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## PREFACE

The *Iran Economic Monitor* provides an update on key economic developments and policies over the past six months. It examines these economic developments and policies in a longer-term and global context, and assesses their implications for the outlook for the country. Its coverage ranges from the macro-economy to financial markets to indicators of human welfare and development. It is intended for a wide audience, including policy makers, business leaders, financial market participants, and the community of analysts and professionals engaged in Iran.

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## LIST OF KEY ABBREVIATIONS USED

<b>bps</b>	Basis points
<b>H1, H2:</b>	First half of the year, second half of the year.
<b>3mma:</b>	Three-months moving average
<b>pp</b>	Percentage points
<b>Q1 (Q2, Q3, Q4):</b>	First (second, third, fourth) quarter of the year
<b>qoq:</b>	Quarter-on-quarter
<b>sa:</b>	Seasonally adjusted
<b>saar:</b>	Seasonally adjusted, annual rate
<b>yoy:</b>	Year-on-year
<b>lhs, rhs:</b>	Left hand side, right hand side (for axis of figures)



## EXECUTIVE SUMMARY

**I.** Following the partial lifting of nuclear-related sanctions in November 2013 under the interim Joint Plan of Action (JPOA), Iran's economy rebounded in 2014<sup>1</sup> and is estimated to have expanded by 0.5 percent in 2015. A less accommodative monetary policy stance reduced inflationary pressures, with the Consumer Price Index falling to 8.9 percent in February 2016, from a peak of 45.1 percent in June 2013. Notwithstanding this positive development, the pace of job creation has remained weak and the unemployment rate rose to 11.7 percent in 2015, up from 10.6 percent in 2014. The fiscal balance of the central government also deteriorated, mostly due to low oil prices, from a deficit of 1.2 percent of GDP in 2014 to a deficit of 2.7 percent of GDP in 2015. Similarly, the current account surplus is estimated to have shrank from 3.8 percent of GDP in 2014 to 0.6 percent of GDP in 2015 due to falling oil receipts.

**II.** The implementation of the JCPOA on January 16, 2016 is expected to help lift Iran's real GDP growth rate to 4.2 percent and 4.6 percent in 2016 and 2017, respectively. Key growth benefits include increased oil exports, the resumption of access to the SWIFT by the Central Bank of Iran and Iranian financial institutions, the provision of insurance and reinsurance, the financial support for trade with Iran, and commitments for grants, financial assistance and concessional loans to the Government of Iran. To further boost and sustain high and inclusive growth rates, wide ranging and longstanding structural reforms are required. Significant residual country risk remains—such as the possibility that sanctions are reinstated or the extension of non-nuclear related sanctions; these

are projected to gradually abate but a slower than expected pace would present downside risk to our forecast.

**III.** While Iran has one of the most diversified economy among OPEC producers, its economy remains highly dependent on oil and gas. In our first Special Focus, we assess short and medium-term prospects for the growth of Iran's oil and gas export revenues in a post-sanction environment. These critically depend on two variables: the speed at which investments are mobilized to rehabilitate, expand and develop various oil and gas fields; and the price of oil. To take account of this uncertainty three scenarios for the growth of oil and gas export revenues (baseline, upper limit, and lower limit). In a baseline scenario, exports of oil and oil products could increase from 1.27 million barrels per day (mbpd) in 2014, to 2.32 mbpd by 2017 and 2.53 mbpd by 2020 equivalent to additional revenues of US\$3.5 billion by 2017 and US\$19 billion by 2020. For gas, exports could increase from 4 billion cubic meters (bcm) in 2014, to 10.3 bcm in 2017 and 27.1 bcm by 2020 equivalent to additional revenues of US\$0.75 billion in 2017 and US\$6.51 billion by 2020. Achieving these export revenue, however, require reforms to: (i) improve the attractiveness to International Oil Companies of Iran's oil contract; (ii) raise the efficiency of natural gas transmission, distribution and consumption; (iii) reduce gas flaring and venting; and (iv) strengthen oil wealth management.

**IV.** Iran's financial sector is critical to propel Iran's economy towards the high, sustained and inclusive growth targeted in the country's draft sixth five-year development plan.<sup>2</sup> The sector,

<sup>1</sup> All references herein designate the Iranian calendar, which runs from March 21 to March 20 of the following year. There is therefore a difference of a quarter between the Iranian and Gregorian calendar years.

<sup>2</sup> The sixth five-year development plan is yet to be approved. The fifth five-year development plan has been extended by a year to ensure continuity of Iran's developmental agenda.

however, has been battered by the disruptive impact of the sanctions but also by longstanding distortive policies including directed lending schemes and effective interest rate ceilings amid high inflation. Our second Special Focus reviews the structure of Iran's banking and financial sector, the implications of the lifting of the sanctions, and outlines key structural reforms areas. While the lifting of the sanctions will provide much needed breathing space to the financial sector, in and by themselves, they can only deliver moderate gains in terms of growth and jobs; only when coupled with essential structural reforms can Iran be expected to reach the growth target of its sixth five-year plan. Structural reforms include improving the independence and effectiveness of the CBI to fulfill its monetary policy, and banking regulatory and supervisory mandates.





# RECENT ECONOMIC DEVELOPMENTS AND OUTLOOK

## RECENT ECONOMIC AND POLICY DEVELOPMENTS

Following the partial lifting of nuclear-related sanctions in November 2013 under the interim Joint Plan of Action (JPOA), Iran’s economy rebounded in 2014. While the signing and the implementation of the Joint Comprehensive Plan of Action (JCPOA) during the 2015 Iranian calendar year significantly raised the economic prospects of the country, the uncertainty regarding the lifting of the sanctions and the viability of the accord resulted in growth advancing at an estimated pace of 0.5 percent in 2015. A less accommodative monetary policy stance reduced inflationary pressures, with the Consumer Price Index falling to 8.9 percent in February 2016, from a peak of 45.1 percent in June 2013. Notwithstanding this positive development, the pace of job creation has remained weak and the unemployment rate rose to 11.7 percent in 2015, up from 10.6 percent in 2014. The fiscal balance of the central government also deteriorated, mostly due to low oil prices, from a deficit of 1.2 percent of GDP in 2014 to a deficit of 2.7 percent of GDP in 2015. Similarly, Iran’s current account surplus is estimated to have shrunk from 3.8 percent of GDP in 2014 to 0.6 percent of GDP in 2015 due to the fall in oil exports.

## Output and Demand

1. The state of international sanctions on Iran have been the key underlying factor behind fluctuations in economic growth in recent years.

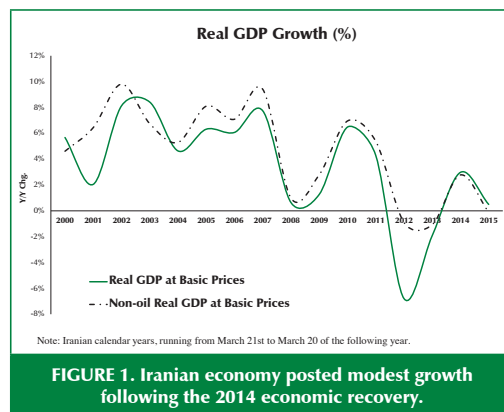


FIGURE 1. Iranian economy posted modest growth following the 2014 economic recovery.

Source: Iranian authorities.

President Rouhani’s administration came to power in July 2013 with a mandate to boost economic growth, focused, inter alia, on normalizing Iran’s economic relations with the rest of the world. This resulted in the partial lifting of the sanctions under the interim JPOA in November 2013.<sup>3</sup> This, along with improvements to business and consumer confidence, provided a temporary boost to the economy, with real GDP expanding by 3 percent in 2014, albeit from a low base (contractions of 6.8 percent and 1.9 percent in 2012 and 2013, respectively—Figure 1 and Table 1). See Box 1 for more details on the economic impact

3 The economic recovery came as a result of the partial lifting of sanctions under the interim Joint Plan of Action (JPOA) signed between Iran and the P5+1 (i.e., China, France, Germany, Russia, the United Kingdom and the United States) in November 2013, and the related rise in consumer and business confidence. Under the terms of the JPOA, Iran agreed to curb the development of its nuclear program while the international community enacted a temporary and partial easing of sanctions on the country. These sanctions relief included the partial removal of constraints on Iran’s oil exports, and the supply chain in key sectors of the economy—such as in the automobiles industry—and on international and domestic banks’ international transactions, as

TABLE 1. Islamic republic of Iran: Select macroeconomic and financial indicators (2012-15).

	2012	2013	2014	2015
Real GDP growth, at factor cost	-6.8	-1.9	3.0	0.5
Agriculture	3.7	4.7	3.8	3.0
Industry*	-18.3	-4.7	4.9	3.9
Services	1.4	-0.8	1.7	-2.0
Real GDP growth, at constant market prices	-6.6	-1.9	4.3	1.6
Private Consumption	-0.7	-9.3	3.1	1.1
Government Consumption	-7.2	1.6	2.7	-8.9
Gross Fixed Capital Investment	-23.8	-6.9	3.5	-1.2
Exports, Goods and Services	-20.5	0.0	12.0	6.3
Imports, Goods and Services	-23.1	-18.7	-5.7	-15.4
Prices				
Inflation (Consumer Price Index)	30.5	34.7	15.6	14.2
Current Account Balance (% of GDP)	4.0	6.0	3.8	0.6
Fiscal Balance (% of GDP)	-0.6	-0.9	-1.2	-2.7

\*Industry includes the oil and gas sector; Source: Government data and World Bank staff calculation.

of the JPOA. The signing of the JCPOA<sup>4</sup> on July 14, 2015 and its subsequent implementation on January 16, 2016 lifted the economic prospects of the country. Key benefits include increased oil exports, the resumption of access to the SWIFT by the Central Bank of Iran and Iranian financial institutions, the provision of insurance and reinsurance, the financial support for trade with Iran, and commitments for grants, financial assistance and concessional loans to the Government of Iran. Uncertainty regarding the timing of the lifting of sanctions and the viability of the JCPOA constituted a headwind to growth, with growth fizzling to an estimated 0.5 percent in 2015. See Figure 5 for a timeline of main political and economic events in Iran.

**2. Growth was largely driven by exports while consumption and investment remained tepid.** On the demand side, the main contributions to growth in 2014 were net exports (3.1 percentage points, pp, of GDP), followed by private consumption (1.5 pp of GDP), investment (0.9 pp of GDP) and public consumption (0.2 pp of GDP) (Figure 6). Oil exports

<sup>4</sup> Under the terms of the JCPOA, Iran agreed to limit the development of its nuclear program in exchange for the lifting of all nuclear-related sanctions imposed by the United Nations Security Council, the European Union and the United States on the country.

reached 1.4 million barrels per day (mbpd) in 2014 up from 1.1 mbpd in 2013. Asian countries (i.e., China, India, Japan and South Korea) absorbed much of this increase with oil exports to these destinations reaching 1.12 mbpd in 2014 (up 19.8 percent from 2013 to 2014). The rise in consumer and business confidence led to an increase in consumption and investment spending, with investment in machinery and equipment rising by 8.7 percent compared to a contraction of 16.1 percent in 2013. New manufacturing operating permits rose by 16.7 percent and the value of new manufacturing investments increased by 11.2 percent in 2014.

**3. On the production side, economic growth was broad-based.** The main contributors to growth were the services sector (1.6 pp of GDP), followed by industries and mining (1.4 pp), oil and gas (0.5 pp) and agriculture (0.3 pp) (Figure 7). The production index of large manufacturing establishments rose by 9.6 percent in 2014 with the most significant increases being recorded by the automotive industry (49.8 percent), machinery and equipment industry (10.8 percent) and basic metal industry (3.9 percent).

**4. While Iran's national accounts statistics provide relatively good estimates of Iran's**

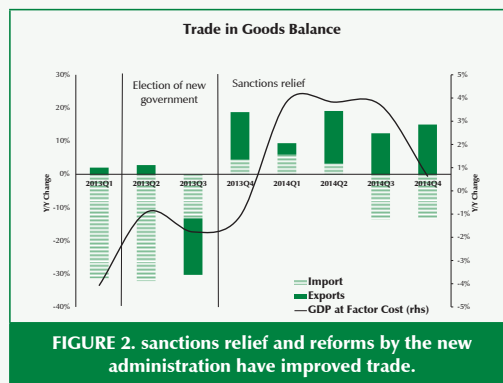


**BOX 1. Macroeconomic impact of the partial lifting of sanctions under the JPOA in 2013.**

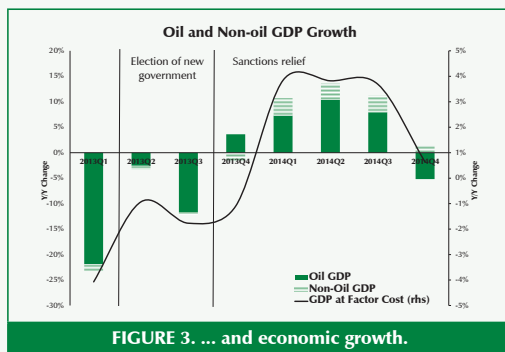
**In late 2013, the Iranian economy began benefitting from sound policymaking along with the partial lifting of sanctions through the JPOA.** The new administration elected in July 2013 made improving the economy its key priority and implemented a number of initiatives including, most notably: (i) the tightening of fiscal and monetary policies leading to a marked decline in inflationary pressures on the economy; (ii) the setting of key lending rates in relation to the inflation rate, leading to positive real interest rates; (iii) the expansion in the availability of credit through the reduction of non-performing loans relative to total loans through the establishment of a committee within the Central Bank of Iran tasked with monitoring these loans and the adoption of legislation to impose penalties on defaulting borrowers; (iv) the reduction in credit risk through the establishment of a credit bureau; and (v) the signing of the JPOA between Iran and the P5+1 which allowed the partial lifting of sanctions on Iran and which offered prospects for the full lifting of sanctions on the economy.

**The economy recorded a modest improvement in the first quarter of 2014 following the lifting of sanctions and began accelerating in the second quarter.** In the quarter following the partial sanctions relief under the JPOA (2013Q4, according to the Iranian calendar year), lower trade costs led to an increase in exports of 14 percent while imports grew by 4 percent year-on year (Figure 2). This momentum was, however, insufficient to pull the economy out of recession, thereby leading to a year-over-year contraction of 1.8 percent in the third quarter of 2013. This appears to have been driven by a moderate response of oil GDP growth to the lifting of sanctions and a slow response of non-oil GDP (Figure 3). In each of the first two quarters of 2014—i.e., the two quarters following the partial lifting of sanctions—the economy expanded by 3.8 percent year-over-year supported by an increase in oil value-added by 7.3 percent and 10.4 percent year-over-year in the first and second quarter of 2014, respectively, while the non-oil segment of the economy rose by 3.4 percent and 3.2 percent year-over-year in the first and second quarter of 2014, respectively.

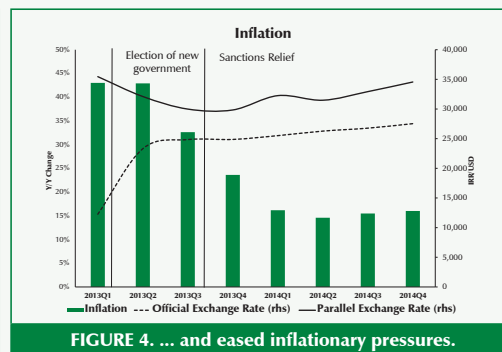
**Inflation eased as the Central Bank of Iran adopted a less accommodative monetary policy stance and as supply constraints abated.** CPI inflation dropped to 24 percent y-o-y in 2013Q4—i.e., the quarter following the lifting of sanctions—from 33 percent in the previous quarter (Figure 4). This came as the central bank reduced the growth of the monetary base. The lifting of sanctions also reinforced the slowdown in the depreciation of the exchange rate (as the new government strived to improve macroeconomic conditions following the presidential elections in 2013Q2). The gap between the official and the parallel exchange rate has also narrowed (see Monetary and Financial Sector Section).



Source: Iranian authorities and WB staff calculations.



