jobs in the transportation segment working for airlines, railways, and car rental companies, where they can command salaries of about 7,000 SAR per month (\$1,900).¹⁰²

Despite the challenges of the past decade, analysis suggests tourism and hospitality could represent a significant economic opportunity for the Kingdom, one that could increase non-oil earnings, create hundreds of thousands of new jobs, and boost overall productivity and skill levels. There are two likely major opportunities to realize this potential.

¹⁰⁰ Tourism had 6 percent per year growth in total GDP and 10 percent growth for private non-oil GDP. *Tourism statistics 2012*, Tourism Information and Research (MAS); Central Department of Statistics and Information, Saudi Ministry of Economy and Planning.

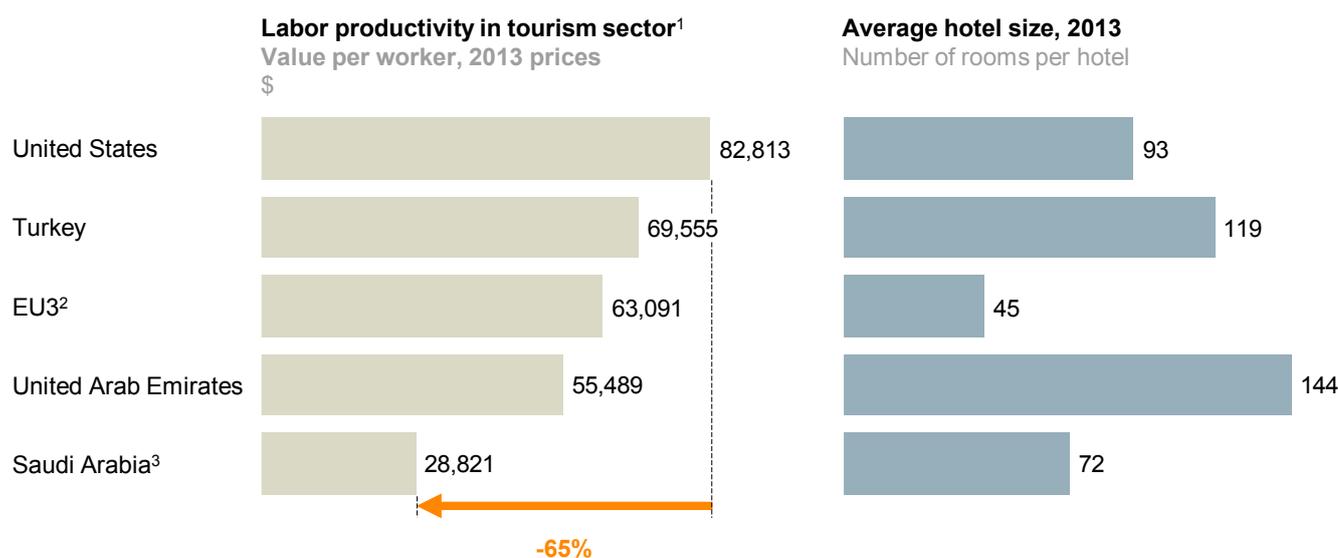
¹⁰¹ TripAdvisor, July 2015 search.

¹⁰² *Tourism statistics 2012*, Tourism Information and Research (MAS); Saudi Ministry of Labor; Saudization percentages and salaries from Sultan N. Abu Tayeh and Mairna H. Mustafa, "Toward empowering the labor Saudization of tourism sector in Saudi Arabia," *International Journal of Humanities and Social Science*, volume 1, number 3, March 2011.

The first is to focus on improving the experience for religious visitors, who today account for about 30 percent of total tourism, with the aim of catering more effectively to the worldwide Muslim population and encouraging more off-peak visits. The second opportunity consists of a strategic effort to develop the country's natural and archaeological attractions, as well as retail and hospitality offerings, in such a way as to reverse the decline in domestic tourism and make the Kingdom an attractive destination for both domestic and international visitors. Enhancing hotels and services will be an important feature of this effort, but critically Saudi Arabia will also need to build a value proposition for families that includes entertainment for children and adults, easy access, and good value for money.

Exhibit 19

Tourism labor productivity underperforms international benchmarks



1 Productivity measured as direct GDP contribution divided by employees. Employees and not full-time equivalents are calculated (each seasonal worker counts as a whole employee, not a fraction).

2 Simple average of Germany, United Kingdom, and France.

3 Average of statistics from Tourism Information and Research (MAS in the Arabic acronym) of the Saudi Commission for Tourism and Antiquities, which reports \$27,000, and the World Travel and Tourism Council, which reports \$31,000.

NOTE: Numbers may not sum due to rounding.

SOURCE: World Travel and Tourism Council; MAS, *Tourism statistics 2012* and *Travel & Tourism 2014 Statistical Bulletin*; UN World Tourism Organization; Euromonitor; McKinsey Global Institute analysis

Both of these opportunities require a range of policy changes, from easing sometimes onerous visa requirements and improving security for religious visitors, to increasing flexibility in the labor market and enabling better management of seasonal workers. The government may need to play an active role in developing infrastructure and empowering tourism agencies, although at least some of the needed investment could come from the private sector. A significant upgrade in the training of Saudis going into the tourism and hospitality sector would also be required to raise skills and standards; for now, only a relatively small share of Saudis opt to take technical and vocational training courses.

If these measures were implemented, analysis suggests the number of religious tourists could increase as much as fivefold by 2030, while the volume of leisure tourism could triple. Moreover, average spend could increase by up to 5 percent per year as visitors gain access to a wider variety of higher-quality services.¹⁰³ Productivity levels could triple as the sector consolidates and adopts global best practice operations. We estimate that these developments could generate additional annual GDP of about 560 billion SAR (\$150 billion)

¹⁰³ Based on Malaysian benchmark improvement.

in real terms by 2030, a sevenfold increase, and that could employ as many as 1.3 million additional Saudis.

2x

Growth in number of religious visitors in past decade

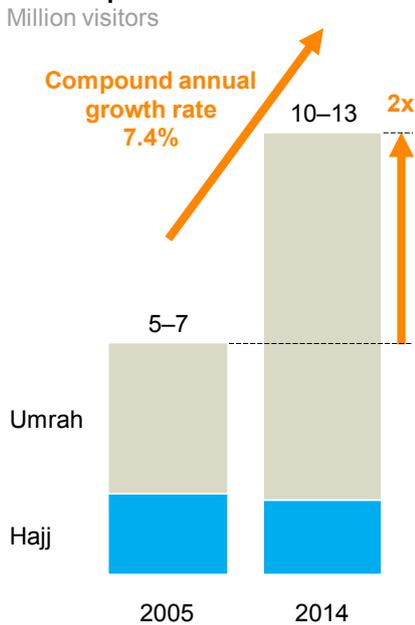
Religious tourism: Reducing seasonal volatility and improving the experience

The two holy sites of Mecca and Medina currently attract 10 million to 13 million Muslim visitors annually, the large majority of whom come for or around the annual five-day Hajj, which in 2015 fell in late September.¹⁰⁴ These religious visitors constitute the single largest group of tourists in Saudi Arabia, and their number has doubled in the past decade. However, in global terms, the total number of religious visitors is less than 1 percent of the worldwide Muslim population. More than half of the visitors come from GCC countries or elsewhere in the Middle East, while about 30 percent are from South Asia (Exhibit 20).

Exhibit 20

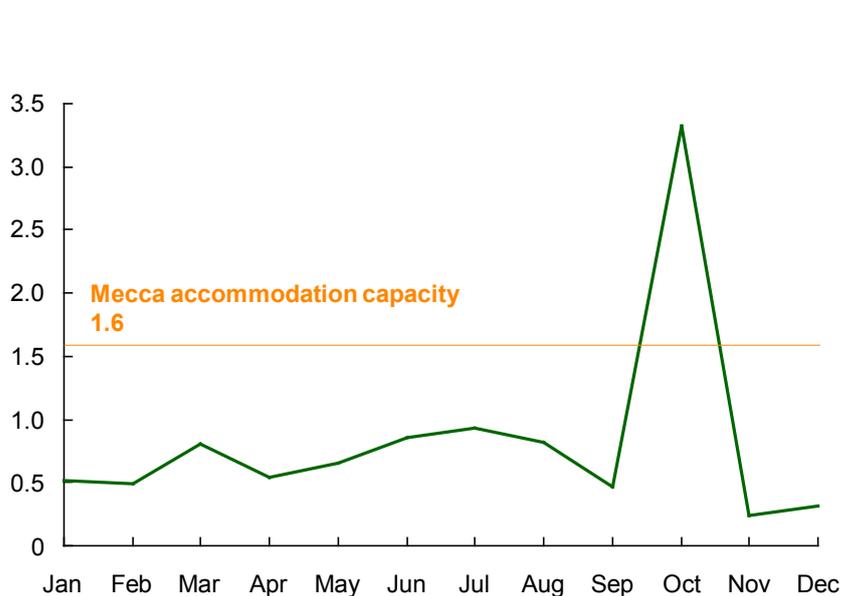
Pilgrim numbers have grown steadily over the past decade, with numbers peaking during and around the annual five-day Hajj

Umrah tourism has grown quickly over the past decade



Very strong seasonality of religious tourism needs to be managed

Total religious visitors by month (Umrah + Hajj), 2012



SOURCE: *The report: Saudi Arabia 2013*, Oxford Business Group; Jones Lang LaSalle, "Holy cities: Saudi's unique real estate markets," June 2010; "Saudi Arabia receives 33.8 million Umrah pilgrims from 2008 till last week," IINAnews.org, February 8, 2015; *Tourism statistics 2012*, Tourism Information and Research Center (MAS); McKinsey Global Institute analysis

Saudi Arabia could increase the number of religious tourists with three focused steps. The first would be to simplify the currently onerous visa process, which strictly limits the number of non-GCC nationals who are allowed to visit the country. This could be achieved by allowing e-visas for some nations or establishing visa-free agreements with countries outside the GCC. A second step might be to increase awareness of Umrah, a pilgrimage to Mecca that can be undertaken at any time of the year, not just for the Hajj. Encouraging trips in off-peak periods would reduce the extreme seasonality of this religious tourism. Third, the overall visitor experience beyond the religious aspect could be improved through better amenities and tourism services in multiple languages.

¹⁰⁴ Because the Islamic calendar is lunar and the Islamic year is about 11 days shorter than the Gregorian year, the Gregorian date for Hajj changes from year to year. In each year in the Gregorian calendar, the pilgrimage starts ten or 11 days earlier than in the preceding year.

Religious tourists are not just the largest group of visitors to the Kingdom; they also spend more than other tourists, including business tourists, in part because they pay premium prices for accessing religious sites in the peak dates. International religious tourists spend about twice as much as domestic tourists.¹⁰⁵

Over the longer term, as religious tourism grows, some supply issues will need to be addressed, such as the limited hotel capacity in Mecca and Medina, and airport and other transport constraints. Significant improvement is also needed in crowd management and security.¹⁰⁶

If the religious tourism sector keeps growing at its historical rate, the numbers could reach about 30 million by 2030. The potential is enormous given a worldwide Muslim population of 1.6 billion. If, for example, the Kingdom were able to sustain all year round the peak numbers seen during the Hajj, annual visitors could reach almost 50 million per year, five times the number of visitors today. If all bottlenecks were addressed, the potential could conceivably be even higher.

Leisure tourism: Opening up the Kingdom's treasures

Given the Kingdom's abundant natural and archaeological riches, there is considerable potential to double or even triple the volume of leisure tourism, especially for families. Mada'in Saleh dates back to the first-century Nabataean kingdom, as does Petra in Jordan, which has no visa restrictions and receives 600,000 visitors annually.¹⁰⁷ In Egypt, the coastal resorts of Sharm El Sheikh and Hurghada attract millions of international and domestic visitors.

For Saudi Arabia to win back a portion of its domestic tourism and potentially build a reputation as an international destination will require a significant upgrade in the quality of accommodation and service. In Mada'in Saleh, for example, there are just two hotels, compared with 38 in Petra, and the nearest city of Al-Ula is a 230-kilometer drive from the closest airport. Investing in new infrastructure here and elsewhere will require considerable care to ensure that the visitor experience is a good one and in line with the demands of today's discerning consumers. Some of the Red Sea islands, for example, could be rented out as private or semiprivate destinations. In Al-Bahah, large eco-friendly family resorts in harmony with the natural scenery could promote wellness and outdoor sports such as horseback riding and hiking. A government program to foster tourism, if well implemented, has considerable potential to boost the sector.

The drive to create more and better facilities for tourists should also spur a larger upgrading of the hospitality industry in the Kingdom. Saudi Arabia's hospitality market is highly fragmented, with a large number of smaller, family-run hotels. The establishment of larger hotels and the adoption of best practices from international chains could help to upgrade facilities and service. Finally, a concerted drive to improve skills of the Saudi workforce will be needed. One change would be to loosen the restrictions on seasonal employment. This would enable students and other young people to get some practical experience in the sector.

7%
Percentage of
tourism sector jobs
in Saudi economy

¹⁰⁵ *Tourism statistics 2012*, Tourism Information and Research (MAS).

¹⁰⁶ "Security men pleaded with Hajis to stay back," *Arab News*, October 26, 2015.

¹⁰⁷ Petra National Trust.

11

Health professionals for every 1,000 population

IN HEALTH CARE, OPPORTUNITIES FOR EMPLOYMENT GROWTH AND GREATER PRIVATE-SECTOR INVOLVEMENT

The health-care sector was one of the biggest beneficiaries of public spending during the 2003–13 oil boom. Total health-care spending increased by an average of 9.6 percent per year over the decade to reach 84.4 billion SAR (\$22.5 billion) in 2013.¹⁰⁸ The large buildup of infrastructure, especially hospitals, that we noted earlier drove health-care sector GDP by an annual average of 3 percent to \$5.5 billion in 2013 in real terms. Currently the sector numbers 600,000 employees: about 350,000 health-care professionals and about 250,000 management and support staff.

Going forward, Saudi Arabia is likely to continue spending heavily on health care, especially in the face of a demographic trend that will almost double the share of the Kingdom's population over the age of 65, from 3 percent to 6 percent, over the next decade. Analysis suggests that aging alone could increase the workforce requirement by about 25 percent in the next ten years. Saudi Arabia faces three key health-care challenges that are also opportunities: current suboptimal productivity and financing that could be increasingly covered by the private sector, a health-care workforce that is not structured to tackle the growing prevalence of non-communicable diseases, and an increased need for skilled professionals.

Given likely constraints on public spending over the next 15 years, we estimate that the Saudi health-care sector presents a potential GDP upside of up to 38 billion SAR (\$10 billion) to 2030. However, it does present a significant employment opportunity, and we anticipate employment growth of about 7 percent annually to 2030.

Saudi Arabia will need to significantly increase the number of doctors, nurses, and other health professionals to meet the future needs of its growing and aging population.

The Kingdom will need to significantly increase the number of health professionals as well as jobs in the broader social services sector to meet the future needs of its growing and aging population. Today the equivalent of 11 health professionals serve every 1,000 people (counting the total population of 31 million in 2014). This is half the average of 22 per 1,000 people for G20 economies.¹⁰⁹ We estimate that to meet this average benchmark by 2030, the Kingdom would need about 710,000 health-care professionals, 360,000 more than it has today.

If Saudi Arabia is to achieve the full potential laid out in the scenarios, a far greater number of Saudis will need to be employed in the sector. For now, just one in three health-care professionals is a Saudi national (Exhibit 21). Moreover, the current numbers of Saudi health-care graduates might not even be sufficient to replace professionals who retire or leave their jobs, let alone fill additional posts. For instance, given the expected rising demand, especially from elderly Saudis, the country will need to fill at least 100,000 nursing positions by 2030. This amounts to a net average of 6,000 to 7,000 new nurses per year. In 2014, however, only 812 Saudi nurses graduated in the Kingdom.¹¹⁰ A similar picture, though

¹⁰⁸ *National health accounts*, World Health Organization.

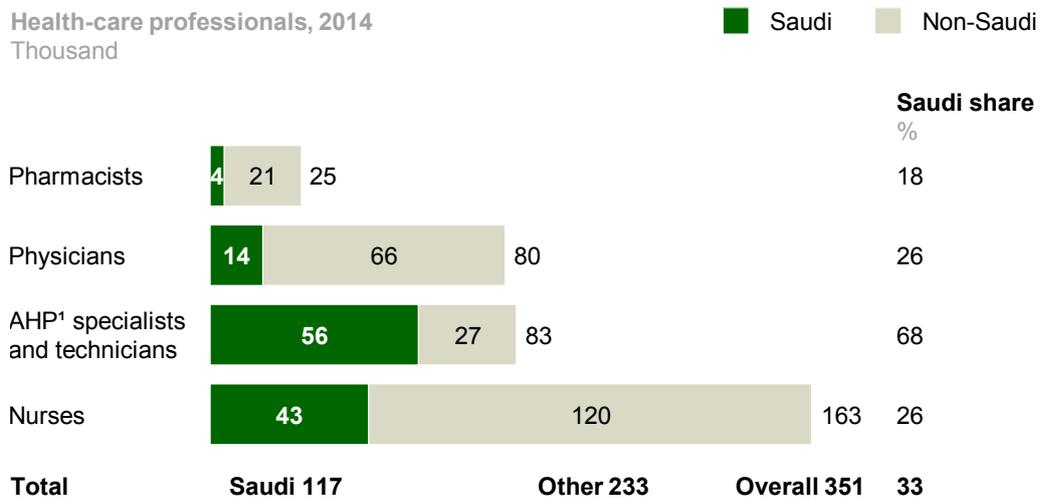
¹⁰⁹ *Annual statistical yearbook, 2013*, Saudi Ministry of Health; OECD statistics; World Health Organization data, 2000–12; World Bank 2013 population data.

¹¹⁰ *Annual statistical yearbook, 2013*, Saudi Ministry of Health.

less dramatic, is observed for allied health professionals (for example, medical assistants, technicians, and therapists).

Exhibit 21

Foreigners constitute two-thirds of the Kingdom's health-care professionals



1 Allied health professionals.

NOTE: Numbers may not sum due to rounding.

SOURCE: *Annual statistical yearbook 2014*, Saudi Ministry of Health; McKinsey Global Institute analysis

This represents a lost employment opportunity. We estimate that if the Kingdom were able to double the rate of Saudization for health professionals to two-thirds, this could create as many as 400,000 jobs by 2030. About 50,000 other management and support jobs could also be added. Increasing the number of Saudis who become health professionals will require reversing a declining trend. It will likely take a substantive effort to improve the perception of the health-care professions among talented young Saudis and to provide educational capacity at colleges, universities, and appropriately equipped teaching hospitals. Today, one of the biggest limitations other than a lack of college capacity is the very limited offering of practical on-the-job training for nurses in public hospitals.

Currently there is an overspecialization of physicians with an acute shortage of family medical practitioners. Only 5 percent of the physician workforce practices family medicine, compared with 30 to 50 percent in developed economies including the United Kingdom, Denmark, and Australia. As the Saudi population ages and the burden of chronic diseases increases, the Kingdom will need to shift the composition of its physician workforce more toward primary care.

Real or perceived practical barriers for the profession such as weekend work and night shifts will also require innovative solutions. The culture in health-care facilities, often described as being hierarchical with limited room for nurses to take on more advanced and specialized tasks, will also need to evolve.

Beyond the issue of labor and staffing, the private sector has a potentially important role to play in Saudi health care going forward. Currently the private sector owns 23 percent of the hospital beds (about 15,500 out of 68,000) and 31 percent of the hospitals (141 out of 453).¹¹¹ For the private sector to grow, it will need a clearer sense of which provisioning areas could be open for its expansion. For example, private-sector operators could play a role in

¹¹¹ Ibid.

efficiently scaling up service provision in areas including long-term care, rehab, day surgery units, and secondary-care hospitals, where the complexity of the care that is delivered is limited. The government could also consider privatizing certain other activities including localization of pharmaceuticals manufacturing and health-care education.

In the short run, the government could target handover of some select new facilities slated for opening in 2016–17 to private-sector operators and could test potential public-private partnership models. A guiding principle might be to ensure cost neutrality or savings for government expenditure. From a regulatory perspective, the government will need to address barriers to private-sector participation such as laws that require ownership by Saudi physicians. In addition, current barriers for investment would need to be removed.

FINANCE: STRONGER LENDING TO SUPPORT PRIVATE-SECTOR GROWTH

Some of the \$4 trillion in investment that the Kingdom will need over the next 15 years if it is to realize the gains in the full potential scenario and double GDP again by 2030 will come through the domestic banking system. Banking and finance companies have a critical role to play in allocating credit to economic agents and facilitating economic growth. They also are essential if Saudis are to channel more of their household income into savings, which could then be used to invest.

While Saudi banks have grown robustly over the past decade and are characterized by stability, strong liquidity, and profitability, their role and activities could be considerably enhanced. Analysis suggests there is potential to unlock as much as 450 billion to 600 billion SAR (\$120 billion to \$160 billion) of credit to underserved segments of the economy. In addition to lending more readily to small and medium-sized businesses, banks could do more to encourage saving, including by improving the banking services provided to the public.

Finance and banking in 2014 was a 126 billion SAR (\$34 billion) industry, or the equivalent of 4 percent of GDP. It employed around 120,000 people, 85,000 of whom are Saudi nationals. Under our full potential scenario, it could more than double in size by 2030, increasing GDP by 190 billion SAR (\$50 billion) and adding as many as 200,000 new Saudi jobs.

Banking and finance companies have a critical role to play if Saudis are to channel more of their household income into savings, which could then be used to invest in the Kingdom's economy.

Saudi credit markets consist of two kinds of institutions, banks and finance companies. Banks contribute the majority of credit to the market with about 1.25 trillion SAR (\$333 billion) in loans and about 1.6 trillion SAR (\$425 billion) in deposits. Of the Kingdom's 12 banks, the four largest have a 50 percent share of the market. Finance companies, a nascent and growing sector, contribute about 19 billion SAR (\$5 billion) to the total credit market, mostly via auto leases and mortgages. The banks are well capitalized with capital adequacy ratios of more than 17 percent, while the return on equity of over 14 percent is higher than for many European banks.

Overall the Kingdom's banking sector's loans grew at 14 percent annually over the past decade and deposits grew at 16 percent. That is the equivalent of 1.5 times the total private non-oil GDP growth. Their capitalization ratios, loan-to-deposit ratios, and return on equity all compare favorably with regional and international benchmarks. At the same time, there is

14%
Average return on
equity of Saudi
banks

significant room for expansion. The Kingdom's credit penetration today as defined by loans as a percentage of non-oil GDP stands at about 80 percent, leaving room for credit growth, both public and private. This is considerably less than countries such as Qatar, Kuwait, and Malaysia, as well as European countries and the United States.

In the current oil price environment, as government borrowing from banks increases to fund the budget deficit and major infrastructure projects, banks will increasingly face a liquidity crunch. This could potentially crowd out private-sector credit unless capital markets are developed that attract domestic and international investors to invest in Saudi bonds to finance large infrastructure, energy, and industrial investments.

Currently there are several important gaps in the credit market, including retail lending and lending to small and medium-sized businesses.

A majority of retail lending is consumption-driven, with personal loans accounting for 77 percent of total retail lending. Mortgages, however, represent just 23 percent of retail loans, and mortgage penetration is just 4 to 6 percent of GDP (Exhibit 22).¹¹²

Compared with Europe and East Asia, where mortgages can account for more than three-quarters of total consumer lending, this is a relatively small proportion and suggests considerable growth potential. Reasons for this low penetration potentially include high real estate prices and the lack of affordable housing.

Another characteristic of Saudi banking is that more than 90 percent of total consumer lending is provided to public-sector salaried employees.¹¹³ Public-sector employment is considered safe and stable, and personal loans are provided to employees against salary assignments. Self-employed and private-sector employees, who make up 30 percent of the population, have limited credit access.

Lending to small and medium-sized businesses accounts for only 1 to 3 percent of total loans.¹¹⁴ This is in line with lending in GCC countries, but below benchmarks elsewhere in the Middle East and North Africa region and internationally. For example, in Egypt small and medium-sized enterprises (SMEs) account for about 5 percent of total lending, while in Jordan it is 13 percent.¹¹⁵ The relatively low level of SME lending in Saudi Arabia is primarily a result of a limited bank risk appetite and the inability of banks to adjust their operating models to the SME's lack of reliable credit history or dependable financial statements. As a result, financial institutions can impose high collateral requirements and have sometimes cumbersome loan processes, which become an impediment to financing.

Saudi households have limited savings in banks, and the volume has been declining. The Kingdom's fast-growing young population has little incentive to save rather than spend, and financial education is poor. One survey of Saudi residents in 2013 found that 20 percent said they did not know how to save.¹¹⁶ More than half of the Saudi population keeps their savings in bank current accounts. But financial institutions offer only limited saving products and instruments.

¹¹² Saudi Arabian Monetary Authority.

¹¹³ Ibid.