Source: Iranian authorities and WB staff calculations.



Source: Iranian authorities and WB staff calculations.

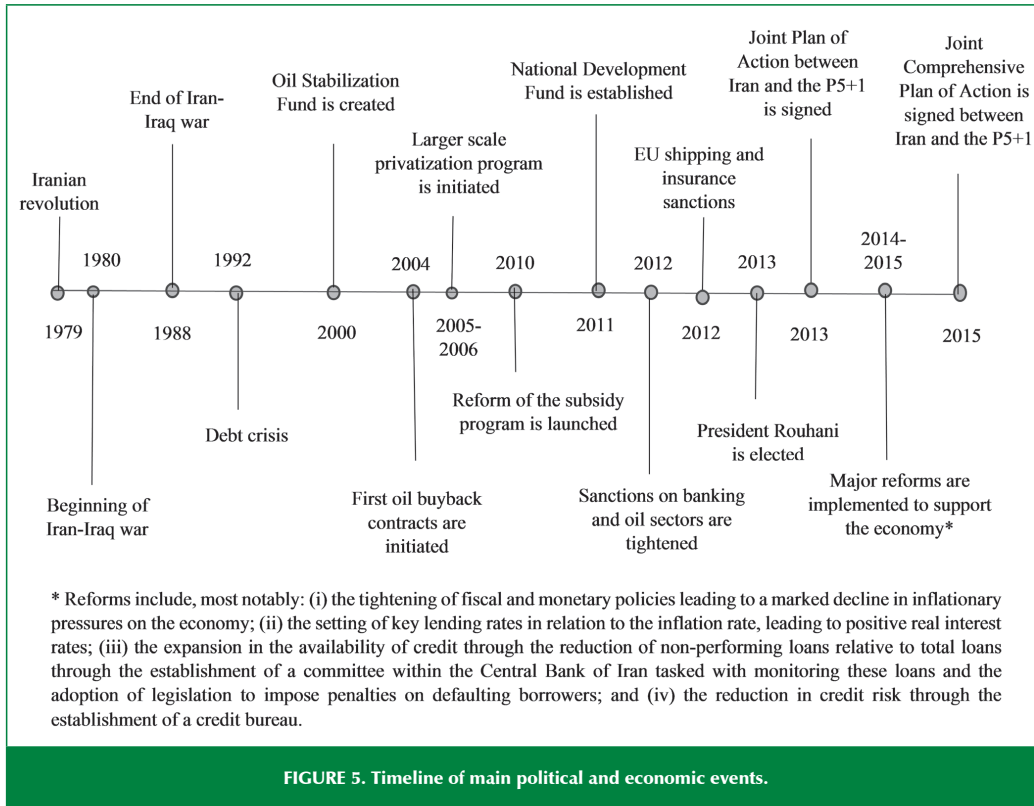


FIGURE 5. Timeline of main political and economic events.

economy, the intensification of sanctions may have raised the extent of unrecorded economic activities. Existing estimates suggest that the share of unrecorded economic activity relative to GDP in Iran in the previous decade was significantly lower than the regional average (Box 2). The intensification of

sanctions on Iran in recent years may have increased informal activities to evade sanctions and unrecorded economic activity may have risen as a result. However, given the high level of statistical development in Iran, the official estimates are believed to provide a relatively precise understanding of Iran's economy.

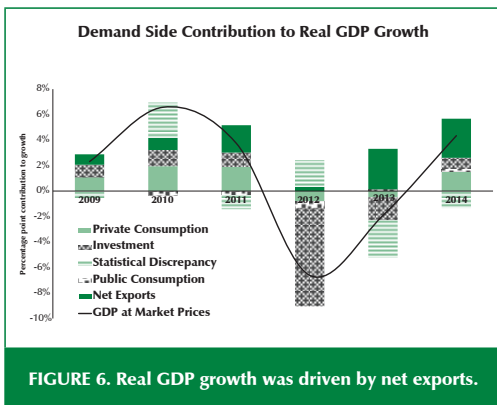


FIGURE 6. Real GDP growth was driven by net exports.

Source: Iranian authorities and WB staff calculations.

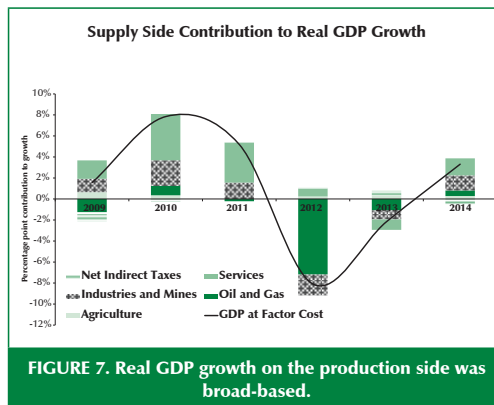


FIGURE 7. Real GDP growth on the production side was broad-based.

Source: Iranian authorities and WB staff calculations.



BOX 2. How precise and reliable are official GDP estimates?

Existing estimates suggest that Iran's unrecorded GDP in the early and mid-2000s was lower than the regional average. Taiebnia and Mohammadi (2008) estimate the size of the underground economy in Iran to be close to 20 percent of GDP. Schneider (2005) estimates the level of unrecorded GDP for a sample of 110 countries.\* He finds that in 2000, unrecorded GDP in Iran was 18.9 percent of official GDP, compared to 19.4 percent of GDP in Jordan, 32.1 percent Turkey, 35.1 percent of GDP in Egypt and 36.4 percent of GDP in Morocco.\*\* More recently, Schneider, Buehn and Montenegro (2010) find that the size of the shadow economy in Iran was equivalent to 17.4 percent of GDP in 2006, compared to 17.7 percent of GDP in Jordan, 29.5 percent of GDP in Turkey, 32.8 percent of GDP in Egypt and 34.8 percent of GDP in Morocco.

The extent of misreporting of economic activities may have increased in recent years as a result of the intensification of sanctions imposed on Iran. A deterioration in the exhaustiveness and quality of trade reporting, for instance, will undermine the accuracy of official GDP measurement. This has arguably been the case of imports from Iran. To illustrate, starting in 2012, 12.7 percent of reported world imports from Iran have no assigned commodity classification, compared to only 0.04 percent and 0.01 percent of goods in 2010 and 2011, respectively (Figure 8). As such, the value of goods traded may have also been misreported. Mirror trade data, however, indicate the reporting of 95 percent of these transactions by Turkey and much of the remainder by Afghanistan. Given that both of these countries share common borders with Iran, these products could be re-exported to other countries. These transactions appear at about the time that oil and other mineral fuel imports drop sharply.

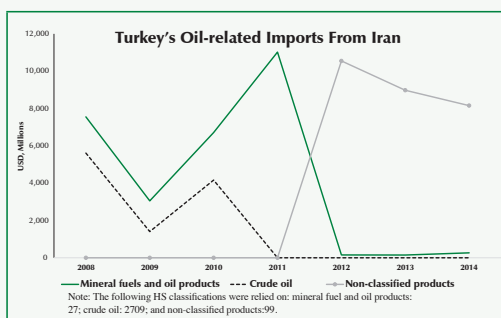


FIGURE 8. Turkey's imports of mineral fuel and oil products, crude oil and unclassified products from Iran.

Source: World Integrated Trade Solution.

\*Schneider (2005) uses the DYMIMIC (Dynamic Multiple-Indicators Multiple-Causes) model which considers multiple causes and multiple indicators of the phenomenon to be measured and uses a factor-analytic approach to measure the hidden economy as an unobserved variable over time.

\*\*For methodologies to adjust GDP for unrecorded activities see for example Bloem and Shrestha (2000).

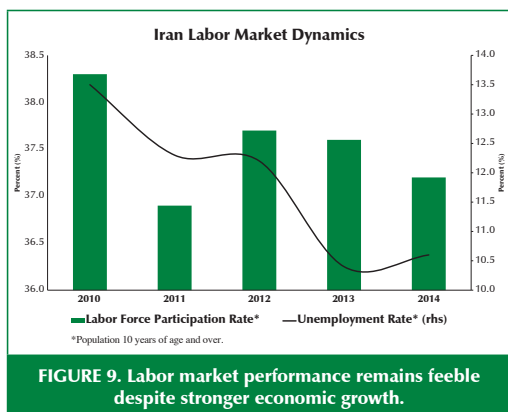
## Labor and Employment

5. Iran's labor market remains weak, with low participation rate and high unemployment despite the improved economy. The labor force participation rate, already at a low level, declined further in 2014, to 37.2 percent, down from 37.6 percent in 2013. This average participation rate masks sharp gender differences with men's participation rate at 62.5 percent while women score a low 12.0 percent.<sup>5</sup> The unemployment rate also worsened in 2014, to 10.6 percent, up from 10.4

percent in 2013 (Figure 9) and was again marked by stark gender differences: women at 19.7 percent against 8.8 percent for men. Significant differences also arise along the age dimension with the youth particularly affected (between the ages of 15 and 29, the unemployment rate reaches 21.9 percent for men and 40.1 percent for women) and in urban areas (11.6 percent in urban areas against 7.9 percent in rural areas). The incidence of underemployment<sup>6</sup> has also become more prevalent, with an estimated 9.6 percent of workers being underemployed (10.5

5 The labor force in Iran is the population 10 years of age or above.

6 The Statistical Center of Iran defines underemployment as the situation in which labor market participants are involuntarily performing less than 44 hours of work during the reference week.



**FIGURE 9. Labor market performance remains feeble despite stronger economic growth.**

Source: Iranian authorities.

percent for men and 4.2 percent for women) in 2014, up from 8.9 percent in 2012 (9.8 percent for men and 4.3 percent for women). Underemployment is largely concentrated among the youth population and in rural areas (12.9 percent in rural areas against 8.2 percent in urban areas).

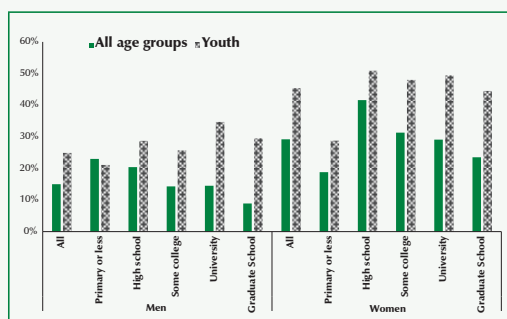
**6. Stimulating private sector growth and job creation is a mounting challenge in light of the large growing number of working age citizens.** Iran's demographic profile is characterized by a disproportionately high youth population (with over 60 percent of Iran's population of 78.5 million individuals estimated to be under the age of 30

**BOX 3. Youth unemployment in Iran.**

**According to the 2011 Census, unemployment is much more prevalent among the more educated youth population in Iran.** For young men, unemployment was particularly high among university graduates (35 percent), youth with graduate studies (30 percent) and high school graduates (29 percent), and less prominent among youth with some college education (26 percent). For young women, the unemployment rate remained high across all levels of educational attainment (Figure 10).

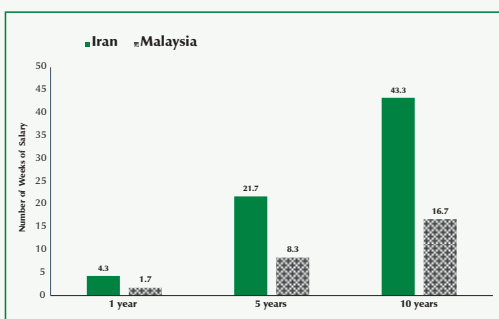
**New entrants to the labor market faced difficulties landing their first job and remained unemployed for a lengthy period of time due to weak economic growth and rigid labor market policies.** Egel and Salehi-Isfahani (2010) find that youth who did not find a job immediately after graduation remained unemployed for a period of three years on average. This was largely explained by the weak pace of economic growth as well as rigid labor market conditions—most particularly related to severance payment—that tend to protect tenured workers. This is illustrated in Figure 11 which compares the severance payments to be paid to a redundant worker in Iran and Malaysia. In Malaysia, a firm would be required to pay the equivalent of two months of salary to dismiss a redundant worker with five years of tenure, while in Iran a firm would be required to pay the equivalent of a little over five months of salary (Figure 11). Furthermore, the gap between the two countries was found to increase with the length of tenure.

**Despite considerable gains in the educational attainment level in recent decades, the educational system is not providing youth with the skills needed to become employed and to be productive in their jobs.** There is a dissociation between the knowledge and skills acquired by students in the educational system and the requirements of the labor market. Pedagogical methods emphasize memorization over the acquisition of problem solving skills that enhance productivity. As such, in spite of the high level of educational attainment reached by many Iranians today, the quality of the education received remains inadequate. Private sector employers are understandably reluctant to hire young graduate workers at the prevailing wages for their educational attainment level without obtaining additional information about their skills and potential productivity. Finally, students' choice of field of study often does not take into consideration their likelihood of becoming employed, but rather target high paying jobs which also have high unemployment rates associated with them.



**FIGURE 10. Unemployment rate by age group and educational attainment, 2011.**

Source: Iranian authorities and WB staff calculations.



**FIGURE 11. Severance payment by worker's tenure in Iran and in Malaysia, 2015.**

Source: Iranian authorities and WB staff calculations.

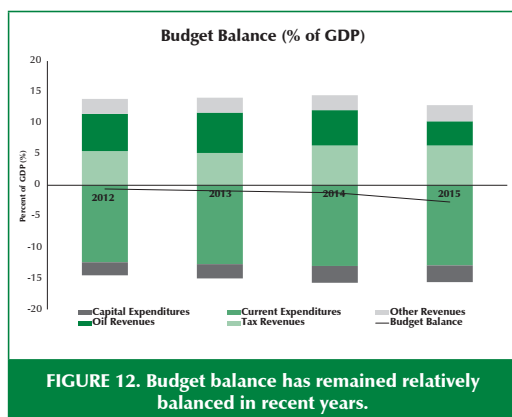


FIGURE 12. Budget balance has remained relatively balanced in recent years.

Source: Iranian authorities and WB estimates.

in 2014). In addition, the low female labor force participation mentioned above is increasingly at odds with the large share of women educated at the tertiary level (where gender parity has been achieved). The government estimates that 8.5 million jobs should be created in the following two years to reduce the unemployment rate to 7 percent by 2016. Tackling youth unemployment in particular is a pressing policy issue (Box 3).

## Public Finances

**7. Falling oil revenue are estimated to have led to a widening of the central government fiscal deficit in 2015.** The fiscal deficit is estimated to have reached 2.7 percent of GDP in 2015, up from a deficit of 1.2 percent of GDP in 2014 (Figure 12). Government revenue is estimated to have declined to 12.9 percent of GDP in 2015, down from 14.6 percent of GDP in 2014, in line with the fall in oil revenue to 3.9 percent of GDP in 2015, down from 5.7 percent of GDP in 2014, due to plummeting oil prices. Non-oil government revenue is estimated to have remained relatively unchanged at 9.0 percent of GDP in 2015, compared to 8.9 percent of GDP in 2014. This was supported by the VAT rate increase from 8 percent to 9 percent in March 2015. Meanwhile, government expenditure is estimated to have tightened slightly to 15.6 percent of GDP in 2015, compared to 15.8 percent of GDP in

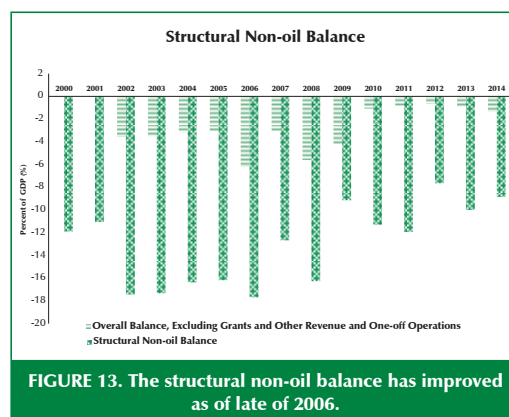


FIGURE 13. The structural non-oil balance has improved as of late of 2006.

Source: Iranian authorities and WB indicators.

2014. Transfers through the Cash Subsidy Program declined to 3.8 percent of GDP in 2014, from 4.5 percent of GDP in 2013, with the entitlement of 2.943 million individuals being eliminated based on proxy means measures and the benefit being unindexed to inflation (Figure 16). The financial shortfall of the Targeted Subsidy Organization stood at 1 percent of GDP bringing the expanded deficit to 2.2 percent of GDP.

**8. Taking a medium-term perspective, Iran's structural non-oil deficit has shrunk significantly over the past decade as non-oil tax revenues rose, but remains elevated (Figure 13).** Since bottoming out at an estimated deficit of 17.7 percent of GDP in 2006, the structural non-oil balance has since been reduced to 8.9 percent of GDP in 2014.

**9. While the government has made strides in raising the VAT rate to bring it more in line with the rates prevailing in other oil producing countries, its collection and efficiency could be improved (Box 5).** The VAT is a key element of the government's efforts to raise and improve revenue from the non-oil economy. The VAT rate has been progressively raised from 3 percent in 2009 to 6 percent in 2013 and further to 8 percent in 2014. VAT revenue stood at 1.5 percent of GDP in 2014 which is low compared to other oil-producing countries which, excluding Nigeria, recorded VAT revenue ranging from 5.1 percent of GDP in Botswana to 10.7 percent of GDP in Norway in 2012, the latest year for which data are available (Figure 14). The efficiency of the VAT

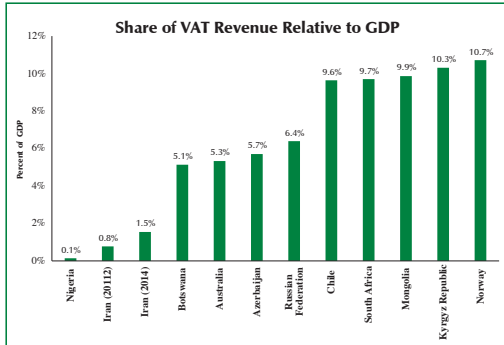


FIGURE 14. Share of VAT revenue relative to GDP in Iran remains low.

Source: Iranian authorities and World Development Indicators.

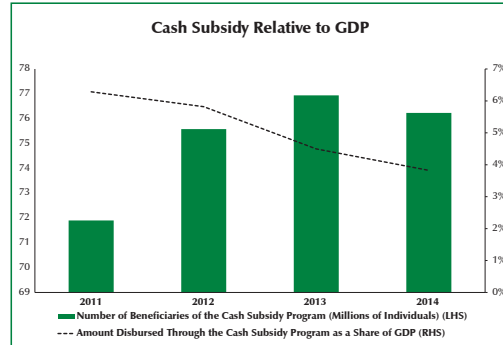


FIGURE 16. Cost of cash subsidy program relative to GDP is declining.

Source: Iranian authorities

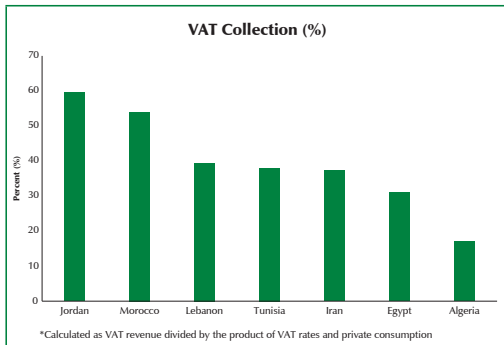


FIGURE 15. Iran VAT collection efficiency remains low relative to comparative countries.

Source: IMF, Fair Taxation in the Middle East and North Africa.

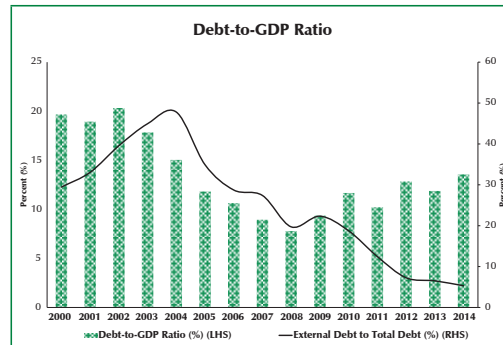


FIGURE 17. Debt-to-GDP ratio and external Debt-to-GDP are very modest.

Source: Iranian authorities

– defined as the ratio between VAT revenues and a measure of potential revenues equal to the product between consumption and the VAT rate<sup>7</sup> – which stood at 37.4 percent in 2014 (Figure 15) is also relatively low compared to other MENA countries indicating significant scope for broadening the base and strengthening the administration of the VAT.

**10. Given the country's high capital requirements and lack of a sovereign debt credit rating over the past few years, the government has been considering a number of strategies for debt issuance to support investor appetite.** Iran's debt is low with a debt-to-GDP ratio of 13.6 percent and a share of external debt to total debt of 5.3 percent in 2014, (Figure 17). In light of this strong debt position

and of the desire to reduce reliance on oil and gas revenues to finance the deficit, the government is considering debt issuance. Three strategies are currently under consideration: (i) the issuance of bonds denominated in Iranian rials with guaranteed return at a suitably high coupon rate, over and above that which would be offered from a B/B+ rated sovereign; (ii) the issuance of bonds denominated in Iranian rials with the option of being redeemed in Iranian rials as well as in any major currency (i.e., Euros, Japanese yen, British Sterling and Swiss Francs) at the prevailing spot rate of the day the buyer decides to redeem the paper; and (iii) the issuance of several major international bonds. The domestic currency bonds could also be issued by the National Iranian Oil Company (NIOC) or the National Iranian Gas Company (NIGC), guaranteed by the sovereign.

<sup>7</sup> In this definition consumption should be valued at VAT-exclusive prices.

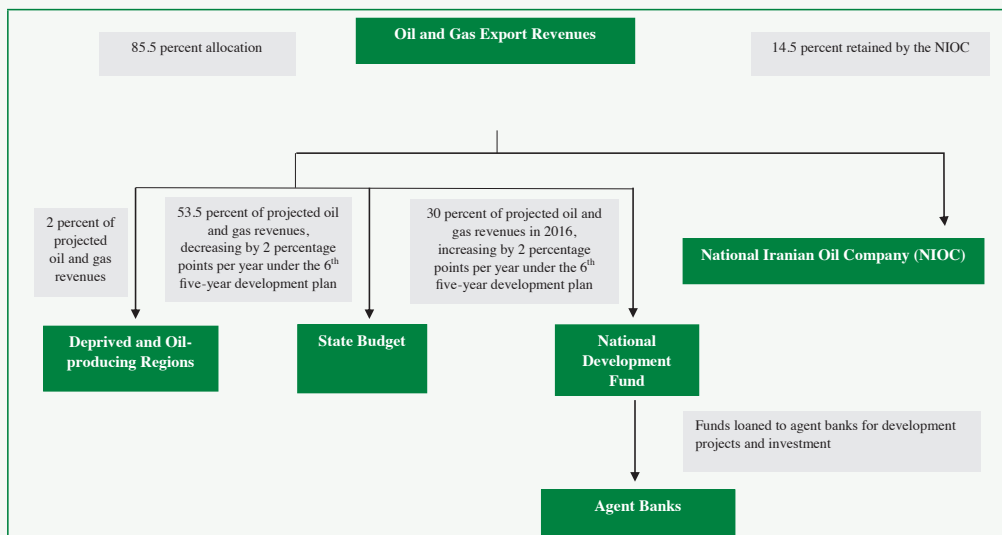




**BOX 4. Oil wealth in Iran: allocation and savings management.**

Between 2011 and 2015, 63.5 percent of projected oil and gas revenue (in excess of the 14.5 percent retained by the National Iranian Oil Company, NIOC) were transferred to the budget, with the share mandated to decrease by 3 percentage points per year until 2015. The remaining revenues were dedicated to deprived and oil-producing regions (2 percent of projected revenue) and Iran’s oil wealth management funds, i.e., the Oil Stabilization Fund (OSF) and the National Development Fund (NDF). These two funds play different, but complementary roles of budget stabilization and national development, respectively.

The Oil Stabilization Fund was established in 2000 under the third five-year development plan. The objective of the OSF was to serve as a budget stabilization mechanism to insulate the budget from fluctuations in oil revenues and to generate returns on the investment. Until the creation of the NDF, it also played the role of a domestic private sector development fund to support economic diversification. The OSF is legislated to receive all oil and gas export revenue in excess of the revenue projected in the annual budget law and the 14.5 percent revenues retained by the National Iranian Oil Company (NIOC). The OSF also maintains a stock of funds but the allocation of these funds across capital injections, the NDF and for budget financing remains currently unclear. As of early 2016, no assets are left in the OSF and the 2016 budget does not envisage a role for the fund any more.



**FIGURE 18. Iran: current flow of funds of oil and gas revenues (as of March 2016).**

Source: National authorities.

The National Development Fund was established under the fifth five-year development plan to undertake the OSF’s role as a domestic development fund to promote exports, investments and FDI ventures, as well as to support greater intergenerational equity of natural resource wealth. The NDF had US\$62 billion of assets under management in 2014. As of early 2016, the total value of assets under management is unclear, partly because a large share of these assets were lent to the domestic private sector (e.g., SMEs) during the sanctions period—as access to finance was difficult; these likely have become non-performing, for reasons similar to the large non-performing loan portfolio that Iran’s banking system is grappling with. In 2011, 20 percent of projected oil and gas export revenue was allocated to the NDF, with this share legislated to increase by 3 pp per year to reach 32 percent of projected oil and gas export revenue by the end of the fifth five-year development plan in 2015. This target was not reached, however, given the tightening of sanctions and drop in oil revenues starting in June 2014. For 2016 the proposed share of oil and gas revenues destined to the National Development Fund is 30 percent (see Figure 18). Funds may be withdrawn from the NDF to provide loans to private sector companies, cooperatives and economic enterprises owned by public non-governmental institutions. The NDF is currently held at the CBI.

**11. With improved prospects for increasing oil and gas exports (Special Focus 1), designing and implementing a comprehensive oil wealth management framework is warranted.** With continued commitment to reduce the budget’s

reliance on oil revenues (draft 6th five-year plan<sup>8</sup>), the government is taking steps to combine the Oil

<sup>8</sup> The sixth five-year development plan is yet to be approved. The fifth five-year development plan has been extended by a year to ensure continuity of Iran’s developmental agenda.

**BOX 5. The 2015 budget.**

**The 2015 Budget focused on strengthening domestic policies and developing a “resistance” plan to bolster the country’s resilience against external shocks.** On the revenue front, measures aim to enhance tax compliance and broaden the tax base away from oil revenue, with the ultimate aim of reducing the share of oil revenue to total revenue from an average of 45 percent to 31.5 percent. This government objective is expected to be attained through a phased approach of increasing the share of oil and gas revenue destined to the National Development Fund. This should contribute toward improving the structural non-oil balance of the government which remains negative, with a deficit averaging over 9 percent of GDP in 2009-2014 (Figure 13). These measures would include a better targeting of large tax payers and other indirect taxes, such as on professional income and the taxation of capital gains in equity and real estate. Lower reliance on oil revenue would also be achieved through greater economic diversification. Much of the country’s ability to further diversify its economy will largely hinge on structural reforms to strengthen the business environment, in particular to improve the infrastructure system as well as the ease and cost of trading across borders, which remain weak relative to comparator countries (Box 6).

**The government is taking a number of steps to raise non-oil revenues.** The VAT rate was increased from 8 percent to 9 percent (of which 3 percentage points go to local governments) in March 2015 to compensate for the revenue shortfall related to the collapse of oil prices in 2014, which brings it more in line with those seen in other resource-rich countries, which currently range from 10 percent in Australia to 25 percent in Norway (with the exception of Nigeria which has a VAT rate of 5 percent). Overall, on the revenue side, the 2015 government Budget projects an overall revenue increase of 18.1 percent driven by a rise in taxation revenue more than offsetting a decline in oil revenue and a 19.8 percent increase in other revenue components. On the expenditure side, the 2015 Budget projects total spending to rise by 6.8 percent as a result of a 26.8 percent increase in wages, a 33.7 percent increase in capital expenditure and a 7.5 percent decline in other components.

Stabilization Fund (OSF) and National Development Fund (NDF), and to clarify the rules for deposits and withdrawals from the NDF (Box 4). However, Iran lacks a comprehensive framework for optimizing oil wealth management within a long-term planning framework that brings together various dimensions including oil production and sustainability of oil reserves, fiscal impact, impact on the economy and the balance of trade, government debt management, and savings through the National Development Fund. For example, the 2016 budget provides for 53.5 percent of oil and gas export revenues to be allocated to the central government budget (see Box 4). Such a rule, if continued would impart a strong pro-cyclical bias to the budget, and to capital spending in particular as oil receipts are earmarked for such projects. Based on a diversity of cross country experiences,<sup>9</sup> a good practice for countries with strong hydrocarbon (and more generally non-renewable) wealth is have a long-term framework by: (i) devising an oil and gas production, consumption and export profile that ensures long-term sustainability of hydrocarbon reserves; (ii) managing the injection of the export revenues to the current and capital budget in a manner that does not weaken the tradable sectors (avoiding a Dutch disease); (iii) allocating a clear share of export

revenues to a savings and/or stabilization fund; (iv) setting transparent rules for withdrawals from the sovereign fund for economic stabilization; (v) establishing clear guidelines for the management of the sovereign wealth fund’s portfolio; and, critically, (vi) having a robust governance regime in place.

## Monetary Policy and the Financial Sector

**12. The period of sanctions had major implications on Iran’s foreign exchange rate and on its inflation rate.** Following a period of relative exchange rate stability against the U.S. dollar, between August 2011 and October 2012, sanctions (including their expectations) led to the widening of the official and bureau/parallel rates as a result of speculative transactions in the foreign exchange market (Figure 19). The annual inflation rate consequently advanced to a peak of 45.1 percent in June 2013. Inflationary pressures eased with the narrowing of the official and bureau/parallel rate gap through the establishment of the Center of

<sup>9</sup> For a review of this literature see Van Der Ploeg (2011) “Natural Resources: Curse of Blessing,” *Journal of Economic Literature*, Vol. 49(2), pp. 366-420.



Foreign Exchange Transactions<sup>10</sup> starting in October 2012. The government induced a devaluation of the Iranian rial (IRR) in July 2013, from 12,260 IRR/USD to 24,738 IRR/USD, in order to close its financing gap which became more challenging with the intensification of international sanctions. A more conservative fiscal policies have enabled the Central Bank of Iran to run a tighter monetary policy with a resulting decrease in inflation, down to 8.9 percent in February 2016, the Iranian rial has continued to erode in value against the dollar, to 30,274 for the official rate and 34,480 for the bureau rate, as of April 7, 2016. The gap between the official and the bureau rate remains elevated, at around 13 percent, but this nonetheless represents a marked improvement from the 187 percent observed in the second quarter of 2012.

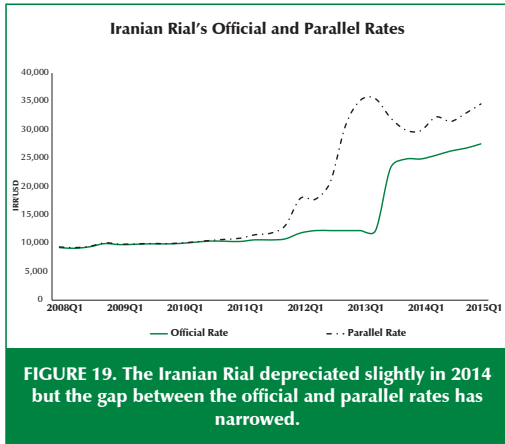
**13. The monetary policy framework has significantly improved under the Rouhani administration.** The Rouhani administration adopted a more conservative fiscal policy which also resulted in a less accommodative monetary policy stance—the CBI does not independently set monetary policy and monetary policy has historically been under severe fiscal dominance. This included setting clearer guidelines on the composition and the growth of the monetary base, and on directing lending facilities to productive economic activities, while ensuring that a balancing act is struck between a less accommodative monetary policy stance and economic growth. The CBI raised the policy lending rate from 14 percent and 15 percent for loans with maturity below and above 2 years, respectively, in June 2014 to 21 percent in June 2015 (Figure 20). In 2014, the supply of liquidity advanced by 22.3 percent and the monetary base expanded by 10.7 percent in 2014. This, along with more conservative lending practices, the easing of international sanctions on Iran—which led to a repatriation of frozen assets abroad— and the greater stability in financial markets have contributed toward a greater stability of the exchange rate (Figure 21).