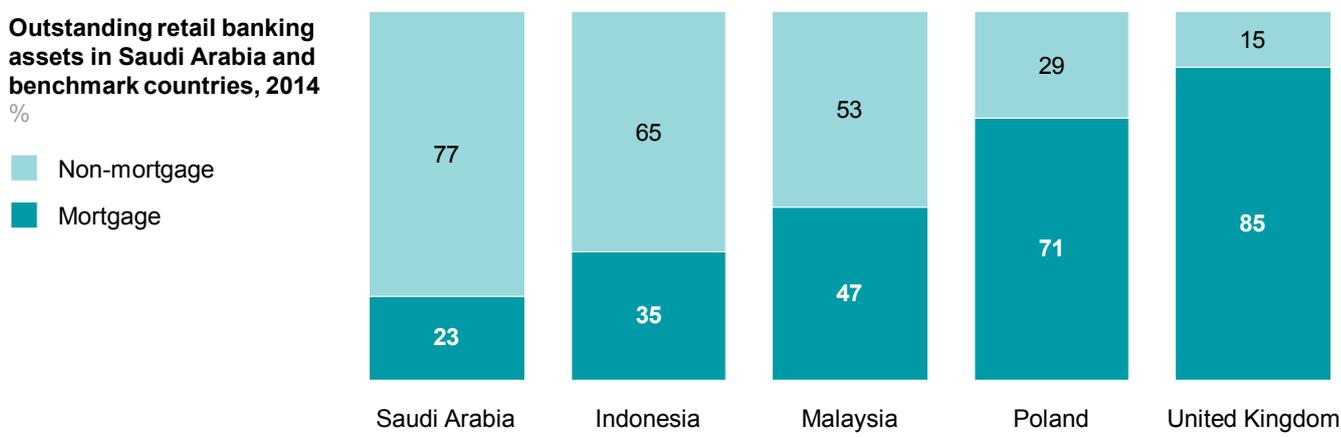
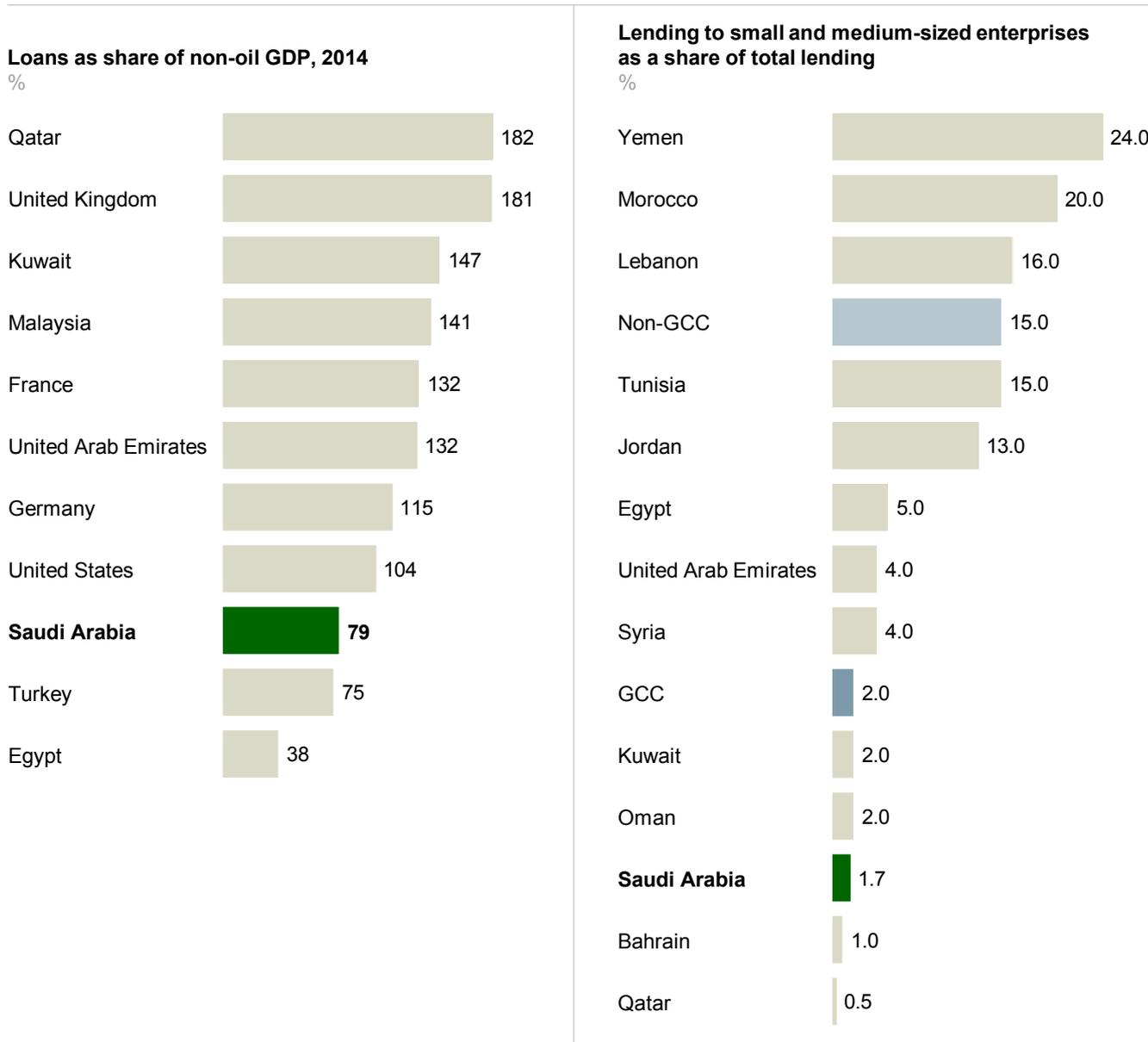
¹¹⁴ Enterprise survey, World Bank, 2006–09.

¹¹⁵ Ibid.

¹¹⁶ SEDCO survey of 1,000 young Saudis conducted by Riyali, SEDCO's financial literacy program.

Exhibit 22

The Saudi banking sector is underpenetrated, and the retail lending market is primarily consumption-driven



NOTE: Not to scale. Numbers may not sum due to rounding.

SOURCE: McKinsey Global banking pools, July 2015; Economist Intelligence Unit; WIS; Central Bank of Egypt; *Enterprise surveys*, World Bank, 2009–10; annual report, Saudi Credit and Savings Bank, 2010; "How can SME growth in the Kingdom be unlocked?" *Arab News*, June 8, 2014; Saudi Arabian Monetary Agency; Bank Negara (central bank of Malaysia); Bank of England; Narodowy Bank Polski (central bank of Poland); Bank Indonesia; McKinsey Global Institute analysis

To address these gaps, several regulatory and market infrastructure initiatives could be considered.

- **Demand for mortgages.** Demand for mortgages and supply for housing go hand in hand. To stimulate mortgage finance demand, the regulator could introduce responsible lending policies related to debt burden with the aim of encouraging Saudis to build up their financial assets rather than spending on consumption. For example, a differentiated approach to loan-to-value requirements could be adopted, with different requirements for first and second homes; this could make it easier for first-time home buyers who are not employed in the public sector to obtain mortgages. A new system could be put in place that would incentivize defaulters to settle their outstanding debt. Another possibility would be to establish a mortgage guarantee fund that would provide guarantees against default and thereby encourage banks to lend to low- and medium-income Saudis interested in buying a home. Development institutions such as the Real Estate Development Fund could introduce subsidies or a voucher system in partnership with financial institutions to facilitate home finance for low-income households. Creating a secondary mortgage institution that buys mortgages off banks and potentially securitizes them would help to provide liquidity and drive down the cost of funds for potential buyers. Such secondary mortgage institutions in turn would help to create a fixed-income market, expanding investment options for consumers.
- **Affordable housing.** Beyond the financial aspects of growing the mortgage market, a broader initiative to promote the development of affordable housing could be considered (see Box 6, “The affordable housing challenge”). This could use a public-private partnership framework to incentivize contractors to build affordable houses to scale. Specific types of idle land in cities could be taxed to unlock supply. More generally, greater transparency in the real estate market, with standardized valuations, a real estate price index, and transaction information portals could all contribute to a rise in homeownership.
- **SME financing.** Unlocking financing to small and medium-sized enterprises will require addressing the banks’ risk appetite while also developing their capabilities to serve this market. Several market infrastructure initiatives could be undertaken to support growth in SME financing. For instance, the Kafalah Program, an existing credit guarantee program for SMEs under which the government guarantees up to 80 percent of the loan volume, could be scaled up by adopting a portfolio approach to these guarantees, and at the same time either eliminate or reduce collateral requirements that SMEs currently must meet.¹¹⁷ Setting up a movable collateral registry could help broaden the assets that can be collateralized, further improving access to finance. (Moveable assets often account for most of the capital stock of private firms, especially small and medium-sized ones.) Launching a trade credit bureau focused on SMEs could collect information about trade transactions and sell it to potential creditors. This could enable the banks to improve their risk assessment; trade data can be more accurate and a better judge of performance than financial reports. Other, deeper examples of regulatory intervention might include obligating banks to direct a minimum share of their overall loan portfolio toward SMEs.
- **National private savings.** Finally, a broad initiative could be undertaken to support the growth of national private savings. This could be achieved by developing fixed-income capital markets, incentivizing consumers to save, encouraging banks to introduce new savings products, and improving financial education.

¹¹⁷ In practice, the portfolio average of the Kafalah Program guarantee is about 50 percent of loan value.

Box 6. The affordable housing challenge

The low penetration of mortgage lending in Saudi Arabia is not just an issue for the Kingdom's banks. It is also a reflection of a significant social challenge: the lack of affordable housing.¹

Estimates based on applications to the Ministry of Housing and the Real Estate Development Fund, which provided interest-free loans to citizens, indicate that the shortage of affordable housing for Saudis ranges from 750,000 to 1.2 million homes.

There are several reasons for this gap. One is that land is expensive. In Riyadh, land constitutes as much as 50 percent of the cost of a housing unit, more than double the 20 percent that is typical in more affordable areas globally.

As we have discussed earlier, it can be hard to obtain a mortgage from a bank, especially for private-sector workers who are viewed as higher risk borrowers. Down payment requirements are as much as 30 percent of the total home value.

The Real Estate Development Fund, which used to provide interest-free loans to eligible Saudis for home purchase or construction, was unable to cope with the demand for new loans and has a backlog of about 450,000 applicants.

Other reasons for the shortage of affordable housing are related to the construction industry. Poor operations and maintenance practices have led to a rather quick dilapidation of housing stock, which creates additional demand for the existing limited supply. Moreover, the absence of industrial methods using prefabricated parts, for example, and poor use of technology in the construction industry have reduced cost efficiency. For developers, in turn, construction approval and permits can take years. Such obstacles translate into higher costs, which are passed on to end-users.

Given the demographic trends, with millions of young Saudis reaching working age over the next 15 years, this housing shortage could grow worse unless government action is taken. We expect demand for housing to grow to more than two million applicants over the next five years. This increase will be driven by additional applications for housing ownership support as well as by the formation of new households through demographic growth.

Addressing the affordable housing challenge in Saudi Arabia will require a holistic approach that takes into account a full range of issues. They include the supply of affordable serviced land that is suitable for affordable housing development. The efficiency and quality of development and construction could be addressed, for instance, through the approval and permitting processes, the classification and certification of homebuilders and developers, and the use of industrial building methods and technology.

Other factors that will need to be taken into account are the effectiveness of operations and maintenance, for example, through the enforcement of existing regulations, and by strengthening the operations and maintenance market by creating consolidated service providers. Financially, too, partial loan guarantees for eligible citizens and enhanced rental-based products will be required as an interim solution on the journey to enable Saudi households to realize their aspirations of homeownership.

¹ Cities and countries around the world struggle to meet the need for decent affordable housing. *A blueprint for addressing the global affordable housing challenge*, McKinsey Global Institute, October 2014.

CONSTRUCTION: MORE PRODUCTIVE, MORE MODERN, AND MORE EFFICIENT

In the 2003 to 2013 decade, total investment in Saudi Arabia totaled about 5 trillion SAR (\$1.3 trillion) in nominal terms, the equivalent of 26 percent of GDP. Of this, about one-fifth, or an estimated 1.1 trillion SAR (\$290 billion), was spent on economic infrastructure, double the previous decade, or about 5 percent of GDP annually. The largest share went into electricity and water utilities, but there was also heavy spending on transportation (land, water, and air) and telecommunications.

This sustained level of investment was a boon to the Kingdom's construction industry, which expanded at a robust 8 percent annual growth rate and created more than one million jobs between 2003 and 2013, more than any other sector of the economy. Most of those jobs (60 percent) were created between 2010 and 2013. About two-thirds of investment in structures went into non-residential construction, including huge prestige projects such as the King Abdullah Economic City outside Jeddah, the Mecca Solar Power Project, and King Khalid Medical City in Dammam.

In relative terms, the construction sector has declined from about 6 percent of GDP in 2000 to 5 percent in 2014 and is broadly comparable to that of other emerging economies (Exhibit 23).¹¹⁸

Going forward, analysis suggests the construction sector has the potential to continue growing and to help create future employment and welfare for Saudis, but it will need to take a quantum leap in its productivity growth and overall efficiency. Saudis will also have to overcome a stigma of working in construction; for now, more than 90 percent of the jobs are held by foreign workers.

The opportunity presents itself because of the Kingdom's continuing investment needs over the next 15 years. Of the total \$4 trillion investment that we estimate Saudi Arabia will need under our full potential scenario if it is to double GDP again by 2030, we estimate the needs in infrastructure at 3.5 trillion SAR (\$1 trillion). On top of that, there will be other construction needs, particularly real estate, but also other sectors we have looked at in this chapter, such as mining, manufacturing, retail and wholesale trade, and tourism and hospitality.

Between 2003 and 2013, about 40 percent of national gross fixed capital formation went into construction each year on average.¹¹⁹ Were that share to hold over the next 15 years, we estimate that almost 7 trillion SAR (\$2 trillion) would be spent on construction in real terms to 2030. This would amount to average annual nominal growth of 7 percent. Construction's share of GDP typically declines slightly as the economy matures and living standards rise, but the Kingdom is still at a relatively early stage of this transition.

To reap the benefits of this surge in investment, the construction industry will need a massive upgrade in its performance and productivity. For now, it is not competitive with international benchmarks. For example, while railway projects can differ in scope and difficulty, the average capital spending for such projects in Saudi Arabia is about five times higher than in the rest of the GCC.¹²⁰

¹¹⁸ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning.

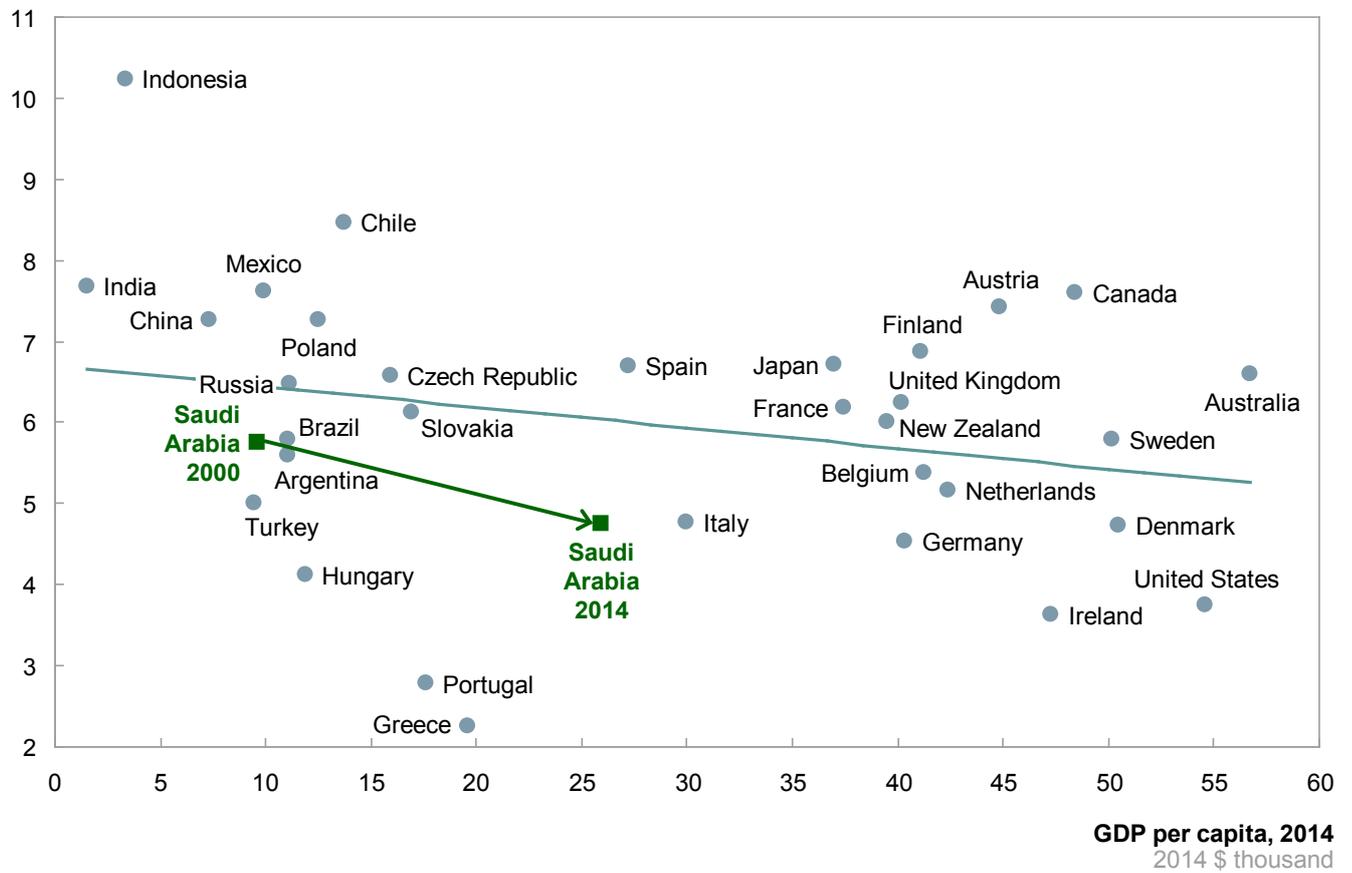
¹¹⁹ The remainder went to transport equipment, machinery, and other capital goods. Central Department of Statistics and Information, Saudi Ministry of Economy and Planning.

¹²⁰ McKinsey & Company Infrastructure Projects Analytical Tool (IPAT).

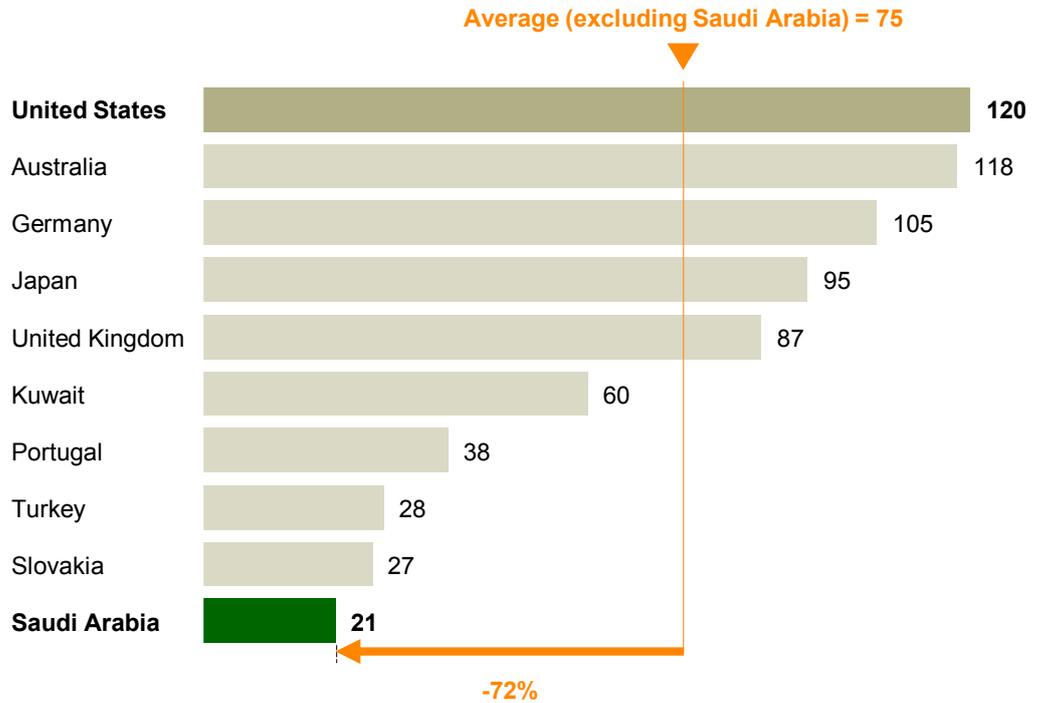
Exhibit 23

The Kingdom's construction sector has grown rapidly but could improve labor productivity

Construction value added
% of GDP



Nominal construction labor productivity value added per employee, 2013 \$



SOURCE: World Development Indicators, World Bank; "International comparisons of Malaysian construction labour productivity," Fah Choy Chia et al., prepared for CIB 2010 World Congress at Salford Quays, United Kingdom, May 10-13, 2010; McKinsey Global Institute analysis

Margins in Saudi construction are relatively small, averaging about 5 to 7 percent in 2015, even with the massive use of low-cost migrant labor.¹²¹ Sometimes, projects are delayed and face budget overruns due to poor project planning, low-caliber project management, and significant changes to project scope.¹²² The Saudi press has reported on some of the highest-profile problems, including a 2015 report alleging that 44 percent of the construction projects owned by the Ministry of Municipal and Rural Affairs had stalled.¹²³

Along with the social impact of such delays, the financial cost is significant: the Saudi Society of Civil Engineering estimated the value of stalled government construction projects in the administrative region of Mecca during the period 2008–12 at about 4 trillion SAR (about \$1 trillion).¹²⁴

The construction sector's inefficiencies are related in part to a low-cost labor model. Today, the construction sector employs one in every six people working in the Kingdom, a total of more than 1.6 million workers, roughly on a par with the retail sector.¹²⁵ Foreign workers, who account for more than 90 percent of the workforce, earned minimum wages of about 1,000 SAR per month (\$270) in 2013.¹²⁶ By comparison, the 140,000 Saudi nationals who work in construction command wages of about 3,300 SAR per month (\$880), three times the wages of foreign workers. The sector has a poor image among many Saudis as a low-paying and physically taxing job, especially in the extreme heat of the summer months.

Construction's labor model—high volume, low skill, and low mechanization—in turn leads to inefficiencies and low productivity. Saudi Arabia's construction industry largely lacks the sophisticated practices and standards that are the hallmarks of modern construction sectors in advanced economies. We estimate that labor productivity, based on value added per worker (adjusted for inflation) has declined by a fifth over the past decade (average annual decline of 2 percent). Moreover, productivity in the sector is about one-sixth that of the United States, one-third the level of regional peers such as Kuwait, and 72 percent below benchmarks. The lagging productivity is due to many factors, from a high degree of fragmentation and prevalence of small players, to a lack of modern tools, skills, and materials as well as to lengthy and complicated procedures; for instance, it can take up to four months to obtain a building permit if there are no complications.¹²⁷

Financing can be an issue, too. Industry leaders such as the Saudi Binladin Group, Saudi Oger, and El Seif Engineering can access funding, but that can be harder for smaller firms, as Saudi banks can be relatively averse to lending to them. Government contracts have been the main source of revenue in the sector, representing almost 60 percent of the total construction spend between 2003 and 2013.¹²⁸ However, being eligible to bid on government megaprojects requires annual contractor certification from the Ministry of Municipal and Rural Affairs. The procedure is slow and the requirements, which include evidence of a track record on projects and technical expertise, can be prohibitive for smaller construction companies.

¹²¹ Calculated from 2Q 2015 financial statements published on the Saudi Stock Exchange (Tadawul) of Abdullah A. M. Al-Khodari Sons and Red Sea Housing Services.

¹²² Maren Baldauf-Cunnington, Hamed Madani, and Margreet Papamichael, *Middle East property and construction handbook 2014*, AECOM.

¹²³ "Stalled construction of 1.5 kilometre bridge in Sakaka extends into fourth year and bothers residents," *Alriyadh News*, September 7, 2014.

¹²⁴ "Stalled construction projects sized at one trillion riyals over past 4 years," *Okaz.com*, May 14, 2012.

¹²⁵ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning.

¹²⁶ Ibrahim Mahamid, A. Al-Ghonamy, and M. Aichouni, "Major factors influencing employee productivity in the KSA public construction projects," *International Journal of Civil and Environmental Engineering*, volume 14, number 1, February 2014.

¹²⁷ Maren Baldauf-Cunnington, Hamed Madani, and Margreet Papamichael, *Middle East property and construction handbook 2014*, AECOM.

¹²⁸ MEED database.

For Saudi construction to realize its potential will take an improvement of the entire construction ecosystem. That includes a number of factors external to the sector, such as easing or eliminating barriers around land and improving access to finance, as discussed above. But the main onus will need to be on improved operational issues to raise quality, improve management, simplify the current procurement tendering, and develop greater rigor in the planning, monitoring, and execution of projects.

Some countries have illustrated how this might be done. South Korea, for example, enhanced the efficiency and transparency of its infrastructure development by establishing an objective supervisory organization. Cost overruns in large-scale infrastructure railway projects decreased from 122 percent to 41 percent.¹²⁹ Malaysia reversed a downturn in its construction industry in 2004–06 after adopting a strategic approach with a 2005 master plan. This emphasized high-quality standards, occupational health, and safety and sought to develop skills and capacity in the industry.¹³⁰

In Saudi Arabia, addressing construction-sector productivity will require government leadership as well as the cooperation of companies in the industry. The continued dominance of low-skilled foreign labor is in some ways an attractive and a rational low-cost choice for business if no Saudis are available or willing to take such jobs and if the country's economy is strong enough to afford the bill for imported workers. However, if the Kingdom's economy struggles to generate the number of jobs needed over the next 15 years, then the government and society at large may have to reconsider the construction industry employment model.

It is possible to imagine a very different sector with a higher-skilled and better-paid workforce. The combination of greater mechanization, labor productivity that rises to levels of benchmark countries today, more skilled jobs with better training, and continued efforts to encourage Saudis to work in the sector could all increase the attractiveness of the sector and help transform it.

Assuming that productivity could indeed rise threefold to international benchmark levels, the increase could be passed on to workers through higher wages. Based on the historical relationship between productivity and wages, we estimate that wages in the sector could double in real terms by 2030 to about 6,000 SAR (\$1,600) per month. Overall, an additional 60,000 Saudis could be employed in the sector by 2030, a 50 percent increase on the numbers today. At the same time, the step change increase in productivity levels would allow the sector to shed almost 800,000 jobs overall, from 1.6 million to 800,000. This would reduce the sector's share of total employment from about 14 percent currently to 8 percent by 2030.

Potential initiatives to achieve these goals include:

- **Modernizing a fragmented industry.** The Kingdom's construction sector is highly fragmented, with a handful of large companies at the top but a long tail of very small ones. In 2010, the sector had about 26,000 operating establishments, of which 3,000 had more than 20 employees and accounted for 85 percent of total employment. Some are very large, including the Saudi Binladin Group, which handles many of the Kingdom's largest civil projects including the \$21 billion expansion of the Grand Mosque in Mecca and the \$7.2 billion King Abdulaziz International Airport expansion in Jeddah, which is due to open next year.¹³¹

¹²⁹ IEEE Transactions on Engineering Management; KDI; Construction and Economy Research Institute of Korea; *APA Journal*.

¹³⁰ *Master plan for occupational safety and health in construction industry 2005–2010*, Malaysia Ministry of Works, 2005.

¹³¹ "Revealed: Saudi Arabia's 10 biggest contractors," *ArabianBusiness.com*, September 23, 2014.

At the other end of the spectrum, the remaining 23,000 establishments had an average of just five employees each.¹³² Most do not have the capabilities to deliver projects on time to the desired quality specifications or to take advantage of efficient building techniques and modern materials that are in widespread use in other parts of the world.

To overcome the issue of industry fragmentation and improve the capabilities of small firms, the government could seek to manage large-scale public projects in a way that would make it easier for smaller companies to participate and gain experience. Large projects could be split into subprojects that two or three smaller companies could take on, for example. This model could be applied to the Kingdom's large-scale civil construction projects. Municipalities could also play a big role by revising zoning and planning rules to encourage large-scale development.

Foreign competition could help too, by pushing domestic companies to become more efficient. In 2010, approximately 2 percent of construction establishments in the sector had full or partial foreign capital ownership. International players and joint ventures (including those with local players) have since increased their share of publicly awarded megaprojects in excess of \$1 billion from 58 percent in 2009 to 72 percent in 2012.¹³³ South Korea firms including Samsung Engineering and Daelim have been at the forefront of this trend. This foreign expansion, however, is heavily concentrated in megaprojects, and the higher productivity techniques employed have yet to filter down to the long tail of smaller companies or have an effect on aggregate productive in the sector.

- **Improving talent development.** A lack of high-skill talent, particularly management, represents a potentially significant barrier to modernization in construction. The lack of management skills leads to performance issues, including an inability to deliver big projects on time and with expected outcomes. The government could help to develop management talent by encouraging more Saudis to enroll in engineering and other technical degrees either at home or abroad under the King Abdullah Scholarship Program, or by requiring firms taking on government projects to implement an apprenticeship model for Saudis, thereby improving their skills through on-the-job training. The government could also help raise the skills of construction workers by raising standards and qualification requirements for expats.

The Kingdom could also build greater local capability through joint training programs with major construction companies by introducing short vocational training programs that teach modern construction skills. Technical high schools and vocational colleges across the Kingdom could launch more training programs and pathways.

Saudis could be attracted to construction-sector jobs through competitive salaries, but also through attractive and challenging jobs with possible career paths to more technical supervision and management positions.

- **Adopting modern building techniques.** By adopting modern techniques and investing in equipment, the Saudi construction industry could improve productivity, raise quality, and reduce overall labor requirements.

Most buildings on small projects are still constructed from brick-cast concrete blocks, rather than materials that require less labor, such as metal frames and precast concrete. With modern building techniques, the need for skilled on-site labor drops dramatically: when using prefabricated components, builders need fewer carpenters, pipe fitters, and insulators. This reduces both labor needs and the length of projects. Modern techniques

¹³² *Establishments and economic census*, Central Department of Statistics and Information, Saudi Ministry of Economy and Planning, 2010.

¹³³ MEED database.

also carry lower risk for cost and time deviations, and projects are less likely to be held up by bad weather.

To encourage companies to invest in equipment and adapt modern methods and materials, policy makers could consider introducing government-subsidized credits for investments or require that the latest equipment be used for large government-financed projects.

- **Improving quality of regulation.** Opaque and time-consuming regulatory processes can affect construction productivity. Land acquisition and construction approval processes in Saudi Arabia are lengthy and difficult by global standards. For example, while the number of procedures in the Kingdom is comparable to the number in other countries and official fees are a low share of the total cost, the time taken to obtain all the permits is, on average, four times as long as in global top performers such as Singapore and South Korea and about double the time of regional benchmarks such as the United Arab Emirates and Qatar.¹³⁴ Long delays in permits, which often occur while projects are already under way, result in low levels of utilization of workers. Utilization levels on large construction projects in Saudi Arabia often track at less than 20 percent, about half the global benchmark.¹³⁵

Regulators could speed up building in the Kingdom, raise standards and help to make the sector more efficient. Policy makers will need to focus on introducing quicker, less bureaucratic, and more transparent land acquisition and construction approval processes. At the same time, the government could set tougher rules to improve safety and working conditions and to ensure high-quality standards and use of modern equipment and best practice operations.



The eight non-oil sectors we have looked at in this chapter all have considerable potential to grow rapidly and to create new wealth and millions of new jobs if they can rise to meet the productivity imperative. Their success, and that of the rest of the non-oil economy, will be critical if Saudi Arabia is to change its model, diversifying away from its dependence on oil and its heavy public-sector spending. The preconditions appear to be in place. The Kingdom has an abundance of natural resources that could be leveraged more effectively, not just for petrochemicals and mining, but also endowments of natural beauty that could become thriving tourist attractions. Modernized retail trade and construction sectors could generate millions of new jobs. The Kingdom may even have an opportunity to emerge as a manufacturing hub. An overhauled financial sector that can deliver credit more effectively to small and medium-sized businesses and individuals could enhance GDP growth and become a more vibrant service sector in its own right. All these sectors have the potential to help the Saudi economy achieve sustainable growth over the next 15 years and beyond, and attract the \$4 trillion in investment that we estimate will be needed. But it will take more than just potential and investment to turn the Saudi economy into an efficient generator of growth and jobs. Some key reforms will also be needed, reforms that challenge the current model of working, of doing business, and of managing the Kingdom's fiscal affairs.

¹³⁴ "Dealing with construction permits," in *Doing business 2014: Understanding regulations for small and medium-sized enterprises*, World Bank, October 2013.

¹³⁵ McKinsey estimate based on industry interviews.



Saudi students and international faculty at the King Abdullah University of Science and Technology
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3. TRANSFORMATIONS

The growth of the non-oil economy in Saudi Arabia and the inflow of investment to accompany it that we outlined in the previous chapter will form the basis of the Kingdom's future prosperity, but they will not happen on their own. They will come about only if they are supported by three strong pillars (Exhibit 24).

Exhibit 24

Transformational change: A potential agenda

Labor market reforms to create an active and productive private-sector workforce	Economic reforms to enable private-sector growth	A new model of fiscal management to ensure future prosperity
<ul style="list-style-type: none"> ▪ Encouraging increased labor participation, especially for women and youths ▪ Raising skills of Saudi workers through education and training ▪ Increasing labor market flexibility and mobility for foreign workers and Saudis ▪ Limiting growth in the public sector workforce ▪ Increasing cost of hiring foreign labor 	<ul style="list-style-type: none"> ▪ Continuing to improve the business environment (contract enforcement, visa requirements, approvals, and processes) ▪ Removing limits to competition in the private sector ▪ Improving infrastructure required for an efficient private sector (e.g., ports) ▪ Incentivizing companies to adopt more investment-intensive business models (e.g., talent development, capital intensification, R&D) ▪ Professionalizing management practices, including in state-owned enterprises ▪ Attracting foreign direct investment and local private investment 	<ul style="list-style-type: none"> ▪ Capturing procurement and capital expenditure savings opportunities in government expenditure ▪ Reforming energy market prices ▪ Improving returns from state-owned assets ▪ Increasing non-oil revenues ▪ Maintaining high levels of government investment initially with gradual reduction in government share of investment over time ▪ Managing financing of government deficits (e.g., through debt, asset sales)

SOURCE: McKinsey Global Institute analysis

The first pillar is a skilled workforce that is able to raise the Kingdom's economy to a new level of productivity and efficiency. To realize increases in household income and accommodate the demographic bulge, Saudi women and men will need to participate more fully in the labor force. The Kingdom will also need to overcome an important mismatch between the skills of its people and the needs of the labor market. Many of the incentives around work in Saudi Arabia are at odds with creating a more productive workforce: public-sector workers earn 70 percent more on average than workers in the private sector, unemployment benefits and welfare transfers are relatively high compared with wages, and many employers prefer to hire low-skilled migrant workers over Saudi nationals whose wages can be three to four times higher.

The second pillar is an economic and regulatory environment that is unambiguous, transparent, and conducive to business. That means building on advances already made in Saudi Arabia in the past 15 years in terms of opening up the economy to more competition and international investment. But it also means simplifying sometimes complex regulation,

speeding up sometimes laborious procedures and processing times, and eliminating the hurdles that stand in the way of a bigger, more dynamic, and increasingly productive private sector.

The final pillar is sustainable fiscal management that is resilient to the ups and downs of global oil prices and mitigates the risk that government deficits become a drag on the economy. This would require a major overhaul of the Kingdom's existing system based on oil revenue and public spending—not just of its methods but of its underlying philosophy, too. At a practical level, sources of revenue other than oil will be needed. A comprehensive reform of low domestic energy prices and the introduction of common taxes such as VAT or personal income taxes could bring the Kingdom into line with sustainable fiscal practices in all developed economies and G20 emerging economies. The government will also need to become more efficient with spending and asset management. Analysis suggests there is room for substantial savings in capital outlays and operating expenditure, as well as possibilities to better manage and monetize the \$1 trillion or more of financial and non-financial assets in its portfolio.

Beyond these practical measures, however, a shift of mindset is also needed, one that reorients the Saudi economy away from reliance on the government, and toward an invigorated private sector. As we have outlined, under a full potential scenario, the private sector could account for 84 percent of GDP in 2030, up from 38 percent today, while the public sector's share of GDP in real terms would decline by almost two-thirds from 16 percent today to 5 percent in 2030. To achieve this will not just be a government issue, but one that would directly affect business and households. The government would need to reframe its mandate away from providing cradle-to-grave dependence and security to focus on enhancing the potential and productivity of every Saudi citizen. For their part, Saudis would have greater freedom to engage in business in exchange for a greater obligation to support society through taxes and fees. As is characteristic of modern economies, the government would play its role in contributing to the prosperity and well-being of society, but individuals and the growing private sector would also play a bigger part than they do currently, helping to finance the public goods from which they privately benefit.

THE LABOR IMPERATIVE: CREATING AN ACTIVE AND PRODUCTIVE PRIVATE-SECTOR WORKFORCE

The coming demographic bulge in Saudi Arabia could either be an engine that propels economic growth or a brake on the future. In a scenario where the private sector becomes the principal driving force for the economy and helps to bring about a surge in productivity, the economy could dramatically increase labor force participation, and real household income could grow by about 60 percent after tax. From the perspective of the workforce, achieving this “demographic dividend” means that six million additional Saudis would be working, mostly in the private sector.

60%

Potential increase
in household
income after tax

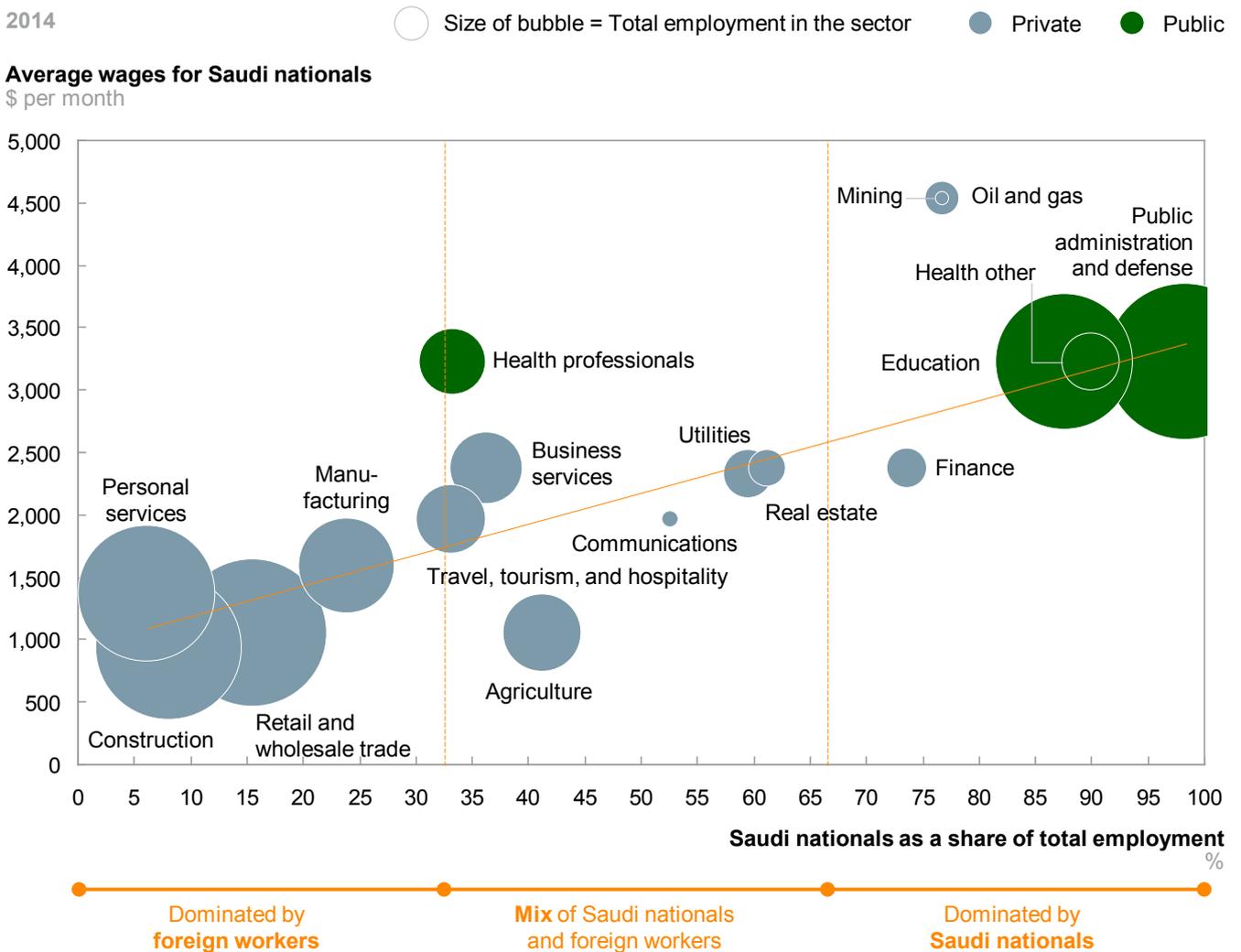
Increasing the number of Saudis who choose to look for work will be an essential factor in raising Saudi household income over the next 15 years.

Achieving this transformation would require two radical departures from the situation today: a significant increase in labor force participation, especially for women and youths, and the large-scale introduction of Saudis into the private-sector workforce. This would effectively mean a reconfiguration of the current dual labor market, in which Saudis earn the most in public-sector jobs, while most private-sector employment is lower-paid and carried out by foreign workers (Exhibit 25).

Going forward, Saudi workers will need better skills to enable them to meet the needs of private-sector employers. Many industries will need to go through significant transformation toward higher productivity and higher-wage jobs. The public sector will have to limit or curtail employment growth, and a new balance will need to be found between Saudi nationals in the workforce and the foreign laborers who currently constitute a majority of workers. Each of these shifts would require major changes on the part of the government, private enterprises, and Saudi households. But analysis suggests that the alternative is having millions of unemployed working-age Saudis without the oil revenue to support them.

Exhibit 25

Saudi Arabia has a dual labor market, with Saudi nationals in higher-paying public-sector jobs, and non-Saudis in lower-paying private-sector jobs



SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning;; Saudi Ministry of Labor; Saudi Ministry of Health; McKinsey Global Institute analysis

41%

Percentage of overall labor participation

Drive increased labor participation for all Saudis, especially for women and youths

Today, 54 percent of the total working-age population in Saudi Arabia is either employed or looking for work. However, excluding foreign workers, the majority of whom are required to work to stay in the country, the labor force participation rate for Saudi nationals is only 41 percent, of which 12 percent are unemployed. Only about one-third of the Saudi working-age population actually works. This is in contrast to a participation rate of 72 percent across all upper-middle-income countries, which include nations such as Malaysia and Turkey.¹³⁶ While male participation is lower than in these other countries, the largest gaps are in female and youth participation.

Increasing the number of Saudis who choose to look for work will be an essential factor in raising Saudi household incomes over the next 15 years.

If the average of 1.5 Saudi workers per household today could rise to 2.6 Saudi workers per household by 2030, household income would increase from 14,000 SAR (\$3,800) monthly to 26,000 SAR (\$7,000) before tax, or 23,000 SAR (\$6,000) after possible taxes. (In our model, this scenario assumes that households will pay taxes and fees in 2030, which would reduce the increase in household income to a still-robust 60 percent). Given fiscal constraints, only the private sector can drive this change; the average number of household members employed in the private sector would need to rise from an average of 0.5 to 1.6. Achieving this increase in household income would require more Saudis of both sexes to work.

Women face a number of regulatory barriers to their increased participation in the labor force. The requirement for all organizations employing women to invest in separate facilities such as working areas and eating areas, and the ambiguity around what the rules mean in practice and how actively they are enforced, creates a disincentive to hiring women. This is especially the case for smaller companies, due to the additional cost required to retrofit facilities. In addition, women in Saudi Arabia have historically been represented by male relatives in executing certain professional transactions, such as setting up businesses and signing employment contracts. Although some of these policies have begun to change in recent years, remaining legal obstacles and time lags in implementation of new regulations continue to discourage participation.¹³⁷

Other practical barriers to women's participation are logistical in nature and include limited child care and transportation options. Today, no formal, high-quality day care system exists in the Kingdom, partly because of restrictive and unclear regulation of the sector, which is governed by multiple ministries. In a recent survey of 3,000 Saudi men and women, 82 percent of respondents (and 86 percent of women) felt that increased availability of child care would improve women's ability to contribute to national development.¹³⁸ The experience of other countries has borne this out; in one study in the OECD, an increase in child care coverage was strongly associated with an increase in the female employment rate.¹³⁹

¹³⁶ The World Bank categorizes countries into low-income, lower-middle-income, upper-middle-income and high-income segments. Saudi Arabia falls into this latter category of countries with a per capita income above \$12,736 annually. Excluding oil from the economy, however, it would fall into the upper-middle-income category, which also includes such leading G20 emerging economies as Malaysia, Mexico, South Africa, and Turkey.

¹³⁷ *Women, business and the law 2016: Getting to equal*, World Bank September 2015.

¹³⁸ Al Sayedah Khadijah Bint Khuwailid Center at the Jeddah Chamber of Commerce and Industry poll of 3,000 Saudi females and males, 2013.

¹³⁹ Olivier Thévenon, *Drivers of female labor force participation in the OECD*, OECD Social, Employment and Migration working paper number 145, May 2013.

Transportation is another obstacle. In Saudi Arabia, women are not allowed to drive, and public transportation options are limited, although the ongoing construction of new metro transit lines may create more possibilities. For private transportation, either with a driver employed by the household or taxis, the expense can consume a substantial share of a woman's salary, providing a disincentive to work. Many different government actions could address this challenge, ranging from providing more public transportation options to loosening restrictions on women driving, to promoting telework.

In addition to measures that government could take, a large shift in female labor force participation would also require changes in attitudes about women in the workforce on the part of many Saudi Arabian employers, communities, and families.¹⁴⁰ Recent MGI research has established a strong link between gender equality in society, attitudes and beliefs about the role of women, and gender equality in work. The latter is not achievable without the other two elements. MGI research found virtually no countries with high gender equality in society but low gender equality in work.¹⁴¹

Attitudes and beliefs in the workplace matter. McKinsey's 2013 Women Matter research found that women's ambitions for leadership are as high as those of men; however, their beliefs in their chances of success are about 15 percentage points lower.¹⁴² Further, MGI analyzed the World Values Survey and data from the OECD and found a strong link between attitudes that limit women's potential and the actual gender equality outcomes in a given region.¹⁴³

With enabling policies and the right incentives, the sort of major increase in labor force participation for women anticipated in the full potential scenario—a rise from 18 percent participation today to 45 percent in 2030—would bring Saudi Arabia into line with the average for other G20 and major emerging economies, and on a par with countries such as Malaysia, Mexico, and South Africa. Male participation could also increase, mainly among younger and older men, to 76 percent, also in line with the rate in Malaysia today (Exhibit 26).

For youths, increasing participation is a different challenge. While 62 percent of Saudi youths are in training or education, only 20 percent are in the labor force, with a comparable number having dropped out of the system entirely. These dropouts are often labeled as NEETs (not in employment, education, or training).¹⁴⁴ In Saudi Arabia, the current regulatory environment and job market do not create incentives for young people to work and can actually make it hard for them to do so even if they want to. Unemployment is particularly high for young people between the ages of 20 and 30, for women generally, and for Saudis who live in the north of the Kingdom (Exhibit 27).

¹⁴⁰ The issue of the self-confidence of female workers in Saudi Arabia and attitudes toward them is explored in a number of studies including *GCC women in leadership—from the first to the norm*, McKinsey & Company, July 2014; Kelly Lavelle and Hessah Al Sheikh, "Giving voice to women entrepreneurs in Saudi Arabia," Ashridge Business School, April 2013, and *Women's careers in the GCC*, Pearl Initiative, 2015.

¹⁴¹ *The power of parity: How advancing women's equality can add \$12 trillion to global growth*, McKinsey Global Institute, September 2015.

¹⁴² *Making the breakthrough*, Women Matter 2012, McKinsey & Company, March 2012.

¹⁴³ World Values Survey; OECD Gender, Institutions and Development database 2014.

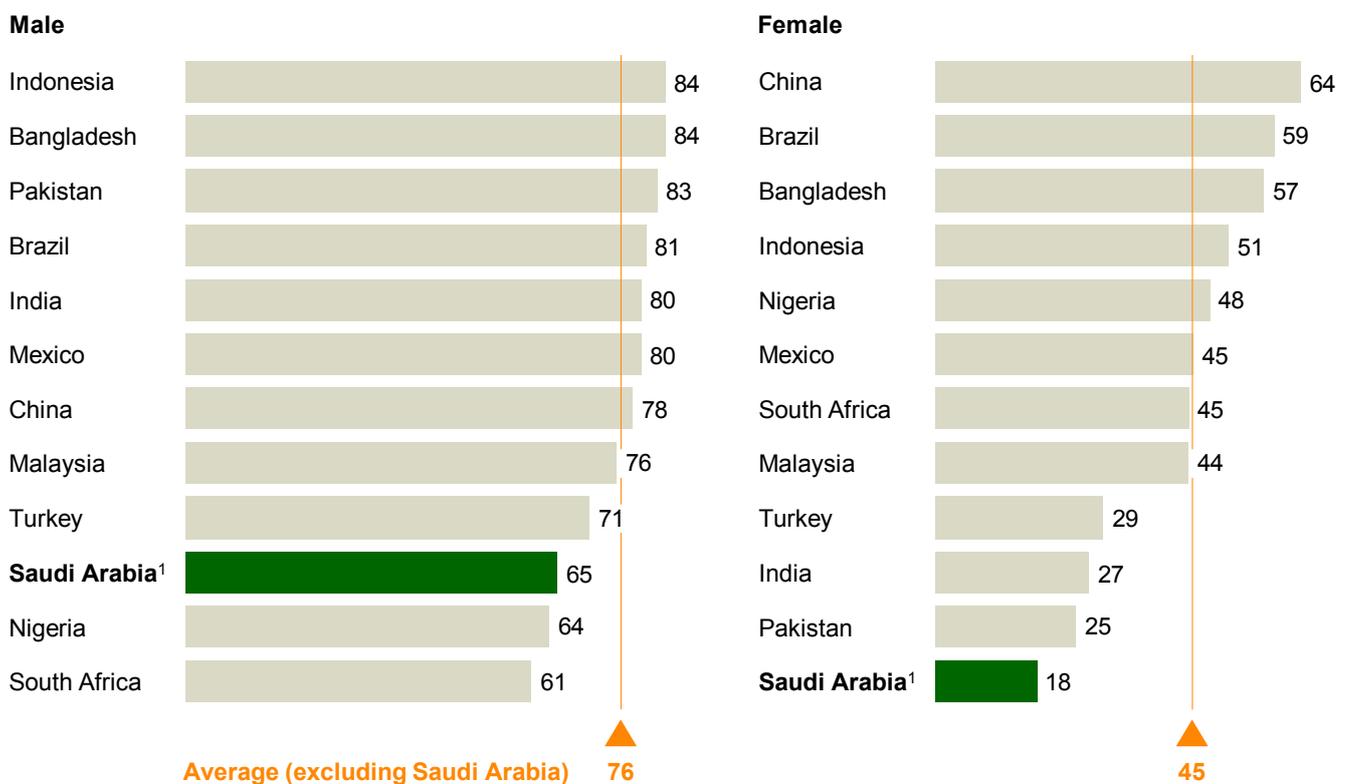
¹⁴⁴ *G20 employment plan 2014—Saudi Arabia*, G20 Leaders' Summit, Brisbane, November 2014.

Tertiary education, including both universities and technical colleges, provides free tuition for Saudis and also pays student stipends up to two-thirds of Saudi entry-level wages today. Unemployment benefits that were rolled out under the Hafiz (“incentive”) program, launched in 2011, provide an additional source of income outside of employment. And there are legal restrictions on part-time work, which is a common entry point into the workforce for young people globally. Government has a role to play in easing these restrictions and potentially revisiting its support programs, but private enterprises would need to play the leading role by investing more in on-the-job training for first-time employees, participating more actively in the vocational education system, and providing more part-time work options.

Exhibit 26

Male and female labor participation rates lag behind benchmark countries

Male and female labor participation in G20 and other emerging markets, 2013
% of working-age population



¹ Saudi nationals only; excludes foreign workers.
NOTE: Numbers may not sum due to rounding.

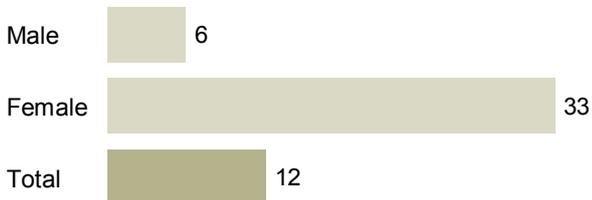
SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; World Bank Indicators, World Bank; McKinsey Global Institute analysis

Exhibit 27

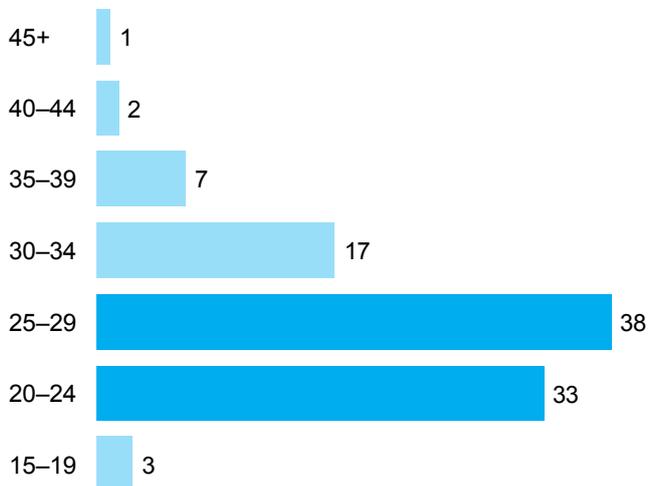
Unemployment rates among women, young adults, and in remote northern regions are higher than the national average

Unemployment rates among Saudi nationals, 2015
%

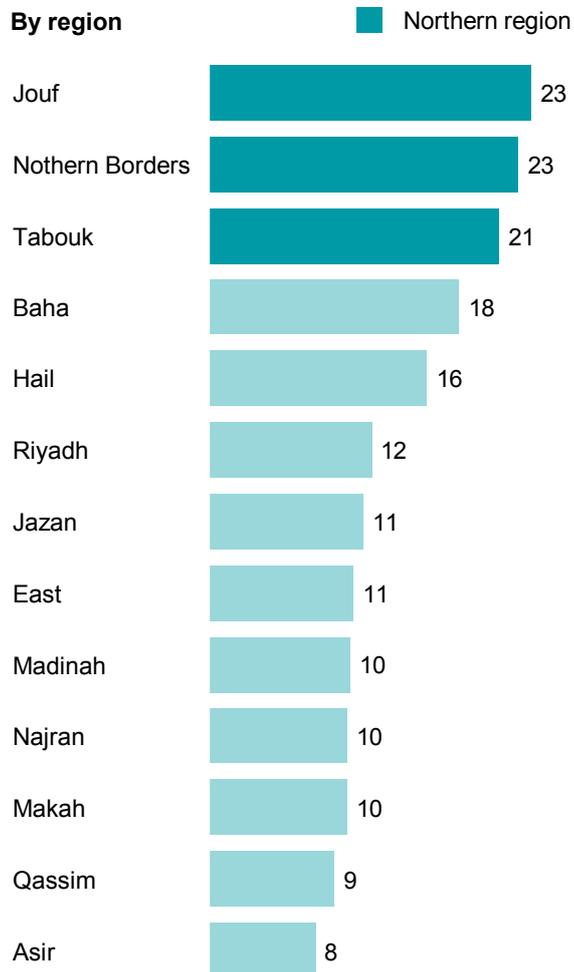
By gender



By age group



By region



SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; McKinsey Global Institute analysis

3M

Number of public-sector employees

Rebalancing the workforce: Public- and private-sector employment, and the future role of foreign laborers

Today, almost 70 percent of employed Saudi nationals—more than three million—work for the public sector. At the same time, roughly 85 percent of private-sector jobs, or more than five million, are held by foreign workers. There is, however, significant potential for more Saudis to take part in a growing and more productive private sector over the next 15 years. Such a shift would require many changes. Improving the flow of young people from education to employment is a critical one (see Box 7, “Education to employment—equipping young Saudis with the tools and skills they need for work”).

Box 7. Education to employment—equipping young Saudis with the tools and skills they need for work

The Kingdom's education system has a central role to play in upgrading the skills and productivity of the Saudi workforce. There are three priorities: improving the basic level of education; ramping up vocational education and training; and improving the flow of young people, including university graduates, from education to employment.

Since 1970, the Saudi public school system has undergone impressive expansion in capacity and coverage, but quality has lagged behind. As we have seen, students perform poorly in international tests of literacy and mathematics skills. Universities face dropout rates of close to 50 percent.¹ Employers report that high school graduates lag behind performance expectations by up to five years.²

Previous McKinsey research shows that the quality of teachers and school leaders is the key driver of educational outcomes.³ Quality is driven by how standards are set, how training is delivered, and how individual performance is managed. Along all of these steps, the Kingdom has potential to improve. For example, the teacher-training curriculum has been heavy on theory and light on educational practice.⁴ Given the large number of teachers in the system, improved in-service training is critically important.⁵

Salary levels are low, and there is very limited linkage between teacher performance and compensation or career progression. The formal performance management system rates 95 percent of teachers in the highest possible category compared with about 5 percent in benchmark systems.