<sup>10</sup> The official rate applies to basic necessities such as humanitarian goods while the bureau/parallel rate were available for other transactions. The Center of Foreign Exchange Transactions manages the balance between the supply and demand for foreign exchange.

**14. The stronger monetary policy environment, combined with the lifting of supply constraints following the JPOA, have resulted in the easing of inflationary pressures on the economy.** The inflation rate declined from a year-on-year peak of 45.1 percent during the Iranian calendar month ending in June 2013 to 8.9 percent in February 2016 (Figure 22).

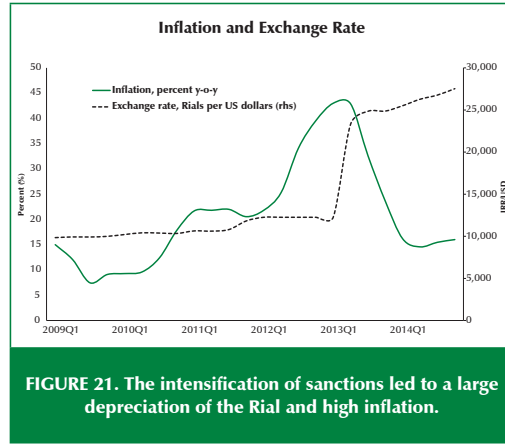
**15. The design of a flexible inflation-targeting framework is currently under consideration by the CBI, with underlying exchange rate and broad money growth anchor targets.** The current framework is based on an exchange rate anchor vis-à-vis a currency composition, with determinants such as the difference between internal and global inflation, the internal demand for and supply of foreign exchange, and the exchange value of major foreign currencies against each other, particularly in the SDR portfolio, being relied upon according to Article 81 of the Five-Year Development Plan. The CBI is targeting a single-digit inflation by late March 2017 (this was last achieved in 1990).

**16. The ratio of non-performing loans (NPLs) in the banking system has improved in recent years but the high level remain a concern** (see Special Focus 2). Banks aggregate NPL ratio was 14.4 percent in March, 2014 and is believed to be higher for private banks, which hit a peak of 23 percent in 2010. This level of NPLs remain high compared to some peer countries; the ratio of NPL to gross loans are 1.2 percent for Saudi Arabia, 1.6 percent in Malaysia and 2.7 percent for Turkey. NPL net of provisions to capital are 7 percent for Malaysia and 3.8 percent for Turkey. The high NPLs in Iran have arisen due to combination of factors, including explicit or implicit directed lending, weak credit provision practices and risk management in the banking sector, the sharp recession that followed the sanctions in 2012 (including the devaluation of the rial); some of these NPLs are with state-owned enterprises (SOEs). As some SOEs re-gain access to their assets that were frozen due to the nuclear-related sanctions, prospect for a regularization of a large amount of NPLs should result in a notable improvement in recorded NPLs. On concern, however, is that Iranian bank provisioning practices



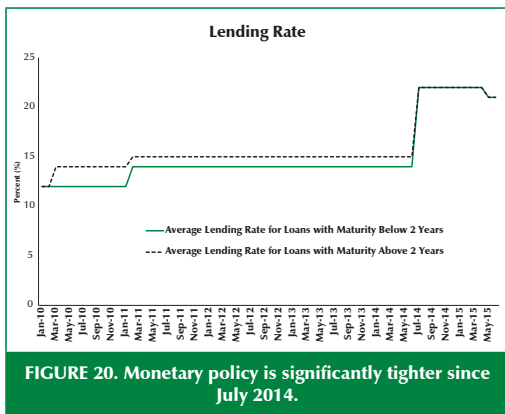
**FIGURE 19.** The Iranian Rial depreciated slightly in 2014 but the gap between the official and parallel rates has narrowed.

Source: Iranian authorities.



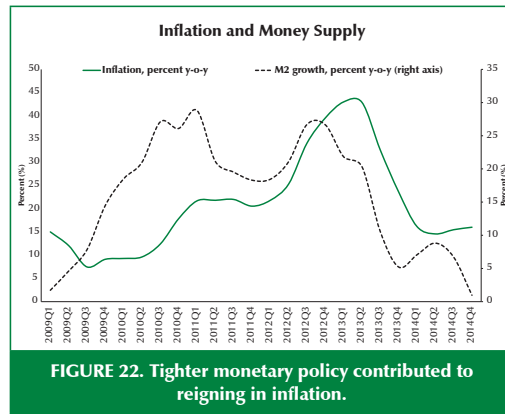
**FIGURE 21.** The intensification of sanctions led to a large depreciation of the Rial and high inflation.

Source: Iranian authorities.



**FIGURE 20.** Monetary policy is significantly tighter since July 2014.

Source: Iranian authorities.



**FIGURE 22.** Tighter monetary policy contributed to reigning in inflation.

Source: Iranian authorities.

for impaired assets are different from traditional (non-Islamic) banks, which likely results in materially lower provisions; this, in turn, likely overstates the (already low) reported capital levels.

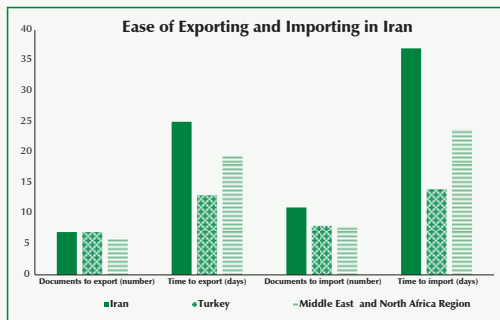
**17. Bank profitability has sharply declined relative to the pre-sanctions level** (see Special Focus 2). Compared to the pre-sanctions level, bank profitability measures plunged in the post sanctions era reaching 7.5 percent in 2013 compared to 14.5 percent in 2011. Similarly, return-on-assets (ROA), which was already low at 1 percent in 2011, had halved by 2013 reflecting the impact of the economic slowdown in 2011-2013, the accumulation of NPLs, and weak management of bank assets.

**18. Thanks to the lifting of the sanctions, the Tehran Stock Exchange (TSE) index has outperformed global indices.** While the partial lifting of sanctions under the JPOA had little effect on the performance of the stock market, the JCPOA, however, materially and positively impacted the stock market, with the index rising by 26.3 percent since Implementation Day on March 21, 2016. As of end-2014, a total of 317 firms were listed on TSE and market capitalization is close to \$100 billion (see Special Focus 2). SME's are listed on the OTC markets, which can trade stocks and participation bonds. TSE and OTC have together 500 firms listed on the stock exchange.

**BOX 6. Trading across borders and infrastructure quality.**

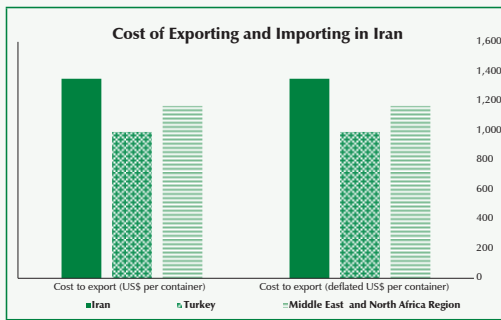
Trading across Iranian borders remains cumbersome and costly according to the World Bank 2015 Doing Business assessment. In 2015, the number of days required to export goods from Iran was 25 days compared to 13 days and 19.4 days for Turkey and the MENA region, respectively. Importing goods into Iran took 37 days compared to 14 days and 23.8 days on average for Turkey and the MENA region, respectively. Furthermore, 11 documents were required to import goods into Iran compared to 8 documents for Turkey and the MENA region. The cost of exporting and importing goods to Iran were 36 percent higher than Turkey and 16 percent higher than the MENA region (Figures 23 and 24).

Iran ranked 82nd on the quality of its overall infrastructure system, well behind comparator countries such as Turkey (33rd) and Malaysia (20th). Iran ranked relatively poorly on the quality of roads, port infrastructure, air transport infrastructure, available airline seat per km/week and mobile telephone subscriptions. In contrast, it ranked relatively well on the quality of railroad infrastructure, electricity supply and fixed telephone lines (Table 2).



**FIGURE 23. Procedures for exporting and importing in Iran are lengthy.**

Source: 2015 Doing Business, World Bank



**FIGURE 24. Cost of exporting and importing goods in Iran is high.**

Source: 2015 Doing Business, World Bank

**TABLE 2. Infrastructure ranking in Iran and in comparator countries (ranking among 144 economies unless indicated otherwise).**

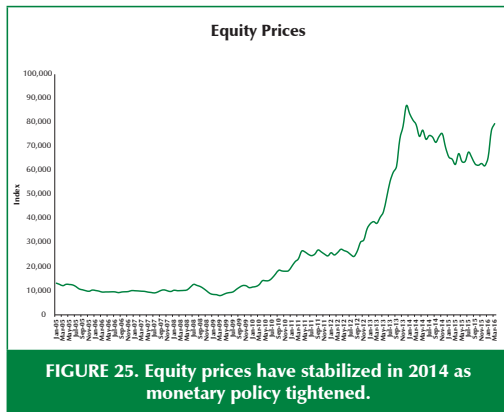
	Iran	Turkey	Malaysia
Quality of overall infrastructure	82	33	20
Quality of roads	63	40	19
Quality of railroad infrastructure	45	49	12
Quality of port infrastructure	80	57	19
Quality of air transport infrastructure	122	34	19
Available airline seat km/week, millions	56	17	22
Quality of electricity supply	61	72	39
Mobile telephone subscriptions/100 pop.	112	105	30
Fixed telephone lines/100 pop.	27	65	73

Source: The Global Competitiveness Report 2014-2015.

## External Position

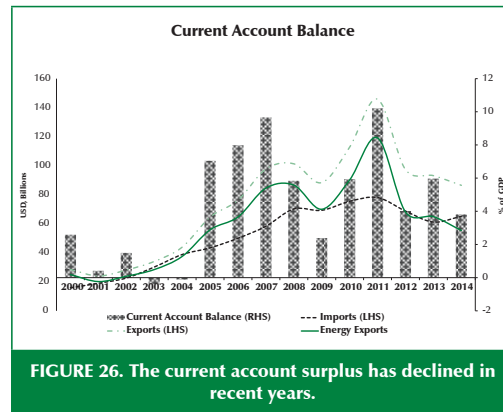
**19. Sinking oil prices have led to a further narrowing of Iran’s current account surplus in 2015.** The current account surplus shrank from 3.8 percent of GDP in 2014, to 0.6 percent of GDP in 2015. This came amid a decline in oil export values,

which was only partially offset by lower imports (Figure 26). Net exports declined from 3.5 percent of GDP in 2014 to 0.2 percent of GDP in 2015. The current account remains markedly lower than in the immediate pre-sanction year (i.e., a surplus of 10.2 percent of GDP in 2011), though this predominantly reflects lower oil receipts which were twice their current level on account of both higher oil prices and



**FIGURE 25. Equity prices have stabilized in 2014 as monetary policy tightened.**

Source: Iranian authorities.



**FIGURE 26. The current account surplus has declined in recent years.**

Source: Iranian authorities.

volumes. As detailed in the first Special Focus below, prospects for a rapid return to pre-crisis export volumes are good. Years of sanctions, however, have eroded the export sector’s competitiveness, especially in terms of infrastructure and trade policies (Box 6).

**20. Foreign exchange reserves were estimated at USD 117.5 billion in 2015, which was equivalent to 19.4 months of imports.** The liquidity and currency composition of these reserves have, however, been affected by difficulties in accessing the international payment system and making payments in convertible currencies due to the intensification of international sanctions in 2012. The high level of import coverage also reflects the sharp reduction in imports that occurred during the sanctions.

**21. In recent years, Iran has largely been unsuccessful in attracting foreign direct investment given the high level of idiosyncratic country risk and, most notably, because of sanctions.** Foreign direct investment rose modestly to USD 3.14 billion in 2014, from USD 3.05 billion in 2013. Agreements signed in the immediate post Implementation Day of January 16, 2017, however, point to a robust increase in FDI in the months and years to come. The extent to which these would materialize depend on whether and how quickly residual country risk can be abated. Finalization of a new oil contract aim to bring in the needed level of capital and expertise that some international oil operators have, could also result in a material increase in oil-related FDI.

## ECONOMIC OUTLOOK AND RISKS

*With nuclear-related international sanctions materially lifted following Implementation Day on January 16 2016, Iran’s real GDP growth is forecast to accelerate from an estimated 0.5 percent in 2015 to 4.2 percent and 4.6 percent in 2016 and 2017, respectively. To further boost and sustain high and inclusive growth rates, wide ranging and longstanding structural reforms are required. The electoral gains from moderates and reformists during the February 2016 Parliamentary elections bode well for the ability of the pro-reform administration to pass reforms highlighted in Iran’s sixth five-year plan (designed by Supreme Leader Ayatollah Khamenei). Significant residual country risk remains—such as the possibility that sanctions are reinstated or the extension of non-nuclear related sanctions; these are projected to gradually abate but a slower than expected pace would present downside risk to our forecast*



**BOX 7. Global economic outlook.**

Global growth is projected to be tepid over the short- to medium-term, averaging 3.2 percent in 2016-2017 (Table 3). The upward growth trajectory is due to improvements in the United States and the Euro area which benefitted from lower oil prices. The American economy is expected to expand in the medium-term driven by an increase in private consumption. In particular, growth in the U.S. is projected to advance at an average rate of 2.6 percent in 2016-2017. In the Euro area, economic activity is also expected to accelerate on account of lower oil prices and a weakened Euro currency. Despite the Greek crisis, growth in the Euro area is projected to average 1.6 percent in 2016-2017. On the other hand, growth in China, a major importer of Iran’s oil, is expected to decelerate in the coming years from an estimated 7.4 percent in 2014 to a projected 7.1 percent and 7.0 percent in 2015 and 2016, respectively.

**TABLE 3. Global growth rate (%).**

	2010	2011	2012	2013	2014e	2015e	2016p	2017p
World	4.1	2.8	2.4	2.5	2.6	2.8	3.3	3.2
High-income countries	3.0	1.6	1.4	1.4	1.8	2.0	2.4	2.2
Developing countries	7.4	6.1	4.9	5.1	4.6	4.4	5.2	5.4
MENA	3.8	1.0	1.3	0.5	2.2	2.2	3.7	3.8

Source: World Bank Global Economic Prospects (June 2012 and June 2015 and World Bank Iran team. e: expected; p: projected).

## Economic Outlook

**22. While growth is projected to accelerate materially, a significant degree of uncertainty nonetheless remain which, until resolved, will continue to hold down economic activity.** Our forecast assumes continued full implementation of the JCPOA. De jure, Iran received significant benefits from the lifting of the sanctions on (or soon after) Implementation Day (January 16 2016), such as the unfreezing of its assets held abroad<sup>11</sup> and the reconnection of many of its banks to the SWIFT network. De facto, some of these benefits would take time to be fully realized; these include the ability of the banking system to restore normal commercial banking activity with (non-U.S.) foreign counterparts, and the effective access and means to move previously frozen assets, potentially back to Iran. On the former, we expect mid-tier regional banks to resume such activity by end-2016, with

<sup>11</sup> According to the Iranian authorities, of the USD 100-120 billion of frozen assets held abroad only USD 30-60 billion are liquid. It is still unclear to what extent the assets will be used to: (i) strengthen the domestic currency market; (ii) support the provision of imported capital goods; (iii) allocate to internationally active funds; and (iv) invest in oil production, refineries and/or petrochemical plants.

some international banks to do so by end-2017. On the latter, which will depend to some extent on the former, full access is expected during the second half of 2016. Changes to this timetable, especially if due to policy measures, could materially impact our growth outlook. Our forecast also assume a continuation of the relatively accommodative monetary stance in Iran and in the U.S., and of the modest international economic growth (Box 7). Oil prices are expected to average USD37.0 and USD48.0 in 2016 and 2017, respectively.<sup>12</sup>

**23. While diversified, Iran’s economy remains critically dependent on its hydrocarbon sector, with a 10 percent increase in oil exports estimated to boost real GDP growth by 1.7 percent.** To quantify the impact on economic growth of oil exports, an econometric time series model was developed. More specifically, a Vector Error Correction Model (VECM) which captures both short run and long run relationships and dynamics between oil exports and total and non-oil real GDP

<sup>12</sup> Information on the latest World Bank commodities price forecast can be accessed at: <http://pubdocs.worldbank.org/pubdocs/publicdoc/2016/1/548631453821462743/CMO-Jan-2016-Historical-Forecasts.pdf>.