With a student to teacher ratio of 11:1, the Kingdom has more than 450,000 teachers, close to 10 percent of the overall Saudi workforce. Compared with other systems, this is more teachers per student, with the implication that the resources available for training and supporting each individual teacher are more constrained than if there were fewer teachers.

One challenge is how best to educate the rural population; about 20 percent of Saudi pupils live in its vast rural areas, and government policy over the years has led to a large number of extremely small educational institutions across the country. Of the Kingdom's close to 32,000 primary and secondary schools, more than half have fewer than 100 students and more than 30 percent have fewer than 50 students. These institutions can have difficulty in attracting quality teaching staff, and their per-student cost can be high.

The lack of available vocational education is also a weak point. In Saudi Arabia today, only about 10 percent of each cohort of students goes on to technical or vocational education, and the system is at capacity. That compares with OECD countries where the proportion is twice as high, as in Austria, for example, or three times as high, as in France.⁶ Even within universities, technical fields of study are smaller. The image of vocational training could be a barrier here: a 2012 McKinsey survey showed that 75 percent of Saudi Arabian youths thought that an academic path was more highly valued by society than a vocational one. That was the highest proportion of the nine countries we surveyed, including the United States, Germany, Morocco and Mexico.⁷

¹ Saudi Ministry of Economy and Planning, 2010.

² "Saudi Aramco raises issues on readiness of high school graduates," *Al Hayat*, 2009.

³ *How the world's most improved schools keep getting better*, McKinsey & Company, November 2010.

⁴ Amani K. Hamdan, "Challenges and constraints encountered by Saudi pre-service science teachers: A critical perspective," *Learning*, volume 12, number 1, 2015.

⁵ Mohamed M. Ghoneim Sywelem and James E. Witte, "Continuing professional development: Perceptions of elementary school teachers in Saudi Arabia," *Journal of Modern Education Review*, volume 3, number 12, December 2013.

⁶ *Skills beyond school: Synthesis report*, OECD Reviews of Vocational Education and Training, 2014.

⁷ *Education to employment: Designing a system that works*, McKinsey & Company, 2012.

Box 7. Education to employment—equipping young Saudis with the tools and skills they need for work (continued)

Some attempts are under way to change this situation. For example, a new vocational education system called Colleges of Excellence, which is managed by international training providers, has ambitious plans to increase the size of the vocational system over the next decade by a factor of three to four. Moreover, a new, national system for career education is in the process of being set up to orient young Saudis toward labor market-relevant professions in the private sector.

Creating stronger labor market linkages to improve the journey from education to employment is the third essential element. That starts with the choice of subjects studied in college. More than 30 percent of new university entrants, especially women, specialize in subjects that are associated with low labor market demand, such as humanities and Islamic studies.⁸ At the same time, there is a shortage of graduates in fields with high demand such as nursing.⁹

Higher education systems with strong employment outcomes have significant linkages between employers and educational institutions.¹⁰ But in Saudi Arabia, industry sectors have no strong forum or voice to articulate their input into the education system.¹¹ An important step for improvement would be to establish employer-led sector skills councils that can provide the education system with structured input on industry demand and skills requirements.

Linkages could be built along the entire education to employment journey. There are already some examples in the Kingdom of successful collaboration between private-sector employers and educational institutions. For example, the Saudi Japanese Automobile High Institute, a collaboration between Toyota and the various Toyota distributors in the Kingdom, trains technicians for the Saudi labor market. Trainees are sponsored during their studies by one of eight companies in the sector that then hire them upon graduation.¹² Saudi Petroleum Services Polytechnic in Dammam and Al Khafji trains technicians for the oil and gas sector in collaboration with Aramco and other oil companies. Similar types of arrangements between employers and educational establishments exist in the utilities, mining, and dairy sectors, among others.¹³

Employers could do more to foster such cooperation and offer on-the-job training and apprenticeships to young Saudis. For its part, the government could enhance these efforts by reforming the education system to encourage more job-relevant training paths, with a greater focus on technical subjects, for example.

Matchmaking between graduates and industry is the third challenge. This is partly about universities and employers collaborating to ensure that employers get a chance to meet potential recruits. It can be further encouraged by training institutes trying to initiate agreements under which companies agree to hire students even before they graduate.

New incentives could also be put into place to encourage the pursuit of studies that provide skills that are in demand. Currently more than 200,000 students are enrolled in the Two Holy Mosques scholarship program. It consumes 10 percent of the country's education budget and has developed into the third-largest such program in the world after those of China and India. While performance data about the program is scarce, one potential opportunity to improve is better matching of scholarships to labor market needs.

⁸ Saudi Ministry of Education website.

⁹ Majed Alamri and Nashat Zuraikat, "Financial incentives system for nursing in the Kingdom of Saudi Arabia," *Journal of Accounting and Finance*, volume 11, issue 2, 2011.

¹⁰ *Education to employment: Designing a system that works*, McKinsey & Company, 2012.

¹¹ While industry associations are not permitted by law, their role is supposed to be fulfilled by sectorial committees that are part of the Chambers of Commerce and under the oversight of the Saudi Ministry of Industry and Commerce. However, neither the structure of the committees nor their organization and resources permit them to develop granular, sector-specific work on skills or otherwise. Other industry advisory groups exist as well, including Sector Employer Validation Groups that provide input into vocational standards, but likewise lack the setup and resources to effectively articulate and lobby for sectorial skill needs.

¹² "250 jobs for young Saudis in auto industry," *Arab News*, May 19, 2013.

¹³ "SPSP inaugurates new training center," Saudi Aramco press release, March 6, 2014; "Ma'aden joins KAUST industry collaboration program," King Abdullah University of Science and Technology press release, March 26, 2014; "Over 800,000 Saudis waiting for govt jobs," *Arab News*, July 3, 2010.

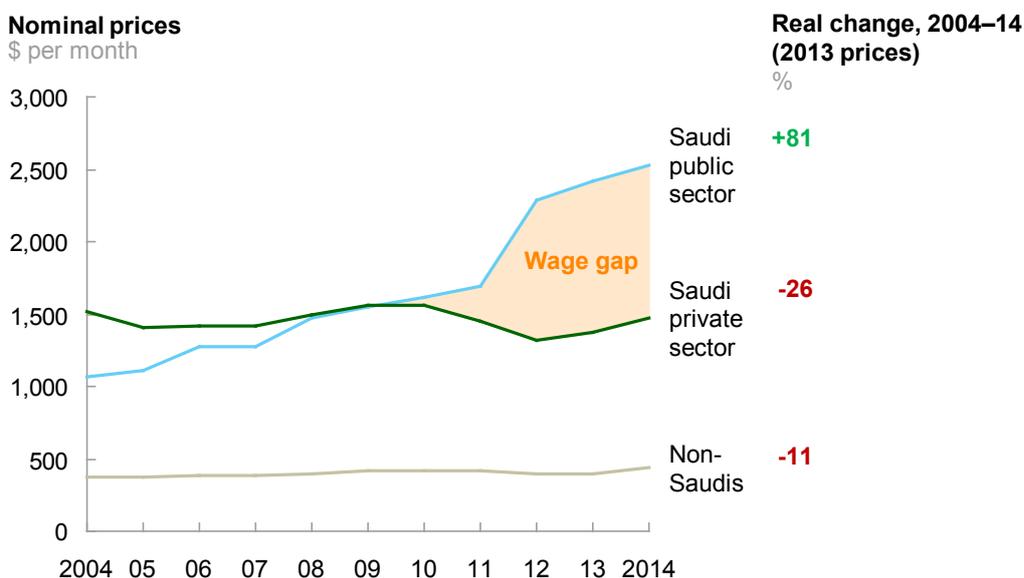
But Saudi Arabia will also need to tackle two issues that are very specific to its unusual labor market: the gap between public-sector and private-sector employment and wages, and the role of foreign laborers.

The Saudi public sector expanded significantly in the past decade, especially in the later years of the oil boom. In addition to the more than three million Saudi public-sector employees, as many as 800,000 Saudis are reported to be waiting for government jobs. Public-sector jobs are widely seen as preferable to jobs in the private sector due to higher job security, more social prestige, easier working hours, a better working environment and benefits and, after then King Abdullah bin Abdulaziz ordered a large wage increase for the public sector in May 2011, much better pay. As we have noted, the average Saudi public-sector employee today is paid about 70 percent more than private-sector average, creating a disincentive for Saudis to enter the private sector (Exhibit 28).

Exhibit 28

A growing gap between average wages in the public and private sectors made the private sector less attractive to Saudis

Evolution of average monthly wages in the Kingdom by labor market segment



SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi General Organization of Social Insurance; Saudi Ministry of Civil Service; McKinsey Global Institute analysis

While this public-sector expansion brought a higher standard of living to households, the coming demographic bulge will make it necessary for the country as a whole and for individual Saudi job seekers to look to private-sector jobs. The government can help facilitate this shift by limiting growth in the number of new public-sector jobs and wage levels and by helping to bring about productivity improvements in the private sector that can increase wages and the sector’s overall attractiveness to Saudi workers.

Sustainable wage increases in the private sector will come only with improvements in productivity. In the previous chapter we described some of the opportunities for productivity improvements in individual sectors, such as switching to modern formats in retail, or industry consolidation in construction. Taken together, we estimate these changes will help raise labor productivity by an average of 5 percent per year in the non-oil private sector and, in turn, push Saudi real private-sector wages up by 75 percent by 2030.

The government has a role to play here in leveling the playing field between the public and private sectors by ensuring that appropriate workplace health and safety regulations are applied in both, and that the government-run private-sector pension scheme is competitive with the public pension scheme.

Analysis suggests that limiting or even reversing the expansion of the public sector should be an urgent priority for the government. This could be done by limiting or freezing wage growth in nominal terms to allow convergence with the private sector over time, and by limiting new hiring to the minimal level required to replace retiring staff in critical roles.

The projected public-sector wage bill of 435 billion SAR (\$116 billion) in 2015 amounts to approximately 11 percent of GDP, at a time when the government's finances have swung to a 20 percent projected deficit.¹⁴⁵ When compared with other countries, even those with historically large governments, both the size of the public sector in Saudi Arabia and the wage gap with the private sector are outliers.

For example, in a study of 26 European countries conducted in 2013, many countries had higher wages in the public sector than the private sector, due largely to the mix of jobs rather than differences in wages of comparable jobs. However, only four countries had a wage gap of greater than 40 percent, and only one country, Portugal, had a wage gap higher than Saudi Arabia's 70 percent.¹⁴⁶ The experience in Portugal over the past five years or so has shown this to be unsustainable; the country has received assistance from its neighbors and has been undergoing significant austerity to address challenges partially caused by this escalation in government wages.¹⁴⁷

Finding a new balance between Saudi nationals and the foreign laborers who currently constitute a majority of the Kingdom's workforce is a second complex issue. For Saudi Arabia, the critical factor is how productive the workforce can become, not the division between Saudi workers and foreigners. Without productivity increases, substituting domestic for foreign labor will not close the fiscal gap or increase household incomes. However, if productivity can increase and more Saudi nationals enter the workforce, household income will rise more quickly than if foreign workers retain their leading role in the workforce.

Over the past two decades, the government of Saudi Arabia has attempted to replace foreign workers with Saudis through successive Saudization programs, most recently with the Nitaqat program launched in 2011. While about 1.7 million Saudi jobs were created during the past decade, the total number of foreign workers in Saudi Arabia continued to increase; an additional 2.7 million foreigners entered the Saudi labor force between 2003 and 2013, raising the total number to about six million. More than 60 percent of the increase of the past decade came after 2009, and reflects a surge in foreigners into the construction sector to help build the Kingdom's large-scale projects. The increase in the number of foreign workers continues today, albeit at a slower pace, with about 130,000 entering in 2014.¹⁴⁸

Imported foreign laborers are more attractive to employers, in part because they work for lower wages. In addition, the sponsorship system under which they enter the Kingdom gives their employers more control over them than they would have over Saudi employees; for instance, in most circumstances, foreign workers cannot leave a job with their sponsor for

¹⁴⁵ "Saudi Arabia, 2015 Article IV consultation—press release; staff report; and informational annex," IMF Country Report number 15/251, September 2015.

¹⁴⁶ Francisco de Castro, Matteo Salto, and Hugo Steiner, *The gap between public and private wages: new evidence for the EU*, European Commission economic paper number 508, October 2013.

¹⁴⁷ *A window of opportunity for Europe*, McKinsey Global Institute, June 2015.

¹⁴⁸ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning.

another job in the Kingdom without permission from the original employer. On the other side of the equation, Saudis have higher wage expectations, are less willing to relocate, are not easily fired, and often lack the right skills.

To date, the government has launched a number of programs to increase the relative attractiveness of Saudi workers for the private sector. In addition to Nitaqat, which is an indirect way of increasing the cost of imported labor, there is a scheme of wage subsidies for new Saudi employees, and a fee on foreign labor visas that effectively increases the cost of foreign workers above their wage. Additional programs include the Program B scheme, which requires companies to look at available Saudi talent before getting visa authorization for a foreign worker.¹⁴⁹ Taken together, these policies narrow the cost/wage gap between Saudis and foreign laborers, but they do not fully close it. In some subsectors, such as women-focused retail, the government has gone further and mandated full Saudization. Such an approach is not applicable to the entire economy, but it has proven effective in specific niches.

More could be done to improve the attractiveness of Saudi workers to prospective employers, including with education and training, and potentially through additional subsidies to facilitate initial entry to the private-sector workforce. If the government wanted to increase the cost of foreign labor, there are many policy tools available to do so, from restricting the total number of visas, to putting in place a larger levy on foreign workers, to setting a minimum wage.

For the full potential scenario, we project that the percentage of jobs held by foreign workers will decline from 55 percent in 2014 to 26 percent by 2030, at the same time that the participation of Saudi nationals rises from 41 percent to 60 percent. Given that most foreign workers are on temporary contracts and that the market for them is fluid, the reduction in their numbers could be achieved by limiting new arrivals (e.g., through quotas or by raising the cost to employers). Foreigners who succeed in obtaining employment in the Kingdom under the full potential scenario will benefit from rising productivity and wages. Moreover, the full potential scenario implies over time a unifying of the dual labor market as the cost differential of Saudi vs. foreign workers narrows.

Making Saudis more competitive in the labor market will also require addressing various labor market regulations and restrictions that apply only to foreign workers. This includes the system that ties their residency to their employer and makes it very difficult for them to change jobs. Without more equal conditions, employers will continue to prefer foreign workers and will have little incentive to improve workplace conditions or adopt more efficient practices that are the key to lifting productivity. Thus, narrowing the gap between these dual labor markets would mean increased labor mobility and flexibility for foreign workers, more employment opportunities for Saudi nationals, and a workforce and overall economy that are both more productive.

ECONOMIC REFORM: OPENING UP THE KINGDOM

To enable the productivity-driven economy envisioned in a full potential scenario, Saudi Arabia will need to nurture an ecosystem in which business can thrive. This will require the acceleration of two trends that have been under way in the Kingdom since the mid-1990s. The first is a significant easing of the day-to-day barriers and rules that affect and constrain businesses and entrepreneurs, and that close off economic activity. The second is an intensification of competition in the domestic Saudi economy as well as the opening of the Kingdom to greater global competition.

¹⁴⁹ *G20 employment plan 2014—Saudi Arabia*, G20 Leaders' Summit, Brisbane, November 2014.

2005

Year Saudi Arabia
joined the WTO

These changes are especially critical if the Kingdom is to attract large-scale private investment that will help to finance its economic transformation. While government can play a leading role by implementing regulatory changes, private enterprises and Saudi households also have their part to play, accepting and embracing a more dynamic and more open, but also more competitive, era.

Easing the barriers to business and economic activity

Even prior to the 2003–13 oil boom, the Kingdom put in place important business regulation reforms, including the Foreign Investment Act of 2000, which allowed foreigners full ownership of projects without a local sponsor in major sectors, and established the Saudi Arabian General Investment Authority to oversee and foster the business and investment environment. Accession to the World Trade Organization in 2005 was another milestone. Since then, the government has made further changes that have improved its position in international rankings of doing business.

One recent effort that highlights both the progress made and the challenges still remaining is the process for launching a new business. The formal process has been simplified from 67 steps in 2006 to 21 in 2015. Some of these steps have also been streamlined—with a much-publicized effort by the Ministry of Commerce and Industry to shorten the full commercial registration process to an online process that can be done in 180 seconds.¹⁵⁰ At the same time, entrepreneurs continue to complain that the end-to-end process to begin operations can take more than six months because of a large number of handovers and inefficient processes among multiple ministries and municipal agencies.

International rankings point to other areas where Saudi Arabia lags behind countries such as South Korea, Turkey, and the United Arab Emirates (Exhibit 29).¹⁵¹ Areas highlighted by the indexes where the Kingdom could still make significant progress are in licensing conditions, legal enforcement, visa processing, and customs clearance. Some restrictions also remain on investment and ownership levels by foreign companies. In 16 sectors including audiovisual and real estate, no foreign participation is allowed. Some other sectors where participation is formally allowed, such as most health-related sectors, continue to face restrictions in practice.¹⁵²

In general, Saudi Arabia ranks favorably in international lists such as the World Bank's Ease of Doing Business and the World Economic Forum's Global Competitiveness Index. For the latter in particular, the Kingdom's low tax regime is seen as an important advantage that compensates for competitive weaknesses elsewhere.

These rankings provide quantitative support for the frustration and anecdotes of some corporate executives active in the Kingdom. Among the major obstacles for registered companies are operating licenses: 500 business licenses were revoked from foreign investors in 2009 due to failures to comply with licensing conditions.¹⁵³

Contract law and commercial arbitration are also areas where the Kingdom scores relatively poorly. The time taken to enforce contracts or resolve insolvency issues remains high and largely unchanged over the past decade. This has a real effect on private-sector incentives. Top banking executives cite the difficulties in repossessing collateral assets from delinquent customers, due to onerous laws and lengthy court processes, as a factor that discourages lending.

¹⁵⁰ "Commercial registration in 180 seconds," Saudi Ministry of Commerce and Industry, January 1, 2015, <https://mci.gov.sa/en/about/WhatisNew/Pages/04.aspx>.

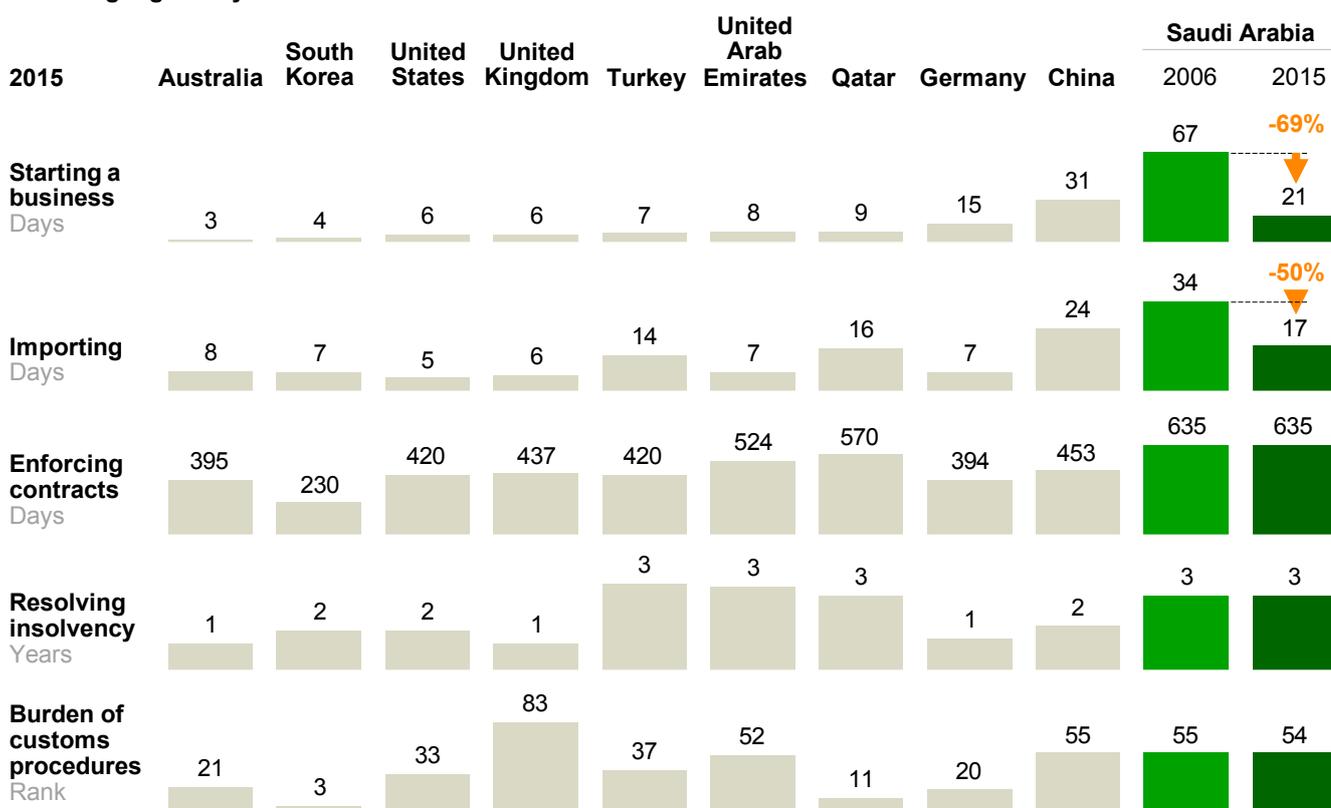
¹⁵¹ *Doing business 2015: Going beyond efficiency*, World Bank, October 2014.

¹⁵² Nabil A. Issa, Mohammad I. Al-Ammar, and Salah Mostafa, *Healthcare and pharmaceutical industries in Saudi Arabia*, American Health Lawyers Association, member briefing, November 2009.

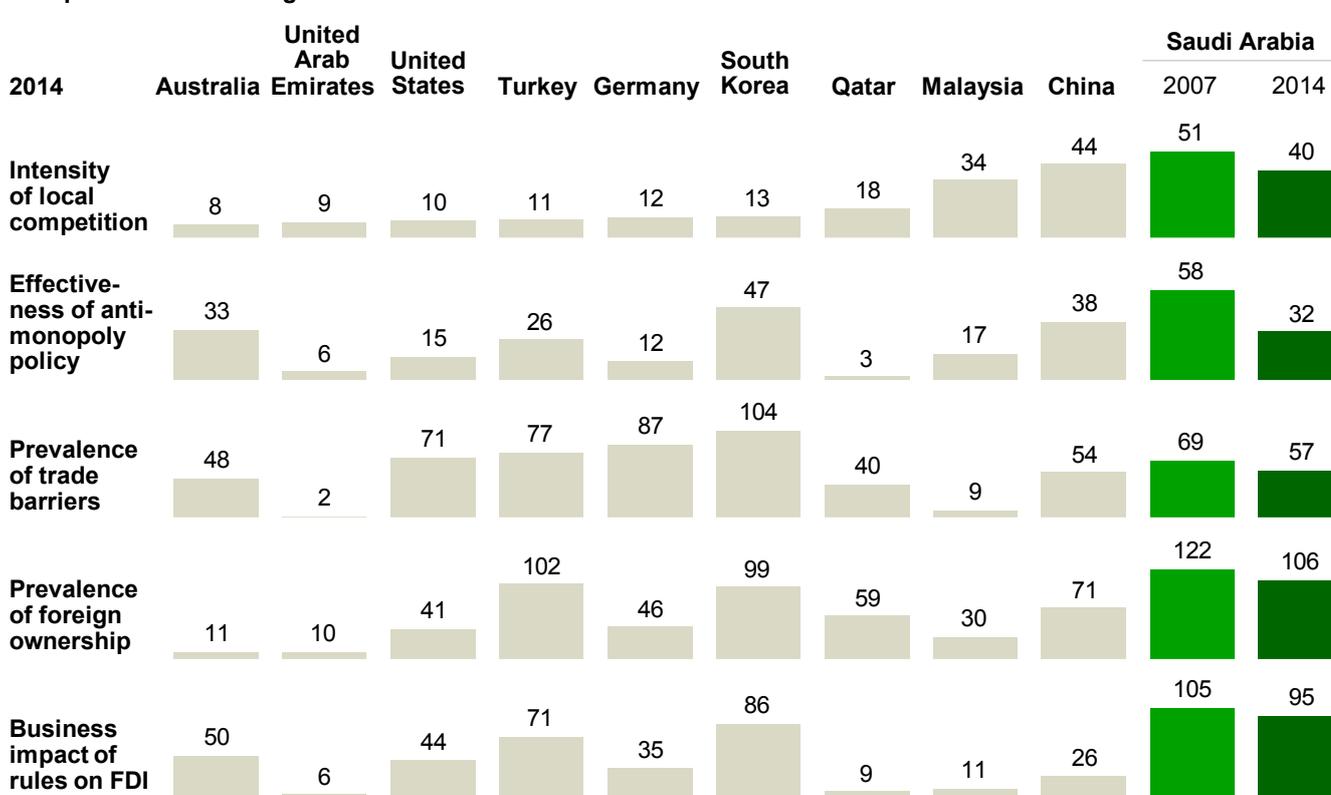
¹⁵³ "500 licenses revoked last year: SAGIA," *Saudi Gazette*, February 4, 2010.

Saudi Arabia has made some progress in economic reform

Reducing regulatory burdens



Competitiveness rankings



NOTE: Not to scale.

SOURCE: *Doing business 2014: Understanding regulations for small and medium-sized enterprises*, World Bank, October 2013; *Global competitiveness report 2014–2015*, World Economic Forum, 2014; McKinsey Global Institute analysis

Labor market inflexibility, too, weighs on Saudi Arabia's attractiveness as an investment destination. It can be difficult to dismiss Saudi employees even for cause, especially within the public sector. Even where the legal infrastructure allows it, businesses are often reluctant to do so for reputational reasons. These factors place a significant burden on businesses and discourage investment, lending, hiring, and commercial risk-taking.

From our examination of various sectors of the economy, other obstacles and frustrations emerge. Slow customs procedures are one. They can be a hurdle to any business, especially online retail and manufacturing. This takes a toll on competitiveness; international rankings put Saudi Arabia behind Qatar and the United Arab Emirates for logistics performance and efficiency of border administration. Tariff structures are complex and sometimes hard for customers to understand. Tariffs are strictly set by the Saudi Port Authority and do not change based on supply and demand.¹⁵⁴ A GCC customs union, including Saudi Arabia was initiated in 2003, with the intent to set a blanket of 5 percent import tariff on the majority of goods.¹⁵⁵ Implementation has been delayed, and the Kingdom set different rates for some items in order to protect certain sectors. If it were to be fully implemented, it could significantly reduce the time goods spend in ports by eliminating customs inspections on shipments that have already been cleared at other GCC ports.

Streamlined visa requirements could also make a significant difference to several industries, from construction to tourism. The Kingdom today is the only GCC country without an option for visa on arrival for business travelers from advanced economies. Religious and leisure tourists from non-GCC countries also require visas. In addition to being a brake on the flow of people, the practice reduces the Kingdom's attractiveness as a destination for business events. Domestically, firms complain about the lack of transparency surrounding the process to obtain residency visas for their foreign workers, and the time it can take—sometimes as long as six months.