**BOX 8. Estimating the impact of oil and gas exports on growth.**

**Choice of model and specification.** We use the Vector Error Correction Model (VECM) methodology to estimate the impact of increased oil exports which could be expected from a lifting of sanctions on total GDP and non-oil GDP growth. Figure 27 illustrates that total real GDP and non-oil real GDP follow a similar pattern as oil exports (expressed in log terms), indicating the possible presence of long-run relationships between these variables. We use quarterly time-series data on the Iranian economy during the period Q1-1991 to Q4-2013. The set of endogenous variables consists of total real GDP (rgdp), non-oil real GDP (non\_oil\_gdp) and Oil exports (oil\_exp). Furthermore, we add the GDP deflator (gdp\_defl), illustrated as an additional endogenous variable in order to control for inflation which, according to Esfahani et al. (2013), is found to have a statistically significant negative long-run impact on real GDP.

Figure 27 also shows the presence of two structural breaks: (i) the high volatility in oil prices in 2007-08 (Hamilton, 2009) and (ii) the tightening of US and EU sanctions on Iran since mid-2012. The first exogenous shock will be represented by a dummy variable, denoted by crisis, that takes the value of 1 between Q3-2007 and Q2-2009 and 0 otherwise, while the second, will be presented by a dummy variable, denoted by sanctions, that takes the value of 1 between Q3-2012 and Q4-2013 and 0 otherwise. In sum, our set of endogenous variables will be  $I = \{\text{real GDP or rgdp, real non-oil GDP or non\_oil\_gdp, oil exports or oil\_exp and the GDP deflator or gdp\_defl}\}$  while the set of exogenous variables will be  $E = \{\text{crisis, sanctions}\}$ .

Given that we are interested in understanding the impact of an increase in oil exports on both total real GDP and non-oil real GDP we employ two different VECMs where the first one, denoted by model 1, includes the following set of endogenous variables  $I_1 = \{\text{rgdp, oil\_exp and gdp\_defl}\}$ , while the second one, denoted by model 2, includes  $I_2 = \{\text{non\_oil\_gdp, oil\_exp and gdp\_defl}\}$  as the set of endogenous variables. In both models we also employ the set of exogenous variables  $E$ .

The Augmented Dickey Fuller (ADF) test shows that all the four endogenous variables are stationary after first differencing. In addition, we only find one significant (weakly significant) cointegration relationship in model 1 (2).\*\* Consequently, the econometric specification (in vector notation) for model 1 is

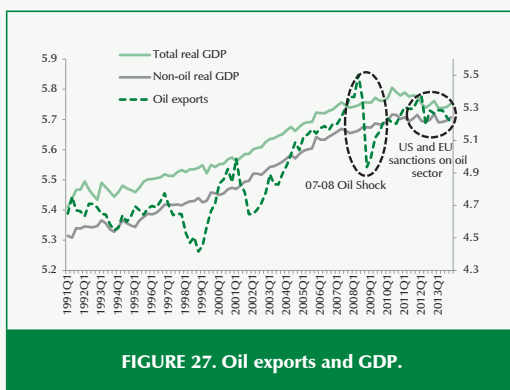
$$\Delta I_1 = \Gamma_1 \Delta I_{1,t-1} + \Pi_1 I_{1,t-1} + \gamma_1 E + u_t; \quad t = Q1 - 1991, \dots, Q4 - 2013 \quad (\text{model 1})$$

where vector  $\Gamma_1$  represents the short-run dynamics' coefficients while the matrix  $\Pi_1$  includes the error corrections and cointegration coefficients. On the other hand, model 2 is specified as

$$\Delta I_2 = \theta_1 \Delta I_{2,t-1} + \theta_2 \Delta I_{2,t-2} + \Pi_2 I_{2,t-1} + \gamma_2 E + u_t; \quad t = Q1 - 1991, \dots, Q4 - 2013 \quad (\text{model 2})$$

where the vectors of coefficients  $\theta_1$  and  $\theta_2$  represent the short-run impacts whereas the matrix includes the error corrections and cointegration coefficients.

**Results.** The results, presented in Table 4, suggest that in the long-run, a 1 percent increase in oil exports is associated with a 0.17 (0.19) percent increase in total real GDP (non-oil real GDP). The coefficients on the Error Correction terms are negative, meaning that, in the short-run, deviations from the long-run equilibrium are adjusted. In particular, the magnitude of the coefficients suggests that 10.6 (12.6) percent of any diversion from the long-run equilibrium in model 1 (2) is adjusted within each quarter.



**FIGURE 27. Oil exports and GDP.**

Source: Central Bank of Iran and Authors' own calculations

**TABLE 4. Coefficient estimates of the VECM.**

	Model 1	Model 2
<b>Cointegration Coefficients</b>		
ln_oil_exp(-1)	-0.168 (-4.531)***	-0.189 (-4.763)***
ln_gdp_defl(-1)	0.069 (-0.982)	0.006 (-0.080)
Time trend	-0.004 (-2.55)**	-0.005 (-2.006)**
<b>Error Correction Coefficient<sup>^</sup></b>		
	-0.106 (-1.65)*	-0.121 (-2.335)**
<b>Constant</b>	Yes	Yes
<b>Exogenous Variables</b>	Yes	Yes
Observations	92	92
R-squared	0.06	0.24

Note: t-values in bracket. \*, \*\*, \*\*\* indicate significance at 10%, 5% and 1% level respectively. <sup>^</sup> For model 1 (2) we only report the reduced-form error correction equation where  $\Delta(\ln\_rgdp)$  ( $\Delta(\ln\_non\_oil\_gdp)$ ) is the dependent variable.

The optimal lag length for model 1 and 2 according to the Akaike information criterion (AIC) is 2 and 3, respectively.  
\* We specify an intercept and a trend in the cointegration equation given that oil\_exp and gdp\_defl are found to be trend stationary.





**BOX 9. The sixth five-year plan directive.**

**The sixth 5-year plan (2016-21) is comprised of three pillars, namely, the development of a diversified economy, progress in science and technology, and the promotion of cultural excellence.** The directive called for, most notably, the attainment of an economic growth rate of 8 percent—through private sector development and foreign direct investment, ran to become a leader in the region in science and technology and the government to increase defense spending. This sixth directive is a continuation of the fifth directive, with the exception of the target for defense spending which, at 5 percent of the government’s budget, signals Iran’s interest in boosting military capabilities in light of regional tensions. On the economic front, the development plan envisages implementation of reforms of state-owned enterprises, the financial and banking sector, and the allocation and management of oil revenues among the main priorities of the government during the five-year period.

is relied upon (Box 8). The analysis presented only covers oil exports, since gas exports from Iran are still marginal and major investments are needed to build a surplus above domestic consumption needs (expected only after 2017, beyond the timeframe of the projections presented here). Results of the VECM suggest that in the long-run, a 10 percent increase in oil exports is associated with a 1.7 (1.9) percent increase in total real GDP (non-oil real GDP). The coefficient estimates of the VECM are then used to determine how the increased oil exports estimated in Special Focus 1 affect both GDP and non-oil GDP. As presented in the baseline scenario of Special Focus 1, we retain the following assumptions for oil exports: 1.47 million barrels per day (mbpd) in 2015 up from 1.27 mbpd in 2014, 1.73 mbpd in 2016, and 2.32 mbpd in 2017. Beyond oil exports, our growth projections—detailed below—also incorporate the government’s fiscal plans, both on the expenditure and revenue side, and expectations of improved consumer and business confidence, mostly stemming from the lifting of the sanctions.

**24. Economic growth is projected to accelerate in 2016-2017 partly on account of a surge in energy exports.** Following a meagre 0.5 percent real GDP growth measured at factor cost due to a 0.1 percent contraction in the non-oil sector, economic activity is expected to rise to 4.2 percent and 4.6 percent in 2016 and 2017, respectively, with the oil and gas sector projected to expand by 12.9 and 12.2 percent in 2016 and 2017, respectively (Table 5). These growth rates remain lower than the annual growth rate of 8 percent being targeted in the directives of the Sixth Five-year Development Plan recently issued by Ayatollah Khamenei (Box 9). Achieving 8 percent will require the implementation of significant structural reforms, as detailed in the sixth plan itself.

**25. On the non-hydrocarbon side, consumption and investment are expected to increasingly contribute to growth.** The lifting of sanctions on the banking and financial sector has allowed Iran to rejoin the SWIFT mechanism which, once normal international banking relationships have returned, will ease trade and lower transaction costs with the rest of the world. With a 2014 population of 78.5 million and a skilled labor force, Iran is of major interests to investors. The government’s efforts to improve the business environment, reduce the footprint of state-owned enterprises in the economy and stimulate competition will be key to ensuring investors’ confidence and transform that interest into growth and job-creating investment. Total investment is projected to increase by 2.7 percent and 4.7 percent in 2016 and 2017, respectively. With regard to consumption, increased consumer confidence as well as an expected increase in employment are expected to bolster private consumption, which is projected to grow at an average rate of 3.1 percent in 2016-2017.

**26. With the economy rebounding, the associated reduction in the output gap is likely to exert inflationary pressures on the economy unless supply-side structural reforms are implemented.** While the Iranian economy has operated well below its potential output for the past few years, a rapid closing of the output gap risks running into inflationary pressures, given the relatively high inflation environment the country has operated in over the past decades (which has shaped inflation expectations). While high growth rates and capital inflows are expected to translate into an increased confidence in the Iranian rial which in turn will put downward pressure on inflation in the medium-term, long standing structural reforms are

Table 5. Islamic Republic of Iran: Selected Economic Indicators (2012-2018)\*.

	2012	2013	2014	2015	2016	2017	2018
	Act.	Frel.	Frel.	Est.	Proj.	Proj.	Proj.
<b>Real sector</b>	(annual percentage change, unless otherwise specified)						
Real GDP at factor cost	-6.8	-1.9	3.0	0.5	4.2	4.6	4.4
Real GDP at factor cost (without Oil & Gas)	-0.9	-1.1	2.8	-0.1	2.6	3.1	3.6
Real Oil & Gas GDP	-37.4	-8.9	4.8	3.7	12.9	12.2	7.8
Total oil production (million barrels/day)	3.7	3.5	3.1	3.3	3.6	4.2	4.4
Crude oil, average price (US\$)	105.0	104.1	96.2	50.8	37.0	48.0	51.4
<b>Money and prices</b>	(annual percentage change, unless otherwise specified)						
CPI Inflation (p.a)	30.5	34.7	15.6	14.2	13.1	11.6	10.8
Money (M2)	30.0	38.8	22.3	21.8	19.5	14.7	12.1
<b>Investment &amp; saving</b>	(percent of GDP, unless otherwise specified)						
Gross Capital Formation	38.2	32.1	33.4	32.6	31.9	31.6	31.2
Gross National Savings	38.7	32.6	37.2	33.2	31.5	32.8	33.2
<b>Government finance</b>	(percent of GDP, unless otherwise specified)						
Total revenues	13.9	14.1	14.6	12.9	14.1	15.2	16.0
Tax Revenues	5.5	5.2	6.4	6.4	6.8	7.2	7.7
Direct Taxes	3.5	2.9	3.3	3.3	3.6	3.8	3.9
Indirect Taxes	2.1	2.3	3.2	3.1	3.2	3.5	3.8
Oil Revenues	6.0	6.5	5.7	3.9	4.3	4.9	5.2
Others disposal of non-financial assets	2.4	2.4	2.4	2.6	2.9	3.0	3.0
Total expenditures	14.6	15.0	15.8	15.6	15.9	16.1	16.7
Current	12.4	12.7	13.0	12.9	12.9	13.1	13.6
Acquisition of non-financial assets	2.1	2.3	2.7	2.7	3.0	3.1	3.1
Net lending/borrowing (overall balance)	-0.6	-0.9	-1.2	-2.7	-1.8	-1.0	-0.6
<b>External sector</b>	(percent of GDP, unless otherwise specified)						
Current Account	4.0	6.0	3.8	0.6	-0.4	1.2	2.0
Net Exports	3.6	5.6	3.5	0.2	-0.8	0.8	1.6
Export of Goods and Services	18.1	23.0	23.1	18.7	16.7	18.3	19.2
Export of Goods	16.7	21.0	20.8	16.1	14.2	15.8	16.5
Export of Services	1.5	2.0	2.3	2.5	2.5	2.5	2.7
Import of Goods and Services	14.5	17.4	19.6	18.4	17.5	17.5	17.5
Imports of Goods	11.8	13.8	15.6	14.3	13.5	13.4	13.6
Imports of Services	2.7	3.6	4.0	4.1	4.0	4.1	3.9
Net Income Receipts	0.3	0.2	0.2	0.2	0.3	0.3	0.3
Income Receipts	0.5	0.5	0.6	0.6	0.6	0.5	0.5
Income Payments	0.3	0.3	0.3	0.3	0.3	0.2	0.2
Net total current transfers	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total International Reserves (Billion US\$)	104.4	117.6	126.2	117.5	110.5	112.0	119.1
as Months of Imports (number of months)	14.8	18.3	18.5	19.4	16.1	13.3	12.7
Total Gross External Debt Stock (US\$ bln)	7.4	7.6	6.3	5.7	5.3	5.2	5.1
Total Gross External Debt Stock (% of GDP)	1.3	1.7	1.5	1.4	1.1	0.9	0.8
<b>Memorandum Items:</b>							
Nominal GDP (Billion IRR)**)	7,149,595	9,421,215	11,033,666	11,737,839	13,185,191	15,490,202	17,828,424
Market Exchange Rate, Average (IRR/US\$)	12,260	21,253	26,522	29,811	-	-	-
GDP (in Billion US\$)	583	443	416	394	-	-	-

Source: Government Data and World Bank Staff Calculation.

\* Fiscal year ends March 20. For example, 2013 corresponds to the fiscal year of 2013/2014.

\*\* IRR: Iranian Rial

## BOX 10. The 2016 central government budget.

**For its 2016 budget, the Rouhani government maintains the fiscal discipline of its previous two budgets.** Central government expenditure planned to increase at the same pace at the projected rise in revenue (Table 6). On the revenue side, the 2016 budget projects total revenue increase of 15.0 percent driven by an increase of 17.4 percent in taxation revenue, 2.8 percent in oil revenue, 45.2 percent in sale of assets and 11.4 percent in other revenue components. On the expenditure side, the 2016 budget projects a total expenditure rise of 15.0 percent as a result of a 18.8 percent increase in current expenditures, a 24.9 percent rise in capital expenditures and a 5.6 percent decline in other components.

**The government remains committed to improving the fiscal framework.** On the revenue front, the government measures aim to enhance tax compliance and broaden the tax base away from oil revenue. Measures would include a better targeting of large taxpayers and other indirect taxes, such as on professional income and the taxation of capital gains in equity and real estate. Lower reliance on oil revenue would also be achieved through greater economic diversification. Much of the country's ability to further diversify its economy will largely hinge on structural reforms to strengthen the business environment, in particular to improve the infrastructure system as well as the ease and cost of trading across borders, which remain weak relative to comparator countries.

TABLE 6. Details of the 2016 budget (thousands of billions of Rials).

	2014*	2015*	2016	Y/Y %**
Central Government Revenue	2,188	2,674	3,074	15
Taxes	661	861	1,011	17.4
Oil	777	711	731	2.8
Sale of Assets	224	312	453	45.2
Other	526	789	879	11.3
Central Government Expenditures	2,188	2,674	3,074	15
Current Expenditures	1,430	1,660	1,972	18.8
Capital Expenditures	378	478	597	24.9
Other	380	535	505	-5.6

Source: Iranian authorities.

\* Actual figures.

\*\* Year-on-year growth rate of projected 2016 figures relative to actual 2015 figures.

required for the economy to grow at the sustained and inclusive pace laid out in the sixth five-year plan.

**27. The central government fiscal stance is forecasted to be slightly contractionary; visibility on the wider public sector stance is, however, limited.** Following an estimated central government fiscal deficit of 2.7 percent of GDP in 2015, the deficit is projected to shrink gradually over the forecast horizon (Table 5) as oil prices rebound, oil export volumes rise, and the non-oil revenue expand along with the recovery in economics activity. With the easing of financing constraints total expenditures are projected to expand from 15.6 percent of GDP in 2015 to 15.9 percent of GDP in 2016 due to a marked rise in the investment budget.

**28. The current account balance is projected to continue to deteriorate in 2016—to post its first deficit since 2004—but is projected to return to a surplus in subsequent years.** After an estimated modest surplus of 0.6 percent of GDP in 2015, the current account balance is projected to turn to a deficit of 0.4 percent of GDP in 2016 as a result of the substantial drop in energy prices. As volumes of oil exports start picking up<sup>13</sup> thanks to the lifting of the nuclear-related sanctions, global oil prices are also projected to modestly firm up over the forecast period, and tourism services are projected to rebound, Iran's current account is projected to return to a surplus in 2017.

<sup>13</sup> Oil exports are projected to rise from 1.47 million barrels per day (mb/d) in 2015 to 1.73 mb/d and 2.32 mb/d in 2016 and 2017.

## Risks to the Outlook

**29. One important downside risk to Iran's recovery is a delayed normalization of Iran's country risk premium linked to international sanctions or even the possible return of sanctions.**

Significant residual business risks related to the possibility of lifted sanctions to be re-imposed and to the continuation and potential widening of the non-nuclear sanctions—including the inability to use the U.S. financial and banking infrastructure and remaining sanctions on over 200 Iranian entities—are likely to constrain faster trade and investments flows. In addition, the JCPOA includes a “snap back” mechanism whereby sanctions could be re-introduced.<sup>14</sup> A clarification from the U.S. Treasury and Congress on the legal situation of U.S. companies and citizens but also foreign companies, especially banks—fearful of legal actions which in the past have reached multi billion dollars in penalties—regarding business opportunities in Iran could materially alter the pace of trade normalization between Iran and the rest of the world.

**30. Risks to oil prices remain largely tilted to the downside.** These include a possible increase in supply due to: (i) resilient oil production in non-OPEC countries as a result of some cost-efficiency measures; and (ii) a rise in output from OPEC producers such as Iraq and Saudi Arabia. Moreover, slower demand in China and other leading emerging markets may put additional downward pressure on oil prices.

**31. A third risk relates to slower global growth and regional conflict and security.** A stronger dollar following an expected rate increase by the Federal Reserve Board could slow down the pace of economic recovery in the US and hence have spillover effects on global growth. Furthermore, decelerating demand in China, a major importer of Iranian oil, may have an adverse impact on Iranian

oil exports. Further degradation of regional security and stability in Iraq and Syria in particular would negatively impact the Iranian economy.

**32. Finally, Iran should properly manage the new era of sanctions relief.** In particular, failure to improve the business environment, such as promoting competition and limiting the footprint of the government on the economy, would have an adverse effect on the appetite of foreign investors to invest in Iran. Furthermore, implementing proper fiscal and monetary policies coupled with an effective public investment strategy aimed at revitalizing the energy sector and benefitting from the freed frozen assets, among other things, will be key to simulating the economy. Iran should also improve its anti-money laundering and terrorism financing laws and regulations to reduce business risks for banks and the private sector.

<sup>14</sup> Paragraph 36 of the JCPOA, Iran's failure to meet its commitments under the Agreement could lead any of the P5+1 countries to “cease performing its commitments under this JCPOA in whole or in part and/or notify the U.N. Security Council that it believes the issue constitutes significant non-performance.”

## SPECIAL FOCUS 1: PROSPECTS FOR IRAN'S OIL AND GAS EXPORT REVENUES

### ABSTRACT

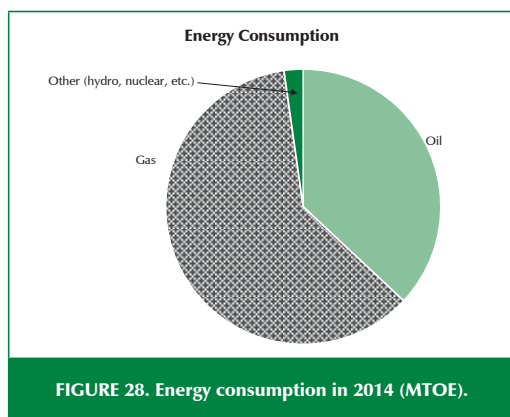
*While Iran has one of the most diversified economy among OPEC producers, its economy remains highly dependent on oil and gas. In our first Special Focus, we assess short and medium-term prospects for the growth of Iran's oil and gas export revenues in a post-sanction environment. These critically depend on two variables: the speed at which investments are mobilized to rehabilitate, expand and develop various oil and gas fields; and the price of oil. To take account of this uncertainty three scenarios for the growth of oil and gas export revenues (baseline, upper limit, and lower limit). In a baseline scenario, exports of oil and oil products could increase from 1.27 million barrels per day (mbpd) in 2014, to 2.32 mbpd by 2017 and 2.53 mbpd by 2020 equivalent to additional revenues of US\$3.5 billion by 2017 and US\$19 billion by 2020. For gas, exports could increase from 4 billion cubic meters (bcm) in 2014, to 10.3 bcm in 2017 and 27.1 bcm by 2020 equivalent to additional revenues of US\$0.75 billion in 2017 and US\$6.51 billion by 2020. Achieving these export revenue, however, require reforms to: (i) improve the attractiveness to International Oil Companies of Iran's oil contract; (ii) raise the efficiency of natural gas transmission, distribution and consumption; (iii) reduce gas flaring and venting; and (iv) strengthen oil wealth management.*

### INTRODUCTION

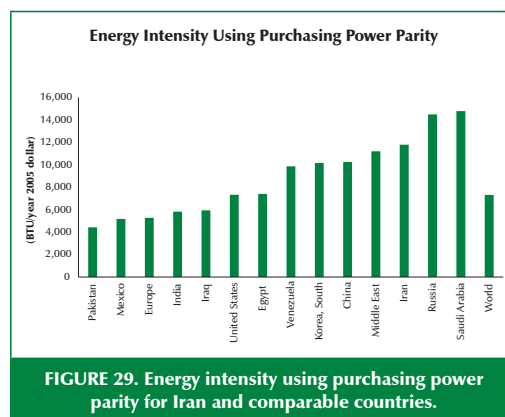
**33. Iran is one of the largest energy producer in the world, but also one of the most energy-intensive country.** Iran's primary energy consumption in 2014 was 252 million tons of oil equivalent (MTOE)

consisting of 93 MTOE (37 percent) of oil, 153 MTOE (61 percent) of gas and 6 MTOE (2 percent) of other forms (hydro, coal and nuclear) of energy (Figure 28). Iran's energy consumption had been almost entirely based on oil until the 1970s. Domestic oil use had doubled in a five-year span of 1970-1975. The rapid growth of energy consumption and its oil dependence had raised significant policy concerns about the sustainability of oil exports. As a result, a very ambitious program of natural gas development and distribution was initiated in the 1970s and took off at a high pace in the 1980s. The share of gas in energy consumption has since increased from 11 percent in 1980 to 61 percent in 2014. Oil consumption is now limited mostly to the transport sector. Even there, the government has launched some aggressive efforts to promote the use of compressed natural gas (CNG) where technically feasible. However, Iran's energy intensity is one of the largest in the world indicating a lot of room for improving energy efficiency (Figure 29). Domestic energy consumption imposes a hard constraint on Iran's ability to increase its oil and gas exports. As the economy becomes more open to the international markets, the opportunity cost of domestic use of oil and gas becomes more explicit and tangible reinforcing the need to rationalize energy consumption.

**34. Export of oil has been pursued aggressively throughout the modern history of Iran though it has been also intertwined with the political developments.** Oil exports peaked at about 5.5 million barrels per day (mmb/d) in the mid-1970s, collapsed to less than 1 mmb/d after the 1979 revolution and stabilized at about 2 to 2.5 mmb/d from mid-1990s to 2011. Subsequently oil exports dropped to about 1.2 mmb/d after the imposition of sanctions in 2011-2012. Export and import of natural gas at small amounts were launched in early 2000s. At the same time, the government had



Source: IEA 2015.



Source: IEA 2015.

planned some large-scale gas export schemes most of which stalled due to the prevailing sanctions.

**35. The lifting of the nuclear-related sanctions is expected to have a significant impact on the development of Iran’s oil and gas sectors and in particular the potential export revenues from these sectors.** The purpose of this chapter is to (i) review the recent developments of the oil and gas sector; and (ii) outline the prospects of the increasing oil and gas export revenues in the short and medium terms. The chapter is organized in three parts. Part I provides an analysis of the prospects for increasing oil export revenues, Part II contains a description of the potentials for increasing gas export revenues, and Part III presents a discussion of some relevant policy issues.

**36. We project oil export revenues to grow from about \$44 billion in 2014 to \$63 billion in 2020 (Iranian calendar years).** The upper and lower bounds to the 2020 projected amounts are \$92 and \$36 billion. Similarly we project gas export revenues to increase from \$2.8 billion in 2014 to \$9.4 billion in 2020. The upper and lower limits are projected at \$12.9 billion and \$6.3 billion.

The following points are critical to the above export revenue projections:

- The new upstream model contract, called the Iran Petroleum Contract (IPC) that is currently under preparation by the Ministry of Petroleum

may remedy some of the issues in the previous buyback contracts and may provide a stronger incentive for the international oil companies to return to Iran’s oil and gas sector; it should be noted, however, that the management of these more flexible contracts would require a strong and skillful body that needs to be established;

- The long-term prospects of Iran’s hydrocarbon sector relies more on gas than oil production. Accordingly, the government’s new strategic framework aims at shifting emphasis from oil to gas, and increasing the value added of the downstream and petrochemical activities. However, domestic consumption of gas is huge (the third largest in the world) and suffers from various types of inefficiencies. A better understanding of efficiency gains along the natural gas transmission, distribution, and consumption could lead to the introduction of policies that could generate substantial domestic consumption gains—which would be transformed into gas exports and revenues;
- While Iran’s position as the second largest gas reserve holder in the world supports the idea of the country becoming a large scale gas exporter, there are some outstanding issues regarding the availability and desirability of gas exports. A better understanding of Iran’s natural gas production, utilization, and export strategy would enable the country to achieve this status in an efficient and sustainable manner;



- Iran's practice of gas venting and flaring imposes a large economic loss on the country and a serious adverse impact on health and on the global environment. Capturing and processing this gas would generate substantial gains for the country.

## PROSPECTS FOR INCREASING OIL EXPORT REVENUES

**37. Iran has an estimated 158 billion barrels of proved crude oil reserves, representing the fourth largest reserves in the world (Figure 30), and the third largest among the Organization of the Petroleum Exporting Countries (OPEC).** More than 70 percent of Iran's crude oil reserves are located onshore (Map 1). Iran's largest producing oil fields are the onshore Ahwaz-Asmari, Marun, and Gachsaran fields, all of which are located in Khuzestan Province. The Abuzar field in the Persian Gulf is Iran's largest offshore field, with a production capacity of 175 thousand barrels per day (kb/d). Iran also has some proved offshore oil reserves in the Caspian Sea, but exploration and development of these reserves have been halted due to territorial disputes with neighboring Azerbaijan and Turkmenistan.

**38. Iran's oil production capacity grew gradually to reach 2 mmb/d by 1965, and subsequently jumped to about 6 mb/d in a period of 10 years (1965 to 1975);** Figure 31. Sustainability and optimality of this rapid expansion were debated in the late 1970s. However, the level of production collapsed to about 1.5 mb/d after the Iranian revolution and the start of war with Iraq. Subsequently, oil production gradually increased to 2.5 mb/d by the late 1980s, and then with some significant rehabilitation investments, the production capacity increased to about 4.2 mb/d by 2007. This level of production was maintained until 2011. Afterwards, oil production dropped significantly from almost 3.7 million b/d in 2011 to 2.7 million

b/d in 2012 and 2.5 mb/d in 2013. In 2014, crude oil production increased by about 100 kb/d to reach almost 2.6 mb/d, while production of total oil (crude oil and condensates) reached 3.05 mb/d.

**39. Expansion of oil exports faces the challenges of marketability in the short-term and sustainability in the medium term.** Prior to sanctions, Iran sold its oil to China, India, Japan, South Korea, the EU, Turkey, South Africa, and the United Arab Emirates.<sup>15</sup> After the sanctions some buyers like the EU countries stopped while others reduced their oil imports from Iran. The speed at which Iran can regain the lost market is expected to be of at least an additional 300 kb/d of oil by mid-2016 and a further 600 kb/d by mid-2017. The potential purchasers are Korea, India, China, Turkey and some European countries including Greece, Spain, and Italy.

**40. The sustainability of oil exports after 2017 would need additional action on Iran's side.** In particular, it would depend on Iran's ability to: (a) slow down the decline in the productivity of its old oil fields; (b) recommission some of the shut-in reservoirs; and (c) invest in developing the new oil fields. The potential increase in oil production during 2016-2020 is estimated to include oil and condensate increases of 300 kb/d in 2016 and 600 kb/d in 2017. Therefore, Iran is expected to regain its pre-sanction oil production of 4.2 mb/d by 2017 when the oil production capacity will consist of 3.5 mb/d of crude oil and 0.7 mb/d of condensate capacity. Although there is a high likelihood that the production capacity of 4.2 mb/d will be available and perhaps utilized by the end of 2017, there will be four important developments that would affect the production capacity during 2018 to 2020:

- NIOC expects to develop the new fields in the West Karoun region. These fields include some large deposits such as Azadegan, Yaran, Yadavaran, and Darquain, as well as some

<sup>15</sup> In 2011, prior to the tightening of sanctions, Iran exported 2.3 million b/d of oil liquids (crude oil and other oil liquids). The larger importers of the Iranian oil were: China (550 kb/d), India (320 kb/d), Japan (315 kb/d), South Korea (250 kb/d), the EU (600 kb/d), Turkey (185 kb/d), South Africa (75 kb/d), and the United Arab Emirates (95 kb/d).



Map 1. Iran's oil and gas fields.

Source: [http://www.lib.utexas.edu/maps/map\\_sites/oil\\_and\\_gas\\_sites.html](http://www.lib.utexas.edu/maps/map_sites/oil_and_gas_sites.html)

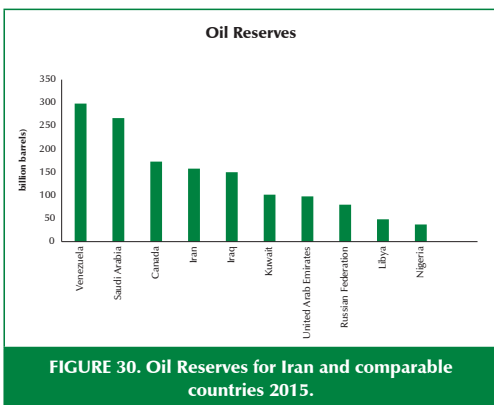


FIGURE 30. Oil Reserves for Iran and comparable countries 2015.