More competition and openness, greater productivity and innovation

MGI research in developed economies has found that one of the main reasons productivity growth has been faster in the United States than in continental Europe or Japan is the difference in the rate at which more productive businesses gain market share and create jobs, obliging the less productive to either improve or go out of business. In the US retail industry, for example, virtually all of the rapid productivity growth in the 1990s was caused by more productive new establishments displacing much less productive ones.¹⁵⁶

To catalyze productivity through competition, the regulatory environment will need to avoid unnecessary red tape governing labor and the use of land, set low barriers to entry for new businesses, and put in place transparent and efficient bankruptcy procedures. Our research suggests that the potential upside from reforms to boost competition and promote openness are significant. Eighty percent of the overall opportunity to improve productivity in emerging economies comes from catching up. The positive message here is that these types of opportunity are known and already best practice somewhere in the world.

To capture the full potential over the next 15 years, the Kingdom will need to open its economy even further to cross-border economic flows, particularly in FDI, services, and communication. There are signs of renewed momentum in this direction, as highlighted by the September 2015 announcement of plans to allow 100 percent foreign ownership in the retail sector (up from the current cap of 75 percent).¹⁵⁷ A second wave of opening up and streamlining of FDI rules and regulations could be a policy option, with the aim of building on the progress made since enactment of the Foreign Investment Act in 2000.

¹⁵⁴ Kingdom of Saudi Arabia, Ports Authority.

¹⁵⁵ Saudi-US Relations Information Service.

¹⁵⁶ *Global growth: Can productivity save the day in an aging world?* McKinsey Global Institute, January 2015.

¹⁵⁷ "Saudi Arabia to allow full foreign ownership in retail," Reuters, September 6, 2015.

Other areas for attention could include further efforts to further boost and liberalize trade. As part of its WTO accession agreement, the Kingdom agreed to set upper bounds on tariffs of 5 percent for most goods. However, about 10 percent of the value of all imports have tariff rates higher than that. For example, about 40 items have tariffs of 15 percent, the majority of them in manufacturing segments such as furniture, aluminum, and electrical machinery.¹⁵⁸

These tariffs may provide some protection for the local manufacturing sector from foreign competition, but they may also hinder its development, by raising the cost of imported parts and components, given that manufacturing supply chains now span the globe. The Kingdom could, for example, consider further reducing tariffs as well as pursuing more free trade agreements to better integrate its economy with major trading partners. Saudi Arabia is part of three significant trade agreements: with the Gulf Cooperation Council (GCC), Greater Arab Free Trade Area (GAFTA), and the GCC-Singapore Free Trade Agreement; a fourth, with the European Free Trade Association (EFTA), is being negotiated. By way of comparison, Morocco participates in about ten free trade agreements, and Turkey is involved in 17 (including with the United States, the European Union, and the GCC).¹⁵⁹

FINANCIAL SUSTAINABILITY: AN ESSENTIAL PRECONDITION FOR FUTURE PROSPERITY

A new system of fiscal management aimed at ensuring long-term financial sustainability is the third pillar of Saudi Arabia's economy in any transition to a productivity-led economy. This reform is necessary, regardless of what happens in the oil market. Without it, government itself risks becoming a drag on the economy.

Our model suggests that even potentially higher oil prices will have only a moderate effect on the overall fiscal health of the Kingdom in the years ahead if the more fundamental issues are not tackled. Indeed, in our first scenario focusing on reactive policy change, where government spending continues to play a leading role in the economy despite it being frozen, the Kingdom would need oil prices at \$120 a barrel to maintain a fiscal balance.

The overall fiscal situation needs to be managed in an integrated way, including revenue, costs, and balance sheet. The challenge is twofold. On the one hand, public-sector costs have risen sharply in recent years, and government non-oil revenue, while rising, remains very low as a proportion of the total—just 13 percent in 2014. On the other hand, as we have estimated, the Saudi economy needs massive investment if it is to thrive and grow to its full potential. Much of this investment has historically come from the government, and in the short term it will likely continue to do so. The government still has significant net financial assets, that is to say, the combination of reserves and stocks minus debt. There is also a considerable wealth of non-financial assets such as land, unlisted companies, and, of course, oil reserves.

In a full potential scenario, it would be beneficial for the government to overinvest in the early years of the transformation we have outlined, with the aim of kick-starting the changes and attracting other investors, as well as delivering incremental revenue. But over time, the share of investment made by the government would decline as other investors become more confident about investing in the Kingdom (Exhibit 30). This would counteract the negative economic impact of a freeze in government spending as modeled in the reactive policy change scenario.

That confidence could be buttressed by a clear and coherent budgetary policy. Saudi Arabia will need to find new sources of government revenue and become significantly more efficient with government spending. Given the current nature of the Saudi economy and

13%
Share of government revenue not from oil in 2014

¹⁵⁸ UN Comtrade, international trade statistics database; World Trade Organization.

¹⁵⁹ World Trade Organization.

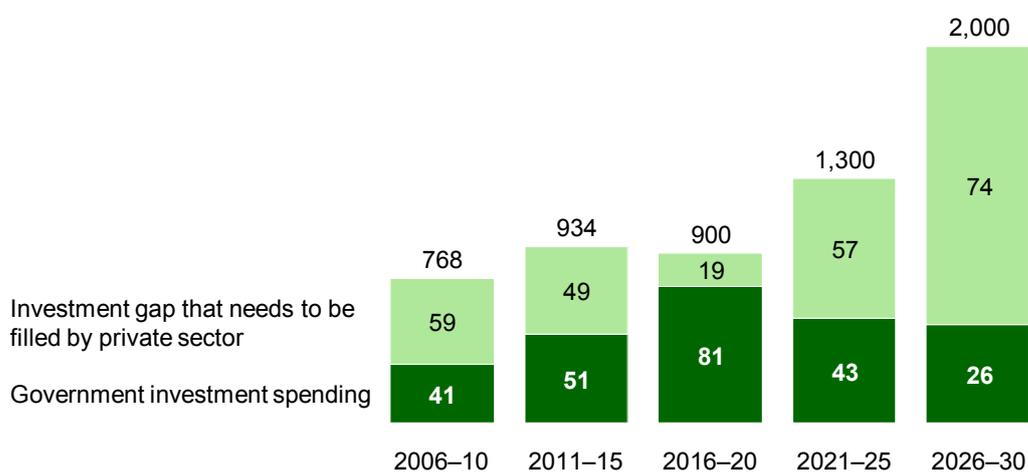
its growth model funded by oil revenue and the public sector, these practicalities are far from mundane.

Exhibit 30

Given changing conditions, front-loaded government investment could help stimulate the economy and drive a transformation

Real total investment needs, 2015–30, full potential scenario¹

%; \$ billion, constant 2013 prices



Share of GDP

%

Category	2006–10	2011–15	2016–20	2021–25	2026–30
Total investment	28	26	24	29	33
Government investment	11	13	20	13	9

¹ Total government investment over 2016–30 set in order to maintain government share of total investment over the period at 42%, the same as during the 2003–13 period. 50% of the stimulus is allocated to the 2016–20 period, 30% to 2021–25, and 20% to 2026–30.

NOTE: Numbers may not sum due to rounding.

SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; McKinsey Global Institute analysis

Currently, there are virtually no taxes, and the government does not charge households or businesses the full market price for a range of goods and services, from electricity and gasoline, to water and dairy products. In the transition to a more sustainable financial system, this dependence would need to change.

It is not our aim in this report to prescribe which fiscal reforms should be implemented, nor how nor how quickly. These are political issues for the government to decide. But there are nonetheless some clear policy decisions that will need to be made. An increasingly robust non-oil private sector, as we have outlined in the previous chapter, would be an important contributor to sustainable finance, as would be additional investment in the economy under the full potential scenario. Beyond that, we outline four of the most significant options available to the government to reform its own finances, which collectively could ensure a sustainable fiscal balance by 2030, and thus the financial health of the Kingdom (Exhibit 31).

The first is a focus on the government’s capital spending and operating expenditure, in order to create new efficiencies and savings. Savings from better government procurement and from optimized capital expenditure could together amount to 340 billion SAR (\$90 billion). The second is a move to optimize management of the very sizable financial and non-financial assets that are in the government’s hands, including large shares of publicly listed

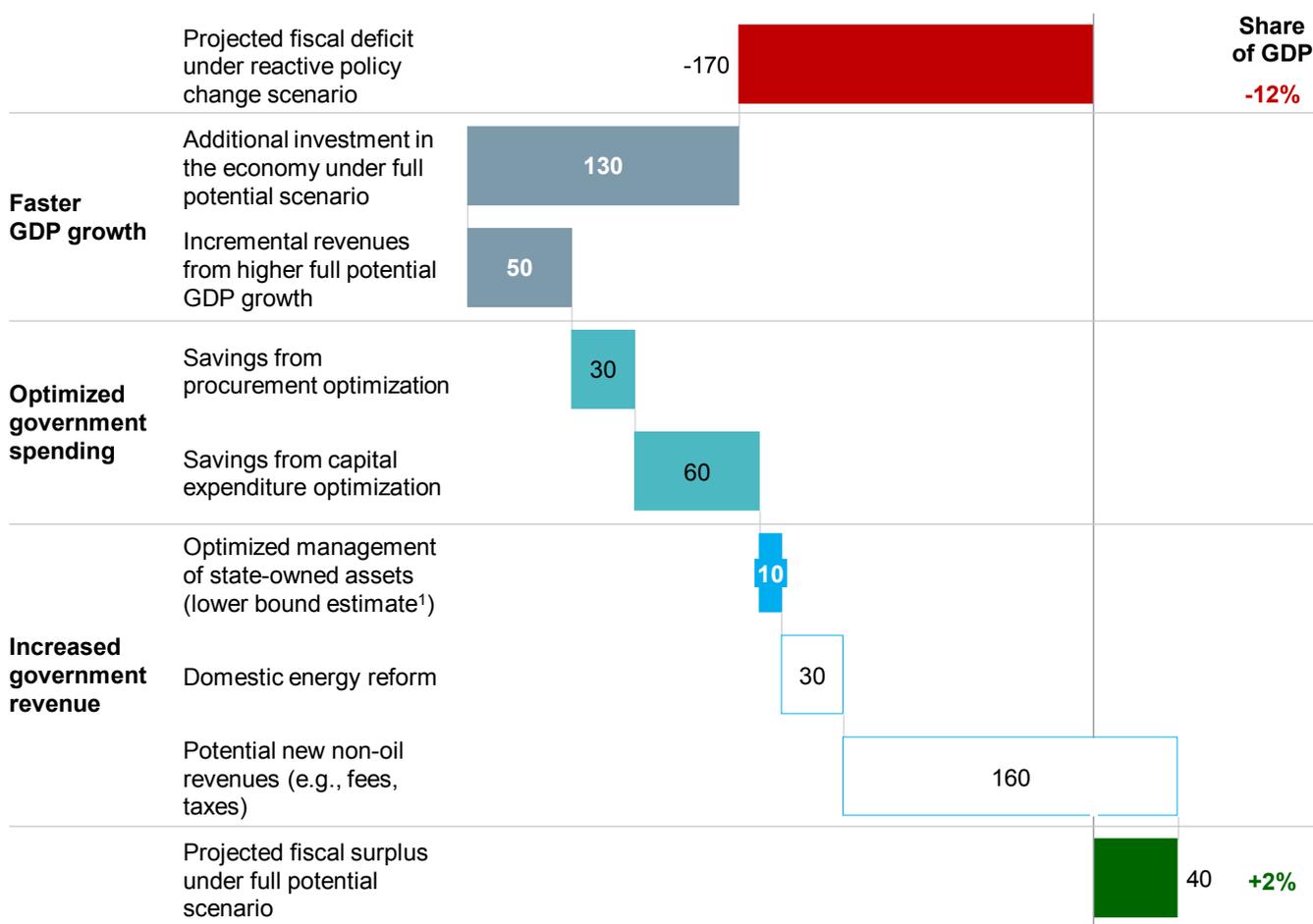
former state-owned companies that currently account for one-third of the Saudi stock market value. We estimate this could bring in at least 38 billion SAR (\$10 billion) additional revenue annually. Third is broad reform of the national energy market, which is characterized by wasteful use of precious oil resources at artificially low prices for domestic consumers. Here the savings will be largely generated through the oil that is not used domestically, and so can be sold on world markets. Finally, we discuss the possible introduction of a modern system of taxation, along the lines of fiscal systems common to all G20 emerging economies. Saudi Arabia is an outlier in this regard; it currently has no income tax or value-added tax, and its total non-oil revenue is equivalent to just 9 percent of non-oil GDP.

Taken together, all these measures could not only close the fiscal gap but produce a small fiscal surplus for the Kingdom in 2030. The critical unknown is whether Saudi Arabia would want to put in place a modern taxation system.

Exhibit 31

The Kingdom's projected fiscal deficit could be eliminated by implementing a comprehensive set of expenditure and revenue reforms

Annual budget balance in 2030 for full potential scenario
\$ billion, 2015 prices



1 Lower bound estimate as no public information is available on the total value of government assets, including those owned by the Saudi Public Investment Fund.

NOTE: Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute analysis

25%

Annual average increase in capital expenditure

Potential large-scale savings from more efficient capital and operating expenditure

In the 2003–13 decade, total government expenditure expanded at a brisk annual rate of 14 percent on average to reach 976 billion SAR (\$260 billion) in 2013, or 63 percent of total non-oil GDP.¹⁶⁰ Capital expenditure grew by 25 percent annually on average, and its share of total government expenditure rose from 13 percent in 2003 to 32 percent in 2013. Growth in operating expenditure was also brisk at 12 percent per year over the same period. At the sector level, this growth was driven by increased spending on education, health, and social welfare as well as on infrastructure.

This volume of spending has created challenges around quality and efficiency, but also over the ability of government departments to adequately absorb it. The flow of funds for government expenditures has become more complex, reflecting the multiplication of government entities, including the outsourcing of services to government-owned private entities. Some international organizations including the IMF have highlighted areas of budgeting that require strengthening in Saudi Arabia, such as linking annual budgets to a medium-term budget framework and five-year development plans, annual budget preparation and controls at line ministries, the establishment of a macrofiscal unit, and better data classification and dissemination.¹⁶¹

Health care is one sector where there is particular room for greater efficiency in capital and operating spending. During the oil boom decade, the Kingdom built 81 hospitals at a cost of 26 billion SAR (\$6.8 billion).¹⁶² The current rate of hospital utilization is just 54 percent, far below the approximately 80 percent norm in Western Europe and the United States.¹⁶³ This is a particular problem in rural areas, where facilities are significantly underutilized. Even in urban areas, uncoordinated expansion has led to hospitals with the same specialization in the same catchment area. This creates costly and unnecessary duplication, and a restructuring of capacity that would map geographical medical needs to current supply could bring about important savings.

Going forward, analysis suggests Saudi Arabia could make potential savings of about 340 billion SAR (\$90 billion) by 2030 through a series of measures to upgrade efficiency of both capital and operating expenditure.

The Kingdom does not publish detailed budget data beyond high-level breakdowns of capital and operating spending by sector. This limits the ability to conduct an assessment of unit costs in the system and the potential for savings. Nonetheless, McKinsey's experience in countries around the world working with governments and private-sector companies highlights the potential for substantial expenditure savings. We have estimated that as much as 40 percent of the costs of capital infrastructure could be saved by implementing a number of best practices, including better project selection and streamlined delivery.¹⁶⁴ Operating expenditure and procurement are areas ripe for savings. Our experience and an extensive literature review suggest that performance-based budgeting and detailed bottom-up spending reviews can bring about considerable savings. The savings potential from public-sector procurement is especially strong; we estimate that it could be as high as 28 percent. These savings would not affect wages or other social benefits.¹⁶⁵

¹⁶⁰ Saudi Ministry of Finance; Saudi Arabia Monetary Authority Annual Statistics 2015.

¹⁶¹ "Saudi Arabia: 2012 Article IV consultation," IMF Country Report number 12/271, September 18, 2012; "Saudi Arabia: 2012 Article IV consultation," IMF Country Report number 14/292, September 23, 2014.

¹⁶² *Annual statistical yearbook, 2002–2012*, Saudi Ministry of Health; McKinsey analysis and expert interviews.

¹⁶³ *Annual statistical yearbook, 2013*, Saudi Ministry of Health.

¹⁶⁴ For more details, see *Infrastructure productivity: How to save \$1 trillion a year*, McKinsey Global Institute and McKinsey Infrastructure Practice, January 2013.

¹⁶⁵ McKinsey & Company PSM database.

If Saudi Arabia is able to achieve this scale of saving on both capital and operating expenditure, the impact on the Kingdom's budget could be significant. A 28 percent improvement in the management of procurement expenditure, which today constitutes about one-quarter of total expenditure, could yield savings of up to 110 billion SAR (\$30 billion) annually by 2030. Other elements of a new operating expenditure management model could include performance-based budgeting and regular bottom-up spending reviews, leaner government through the centralization of shared services to eliminate redundancy, outsourcing non-essential functions, increased use of e-government offerings, and centralized procurement services.

Savings of 40 percent on capital expenditure, today about one-third of total expenditure, could yield up to an additional 230 billion SAR (\$60 billion) annually. The Kingdom could draw inspiration and instruction from some other countries that have put in place rigorous project planning.

In the Saudi context, the government could consider six initiatives to help obtain better capital productivity:

- **Project planning.** A new national agency could be established or existing ones empowered to enforce fact-based and consistent project evaluation processes. This new agency could develop a selection framework that filters projects based on their economic utility. This has worked in South Korea. In 1999–2000, after several high-profile projects experienced massive cost overruns, South Korea established a central government agency in 1999–2000 to review projects for cost underestimation, benefit overestimation, and fraud. The agency rejected 46 percent of projects, compared with just 3 percent of projects rejected before its creation, and it reduced overruns by 60 percent. Between 1999 and 2006, about \$60 billion was saved annually, equivalent to about 1 percent of GDP.¹⁶⁶
- **Project delivery.** Saudi Arabia could establish a single authority responsible for delivering permits for high-priority infrastructure. This “one-stop shop” approach has borne fruit in the UK and other European countries, where it has reduced permit times and improved overall efficiency.¹⁶⁷ Ministries that are large-scale spenders on infrastructure, such as the Ministry of Transport and the Ministry of Municipal and Rural Affairs, could consolidate procurement across all their capital projects.
- **Better utilization of existing assets.** The Kingdom could seek to improve demand management practices in order to expand the capacity of existing infrastructure before approving expansions. Programs that have worked effectively in various global settings include use charges, such as congestion charges for traffic, and intelligent traffic management.
- **Operations and maintenance of assets.** Government ministries including the Ministry of Finance could enforce clear standards and metrics related to operations and maintenance of assets, and could track and monitor them before allocating future budgets. In the United States, for example, the Department of Transportation defines clear output performance metrics derived from value trees.

¹⁶⁶ IEEE Transactions on Engineering Management; KDI; Construction & Economy Research Institute of Korea; *APA Journal*.

¹⁶⁷ See for example, United Kingdom Department for Communities and Local Government, *Major infrastructure planning: Expanding and improving the 'one stop shop' approach for consents*, March 2013; *Examples of reducing administrative burdens on enterprises*, European Commission, Memo/06/244, June 22, 2006.

- **A more productive contracting industry.** The Kingdom could also work to develop the contracting industry, helping to improve its overall productivity by mandating the latest techniques in project delivery and management, such as lean construction. One possible path would be to empower an industry watchdog to enforce selection criteria and incentivize contractors to upgrade their capabilities. Furthermore, a strong interagency governance and accountability system that separates the political and technical responsibilities in one nodal agency could also increase cost-effectiveness.
- **A private sector role.** Finally, there is a potentially significant role for the private sector, which would help to ensure that the funding of the additional infrastructure stock is not disproportionately borne by the government. The government would need to develop a framework for public-private partnerships that would fund and deliver projects. Emerging economies have increasingly used this approach to fund their infrastructure projects and have seen a threefold increase in their partnership-funded infrastructure stock over the past ten years.¹⁶⁸

Optimizing returns on a \$1.4 trillion portfolio of state-owned assets

The government sector in Saudi Arabia plays a central role in driving and enabling economic growth through direct participation and ownership of key assets. During any transition to a more sustainable economic model, the estimated \$1.4 trillion in tangible and non-tangible assets in its portfolio could be managed and monetized to increase non-oil revenue and reduce future liabilities.

In total, the Kingdom's financial assets are estimated at 3.4 trillion SAR (\$910 billion), consisting of about 2.7 trillion SAR (\$730 billion) of reserve assets as of the end of 2014 and an additional 700 billion SAR (\$190 billion) of equity stakes in listed companies.¹⁶⁹ Financial assets include equity stakes in Saudi companies that amount to about one-third the total value of the national stock exchange; among the holdings are an 85 percent stake in Saudi Telecom and 75 percent of Saudi Arabia Basic Industries Corporation. Other financial assets include reserves, cash, loans, and investments through sovereign vehicles. In addition, the government owns stakes in more than 50 other non-listed companies whose value is difficult to access given a lack of public information.¹⁷⁰ Saudi Aramco is foremost among these companies, which span the entire economy, ranging from investment companies to stakes in hotels, transport companies, and media. Among others, they include Saudi Post, Saudi Airlines, and Tadawul, the Saudi stock exchange (Exhibit 32).

The Kingdom also has a substantial portfolio of non-financial assets. They include unused land, infrastructure, real estate, and natural resources such as historical sites, landmarks, mineral reserves, water reservoirs, and government services. Valuing this entire portfolio of non-financial assets is complicated. According to the IMF, the average share of non-financial assets across countries is estimated at 67 percent of GDP; in Japan and South Korea, it is valued at more than 120 percent of GDP.¹⁷¹ Applying the average proportion to the Kingdom would value the non-financial asset portfolio at about 1.9 trillion SAR (\$500 billion) as of the end of 2014. Economists and real estate experts in the Kingdom estimate the total value of government-owned unused land alone at 500 billion SAR (\$130 billion).¹⁷² That amounts to about 15 percent of total unused land in the Kingdom; the remainder is owned by the private sector.

1/3

Value of government equity stakes as share of total stock market

¹⁶⁸ World Bank PPI database, selection of 139 emerging economies (2000–14).

¹⁶⁹ Saudi Arabian Monetary Agency; Tadawul (Saudi stock exchange), values calculated in March 2015; Zawya.

¹⁷⁰ Zawya.

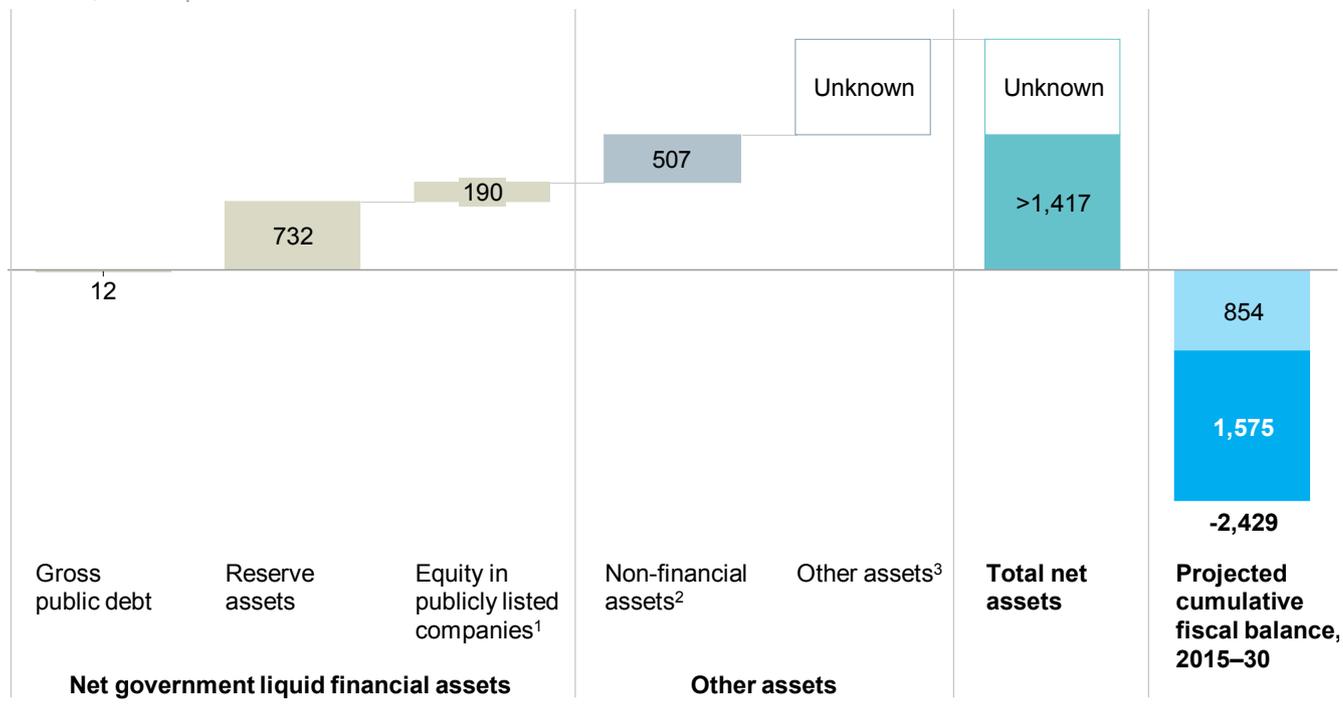
¹⁷¹ Sample of 30 countries. Elva Bova et al., *Another look at governments' balance sheets: The role of non-financial assets*, IMF working paper number 13/95, May 2013.

¹⁷² McKinsey & Company expert interviews.

The Kingdom has a large stockpile of assets but will need major fiscal reform to maintain fiscal sustainability

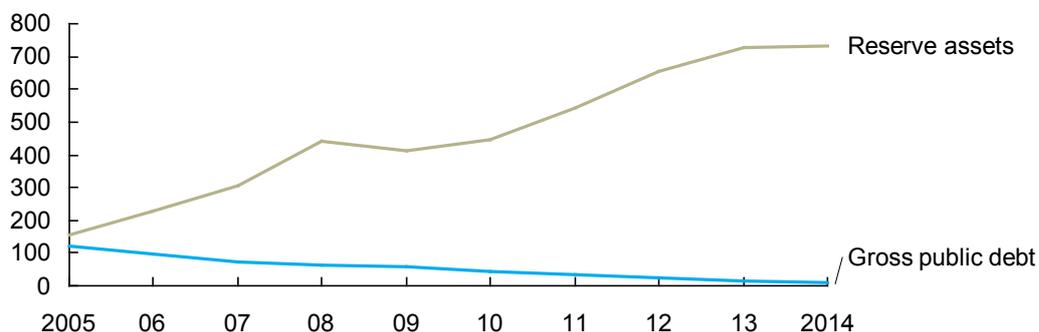
Estimated value of state-owned asset portfolio by asset class, 2014

\$ billion, current prices



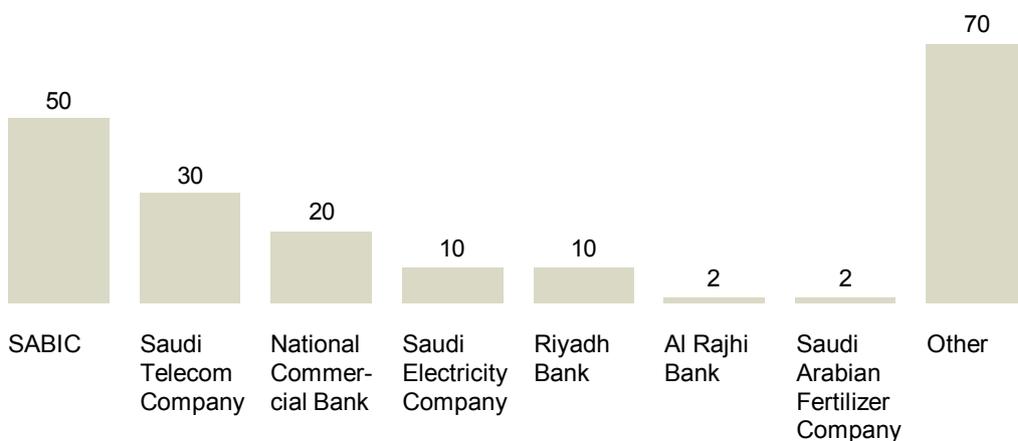
Outstanding public debt and stock of reserve assets, 2005–14

\$ billion, current prices



Estimated value of government equity in publicly listed companies, 2014¹

\$ billion



1 Valued estimated based on March 2015 capitalization.
 2 For example, land, real estate. Estimated based on global benchmark of 67% of GDP.
 3 For example, unlisted companies, natural resources, infrastructure.
 NOTE: Numbers may not sum due to rounding.

SOURCE: Central Department of Statistics and Information, Saudi Ministry of Economy and Planning; Saudi Arabian Monetary Agency; Saudi stock exchange; Zawya; IMF; McKinsey Global Institute analysis

As a starting point for optimizing these asset portfolios and using them to increase revenue, the government could develop an integrated sovereign balance sheet covering both financial and non-financial assets. This balance sheet could help to improve capital management through the reallocation of resources to high-priority areas and strategic assets.

Non-financial assets: Optimizing returns on unused government land and real estate assets

According to several real estate experts and economists in the Kingdom, the government owns about 15 percent of total “white land,” or open land not designated for development, through the Ministry of Housing, the General Organization for Military Industries, and others. Experts estimate the total value of this white land at about \$800 billion, with the government holding amounting to about \$130 billion. Setting up an endowment or other asset-management vehicles to professionally manage and develop unused land could be one way of monetizing this asset. Such endowment funds could help achieve a 2 to 3 percent return on assets, after management fees, or 8 billion to 11 billion SAR (\$2 billion to \$3 billion), given the current rate of return of real estate assets in the Kingdom.¹⁷³

Two models exist for developing and monetizing government white land. The first is developer-led. In Hong Kong, for example, information about land plots available for development is published and opened up for auction for developers. Bids are assessed by a government valuation department and awarded appropriately. The other model is government-led, as is the case in Singapore, where city concept and master planning are done by the government and then released for auctions to developers, based on strategic plan and market conditions.¹⁷⁴

In Saudi Arabia, there is additional opportunity to optimize government real estate assets. King Abdullah Financial District in Riyadh, which is under construction, alone will provide 3 square kilometers of commercial real estate. This is in addition to an existing commercial real estate portfolio estimated at 4 to 7 square kilometers. The government could consider setting up a central real estate and facilities management unit to help optimize rental and lease income from this real estate portfolio.

Other countries have set up such administrative units, one example being the US General Services Administration, which has an annual operating budget of \$26 billion and oversees \$500 billion of US federal property. In addition to real estate management, the agency oversees about \$66 billion of procurement annually. In Austria, Bundesimmobiliengesellschaft (BIG) is a quasi-government entity that manages publicly owned real estate. It is the central provider of real estate to all public-sector entities, carrying out renovations and handling sales of buildings and land no longer used by the public sector. BIG generates a return on equity of more than 20 percent, over an equity base of 1.2 billion euros (\$1.4 billion).¹⁷⁵

Alongside real estate and land, government assets such as infrastructure and services could also be further monetized, such as through public-private partnerships to offload costs of road maintenance and operations, optimize fee of current services, and launch new differentiated services.

¹⁷³ This assumes an averaged rental yield of 5 percent, in line with rental yields in the United Arab Emirates, minus management fees charged by endowments.

¹⁷⁴ Ling-hin Li, *Development Appraisal of Land in Hong Kong*, Chinese University Press, 2006; Singapore Land Authority.

¹⁷⁵ Bundesimmobiliengesellschaft annual report 2012.

Financial assets: Creating value through improving performance

The government has an estimated 700 billion SAR (\$186 billion) equity in the local stock market, spanning 48 out of 170 listed companies that cover economic sectors including chemicals, banking, telecom, utilities, construction, and real estate. Half of this equity comes from Saudi Telecom and SABIC, the two largest and most profitable listed companies.

The government earned 24 billion SAR (\$6.5 billion) in dividend payouts from the top ten companies in 2014, including 14 billion SAR from SABIC (which paid out 79 percent of net income in dividends) and 5 billion SAR from Saudi Telecom (which paid out 59 percent).¹⁷⁶

The government also owns significant equity stakes in over 50 unlisted companies. Many of these companies are owned through the government's Public Investment Fund, which was established in 1971 to finance ventures that are commercial in nature and are strategically significant for the country.¹⁷⁷ They include Saudi Rail Road Company and Saudi International Ports. It is difficult to assess the value of these holdings due to lack of public information.

Many of the listed state-owned companies outperform the industry benchmark Total Return to Shareholder Index.¹⁷⁸ This is despite various social obligations imposed on both listed and unlisted enterprises intrinsic to their status as state-owned enterprises that nonetheless can impede their ability to capture value. For example, companies may not be able to reduce employment levels and optimize their cost base, leading to overstaffing and redundancy in departments. They may be obliged to provide services to remote areas or increase job creation. Also, their pricing strategies may require them to offer products or services below fair value or cost.

The government has three dimensions to consider as it reflects on how to further optimize performance of state-owned assets. The first is ownership—whether to continue to participate directly in the economy through ownership of such assets but improve the efficiency by taking a private management mindset, or to minimize direct involvement by restructuring and privatizing the fully government-owned or unlisted entities. The government already has a track record of privatization and liberalization, including enactment of the Telecommunications Act in 2001, which led to the sale of a 20 percent stake in Saudi Telecom and an opening of the Saudi telecommunications market to competition. There have also been moves to open up the electric utilities market.

The second and equally important dimension is competition, and whether state-owned enterprises should be opened up to private and foreign competition. In some sectors this is already happening to the benefit of the consumer, such as the introduction of low-cost airlines.

The third dimension would be to drive performance in state-owned entities through central holdings or public funds such as the government's Public Investment Fund. This could be done by improving governance, clarifying objectives such as focusing on value creation rather than social objectives, and actively managing the composition of members of the board of directors. The aim of the latter would be to bring in relevant and global experience and impose a strong performance management culture.

The opportunity from optimizing performance of state-owned enterprises is significant, in improvements in annual return on investment, plus equity income from the sale of state-owned enterprise equity. For example, China achieved a 4.6 percent improvement in annual return on assets through reforms to the way it managed its state-owned enterprises.¹⁷⁹ Singapore's Temasek, which has adopted strong principles of governance, reported total

\$6.5B

Amount
government
receives in
dividends from
state enterprises

¹⁷⁶ Tadawul (Saudi Stock Exchange) and Zawya, 2014.

¹⁷⁷ Saudi Ministry of Finance.

¹⁷⁸ Datastream.

¹⁷⁹ Gabriel Wildau, "China announces plan for reform of state-owned enterprises," *Financial Times*, July 15, 2014.

12

US cents per liter
of gasoline

return to shareholders of 19 percent in 2014. Over the past 30 years, Temasek's total returns have been about 16 percent annually.¹⁸⁰

A reform of domestic energy prices to increase efficiencies and generate revenue

Energy reform could be another effective way to improve fiscal sustainability as well as efficiency of resource use within the Saudi economy. The Kingdom does not charge full market prices for energy as a traditional means of sharing the benefits of its natural resources endowment, supporting social welfare, and promoting competitiveness. Today, energy prices—for both refined products and electricity—are among the lowest in the world, even when compared to other GCC countries or energy exporters, let alone the United States or European countries. For example, gasoline is sold at the pump for just 12 US cents per liter, or 14 percent of the US price (87 cents), while retail electricity is sold at 13 cents per 1,000 kilowatt-hours (kWh)—just 11 percent of the US price of \$1.21 (Exhibit 33).¹⁸¹

Low energy prices create a number of distortions and waste by encouraging overconsumption and dependence on automobiles. For urban planning, they can lead to more spread-out urban areas. For both households and firms, they reduce the incentive to adopt basic economizing behaviors. These characteristics are clearly evident in the Kingdom, where total energy consumption grew by 6 percent per year between 2003 and 2013, almost doubling over the decade. Per capita consumption is among the highest in the world. In countries where gasoline retail prices are higher and cost a larger share of daily wages, consumption drops significantly. For example, when the cost of 1 liter of gasoline rises from 2 percent of a daily wage to 3 percent, consumption drops by about one-third.¹⁸²

The Kingdom's energy policy is not a major budget outlay today, but rather, represents a large forgone source of revenue.¹⁸³ Domestic consumption is a sizable and growing share of total production, and this is reducing the amount of crude oil available for export and hence depriving the country of an important source of income and revenue.

Domestic liquid energy consumption, at about 2.2 million barrels per day in 2013, accounted for about 20 percent of the Kingdom's total production. By 2030, we estimate that this amount could almost double to about 4.3 million barrels per day (average growth 4 percent per year), or the equivalent of about 40 percent of production.¹⁸⁴ This estimate assumes that the economy achieves the robust growth rates we lay out in our full potential scenario and that there is no change in technical efficiency or consumer behavior. It does, however, factor in the partial attainment of the government's existing renewable energy targets.¹⁸⁵

Under such conditions, the total volume of crude available for export would be reduced by almost 30 percent from about 9.5 million barrels per day today to about seven million to eight million barrels per day by 2030. This would significantly reduce oil export earnings by 250 billion SAR (\$67 billion) annually by 2030, compared with revenue today, if we assumed a hypothetical future crude contract price of \$60 per barrel.¹⁸⁶

¹⁸⁰ Andy Mukherjee, "Singapore's state capitalism works. Or does it?" *Bloomberg News*, August 31, 2004.

¹⁸¹ International Energy Agency and World Bank. Gasoline prices are from 2014 (fourth quarter), while retail electricity prices are 2014 average. One liter is 0.26 gallons.

¹⁸² International Energy Agency; World Bank; MGI calculation.

¹⁸³ This is in contrast to some other emerging economies, for example, Indonesia, where the government imports oil at the international price and sells it a subsidized price, hence incurring a massive budget expenditure outlay in the process.

¹⁸⁴ McKinsey GGC Energy Model, developed in collaboration with Energy Insights.

¹⁸⁵ Assumed renewable capacity is based on a modified version of the existing King Abdullah City for Atomic and Renewable Energy plan. Modification was driven by expert interviews, to reduce the nuclear capacity from the announced 17.6 gigawatts (GW) to 4 GW. Renewable capacities are 58 GW in total, split by solar (44 GW), wind (10 GW), and other renewables (4 GW).

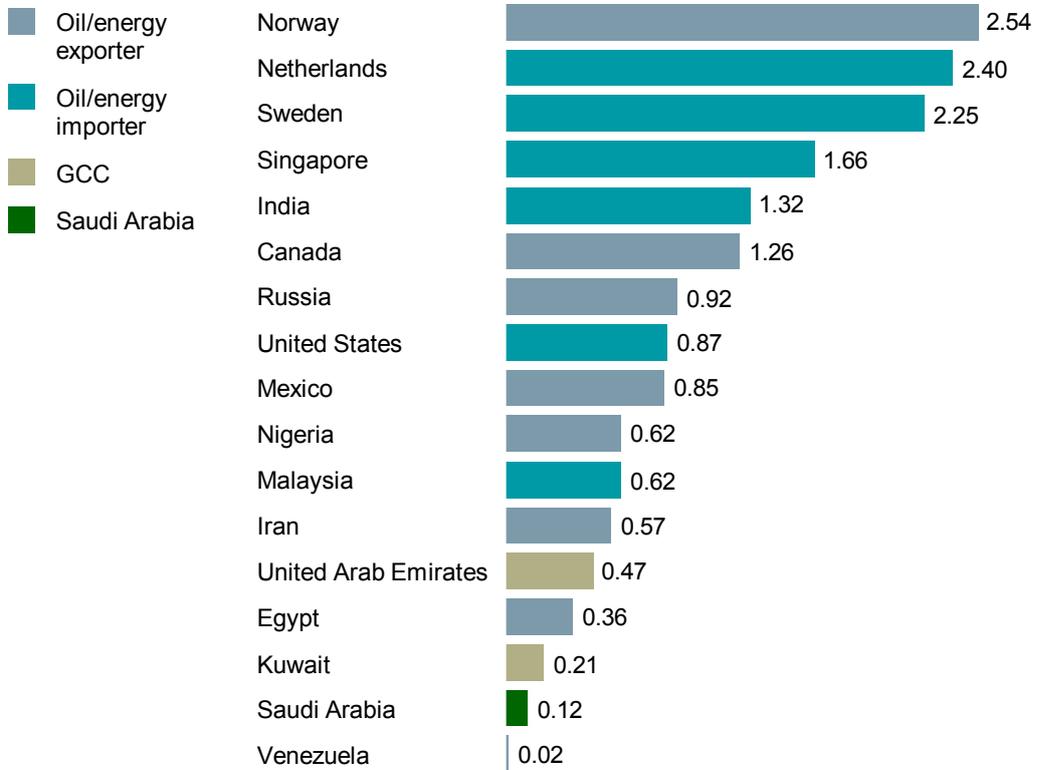
¹⁸⁶ Bloomberg, average monthly future prices for three crude grades, from July 2015 to December 2020 (accessed May 2015).

Exhibit 33

Saudi Arabia has the second-lowest gasoline prices in the world, contributing to one of the highest per capita consumption rates

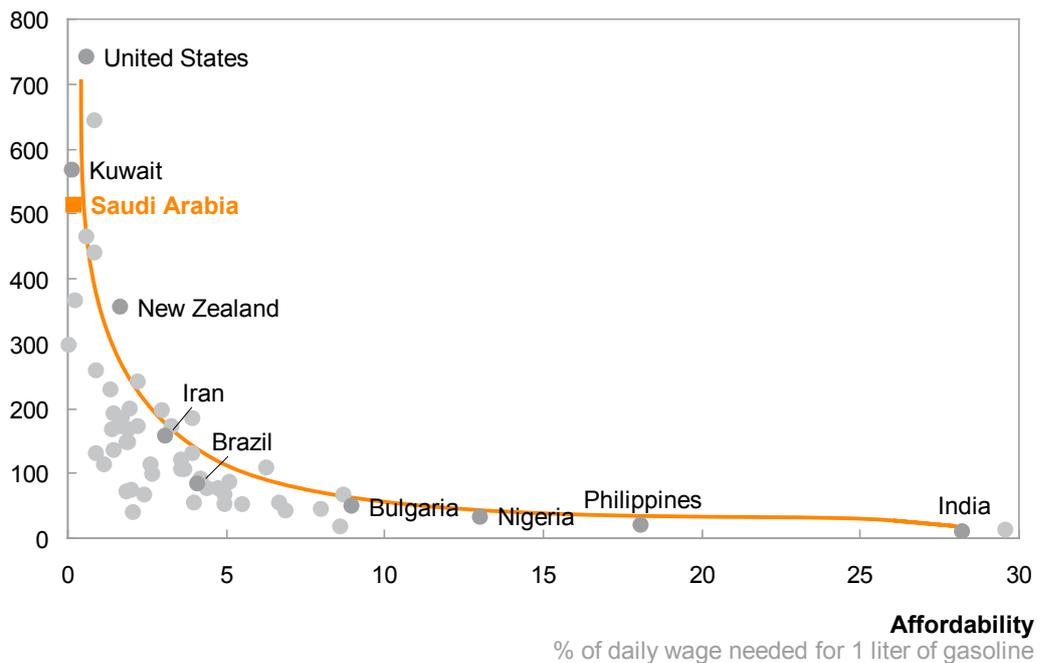
At the pump gasoline prices, 4Q14

\$ per liter



Gasoline consumption¹

Liters per capita



¹ Includes consumption of both gasoline and diesel to account for large amount of diesel used in personal cars in Europe.

SOURCE: International Energy Agency; World Bank; McKinsey Global Institute analysis

However, we calculate that there is a potential to contain this volume of domestically consumed energy, saving 1.5 million barrels per day. This could be achieved by improving the technical efficiency of energy production, and by raising residential energy prices.

These two measures together would free up to 1.5 million barrels per day, or 560 million barrels of crude oil per year, by 2030 (or 6.5 billion barrels cumulatively between 2015 and 2030). If valued at a hypothetical future crude contract price of \$60 per barrel, this would be worth about 110 billion SAR (\$30 billion) annually by 2030.

Technical efficiency could be improved on the production side by substituting some fossil fuels in power generation and by setting targeted measures in industry. These could include seeking to match European standards on limiting losses from distribution and transmission. On the consumption side, more energy-efficient vehicles and better energy and water use in industrial, residential, and commercial buildings would also save energy.

Transportation is an area with clear opportunities for more efficient fuel use, with the development of hybrid and electric engines. We assume that international manufacturers of automobiles, trucks, and aircraft will continue their push for greater fuel economy for the vehicles and that Saudi Arabia, which is a customer on the world market, will benefit from these universal efficiency measures.

In residential and commercial property, the higher efficiency of domestic appliances, stricter building codes and insulation, and increased awareness of the importance of efficient power and water use could shave peak demand by about 10 to 15 percent, assuming the adoption of global best practices.

Domestic energy consumption is a sizable and growing share of total production, and this is reducing the amount of crude oil available for export.

There is precedent for raising energy prices in the Gulf: in July 2015, the United Arab Emirates became the first country in the GCC to announce the introduction of market prices on gasoline.

We estimate that raising the price of fuel to the average US gasoline price could reduce demand by 30 to 70 percent, from 550 liters per capita per year today to 160 liters. In residential and commercial property, a phased increase in electricity prices of 10 percent per year between 2018 and 2024, and then 5 percent between 2025 and 2030 would triple the current price of 1 cent per kilowatt-hour to about 3 cents, reducing demand for electricity by about 20 percent in the process.

When raising prices for energy, it is important to consider the potential effects on households, particularly lower-income households, whose spending on energy, utilities, food, and other necessities typically consumes a large share of disposable household income. The government would need to design compensation mechanisms to mitigate any negative effects. Countries that have undertaken energy price reform, including Iran and Indonesia, provided significant cash transfers to households, particularly poorer ones.

The government could also make the price reforms cost neutral for households by returning all the extra proceeds from higher domestic prices right back to the households. Even with such a policy, the Kingdom would be better off financially, as higher prices would still influence behaviors, reduce consumption, and free up more oil for export. We have used this assumption in the full potential scenario when estimating household incomes.

Fees, fines, and taxes to bring the Kingdom in line with other countries

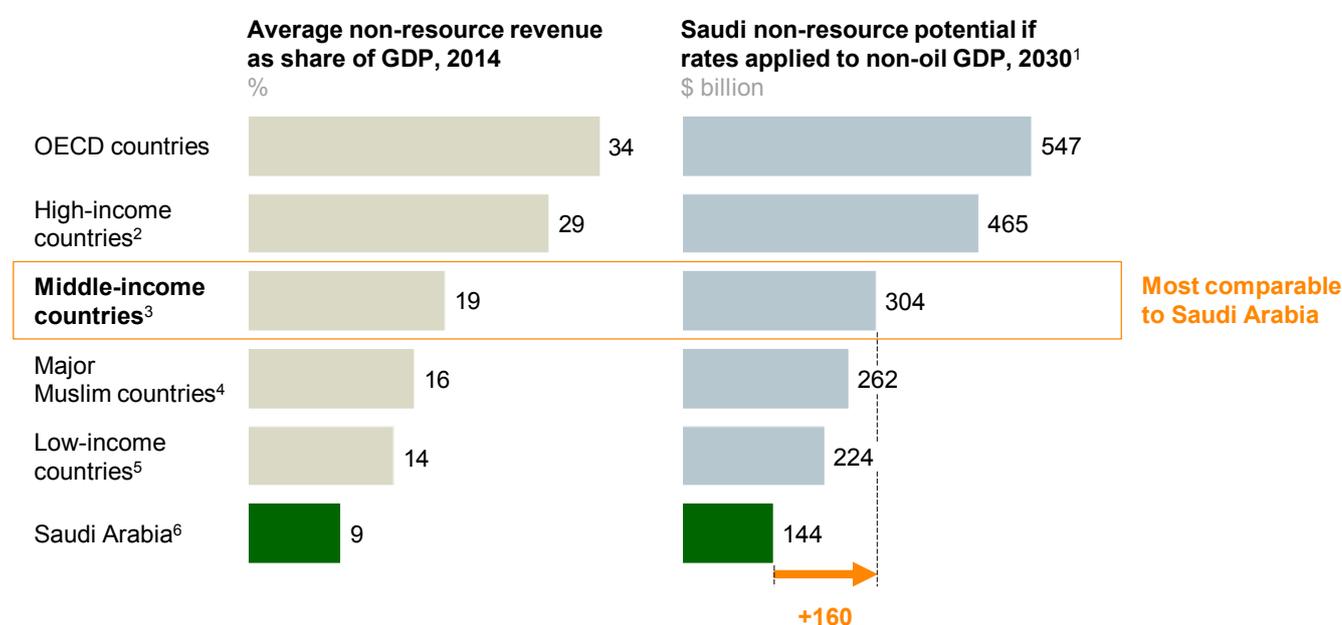
Compared with most other economies around the world, including resource-rich countries such as Malaysia and Australia, Saudi Arabia's tax base is relatively small and narrow.

For example, there is no income tax; no value-added tax on sales of goods and services; no property, capital gains, or wealth taxes; and no payroll taxes. The unique source of taxation for the government is a 2.5 percent religious tax (Zakat) on Saudi companies and 20 percent on the foreign share of company profits earned in the Kingdom. The government currently receives significant income from ownership of publicly listed companies as well as private companies, but it does so principally through dividends rather than through taxation.

As a result of these policy choices, the Kingdom has one of the lowest shares of non-resource revenue of any country in the world, just 9 percent of non-oil GDP. By comparison, countries with comparable average incomes to those of Saudi households, namely, middle-income countries, have an average non-resource revenue take that is the equivalent of 19 percent of GDP. At the other end of the spectrum, the average OECD country has a take equivalent to 34 percent of GDP, while the take of the average low-income country is around 14 percent (Exhibit 34).

Exhibit 34

Saudi Arabia has a much lower take from taxes and fees than comparable countries



1 Share for Saudi Arabia is as proportion of non-oil revenue.
 2 GNI per capita of >\$12,196 (World Bank).
 3 GNI per capita of \$995–12,196 (World Bank)—including Saudi Arabia (\$11,484 in 2013) based 43.6% oil rents as share of GDP (World Bank).
 4 Indonesia, Pakistan, Malaysia, Bangladesh, Egypt, and Iran, among others.
 5 GNI per capita of below \$995 (World Bank).
 6 Applied tax revenue benchmarks to Saudi Arabia full potential 2030 non-oil GDP (including government).

SOURCE: World Bank; OECD; *Tax capacity and tax effort: Extended cross-country analysis from 1994 to 2009*, Le et al., World Bank, 2012; McKinsey Global Institute analysis

Other Muslim-majority countries also typically have a tax rate that is considerably higher than in Saudi Arabia.¹⁸⁷ This ranges from about 10 percent in large but poor countries such as Pakistan and Indonesia, to about 16 percent in countries such as Lebanon and Malaysia, to over 20 percent in Tunisia and Morocco. If the Kingdom had a non-oil revenue regime similar to that of these other countries, that is, if the average revenue-to-GDP rates of these groupings were applied to the Kingdom's non-oil GDP, then the potential revenue upside would be significant. For example, if the Kingdom gradually developed a revenue model similar to that of a typical middle-income country, the potential tax intake could be as much as 1,150 billion SAR (\$300 billion) annually by 2030, roughly 600 billion SAR (\$160 billion) higher than it would be if the existing system were maintained.

Developing a non-oil revenue tax regime would be a complex challenge. It would require policy choices and trade-offs between revenue potential, economic efficiency, and social equity. Not all taxes are created equal. Some, such as corporate taxes, might create more economic distortions and inefficiencies than others, such as recurrent property taxes.¹⁸⁸ Flat value-added taxes levied on all goods and services, if not accompanied by complementary social support, can disproportionately hurt the poor, compared with progressive personal income taxes with high minimum thresholds.¹⁸⁹

Even countries with relatively similar incomes and culture, such as the group of 34 countries comprising the OECD, have made very different choices. The largest OECD tax types by revenue are typically social contributions (25 percent of total on average), personal income taxes (21 percent), VATs (19 percent) and corporate income taxes (9 percent). However, significant variations exist in revenue generated by these taxes reflecting variations in the choice of rates applied and in the degree of progressivity applied. For example, the share contributed by personal income taxes varies between 13 to 29 percent, while that of VATs varies from 16 to 22 percent and corporate taxes from 6 to 11 percent. A VAT-like sales tax has been under discussion in the Kingdom and across the GCC since 2007.

Other options to ensure financial sustainability include optimizing fees that are currently levied on some public services. There are multiple possibilities to do this. Those with likely limited negative consequences might include the introduction of a fee to extend the validity of a driver's license, for instance. Vehicle registration fees could be segmented so that vehicles with more powerful engines pay higher fees. Parking fees and fines for unauthorized parking could also be increased.

Airports provide an opportunity to raise revenue, through higher fuel surcharges on aviation or transit passenger charges, although these fees would need to be introduced with care so as not to damage the Kingdom's competitive position. Property registration fees could also be increased. Overall, we estimate that increased fees and fines through user segmentation, price differentiation, and premium service provision could generate up to 50 billion SAR (\$13 billion) annually.

The tax revenue contribution of households constitutes a key consideration for the design of fiscal policy as it could be detrimental to consumption and hence economic growth if set too high. We estimate that a tax regime comparable to those of the Kingdom's middle-income peers could create an average burden of about 12 percent of projected household incomes

¹⁸⁷ We compare Saudi Arabia to other Muslim-majority countries in this section to highlight the differences in tax approach independent of cultural or religious context.

¹⁸⁸ World Bank; Jens Arnold, *Do tax structures affect aggregate economic growth? Empirical evidence from a panel of OECD countries*, OECD economics department working paper number 643, October 2008.

¹⁸⁹ Rupert Sausgruber and Jean-Robert Tyran, "Discriminatory taxes are unpopular—even when they are efficient and distributionally fair," *Journal of Economic Behavior and Organization*, volume 108, December 2014.

in 2030, compared with 15 to 18 percent in the United States, the United Kingdom, and Australia.¹⁹⁰



Transforming the Saudi economy would need to include significant change in three fundamental pillars of the economy: labor, business regulation, and fiscal management. Labor market reforms are essential to boost productivity and improve the skills of Saudi workers. Saudi Arabia will need to improve its attractiveness as a business destination if it is to attract the \$4 trillion in investment we estimate the Kingdom will require to transform its economy by 2030. An economic framework for the economy should pave the way for greater productivity and competition at the same time as cutting down on bureaucratic burdens and delays. In fiscal management, a new spirit of efficiency and a focus on value for money would help infuse the public sector in its spending decisions. The Kingdom's wealth of financial and non-financial assets could also be better leveraged. For businesses and households as well as government, a full potential scenario would be a new era, as they—like their fellow citizens the world over—pay market prices for some of the basics they consume and contribute to the prosperity of the nation through fees, fines, and perhaps a new system of taxation. The potential upside would be a Kingdom that is invigorated economically, prospering, and creating employment and wealth for its people regardless of what happens on oil markets. Without change across these three pillars, the full potential transformation cannot happen. But the success of any agenda for change ultimately depends on the ability to translate words into deeds.

¹⁹⁰ OECD and IMF.