Source: Oil and Gas Journal (January 2015)

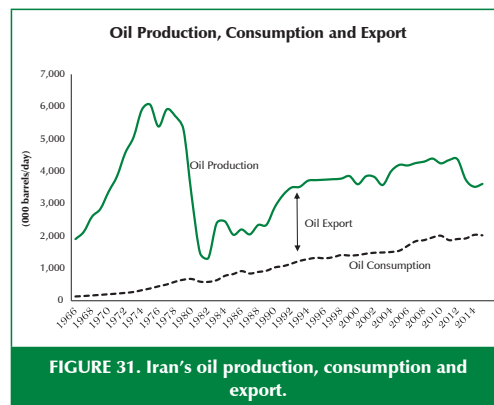


FIGURE 31. Iran's oil production, consumption and export.

Source: BP (2015)

smaller fields like Jofier, Bande Karkheh, and Soosangerd. The West Karoun fields are currently producing only 100 kb/d of oil. NIOC expects to increase the production from these

fields to about 1 mb/d. The production capacity of these fields in 2020 is estimated at 400 to 800 kb/d depending on NIOC's ability to mobilize the required investments.





- A high priority investment program will be implemented to increase the oil production capacity in the mature fields such as Ahwaz, Gachsaran and Marun, and to bring into operation some of the previously shut-in fields. The output of the Ahwaz field is expected to rebound rather fast while the output of other fields may increase gradually. The increase in the total output by 2020 may amount to 200 to 400 kb/d.
- Despite the above investments there will still be a natural decline in the output of some very old fields at the rate of 100 kb/d per year.
- Condensate production is expected to increase substantially as the new phases of South Pars<sup>16</sup> come into full operation. The increase in condensate output by 2020 is expected to be about 300 to 500 kb/d.

**41. Iran's oil exports comprise crude oil, condensates (and gas liquids), and petroleum products.** Iran's condensates production mostly comes from the South Pars natural gas field, with smaller volumes produced at Nar, Kangan, and at other fields. Iran's condensate production is expected to increase from about 450 kb/d in 2014 to about 830 kb/d by 2020. At the same time, there is a plan under implementation to process the condensates into products (mostly naphtha, diesel and kerosene). Presently Iran uses about 160,000 b/d of condensates in its two (Borzuyeh and BooAli Sina) petrochemical plants. However, this will increase significantly in the next 4 to 6 years as the Persian Gulf Star (PGS) processing plant (capacity of 360 kb/d) and the SIRAF processing plant (with capacity of 480 kb/d) are commissioned. Commissioning of the PGS plant is expected between 2016 and 2018. Commissioning of the SIRAF plant is somewhat uncertain. By the time both plants are commissioned the availability of condensate for export will disappear while some amount of products (about 150 kb/d of naphtha and about 400 kb/d of diesel and kerosene) will become available for exports. The likely scenario is that the

<sup>16</sup> South Pars development entails 24 phases. The first 10 phases were commissioned during 2002-2010. Phases 12, 15 and 16 were commissioned in 2014-2015. Phases 17 and 18 are scheduled for commissioning in 2016. Most other phases are expected to be commissioned by 2020.

availability of condensates for export will plateau at 500 kb/d in 2016 and gradually decline to 330 kb/d by 2020 when domestic use of condensate will reach about 500 kb/d<sup>17</sup>.

**42. Export of petroleum products is also expected to increase in the medium term.** In the past, Iran has been somewhat dependent on imports of refined products, especially gasoline, to meet domestic demand. It has now rehabilitated, upgraded and expanded some refineries enabling the country to produce a larger volume and a more desirable mix of products. This additional refinery yield and the additional products from the domestic processing of condensates will result in Iran's capacity to export 700 kb/d of petroleum products by 2020, comprising of 220 kb/d of fuel oil, 170 kb/d of gasoil, 140 kb/d of gasoline and 170 kb/d of LPG.

**43. To assess the prospects for increasing oil export revenues, this section develops a range for the expansion of oil (crude oil and condensate) and petroleum products based on the analysis of the previous sections.** Three scenarios (i.e., a base case, lower bound and upper bound) are considered in these projections, with the key underlying assumptions for each being oil export volume and the international price of oil. The basic assumptions of the three scenarios are as follows:

- The base case assumes an increase in the oil production capacity from almost 4 mb/d in 2015 to 4.5 mb/d in 2020. About half of the capacity increase is due to additional yield of condensates from South Pars and other gas fields. This scenario assumes that the international price of (Brent) crude oil<sup>18</sup> will fluctuate in the range of \$50 to \$60/bl (averaging \$55/bl) during 2015 and

<sup>17</sup> With the commissioning of Phases 12 to 16 of South Pars in 2014-2015, condensate production increased by about 200 kb/d to 650 kb/d in 2015. It is expected that Phases 17 to 21 will be commissioned by 2020. Condensate production will then reach 830 kb/d.

<sup>18</sup> Iran's crude oil production stream consists of mostly Iran heavy and Iran light. The heavy crude has been traditionally sold to the Asian markets while the light crude has a wider market. The Iranian heavy and light crudes have been selling at a discount of \$3 and \$1/bl, respectively, relatively to the Brent crude price. Petroleum products exports consist of fuel oil, gasoil, naphtha and an increasing amount of gasoline.

**TABLE 7. Medium-term prospects for Iran's oil production and export revenues.**

Year (Iranian calendar)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Base Case Projections</b>										
<b>Production</b>										
Crude Oil (mb/d)	3.70	2.70	2.50	2.60	2.70	2.90	3.50	3.60	3.70	3.70
Condensates (kb/d)	380	395	420	450	610	690	720	750	790	830
Total Oil (mb/d)	4.08	3.10	2.92	3.05	3.31	3.59	4.22	4.35	4.49	4.53
<b>Crude Oil Allocation</b>										
Domestic Refining (mb/d)	1.70	1.70	1.80	1.80	1.90	2.00	2.10	2.20	2.20	2.20
Export (mb/d)	2.00	1.00	0.70	0.80	0.80	0.90	1.40	1.40	1.50	1.50
<b>Condensates Allocation</b>										
Domestic Processing (kb/d)	150	155	160	165	170	190	350	450	500	500
Export (kb/d)	230	240	260	285	440	500	370	300	290	330
<b>Petroleum Products</b>										
Domestic Consumption (mb/d)	1.75	1.76	1.78	1.79	1.84	1.86	1.90	1.96	1.98	2.00
Export (kb/d)	100	100	180	180	230	330	550	690	720	700
<b>Exports</b>										
Export of crude oil (mb/d)	2.00	1.00	0.70	0.80	0.80	0.90	1.40	1.40	1.50	1.50
Export of condensates (kb/d)	230	240	260	285	440	500	370	300	290	330
Export of products (kb/d)	100	100	180	180	230	330	550	690	720	700
Total Exports (mb/d)	2.33	1.34	1.14	1.265	1.47	1.73	2.32	2.39	2.51	2.53
<b>Export Revenues (\$billion)</b>										
Base Case	93.0	52.7	43.9	44.3	28.7	33.8	47.8	52.5	58.8	63.0
Upper Bound	93.0	52.7	43.9	44.3	28.7	40.6	57.5	65.7	76.7	92.4
Lower Bound	93.0	52.7	43.9	44.3	28.7	33.0	36.2	36.4	36.1	35.8

Source: BP (2015); Barclay (2015); IEA (2015); EIA (2015), FGE (2015); OPEC (2015) and author's analysis.

2016. Beyond 2016, the price increases gradually to reach \$70/bl by 2020.

- The upper bound scenario assumes that Iran achieves the expansion targets that it has indicated for production of crude oil (4.3 mb/d) and condensate (930 kb/d) by 2020. This scenario assumes an optimistic trend for the price of oil which is to reach \$70/bl in 2017 and \$80/bl by 2020.
- The lower bound scenario assumes realization of several risks: that oil production capacity will reach 3 mb/d by 2017 but will remain at that level until 2020 implying that the incoming investments will only be sufficient to compensate for the decline in the old oil fields; that production of condensates

would also remain at about 700 kb/d; and that international price of oil will remain in the range of \$50 to \$55/bl during 2015 to 2020.

**44. The results are summarized in Table 6 and Figures 32 and 33.** In the base case, exports of oil and oil products could increase from 1.27 mbpd in 2014, to 2.32 mbpd in 2017 and 2.53 mbpd in 2020. Under the above oil price projections this would increase oil export revenues from \$44 billion in 2014, to US\$47.7-63.0 billion by 2020. If government goals are achieved (production of 4.3 mbpd of crude oil and 930 kbpd of condensates by 2020), oil exports could reach as much as US\$92 billion by 2020 but could fall to US\$36 billion if investments are insufficient to compensate for the decline in productivity of old fields.

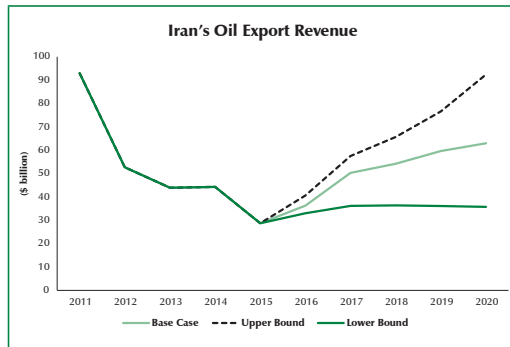


FIGURE 32. Evolution of Iran's export revenue.

Source: Authors' calculations

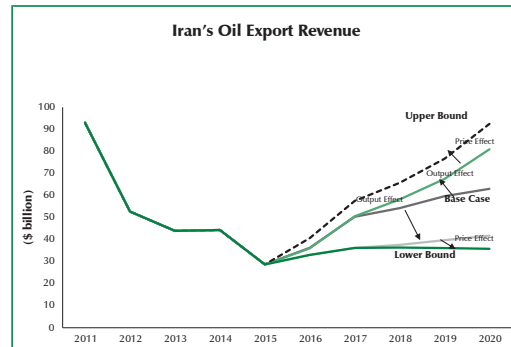


FIGURE 33. Evolution of Iran's export revenue.

Source: Authors' calculations

## PROSPECTS FOR INCREASING GAS EXPORT REVENUES

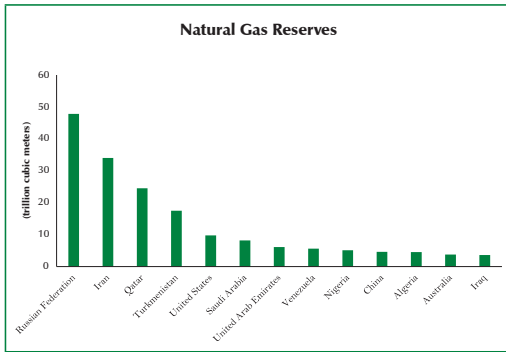
45. With a proved gas reserve of 34 trillion cubic meters (tcm), Iran is the second-largest natural gas reserve holder in the world, behind Russia (Figure 34). Iran's largest natural gas field is South Pars which is also the largest gas field in the world. It was discovered in 1990 and is a shared gas field with Qatar.<sup>19</sup> Pars Oil and Gas Company (POGC), a subsidiary of NIOC is undertaking a 24-phase development of South Pars with an estimated total cost of more than \$100 billion. Each of the 24 phases has a combination of natural gas with condensate and/or natural gas plant liquids (NGPL) production. Annual production is projected to reach 270 billion cubic meters (bcm) per year when all phases are online. Iran's gas master plan had originally envisioned phases 1-10 of South Pars being used for domestic consumption and reinjection while gas from other subsequent phases could be allocated to exports. Phases 1-10 and 12 are complete and, in

19 In Qatar the field is known as the North Field. Iran and Qatar concluded a delimitation agreement with each other in 1969. However, there has been little cooperation between the two countries in developing the joint field. Qatar implemented an ambitious development program to increase gas production from 6 bcm in 1990 to 176 bcm in 2013. As a result Qatar has become one of the largest exporters of gas in the world. It has since 2005 declared a moratorium on further development of the North Field, to give the country more time to study the structure and the sustainability of the field's reservoir.

most instances, were done with the involvement of western companies in the pre-sanctions era. Phases 15 and 16 are near completion and will eventually produce at their full capacity of 21 bcm/year of natural gas and 80,000 b/d of condensate.

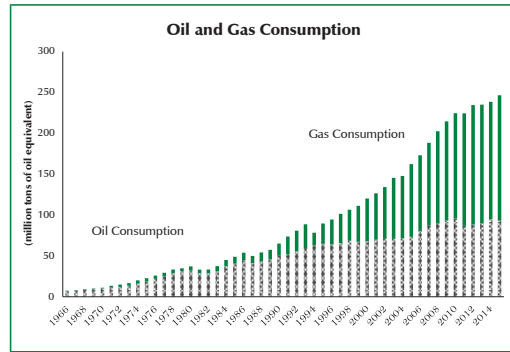
46. In addition to the South Pars field, Iran has at least 15 other major gas fields (the largest ones include Kish, North Pars, Tabnak, Forouz and Kangan). The development of some of these fields is presently being handled by domestic entities but actual production from them is unlikely until after 2020. Iran does not undertake gas exploration activities but continues to discover new reserves, a clear indication that the country has abundant gas resources.

47. Iran initiated a program of gas production in the early 1970s. However, gas production and domestic consumption took a high growth path after the late 1980s with a marked acceleration following the discovery of the South Pars field (Figure 35). Iran's gross gas production was about 232 bcm in 2014 ranking third in the world after the United States and Russia. The marketed gas stood at 184 bcm while the remainder was partly (31 bcm) reinjected into oil wells to enhance oil recovery and partly (17 bcm) vented and flared. About 98 percent of the marketed gas was consumed domestically. Gas demand has grown at a high pace. The country has even struggled with natural gas shortages during the winter months and has looked to imports from Turkmenistan to balance the market during peak periods.



**FIGURE 34. Natural gas reserves in Iran and comparable countries.**

Source: Oil and Gas Journal (2015)



**FIGURE 35. Iran's oil and gas consumption.**

Source: BP (2015), EIA (2015)

48. **Gross gas production is expected to increase at an average rate of 5 percent p.a. from 241 bcm in 2015 to 307 bcm in 2020.** Most of this will be produced from the 28 phases of the South Pars field while the outputs from other fields (Kish, North Pars, Tabnak, Forouz and Kangan) are expected between 2020 to 2025. The expanded gas production capacity would need to meet the requirements for gas reinjection into the oil fields and the domestic gas demand before any allocation to exports. Gas reinjection volume is expected to increase from 35 to 49 bcm during 2015-2020. Domestic gas consumption is expected to grow at 3 percent p.a. from 185 in 2015 to 215 bcm in 2020. Iran's ability to expand gas exports would depend on the speed at which investments are undertaken in the final phases of South Pars and other fields. NIOC estimates an investment need of about \$30 billion in the upstream gas development. This is more likely to materialize by 2025 than 2020. The country's ability to increase gas export is also dependent on the government's success in limiting the growth of domestic gas consumption. Low domestic gas prices and lagging energy efficiency are considered partly responsible for the rapid growth in gas consumption. There is a need to carry out a comprehensive assessment of the technical and economic efficiency of gas transmission, distribution and consumption. The scenarios of gas export should take account of the uncertainty in the expansion of gas production capacity as well as uncertainties in achieving contractual, financing and implementation agreements.

49. **Iran has a small volume of gas trade via pipelines to neighboring countries.** On the export side, these include Turkey, Armenia, Azerbaijan. The total volume of gas export was 6.9 bcm in 2014, of which 94 percent went to Turkmenistan and 6 percent to Azerbaijan. Gas export to Turkey is under a long-term contract. Armenia and Azerbaijan have swap arrangements with Iran; Armenia exports electricity to Iran to compensate for the natural gas volumes it receives; Azerbaijan repays Iran for the natural gas sent to its Nakhchivan exclave by exporting similar volumes to northeastern Iran via the Astara-Kazi-Magomed pipeline. On the import side, imports are coming from Turkmenistan and started in 1998 based on a 25-year contract for a volume of 5-6 bcm/year. These imports were interrupted in 2007 because of Turkmenistan's objection to the prevailing contracted gas price (about \$3/million BTUs) but resumed in 2009 based on a new pricing formula (\$9 to \$10/million BTUs per \$100/bl oil20). The import volume reached 11 bcm in 2011 but then dropped to less than 5 bcm in 2012 and 2013 before recovering to 6.8 bcm in 2014. Imports of Turkmen natural gas are essential to Iran's ability to meet both seasonal peak demand and industrial demand in northern Iran.