Cement plant under construction in the desert of Bishah, Saudi Arabia
© Alamy



A landscape outside Riyadh nicknamed "The Edge of the World"
© Desert Publisher

4. IMPLEMENTATION: THREE JOURNEYS

Saudi Arabia is in a strong position to meet the challenges ahead. After the decade-long boom it has no debt, and it has well over \$1 trillion in financial and non-financial assets, not including its oil reserves. That financial starting point could make the economic transformation we have described here easier to put in place today than at any time in the near future.

Politically, too, the time is ripe to introduce important change. With the government expressing a desire to introduce reform, as is often the case, the issue is not the ambition of the agenda or political willingness to implement it, but whether Saudi Arabia will be able to translate its ambitions into action.

Historically, implementation has proved to be a relatively weak point in the Kingdom: a review of major projects launched over the past decade shows that reform efforts have at times not lived up to their ambitions. Given the nature of the challenges the Kingdom is already facing, and will likely continue to face in the years ahead, Saudi Arabia has an opportunity to learn from past efforts to deliver the needed changes broadly and effectively.

And quickly, for time is of the essence. In our model of the Saudi economy, we have calculated the difference between a reactive policy scenario in which the government reacts to changing conditions with a spending freeze and curbs on immigration, and a full potential scenario, in which the Kingdom sets into motion the productivity-led transformation outlined in this report. For every year of delay, we estimate that the additional cost to the government by 2030 in terms of more expensive operations and lower oil revenues could amount to as much as 180 billion SAR (\$50 billion). Or put another way, it could raise the break-even price of oil for the Saudi government in 2030 by \$18 per barrel.¹⁹¹

Given the outsized role government plays in the Kingdom's economy, it is inevitable that government will be the initiator of much of the change. In this chapter we discuss a range of ways that it could improve its delivery capabilities, through greater accountability, coordination, and performance management. Yet government will not achieve this vision on its own. The economic transformation we have outlined in this report hinges on all parts of society taking greater responsibility for their own economic destiny and relying less on the state to do it for them. In that spirit, the transformation itself will need to be a collective effort, involving private business and individuals, too.

Government will need to go from managing oil prosperity to guiding and enabling a new and more sustainable prosperity built on productivity gains and a burgeoning non-oil private sector. The government would keep some direct ownership of the economy, but its control of the Kingdom's major economic activities, and its financing of public goods through retained earnings, could give way to a new supporting role. It would no longer dominate the investment landscape, although it would continue to play an important guiding role, to aid private companies as they invest. Indeed, in the private sector the government will find a more active partner. Working together they will be able to accomplish much, from improving vocational training and raising the skills of the workforce, to putting in place the business regulations to attract new investment to the Kingdom. In return, government can share in the private sector's success, in the form of taxes.

¹⁹¹ Additional cost is calculated as the incremental change in the fiscal balance between 2029 and 2030 in the full potential scenario minus the incremental change in the reactive policy scenario in the same period.

This model could help the government break its dependence on oil, as non-oil revenue goes from 10 percent of government revenue to as much as 70 percent.

In its relation with citizens, too, the government will need to redefine its role. Citizens in the future could be protected not through welfare payments, but through investing in their future productivity and ability to find work. While 81 percent of Saudi household income today comes from the public sector in the form of wages and transfers, Saudi workers could move to an economy where 58 percent comes from jobs in a competitive private sector. This reduces the dependence of Saudis on the state and provides them with new opportunities, once they have been prepared with the right mix of skills and attitudes.

For all three constituencies, future prosperity will not happen by itself. It will require effort and a willingness to change. Government, business, and households would emerge looking quite different. Each will have traveled a road.

MODERNIZING GOVERNMENT: DELIVERY, DELIVERY, DELIVERY

Government delivery will be one of the most critical factors in the success or failure of the transformation we have outlined. Historically, the government has set bold ambitions for growth and Saudi employment, and it has struggled to meet them. The most recent long-term strategy for the Saudi economy was developed in 2002, together with a series of five-year development plans that set targets intended to translate the strategy into practice. Some of the headline targets in the most recent development plan, the ninth, covering the years 2009 to 2014, have not been met. For instance, Saudi unemployment, targeted at 5.5 percent, today persists at 12 percent.

External factors such as the 2008 financial crisis and fluctuating oil prices play a role in any government's ability to realize its agenda, but the causes and solutions to Saudi Arabia's delivery challenges are mostly local.

For the transformation we outline to succeed, government delivery will have to be something that matters every day. We have identified five imperatives that can make the difference:

The first is for the government to set clear and integrated cross-ministry priorities and accountabilities to prevent competition and silos between ministries and to enhance coordination. While existing long-term strategy and development plans articulate objectives and targets, they do not assign clear ownership for each area. This leaves each ministry and agency to its own devices to determine which of the objectives to prioritize and how to achieve them. One result is that different ministries can compete for attention and funding, trying to address the same issues, often in incompatible ways.

For example, a long-awaited strategy on energy policy involving renewables and nuclear energy has been held up by disagreements among stakeholders, which include a half-dozen ministries and government agencies. After an initial announcement of a plan, stakeholder interactions have continued inconclusively for almost five years without reaching a conclusion.

The industrial development story in Saudi Arabia is another example of this overlap, with three different ministries or agencies all sharing responsibility.¹⁹² A project involving Jaguar Land Rover highlighted what can happen when several government ministries do not collaborate and communicate effectively. A letter of intent was signed with the company in 2012 and the investment deal was close to completion, but it fell through because the required incentive package was not secured. Coordination has also been a weak point in

¹⁹² Saudi Ministry of Petroleum and Mineral Resources for the Saudi National Industrial Clusters Development Program; Ministry of Commerce and Industry with the Industrial Cities Program (MODON); and Saudi Arabian General Investment Authority with the Economic Cities.

the attempt to improve the flow of young people from education to employment; the Ministry of Education has led a significant expansion in university offerings without giving much attention to the labor market needs that are identified by the Ministry of Labor. As a result, many graduates who hold degrees in social sciences are unable to find jobs.

The government understands the problem and has been moving to fix it. The establishment of the Council of Economic and Development Affairs (CEDA) in 2015 is a step in the right direction: each week it brings together all ministers with economic portfolios to improve coordination and decision making. But this new coordination is a first step. This spirit of coordination and cooperation will need to be infused throughout the departments run by these ministers.

A second imperative is for the government to embrace outcome-based target setting, planning, and budgeting. Targets are typically set top-down based on economic models and forecasts but then not revised to take into account the implementation realities on the ground. One such target from the ninth development plan was to create 1.2 million jobs of which 92 percent would be occupied by Saudis, at a time when Saudis held less than 10 percent of total private-sector jobs.

As well as being overly ambitious, targets can mainly focus on inputs, which typically give incentives to grow in size irrespective of effectiveness, rather than on outcomes, which usually incentivize to improve service levels. This is especially pronounced in the social services, where government entities have been meeting volume targets and delivering significant capital projects. In health care, for example, the Kingdom has built 81 new hospitals over the past decade at a cost of 26 billion SAR (\$6.8 billion).¹⁹³ At the same time, the number of primary health-care facilities in the Kingdom has not kept up with population growth, declining from 8.7 per 100,000 population in 2002 to 7.7 in 2012.¹⁹⁴ For a country like Saudi Arabia, with a young population and a high prevalence of chronic diseases, and which is also facing a big increase in the number of people over the age of 65 in the next decade, the current model of health care spending is less effective than it could be.

The planning process also faces challenges. The approval process can be slow; the Riyadh metro project was conceived in 2001, but construction did not begin until 2014, partly due to a complicated decision-making process among multiple government agencies. Furthermore, budgeting is disconnected from development planning, with ministries seeking funding directly from the Ministry of Finance. A lack of coordination can be problematic. Once again, health care provides an example. Despite the surge in hospital building over the past decade, the Ministry of Health and other government health service providers plan to increase hospital capacity over the next five years. These plans are being made with limited coordination, and risk missing very significant synergies across these facilities. The operating expenditure of these beds alone would be the equivalent of the entire Ministry of Health annual budget, 62 billion SAR (\$16 billion).

The third imperative for successful government delivery is performance management and follow-up. There is rarely a formal mechanism to manage the performance of ministries and other government agencies, which leads to a lack of accountability. As a result, ministries show little evidence of concern upon missing targets. For example, in the period 2009–14, several operating ministries delivered outcomes that were at best just 30 percent of their target plans. Reports developed by the ministries did not explain why the target was not met or what the ministries planned to do about it. Furthermore, there is no early warning system that could enable potential delivery problems to be detected and escalated before they

¹⁹³ *Annual statistical yearbook, 2010–2014*, Saudi Ministry of Health. We assume capital spending of \$50,000 per additional bed.

¹⁹⁴ *Annual statistical yearbook, 2002–2012*, Saudi Ministry of Health.

become apparent and unavoidable. Other countries can point the way here. For example, government officials from OECD countries have been constructing a framework for the governance and delivery of infrastructure. Best practices combine long-term considerations including conceiving national strategic visions with more practical, shorter-term steps, including establishing a process to manage projects that is user-centric.¹⁹⁵ Both the United Kingdom and Malaysia have delivery units that report to the Prime Minister; in Malaysia, the Prime Minister instituted biannual reviews with each minister and the dedicated delivery unit then follows up. To truly make a difference, performance management needs to cascade down the ranks to frontline staff in the public service. The good news is that the Council of Economic and Development Affairs has significantly increased the focus on performance and shortened the time duration between reviews.

The fourth imperative is to create external pressure to perform but also celebrate successes by communicating objectives and impact achieved. While the five-year development plans are public, they are not widely circulated, and there is no measuring of individual ministries against these targets. Such measures, however, can have a positive impact. Publicizing the achievement of ministries against agreed performance targets can create positive competition both between ministries and, within ministries, between departments. It can instill a more commercially minded approach, with a clearer, value-focused mindset. The public should know more about what is happening, too, especially if there are quick wins to communicate. Government leaders should make impact visible by communicating successes, frequently and regularly. This communication should reference the specific program and illustrate how it affects the lives of citizens in a meaningful way.

The final imperative is to scale up leadership capacity for delivery. Within the government, it is common practice to limit delegation of authority. This means that most approval powers in government agencies are concentrated with the leaders of these agencies. They can be quickly overwhelmed with running day-to-day operations, leaving limited capacity to drive strategic initiatives.

While government jobs are attractive for many Saudis, some of the highest-performing Saudis have a strong preference for jobs in the private sector. Several government entities use outsourcing companies to staff up, but this approach is not scalable or sustainable. Building a shadow administration with private-sector contractors to overcome the challenges of the existing public-sector administration comes with its own challenges. In one case, a contractual dispute between a government agency and the outsourcing company led the outsourcing company to suspend its service. As a result, the agency lost all the leaders belonging to that company, resulting in stalled day-to-day operations.

There are many ways to attract additional talent to the public sector. A number of countries have launched programs to improve the human resource and talent management for public servants. Others have initiated “fast track” talent development programs to cultivate high performers, including the Fast Stream track in the UK. Another initiative would be to look for opportunities for large-scale temporary secondment of personnel from the private sector. There is precedent for this: the government asked Saudi Aramco to step up on the construction of King Abdullah University of Science and Technology and on post-flooding improvements to civil works in Jeddah.

For all these imperatives, the Kingdom may be able to leapfrog ahead through astute use of digital technologies, ranging from simple websites to more sophisticated use of big data and cloud technology. The global economy is undergoing a dramatic transformation in this digital age, and public sectors everywhere are looking to use digital technology as a key to

¹⁹⁵ OECD, *Towards a framework for the governance and delivery of infrastructure*, OECD Working Party of Senior Budget Officials, unclassified working document, June 3, 2015.

improved delivery of services and greater efficiency. Some countries are already leading the way. For example, Estonia's 1.3 million residents can use electronic identification cards to vote, pay taxes, and access more than 160 services online, from unemployment benefits to property registration. Turkey's Social Aid Information System has consolidated multiple government data sources into one system to provide citizens with better access and faster decisions on its various aid programs. The United Kingdom's gov.uk site serves as a one-stop information hub for all government departments.¹⁹⁶

Saudi Arabia's public sector, too, has started the migration of services online. Among other initiatives, the Ministry of Labor has launched an open e-learning platform called Doroob that focuses on providing Saudi youths with the skills they need for the labor market, and Saudis can study at the all-digital Saudi Electronic University, set up by the Ministry of Education. A government-owned technology solutions and services company, Al Elm, provides digital services for some ministries. For its part, the Ministry of Commerce and Industry has created an online registration for companies that it boasts can cut the process down to just 180 seconds.¹⁹⁷ By digitizing more of its services, and making use of technological breakthroughs, the Saudi public sector could potentially give a strong push to public-sector productivity.

FOR THE PRIVATE SECTOR, NEW BUSINESS MODELS

The transformation journey for private companies in Saudi Arabia involves a search for new business models. Firms will need to shift away from a world in which they depended on cheap energy and imported labor that was both low cost and often low skilled, to a world in which they invest to improve their operational excellence and build scale. That will mean investing in technology and business processes, but also investing in human capital, in order to acquire a better, more productive workforce. The productivity gains across any of the sectors we examined will ultimately be the sum of firm-level transformations led by boards and CEOs throughout the Kingdom.

Government can support private enterprises here, to ensure that what is good for private enterprises is good for Saudi citizens. It can incentivize corporate investments, smoothing the path to the new business models by finding ways to encourage investment in R&D, in operations, and in people. There are many choices for how to do this. It could come through well-designed incentives, for example, or through government procurement policies that reward and encourage companies to invest in people development and become more productive and competitive.

There are three keys to the increased productivity and competitiveness of companies.

- **Consolidation.** Some industries, including retail and construction, are fragmented, with a very large number of sometimes very small players. Economies of scale will be a competitive advantage, and consolidation will be a key. Tradition is important in many sectors of Saudi business, especially retail, where neighborhood stores hold sway. The top five retailers in the Kingdom have a combined market share of less than 10 percent. The hospitality and tourism sector faces a similar challenge, with a large number of subscale restaurant, hotels, and tour package operators. Consolidation may hurt some small businesses, but it will create new efficiencies, as scale enables the development of more sophisticated supply chains and the adoption of global best practices in procurement, marketing, and delivery across multiple sectors of the economy.

¹⁹⁶ *Public-sector digitization: The trillion-dollar challenge*, McKinsey & Company, December 2014.

¹⁹⁷ Doroob, the Saudi Ministry of Labor's portal for job seekers, is at www.doroob.sa/en; Saudi Electronic University is at www.seu.edu.sa. Details of the Saudi Ministry of Commerce and Industry's online commercial registration appear in the online article, "Commercial registration in 180 seconds," January 1, 2015, <https://mci.gov.sa/en/about/WhatisNew/Pages/04.aspx>.

Companies that take a more active approach to consolidation, identifying opportunities and configuring their operations to acquire and develop scale quickly, will be the winners.

- **Modernization and digital innovation.** While digital technology will help the public sector improve its delivery, the biggest benefits are likely to be found in the private sector. MGI research around the world shows that a very significant part of productivity gains—up to 75 percent—can be achieved by matching best practices in each sector, both nationally and globally.¹⁹⁸ All sectors of the Saudi economy have room to improve and modernize, whether they are retailers switching to larger formats, construction firms adopting state-of-the-art equipment, or hoteliers upgrading the quality of their services. Digital technology will be a significant enabler in this modernization push. Saudi households have led the way in adopting it; smartphone penetration in the Kingdom is one of the highest in the world, and Saudis have taken to Twitter and YouTube. Businesses now need to follow suit by embracing technology as enthusiastically as consumers. E-commerce has been growing strongly but is still tiny, just 0.6 percent of total retail revenue in 2014. There is room and opportunity to create an Arabic Amazon, Paypal, or eBay. Digital technology creates potential for a multitude of other new types of businesses and services, too, including in health care and tourism. Modernization of equipment will need to be accompanied by management innovation, organizational changes, and new business models.

Above all, modernization requires investment. Retail and hospitality firms will need to invest in automated processes and equipment, big data, and the latest handheld devices. Construction firms will need to use larger and more sophisticated equipment and tools. Any attempts to build a thriving local manufacturing sector will require particularly large amounts of investment. In general, businesses will no longer be able to count on government to do the investment for them or to give them a competitive advantage through energy subsidies or other hidden handouts. For Saudi companies, it will become increasingly important to apply the latest technology in their firms and eventually develop their own research and development. Operational excellence will be the key for future competitiveness, and achieving it will require investment into not just equipment but also business processes and talent.

- **Skills.** No adjustment to changing times in the Saudi economy is likely to be as difficult for the Kingdom's private-sector firms as the reconfiguration of the workforce. For decades, Saudi companies in the non-oil economy have relied to a large extent on low-cost foreign laborers, who today constitute the majority of the Kingdom's workforce. This reliance has come at a high price to the Saudi economy as a whole: low skills and low productivity. Going forward, Saudi companies might use foreign or domestic workers, but regardless they will need to upgrade the jobs they create if productivity is to grow fast enough to ensure future prosperity. This will mean investing more in workers to help them develop the skills needed to excel in a more competitive and productive environment. For business leaders considering the opportunity to employ Saudi nationals, this will require a new conversation with educational authorities to improve the skills learned by Saudi youths, so that they are better matched to the needs of the labor market. At the individual company level, it will mean investing in training new hires and providing ongoing professional learning to Saudi staff or continuing to import foreign labor, albeit at a likely higher cost and with potentially similar educational investment requirements as for Saudi nationals.

¹⁹⁸ *Global growth: Can productivity save the day in an aging world?* McKinsey Global Institute, January 2015.

Winners in the Saudi private sector will be pioneers who align their investment and business models with the needs and opportunities of Saudi society and who take as a source of advantage the risk to invest in and grow on foundations of local content and the Saudi workforce. Many others who cling to the old model will fail on this journey.

FOR HOUSEHOLDS, MORE CHOICES, BUT ALSO MORE RESPONSIBILITY

The journey for Saudi households will also be a significant one. From being primarily supported by the public sector, both in terms of employment and transfers, households will increasingly need to find their own opportunities in the private sector. The shift will be one from entitlement to productive participation. More family members, including more women and youths, would work. They will have greater choices, but also more responsibility for their own destiny—and more chances to prosper. The biggest shifts will be in three areas.

- **Education and training.** Over the past decade, a growing number of Saudi youths has gone on to tertiary education at new universities that have sprung up around the Kingdom. Indeed, a higher share of Saudis now enroll in tertiary education than in many developed economies in Europe. At the same time, as we have noted, dropout rates are about 50 percent, and a large proportion of students study subjects that do not provide them with the skills they need to find gainful employment after graduation. Going forward, young Saudis and their families will need to consider more carefully what the best options could be and look for ways to develop skills that are in demand in the 21st century. Depending on the desired career and jobs aspiration or the needs of the labor market, the best options are varied and could include targeted short technical courses, intense ten-week “boot camps” to learn the latest information technology programming skills or instruction in a new language, as well as more traditional routes like university study.
- **Jobs.** Today, 70 percent of Saudis work for the public sector. As the private sector develops and overtakes the public sector as the Kingdom’s main employer, one of the biggest challenges for households will be to find new jobs that are perhaps less secure than those in the public sector, but which are more productive and better paid. Governments can help households cope with this increased uncertainty by ensuring an effective safety net and considering policies such as national employment insurance, but individuals can also help themselves by contributing to this social fund. Private-sector wages will rise as productivity levels go up, and the opportunity to find gainful and stimulating employment will increase. This will be the case for men, as well as for women, whose participation in the workforce will continue to rise under our full potential scenario. For households, this will mean more members participating in employment, and fewer depending on government welfare.
- **Spending.** Saudi households consume rather than save. After all, why save when the government is so generous with its welfare? That generosity will likely wane, and for ordinary Saudis, the need to take control of their own affairs will become more pressing. Saving for now is not all that convenient, with a dearth of appealing products. Neither is borrowing, especially for a mortgage; obtaining one can be difficult, especially for private-sector workers. Going forward, as the banking system evolves, Saudi households will have greater choices and more options to accumulate assets rather than spend. They will become more discerning consumers.

HOW TO THRIVE IN CHANGING TIMES

The shift in relationship between government, business, and citizens is central to the economic transformation. Evolution of the government's investment, social protection, and service delivery models will pave the way and set the rules for the new economy. Private sector winners will be those who adapt and embrace the new realities, and successfully align their investment and effort with that of the state and society. All three of these journeys—for the Saudi government, for business, and for households—have some elements in common. How well they navigate them, and whether they arrive, will depend as much on an openness to change as on the practical details. To that end, three principles apply for Saudis to thrive in these changing times.

The first is to accept that change is inevitable. The 2003–13 decade was an exceptional one, and the factors that made it exceptional have evolved and cannot be re-created. Even if oil prices were to rise and remain at an elevated level compared with where they are today, the current Saudi growth model is not sustainable. We calculate that simply to maintain a balanced budget would require an oil price of \$120 per barrel—and that does not take into account the sharp increase in costs associated with a large influx of young people onto an inefficient labor market. There may be some nostalgia in Saudi society for the “good old days.” But the sooner all stakeholders prepare for change, the easier it will be to navigate it.

The second principle is that Saudis will have to reset their intuition. Many of the preconceived notions they may have about how the economy works will no longer hold true if the Kingdom is to realize its full economic potential. The government will no longer be the main provider of prosperity. Oil will no longer be the lifeblood of the economy. Foreign workers will no longer take a majority of jobs. Employment will not be predominantly just for men. Some of these patterns of behavior are historical; others are more recent, a result of decisions made during the first oil boom of the 1970s and the second one in 2003–13. These ideas, this intuition, are increasingly at odds with what needs to happen to sustain growth. If Saudi Arabia is to maintain or improve its position as one of the largest economies in the world, it will need to adopt different ways to grow and develop. In modern productive societies, the private sector and market forces drive the economy, and high productivity and strong labor force participation are essential ingredients.

The final principle is that opportunity exists in equal proportion to the challenges—and that it needs to be seized. The transformation of the Saudi economy that we outline is all about creating new opportunities for businesses and for individuals, and in the process bringing about a fundamental change in the economic role of the state. Future prosperity will depend to a far greater degree on Saudis themselves identifying opportunities to create jobs, to start companies, to acquire assets, to improve their skills, and to find gainful employment. As the private sector gains in strength, many more opportunities for well-paid work will become available to those who are willing to seize them. The rewards will likely come in the shape of greater prosperity for households, and for Saudi society as a whole.



Transforming Saudi Arabia's economy and sparking a new era of growth, employment, and prosperity will be challenging and will require important changes across Saudi society. But this transformation is well within the bounds of the possible. The government and its ability to implement large-scale changes will be particularly tested, but businesses and households will also have central roles to play in facilitating the transformation. None of this will happen in isolation. Around the world, governments, companies, and individuals have found ways to improve productivity, increase employment, and foster growth, and Saudi Arabia could look to best practices for inspiration and help.

A more open economy that is a part of the transition could bring in international investment and expertise to accelerate the process. Change is never easy, and the sort of transformation that is needed in Saudi Arabia is significant. The forces that contributed to Saudi Arabia's prosperity over the past decade have moved on. At the same time, Saudi Arabia itself has moved on, becoming an increasingly modern society. Now it can take the next step and become a more modern and dynamic economy, based less heavily on oil revenue and more sustainably on a productive domestic workforce and an invigorated private sector. Achieving that will be challenging. But the promise is a powerful one. If Saudi Arabia succeeds in its transition to a new economic model, if it can realize its full potential, the future will be even better and more prosperous than the past.



Large-scale infrastructure spending is likely to continue
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TECHNICAL APPENDIX

For the research for this report, the McKinsey Global Institute developed an integrated economic model incorporating publicly available data from multiple sources to simulate various scenarios for the evolution of the Saudi economy to 2030. The purpose of this exercise was to examine different ways in which the economic situation facing the Saudi government and Saudi nationals could evolve.

We picked two main scenarios. For the first, a base case scenario, we largely projected historic economic trends forward and assumed reactive changes to the Kingdom's economic policy. For the second scenario, which we call a full potential scenario, we sought to understand what the potential upside could be of adopting proactive policies related to growth, productivity, wages, employment, and "Saudization"—the share of jobs occupied by Saudi nationals on a sector-by-sector basis. We also wanted to see what levers would be needed to put government finance on a sustainable footing.

The MGI Saudi Economic Model consists of four interconnected modules (Exhibit A1). The private-sector module is used to project GDP or value added, productivity, wages, and aggregate employment by sector. The fiscal and public-sector module is used to project government revenue and expenditure, value added, wages, and employment in public sectors, and ultimately the balance of the government's budget and net government debt. The workforce module is used to project the Saudi working-age population, the split of employment by Saudis and non-Saudis, and ultimately of household income for Saudis. Finally, the investment module is used to project total investment required in the overall economy by source. Further details on the key assumptions and methodologies employed in each of these four models are provided below.

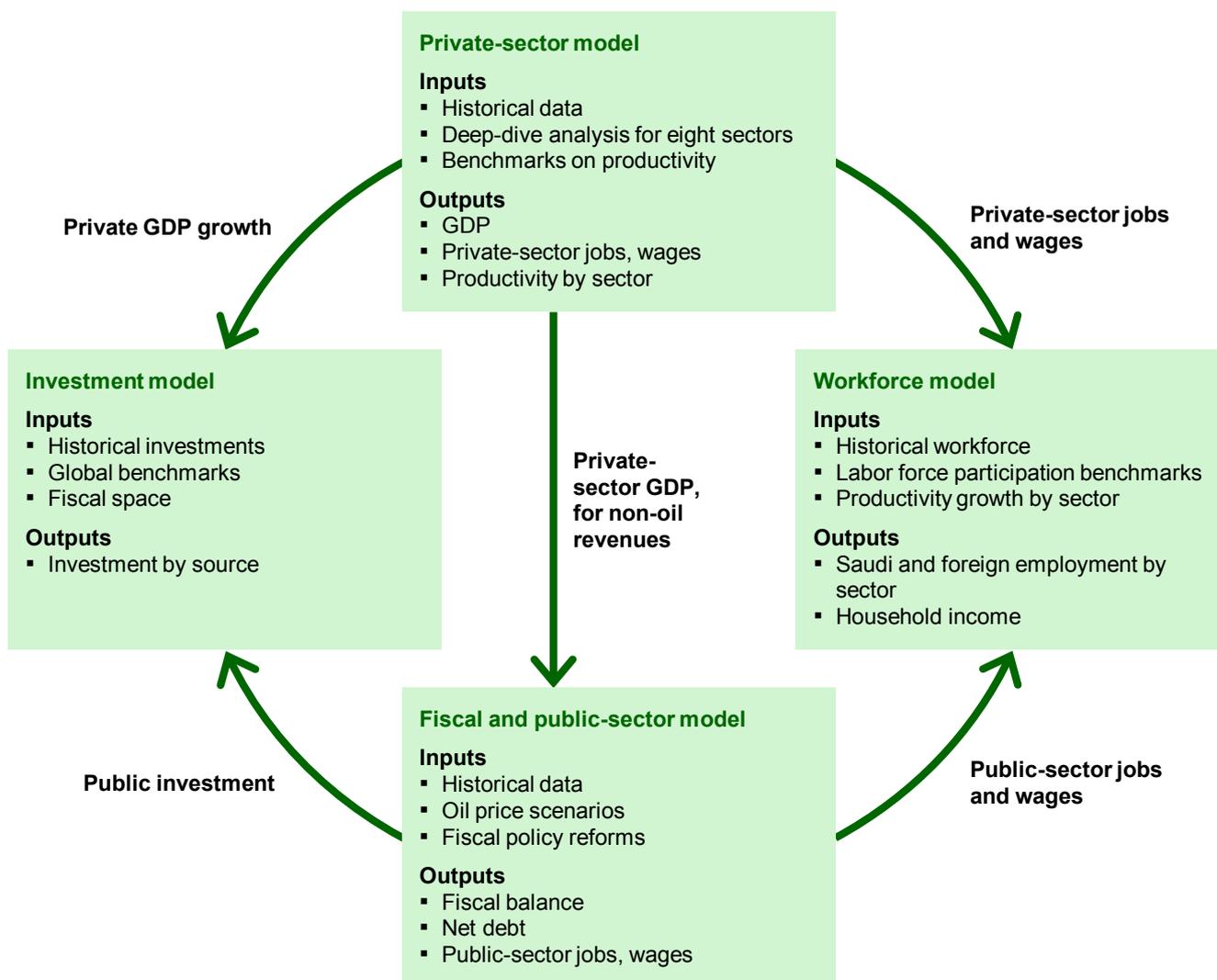
A few caveats need to be made. First, given the inherent uncertainties involved in long-term economic projections, these numbers should not be taken as a McKinsey Global Institute or McKinsey & Company forecast of the Saudi economy. Rather, the model is a tool for stakeholders inside and outside the Kingdom to better understand the range of possible outcomes depending on what policies are adopted.

Second, the model draws on a comprehensive review of publicly available data on the Saudi economy from both inside and outside the Kingdom, but does not contain privileged client information (Exhibit A2). Given some discrepancies in publicly available data, we have relied on official data published by the Saudi Ministry of Economy and Planning's Central Department of Statistics and Information (CDSI), the Kingdom's official statistical office, as our primary data source.

Third, while the model is comprehensive on the supply side of the economy, in line with the long-term outlook of our scenarios, it is not a general-equilibrium economic model and as such does not capture macroeconomic dynamics such as price effects of changes in policy, balance of payments, or monetary policy implications. We also assume that the currency peg of the Saudi riyal (SAR) to the US dollar is maintained at 3.75 SAR to the dollar.

Exhibit A1

Four interconnected modules were built using multiple available public sources to simulate the evolution of the Saudi economy to 2030



SOURCE: McKinsey Global Institute analysis

Exhibit A2

Principal data sources



SOURCE: McKinsey Global Institute analysis

PRIVATE-SECTOR MODULE

The purpose of the private-sector module is to project GDP or value added, productivity, wages, and aggregate employment by sector. Major inputs into the module include historical sector GDP, employment, international labor productivity benchmarks, and wages by sector. Deep dives were conducted to assess the full potential of seven private sectors that—along with health care—we estimate could generate more than 60 percent of additional valued added and employment by 2030: mining and metals, petrochemicals, manufacturing, retail and wholesale trade, tourism and hospitality, finance, and construction. Outputs from this module such as private-sector employment and wages are important inputs into the workforce module, and projected levels of GDP are an important input into the investment module.

Prices and inflation

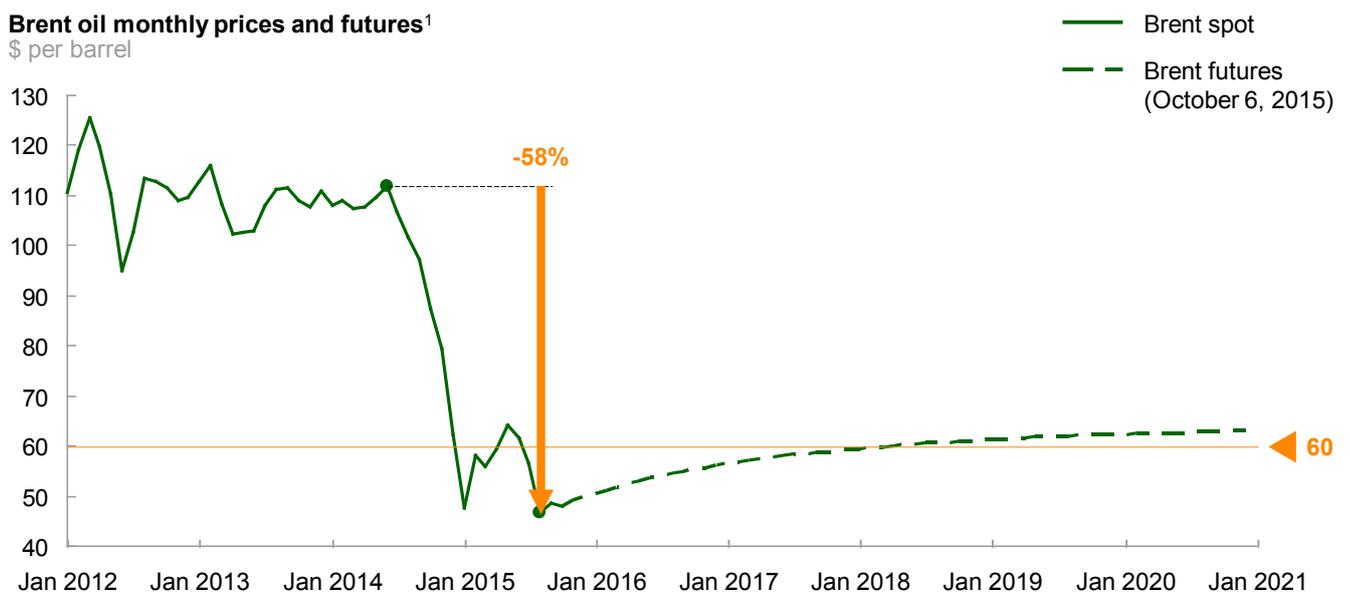
For the purpose of being able to compare future outcomes for key variables such as GDP and wages to the reality today in real terms, that is, in today's prices, we rely on consumer price inflation and GDP deflators as forecast by the IMF to 2020, and hold them constant thereafter.¹⁹⁹ Specifically, we used the IMF's forecast for consumer-price inflation to adjust wages for changes in prices. The GDP deflator is used to adjust valued added.

Oil sector

As noted in the main report it is not our objective to focus on the oil sector and its dynamics. In our modeling of the Saudi economy, we therefore make two important simplifying assumptions about the oil sector. First, we assume a gradual return to a flat oil price of \$60 per barrel in line with the futures curve as of early October 2015 (Exhibit A3). Second, we assume that oil production will increase by about 5 percent in 2015, in line with the year-on-year growth recorded in the second quarter of 2015, and then remain constant from 2016 to 2030.²⁰⁰

Exhibit A3

Global oil prices have fallen about 60 percent since late 2014 and, in early October 2015, futures curves were pricing in a return to about \$60 a barrel



¹ March 2015 spot prices are YTD average to March 30.

SOURCE: US Energy Information Administration; Bloomberg; McKinsey Global Institute analysis

¹⁹⁹ *World economic outlook*, IMF, October 2015.

²⁰⁰ Central Department of Statistics and Information, Saudi Ministry of Economy and Planning.

Value added in non-oil private sectors

To project aggregate GDP for the Saudi economy out to 2030, we split the projection into two periods: the near term (2015–17) and the longer term (2018–30). We do so on the assumption that it would take several years for most changes in government policy to be implemented and to have a major impact on the real economy.

For the near term we project a growth rate of the overall economy in line with IMF forecasts.²⁰¹ This economic growth is then proportionately distributed across most individual sectors in line with the historical distribution, with some exceptions. First, we assume that the construction and retail sectors are endogenous, that is, that they grow in line with growth in the rest of the economy based on their historical relationship. Second, we assume that health care, education, and public administration and defense have an immediate link to government expenditure.

For the longer term, the GDP path diverges between our two scenarios, reactive policy change and full potential. For the former, growth is calculated primarily in the same manner as previously, matching the long-term IMF forecast and repeating the exceptions in the sectors mentioned above. In addition, we used detailed sector models in mining and resource-intensive manufacturing to develop a base case in more detail.

For our full potential scenario, detailed sector-level models were used for most sectors to project an estimate of what is possible to achieve through major policy reform and private-sector action. These models are described in more detail below. For the remaining sectors, the high historical growth rates were projected forward. The plausibility of these growth rates was checked by comparing them to the highest performing nations globally in these sectors over any 20-year period since 1980. In all cases, we found that such sustained growth periods were possible.

Labor productivity

We estimate current labor productivity in Saudi Arabia by dividing gross value added by total employment on a sector-by-sector basis. This reveals some sectors with very high levels of productivity and others with very low levels. This reflects the unique economic makeup of the country, including its large oil endowment, large population of low-paid foreign workers and the fact that some sectors such as finance are still relatively small and in an early stage of development. These observations led us to take multiple approaches to modeling the future labor productivity of each sector.

In oil and gas, finance, and communications, we estimate that labor productivity is currently far higher than in the United States, and we therefore assume that there will be no further increases in labor productivity by 2030. In agriculture, labor-intensive manufacturing, and global manufacturing, we also held productivity constant, due to the limits on the development of these sectors in Saudi Arabia.

In most other non-oil private sectors, where productivity was much lower than levels in developed economies, we diverged the growth rates in labor productivity between 2018 and 2030. In the reactive change scenario, we grew labor productivity in line with projections for the United States, the world productivity leader. In the full potential scenario, we projected productivity to converge to the United States at a rate of 3.3 percentage points of the US share per year. This was the average convergence rate achieved by the G20 emerging markets between 2003 and 2013.

For some sectors, such as retail and wholesale trade, we developed more detailed labor productivity models (described further below). Labor productivity in health, education, and

²⁰¹ *World economic outlook*, IMF, October 2015.

public administration, and defense is a residual output calculated from public expenditure and employment policies (see fiscal and public-sector module below), in line with commonly applied practice to define labor productivity in non-market sectors.

Private-sector wages

Historically, wages for Saudi nationals in the private sector have grown broadly in line with productivity, with some variation among sectors. We assume that this relationship holds to 2030 in most non-oil private sectors, with average Saudi male wages growing in line with labor productivity on a sector-by-sector basis. Exceptions were made for extractive sectors such as oil and gas and mining, where wages in the Kingdom have not historically been linked to labor productivity improvement.

Average Saudi female wages are lower than Saudi male wages, but have been growing at a faster rate. We assume that Saudi female wages continue to grow at their historic rate until the point where they reach equilibrium with male wages in each sector. After this point they grow in line with Saudi male wages.

Non-Saudi wages have been largely flat in nominal terms over the past decade. We assume that they will grow at the cost of living inflation between 2015 and 2030.

Sector-level deep dives

Mining and metals

To develop an integrated perspective of this sector, we looked at both upstream mining and downstream manufacturing that uses mined metals and minerals. Upstream mining aggregates subsectors such as mining of metals and quarry. Downstream manufacturing aggregates subsectors such as basic metals and fabricated metals (by far the largest category, which includes steel and aluminum); inorganic chemicals segments including basic industrial chemicals, fertilizers, paints and varnishes; and mineral-based products (for example, glass, cement and ceramics). Data at this level of detail is not available from official sources and so we drew on IHS Global Insights and sought to reconcile it with aggregate data published by CDSI.

To estimate the potential GDP growth for the upstream mining sector, we assume that Saudi Arabia meets global industry benchmarks for annual extraction for each of the major commodities. This implies an increase in extraction of between 1.6 times and 3.2 times. We also assume that the Kingdom continues to discover new mineral resources and ore reserves at a quarter of the rate experienced in 2011–14. Historical data on mineral resources and ore reserves are drawn from Ma'aden annual reports. Extraction benchmarks for each of the major commodities that Saudi Arabia produces (phosphate, gold, and copper) are calculated by averaging the extraction ratios of the top five global producers in each commodity. Data on reserves and annual production for benchmark countries is drawn from the US Geological Survey agency.

For the downstream sectors, which use many of the outputs of mining as inputs into their production processes, we adopt a different approach. Growth in this segment has historically been positively correlated with growth in the upstream mining sector. There is potential for the Kingdom to meet more of its demand for downstream products locally. To simulate the potential impact of a concerted effort in this area, we assume that approximately 50 percent of the growth in upstream mining will pass through to growth downstream.

We assume labor productivity will remain constant in upstream mining, and that in downstream manufacturing it will converge to the average of major EU economies today (the United Kingdom, Germany, and France). This would amount to a doubling of labor productivity by 2030.

Petrochemicals

For our base case scenario in petrochemicals, we scaled up the current GDP contribution in line with the ICIS forecast for ethylene production to 2030. Labor productivity was assumed to remain constant. Employment was therefore scaled up in line with the projected change in GDP.

For our full potential scenario, the increase was based on two factors: producing more complex, value-added molecules, and improving functional performance of the chemicals players in the Kingdom to reduce costs and increase sales. For the former, we built detailed investment cases for 100+ molecules, and identified investments that would provide an internal rate of return of at least 15 percent, and a net-positive GDP contribution compared to polyethylene or polypropylene production from gas feedstock. We capped the total potential capacity growth for the production of more complex molecules, so that it would not be significantly different from the global average. We also estimated that the deeper-conversion, more complex molecules would require two to four full-time equivalent positions more than the number required to produce simpler, cracker-plus-one molecules on a per ton of ethylene or propylene basis. For functional excellence, we estimated the impact of various measures on costs and revenues, as described in the main body of this report. These numbers were informed by interviews with industry experts as well as our institutional experience serving petrochemical clients in the region. We assumed that the pursuit of all the functional excellence measures would create employment for 200 to 300 people per million tons of ethylene.

Manufacturing

Our methodology for estimating the growth potential for manufacturing was based on Saudi Arabia achieving an improvement in market share—the percentage of imports coming from Saudi Arabia—in other countries in the region. The following methodology was applied to each of the four subsectors: automotive; transport equipment; electrical equipment; and machinery, equipment, and appliances. In other MGI reports, chemicals is also classified in this segment, but as petrochemicals constitute most of this sector in Saudi Arabia, we have classed chemicals separately as a resource-intensive segment in this report.

To calculate a market share improvement we used data from IHS Global Insight to identify the countries with the most impressive growth performance in the relevant subsector over the past 15 years. Within these countries, we examined their trade flows in the neighboring regions to calculate their “market share” improvement. To avoid being skewed by an outlier, we averaged the second and third best market share improvements to estimate an aspirational figure for Saudi Arabia to achieve:

- 6.4 percentage points for automotive, based on an average of Mexico and South Korea
- 3.6 percentage points for transport equipment, based on an average of South Korea and Ukraine
- 2.4 percentage points for electrical equipment, based on an average of South Korea and Poland
- 3.8 percentage points for machinery, equipment, and appliances, based on an average of Mexico and Thailand

We then estimated the size of Saudi Arabia’s neighboring markets in 2030. We included nations within the Middle East and East Africa as being the local region. The historic average growth rate was used to project forward the growth in imports to estimate a market size for each country in 2030, with a cap so that the market did not grow larger, as a share of GDP, than its size in Europe. We then added the relevant market share improvement to

Saudi Arabia's current market share in each country, and used this amount to estimate total potential sales from Saudi Arabia to each country in 2030. Furthermore, we assumed Saudi Arabia could increase domestic sales by replacing one-quarter of its imports.

In each subsector, the total additional sales number was then converted into a GDP figure, using the ratio of gross value added to gross output available for the peer countries mentioned above. We added the resulting GVA improvement to Saudi Arabia's current GVA in each sector to project a potential GVA in global innovation for local markets by 2030.

Retail and wholesale trade

As outlined above, we assume that retail and wholesale sector GDP is endogenous and that it grows broadly in line with overall GDP growth. In the base case scenario, we assume that it maintains its current share of GDP at about 7 percent. For the full potential scenario, we assume that its share rises to 10 percent, in line with the average of benchmark advanced economies in Europe, as well as in the United States and Australia. We used the growth in the share of GDP to simulate the potential increase in consumption that would come from improved service quality and product offerings, as well as the higher propensity to consume as average Saudi household incomes rise.

To simulate the potential evolution of labor productivity in the retail and wholesale sector, we use the detailed methodology already developed by MGI.²⁰² This research found that retail productivity in emerging economies could be doubled over the next 20 years, largely through a shift to modern formats, a migration online and the adoption of merchandising best practices.

For the Saudi retail sector, we assume that the share of modern trade will rise from 56 percent in 2013 to 84 percent in 2030. The rate of this increase is in line with the rapid evolution of retail and wholesale in some other emerging transition economies, including Russia and Poland. In Poland for example, the share of modern trade rose from about 30 percent in 2000 to 77 percent in 2014 and is projected by Euromonitor to reach 84 percent by 2019. We also assume that the productivity of the modern trade formats will by 2030 have reached the 2013 levels in the United States.

With respect to the migration of trade online, we assume that online retail will reach 18 percent of total retail sales by 2030, in line with the projected average for G20 benchmarks that year. To calculate the online shares of G20 benchmark countries in 2030, we take data and forecasts from Euromonitor through to 2019 and then extrapolate the trends to 2030.

Tourism and hospitality

For tourism and hospitality, we looked separately at the two main constituents, religious tourists and leisure tourists, to project the potential change in their number and their spending.

We assume the number of international religious tourists will grow at historical rates in the base case scenario, and at 1.5 times the historical rate in the full potential scenario. This implies that the Kingdom would sustain the peak number of visitors during the Hajj season all year round.

For domestic leisure tourism, we assume that numbers remain constant in the base case scenario. For the full potential scenario, we assume that numbers would recover 50 percent of their 2009 levels over the next five years and then grow in line with population growth. For the international leisure segment, we assume that a significant opening up and targeted

²⁰² *Global growth: Can long-term productivity save the day in an aging world?* McKinsey Global Institute, January 2015.

campaign to attract visitors to the Kingdom's attractions such as the Red Sea coast could result in annual average growth in the number of tourists of 12 percent. This is in line with the experience of Malaysia following its "Malaysia: Truly Asia" campaign, between the launch in late 1999 and 2006.

We assume that business tourism numbers grow in line with government expenditure in both scenarios and that all other tourism segments, such as family and friends visits, grow in line with Saudi population growth.

For average spending per tourist, in the base case scenario we assume that this will grow in line with inflation. For the full potential scenario, we assume that leisure tourists would be willing to pay more for better quality services, and would thus spend 5 percent more year-on-year. This is in line with the experience of Malaysia following its "Malaysia: Truly Asia" campaign between the launch in late 1999 and 2006. The experience in major European countries and the United States suggests that spending can grow substantially with a more upscale hospitality offer.

Finally, in terms of productivity levels, we assume that Saudi Arabia by 2030 could reach the levels of productivity in tourism and hospitality of Turkey today. This implies a tripling of labor productivity as the sector consolidates and adopts global best practices.

Health care and finance

Unlike our analysis of the other sectors, the sections on health care and finance in the report did not focus on GDP and productivity. In the case of finance, we looked at how the sector could enable credit, including through higher-volume lending to small and medium-sized business and to individuals. For health care, most of whose activity remains in the public sector in Saudi Arabia, we focused on the potential to create jobs in the future, and on a possible expanded role for the private sector. As such, we did not construct models for these two sectors' overall economic impact. Benchmarks we used for comparison are referenced in the individual sections of the report.

Construction

As outlined above, we assume that construction GDP is endogenous and that it grows broadly in line with overall GDP growth, via the channel of total investment needs in the economy. As a result, construction GDP is higher in the full potential scenario compared to the base case. Total investment needs the economy are calculated using the MGI formula outlined in Box 4, "\$4 trillion in investment," in Chapter 2. To calculate construction GDP, we assume that construction accounts for 40 percent of total investment, the same share that was observed between 2003 and 2013.

Finally, in terms of productivity levels, we assume that Saudi could reach the average levels of benchmark countries outlined in Chapter 2, implying a tripling in productivity levels by 2030.

FISCAL AND PUBLIC-SECTOR MODULE

The purpose of the fiscal and public-sector module is to project government revenue and expenditure, value added, wages, and employment in public sectors, and ultimately the balance of the government budget and net government debt. Major inputs into the module include historical expenditure and revenue data, oil price assumptions, and assumptions about potential fiscal choices and reforms in our scenarios. Outputs from this module such as public-sector employment and wages are important inputs into the workforce module and public investment levels are an important input into the investment module.

Government oil revenue

Oil revenues that accrue to the government are heavily determined by the \$60 per barrel oil price and largely constant production assumptions outlined above in the private-sector module. Other relevant factors include domestic oil consumption and prices as well as the proportion of oil revenues that is retained by Saudi Aramco to fund its own operations and investments.

Since domestic gasoline prices are among the lowest in the world, oil revenue is largely determined by export volumes, which we calculate as production volumes less volumes consumed domestically. We assume that the latter will grow in line with GDP based on their historical relationship in the reactive policy change scenario. In the full potential scenario, growth in domestic consumption declines after the technical improvements and price increases outlined in Chapter 3 take effect.

Using historical energy and fiscal data from the Ministry of Petroleum and Mineral Resources and the Ministry of Finance, we estimated the historical difference between total oil revenue from both exports and domestic sales over the last five years and oil revenue reported in the budget. We assume the difference is retained by Saudi Aramco to fund its operations and investments and assume the same level is maintained between 2015 and 2030 in real terms.

Government non-oil revenue

Government non-oil revenue from existing items such as religious dues (Zakat), import duties, and corporate taxes on foreign profits is assumed to remain a constant share of non-oil GDP in the reactive policy scenario. These items therefore grow in line with non-oil GDP and hence grow more quickly under the full potential scenario relative to the reactive scenario.

In the full potential scenario, we simulate the potential revenue from the Kingdom having non-oil revenue proceeds that are in line with the average of other middle income countries as a share of non-oil GDP. We assume a straight-line ramp-up to this higher level between 2016 and 2030.

Government expenditure

For both the reactive and full potential scenarios, we assume a strong fiscal tightening in response to lower oil prices and the resulting decline in government revenue. First we assume that the government freezes spending in cash terms between 2016 and 2020, and then grows it in line with the GDP deflator between 2021 and 2030. We further assume that the government maintains the split of expenditure between capital (one-third) and recurrent spending (two-thirds) that was observed over the past five years. Finally, in both scenarios we assume that public wages are frozen between 2016 and 2030 in nominal cash terms.

We make three additional assumptions in the full potential scenario to simulate the effects of greater government investment in the economy as well as expenditure side reforms. First, we assume that the government increases its capital expenditure such that it funds the same overall share of investment that it funded between 2003 and 2013 (the overall level of investment is estimated in the investment module discussed below). We further assume that this incremental investment is front-loaded, with half spent between 2016 and 2020, 30 percent spent between 2021 and 2025, and the remaining 20 percent spent between 2026 and 2030.

Second, we assume that the government increases its investment in health care and social development to meet the needs outlined in the health care segment of Chapter 2 and fund the growing workforce needed in the sector. This includes wage increases sufficient to induce more Saudis to enter the sector.

Third, we assume that the government implements reforms to increase the efficiency of its procurement and capital expenditure. In both cases, the overall level of efficiency savings is assumed to be realized evenly between 2016 and 2030 in the form of a uniform annual efficiency dividend that is applied to each expenditure category, as outlined in chapter 3 of this report.

Public-sector output, productivity and employment

Public-sector value added or GDP is calculated directly from government expenditure based on the historical relationship observed between the data in the national accounts and the government budget. Labor productivity in health care, education, and public administration and defense is assumed to be constant. As a result, employment in the public sector is assumed to be driven solely by changes in the level of government expenditure. As a result, public-sector employment is largely flat in both scenarios, with the exception of the health-care sector, which grows significantly in the full potential scenario in line with higher expenditure.

WORKFORCE MODULE

The purpose of the workforce module is to project the Saudi working-age population, the split of employment by Saudis and non-Saudis, and ultimately household income for Saudi nationals. Major inputs into the module include: historical workforce trends; employment, wages, and productivity growth by sector from the private- and public-sector modules; and labor force participation benchmarks.

Saudi population and labor force

To estimate the potential future size of the Saudi labor force made up of Saudi nationals, we first projected the total population and then made assumptions about labor force participation.

Total population projections for Saudi nationals until 2025 were taken from the CDSI and extrapolated forward to 2030. We then used a combination of the national census from 2010 and more recent labor force surveys to estimate the male and female populations in one-year age brackets. These numbers were then aged upward, applying mortality rates for each band based on estimations of how these one-year age brackets moved between 2009 and 2014. The birth rate, calculated as a share of the female population of childbearing age, was projected to fall in line with historical trends. Household size for Saudi nationals was assumed to stay constant at 6.4 individuals per household. The definition for working-age population was taken from CDSI as 15 years and older and was assumed to remain unchanged by 2030.

To estimate the future size of the Saudi labor force, we made assumptions about future labor force participation rates by gender. In the reactive scenario, we assumed that labor force participation would grow at the historical rate for each gender group: 0.6 percent per year for males, 3.7 percent for females, resulting in a participation rate of 71 percent for men and 32 percent for women by 2030. In the full potential scenario, we gradually grew participation to reach the average for benchmark G20 and major emerging countries by 2030, namely, 76 percent for males and 45 percent for females.

Saudization

To calculate employment levels of Saudi citizens, we estimated a Saudization rate: the share of total employment calculated in the private- and public-sector modules that would be held by Saudi nationals. Today, there is a positive correlation between wages and Saudization, with Saudi nationals dominating high-paying sectors and foreign workers dominating low-wage sectors. To determine the Saudization rate in the future, we assumed the same correlation as today and calculated the Saudization rate by sector based on the future wages projected in the private and public-sector modules outlined above. In the full

potential scenario, we doubled the correlation coefficient to simulate the potential effects of government efforts and policy changes to promote faster Saudization. Finally, we capped the Saudization level at a maximum rate for each sector: generally 90 percent but higher for public administration and defense.

In addition, a mechanism was added under which Saudi nationals would start being placed in jobs now held by foreign workers at the prevailing low salaries currently earned by foreign workers should the Saudi unemployment rates rise significantly from today's levels, causing the government to act to curtail visas for foreign workers (50 percent for females, 10 percent for males).

Finally, we assumed the female share of employment would grow at historical rates in each sector, or remain flat if the historical rate was negative. Again, a maximum share of female employment was assumed for each sector, based on the nature of the sector in question and the cultural norms around such work in Saudi Arabia.

Based on the Saudization rate, we estimate the number of non-Saudi workers needed in the economy. We assume the same ratio of non-Saudi workers to the total non-Saudi population as today (0.7 non-workers per worker) to project the total non-Saudi population. Finally, we assume the same number of non-Saudis per non-Saudi household as today (4.3 per household) to calculate the total number of non-Saudi households.

Household income for Saudi nationals

We estimate future household income by summing employee salaries and social transfers from the government less potential new taxes and fees that the government could consider introducing, as we outlined in Chapter 3.

Wage income per household is the number of employees per household multiplied by projected weighted-average sector wages.

For household income coming from government transfers, we examined four types of transfer: government pensions, Hafiz unemployment payments, Ministry of Social Affairs poverty alleviation payments, and training grants. The overall budget for social transfers was estimated to rise or fall in line with public expenditure.

Finally, we deduct potential taxes from this projected household income. We assume that the overall tax burden is evenly split between households and firms (with the exception of corporate taxes) and calculate the average tax burden per household by dividing the total household burden by the number of households (both Saudi and non-Saudi).

INVESTMENT MODULE

Finally, the purpose of the investment module is to project total investment required in the overall economy. Major inputs into the module include historical investment data by source as well as private-sector GDP growth and public-sector capital expenditure.

Total investment needs the economy are calculated using the MGI formula outlined in Box 4, "\$4 trillion in investment," in Chapter 2.

Government share of total investment is based on the level of government capital expenditure outlined above in the fiscal and public-sector module. The share and level of economy-wide investment that needs to be funded from local and foreign private sources is the residual.



The Saudi Red Sea coast could be a tourist playground
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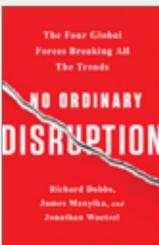
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