50. **Iran has envisioned, and in some instances has planned for the construction of a number of major gas export schemes including a set of pipeline and liquefied natural gas (LNG) projects.**

20 Gas price in most of Iran's contracts is linked to oil, and expressed in \$/MMBTU per \$100/bl oil.

**BOX 11. Status of natural gas export pipeline schemes.**

**Expansion of Gas Exports to Turkey.** Iran has been exporting natural gas to Turkey since 2001 under a long-term take or pay deal of 10 bcm/y. Iran has been trying to convince Turkey to increase its import volumes to 20 bcm/y, but price has been an issue. Turkey is paying Iran a gas price of about US\$14/MMBTU (per \$100/bl oil) that is (about 20 percent) higher than the price Turkey pays for gas imports from Russia and Azerbaijan. The industry sources indicate that the Iran and Turkey are in the process of negotiating a lower price and higher volume of gas export.

**Iran-Pakistan Pipeline.** This scheme was originally envisioned in early 1980s as a 40 bcm/y pipeline that would transport Iranian gas to Pakistan and onto India. However, India dropped out of the project in 1990s while Iran and Pakistan have continued their attempt to construct the pipeline system. In 2007 Pakistan and Iran signed a 30-year agreement according to which Iran would supply 21.7 bcm/year of gas with potential to increase to 33.1 bcm/year. The negotiated price is about \$9/MMBTU per \$100/bl oil. The 900km pipeline segment on the Iranian side has been completed. However, Pakistan has had difficulty mobilizing the required finance for building its 750km section of pipeline.

**Iran-Iraq Pipeline.** The gas sale-purchase contract between the two countries was signed in 2013. The contract is for an export volume of 9 bcm/y in the first phase of the agreement and increasing to 14 bcm/y in the second phase. Construction of the pipeline system is almost complete. However, there are security concerns and some disagreement about pricing issues. There is also a separate, initial agreement between Iran and the Basrah Provincial Council for a further 7.2 bcm/year gas import from Iran. It is expected that the two countries will reach agreement by end 2015 and Iran could supply by end 2016 at least 2.5 bcm/year using existing gas infrastructure to the Basra power plant, which is close to the Iranian border.

**Iran-United Arab Emirates (UAE) Pipeline.** In 2001 Iran signed a 25-year contract to supply gas from its Salman field to the UAE-based Crescent Petroleum at Sharjah in the UAE. The contract required Iran to export 5.2 bcm/y of unrefined sour gas to UAE at a reportedly low price. The project was supposed to have been completed in 2005 but there have been significant delays. Crescent Petroleum eventually took NIOC to arbitration in 2009 for the four year delay in supplying gas. The arbitration deliberations continue while the corresponding scheme has been the subject of much discussion in the press. The industry specialists have raised the idea that Iran and Abu Dhabi can cooperate in transporting gas from the Salman field to the neighboring Abu Bakhoosh field which is owned by Abu Dhabi and is nearly depleted. The distance between the two fields is only one kilometer and all infrastructure already exist on the Abu Dhabi side. The potential project is reportedly being discussed between the two sides.

**Iran-Oman Pipeline.** Oman's domestic gas production has stagnated in the recent years while its domestic consumption has increased sharply. As a result the amount of feed-gas to Oman's two LNG export facilities have fallen. Therefore, Oman has some excess capacity in its LNG facilities. It has agreed in March 2014 to import about 10 bcm/year of gas from Iran. It is estimated that some 30 to 50 percent of the imported gas would be liquefied and sold on the global markets. The pipeline system will involve construction of a 200 km of undersea pipeline, and is expected to have a construction cost of about \$ 1 billion and a construction time of about 3 years. Price of gas (and LNG processing fee) are still under negotiations.

**Iran-Kuwait Pipeline.** The two countries have been discussing since early 2000s the construction of a 350-mile pipeline to carry about 2.5 bcm/year of Iranian gas to Kuwait. In the meantime Kuwait started importing LNG in 2009 to meet its growing domestic demand, which peaks during the summer. Although the seasonality of Kuwait's demand gives LNG a comparative advantage, a pipeline supply (with suitable price terms) may still be worth consideration.

The former include projects to Europe, Pakistan, India, Iraq, UAE, Oman and Kuwait; the latter include the Iran LNG, the Pars LNG, and the Persian LNG. Among the pipeline projects, the export schemes to Europe and India are not likely to materialize in the short to medium terms. Among other schemes, there are prospects for the expansion of gas export to Turkey, and implementation of pipelines to Oman, Iraq, Kuwait and Pakistan (details are provided in Box 11).

**51. On the LNG front Iran pursued three major projects: Iran LNG and Pars LNG each with a capacity of 10.8 million tons/year, and Persian LNG with a capacity of 16.2 million tons/year.** These plants were supposed to be commissioned

during 2012 to 2016 but they stalled after the sanctions made it nearly impossible for western companies to provide the required technology to build liquefaction trains. Iran has reportedly spent more than \$2 billion on the Iran LNG project to build port facilities, tank storage, and the necessary infrastructure. The missing piece is the liquefaction plant which requires western technology. Iran has expressed that it will welcome investors' interest in completion of this plant. The plant may be completed and operational by 2020. Other LNG plants are likely to be shelved for the foreseeable future.

**52. Gas Export Revenues:** In assessing the potentials for increasing gas exports this chapter takes account of the ongoing negotiations and plans

TABLE 8. Medium-term prospects for Iran's gas export revenues.

Year (Iranian calendar)	2014	2015	2016	2017	2018	2019	2020
Base Case Projections							
Production and Consumption (bcm)							
Gross Gas Production	232	241.2	251.4	263	277.5	294	307
Gas Venting/Flaring	17	17.2	17.4	17	16.5	16	16
Gas Reinjection	31	35	37	39	41	45	49
Marketed Gas	183	189	197	207	220	233	242
Domestic Consumption	180	185.4	191	196.7	202.6	208.7	214.9
Net Exports (bcm)							
Turkey	9	9	9	15	17	20	20
Armenia/Azerbaijan	1	1	1	1	1	1	1
Turkmenistan (import)	6	6.4	6	9.2	10.6	10.2	10.9
Iraq	0	0	2	3.5	5	6	7
Oman	0	0	0	0	5	7.5	10
Kuwait	0	0	0	0	0	0	0
Iran LNG	0	0	0	0	0	0	0
Gas Export Revenue (\$million)							
Base Case	2,871	1,542	2,045	3,619	5,771	8,107	9,381
Upper Bound	2,871	1,542	2,045	3,619	6,690	11,207	12,939
Lower Bound	2,871	1,542	1,269	3,189	4,283	6,034	6,341

Source: BP (2015); Barclay (2015); IEA (2015); EIA (2015), FGE (2015) and author's analysis.  
Source: authors calculations

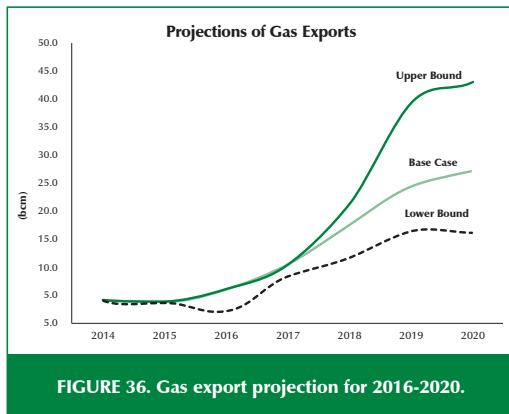


FIGURE 36. Gas export projection for 2016-2020.

Source: Authors' calculations

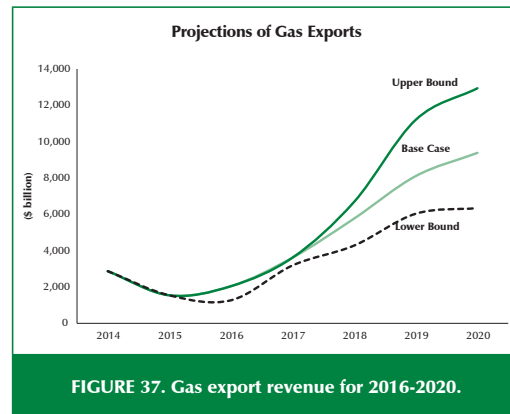


FIGURE 37. Gas export revenue for 2016-2020.

Source: Authors' calculations

described in the previous section. In the base-case scenario, it is assumed that gas exports to Turkey will start to increase in 2017, the Iraq pipeline will start delivering gas in 2017, and the Oman pipeline will become operational by 2018. The upper bound scenario makes two optimistic assumptions that the pipeline to Kuwait is completed by 2018 and the Iran LNG plant will be commissioned in 2019. The

lower bound scenario assumes that the Iraq pipeline comes online later in 2018, and that none of the other new schemes are commissioned before 2020. The results are summarized in Table 7 and Figures 36 and 37.

**BOX 12. Management of the oil and gas sector in Iran.**

The Ministry of Petroleum has the overall responsibility for the strategic management of the country's hydrocarbon resources. Under the supervision of the Ministry, there are four state-owned companies responsible for the activities of the oil and natural gas and petrochemical industry. There include:

- National Iranian Oil Company (NIOC) that is responsible for the planning, implementation and operation of various oil sector activities including exploration, drilling, production, research and development, and export of crude oil. NIOC is one of the world's largest oil companies. It has numerous subsidiaries including seventeen production companies and eight technical service companies.
- National Iranian Gas Company (NIGC) that is responsible for natural gas downstream activities with a focus on processing, delivering, and distributing gas for domestic use. NIGC is one of the top ten gas companies in the gas industry in the Middle East and operates through several subsidiaries.
- National Petrochemical Company (NPC) that is responsible for planning, organizing, developing, supporting and leading the country's petrochemical industry. NPC's activity was initially limited to operating a small fertilizer plant. But now it is considered as one of the largest petrochemical companies in the Middle East.
- National Iranian Oil Refining and Distribution Company (NIORDC) that is responsible for crude oil refining, products distribution and export and import of petroleum products. It has 19 subsidiaries and affiliated companies including refineries and various service companies.

## SELECTED POLICY ISSUES

**53. A comprehensive coverage of Iran's oil and gas sector issues is beyond the scope of this chapter.** Nevertheless, a few of the outstanding issues with direct relevance to the prospects for increasing oil and gas export revenues are discussed below.

**54. Iran has an ambitious plan for the rapid development of the oil and gas sector. Investment requirements for 2016-2020 are estimated at \$100 to \$150 billion.** At the same time, international sanctions have affected Iran's oil and gas sectors by limiting the foreign investment, technology, and expertise needed to expand the production capacity and to slow down the declines at some mature oil fields. In recent years Iran has had to depend mainly on local companies to develop oil and gas fields. During the sanctions period, all western companies halted their activities in Iran, save for some Chinese and Russian companies.

**55. To boost the economy, the Iranian government intends to bring back foreign investment and technology to the oil and gas sector.** It has already identified more than 50 oil and gas projects and presented more than 20 of these

projects to the visiting international oil companies in Tehran in November 2015. The list of projects included upstream gas projects (South Pars Phase 11, North Pars, Forouz, and Kish gas fields), and oil development projects (Azadegan, Yadavaran, the Salman Re-development, Azar, Darquain Phase 3, Sohrab, Arvand, Sepehr, and several mature field). The Government is also contemplating a broader presentation of the proposed projects at a forum in London.

**56. There are numerous press reports about the interest of western oil companies to return to Iran.** It seems that the international oil companies (IOCs) are eager to take advantage of the Iranian oil and gas business opportunities that are technically more attractive than the remaining potentials in other parts of the world. According to NIOC, the marginal cost of oil production in Iran is estimated at \$8/bl for onshore and \$15 for offshore development. This is compared to an international average of \$45 to \$60/bl. Still IOCs are expected to be cautious about "above the ground" risks including political and contractual risks, and conditions of international oil market. Also an instrumental factor in the IOCs' decision will be the terms of contracts.

**57. Since the Iranian constitution prohibits foreign or private ownership of natural resources, the ownership of all oil and gas resources and**

facilities should remain with NIOC, and therefore contractual arrangements such as “production sharing agreements” could not be applied in Iran. In order to attract foreign investors to the sector, the Iranian government introduced in 1989 a formulation called “buyback” contracts that would require an IOC to invest its own capital and expertise for development of oil and natural gas fields. After the field is developed and production has started, the project’s operatorship reverts back to NIOC or the relevant subsidiary. The IOC does not get equity rights to the oil and gas fields, or to the output. NIOC uses revenue from the sale of oil and gas to pay the IOC back for the capital costs. Buyback contracts have been unpopular with IOCs due to lack of flexibility of cost recovery, the period of contract being too short (5 to 8 years), lack of upside benefit for the IOC, and in some cases the NIOC’s limited expertise to slow down the field decline rates in comparison to the IOC that developed the field.<sup>21</sup>

**58. To remedy some of the issues in buyback contracts, the Ministry of Petroleum is preparing a new upstream contract, called the Iran Petroleum Contract (IPC).** Although still in draft form, the model contract is expected to include the following key elements: (a) include the exploration, development, and production phases, along with the possibility to extend into enhanced oil recovery phases; (b) cover a longer time period of between 20 to 25 years; and (c) link the IOC compensation to the output of the oil and/or gas field. Therefore, IPC is expected to facilitate flexible “risk-reward” transactions. However, negotiation and management of such contracts would require substantial technical, commercial and legal skills and experience. International experience (e.g., Mexico, Brazil, Algeria, Egypt) indicates that this can be best achieved by establishing a specialized agency for this purpose.

**59. Iran’s position as the second largest gas reserve holder in the world supports the idea of the country becoming a large scale gas exporter.** However, the medium-term picture is more complex because it is not clear whether Iran can produce

sufficient gas to: (a) meet the growing domestic gas consumption; (b) supply the huge requirement of gas reinjection to enhance oil recovery; and (c) dedicate a considerable amount of gas to export projects. In particular, there are two outstanding issues regarding availability and desirability of gas exports. First, Iran has been negotiating gas export transactions with a number of countries for several decades but has not achieved a level of supply that is significantly above its own domestic needs. Thus the track record does not provide the level of certainty that is required for the formulation and financing of gas export projects. Second, in the past there has been an internal controversy (particularly between the government and the parliament) about the desirability of exporting gas while the country has a very large requirement for domestic consumption and reinjection. The international best practice indicates that an effective tool for creating a technical and policy consensus is for the government to prepare a gas strategy that would be endorsed by the relevant committees in the parliament. The strategy document should present quantitative targets for production, consumption and export of gas. It should also cover policy issues that would enable the country to achieve these targets in an efficient and sustainable manner.

**60. Government’s new strategic framework aims at shifting emphasis from oil to gas, and increasing the value added of the downstream and petrochemical activities.** However, domestic consumption of gas is large (the third largest in the world) and suffers from various types of inefficiencies. In particular, efficiency in gas transmission and distribution is undermined by significant gas leakages and low load factors, while efficiency of gas consumption is negatively affected by subsidized prices and obsolete technologies. An integrated study on improving the efficiency of natural gas transmission, distribution and consumption would be warranted.

**61. Iran’s gas venting and flaring reached 17 bcm in 2014 when Iran became the world’s largest gas-flaring country, surpassing Russia.** Gas is flared because of the lack of infrastructure to capture and transport it where it could be effectively

<sup>21</sup> According to Facts Global Energy, the rate of return on buyback contracts ranges between 12 percent and 17 percent.





utilized. The flared/vented gas has a market value of approximately \$4 to \$6 billion/year. Aside from this significance economic waste, gas flaring imposes a serious impact on health and the global environment. Gas venting has an even much larger (per unit) impact. The potential impact of gas flaring/venting on the global environment has been recognized by the international community (Buzcu-Guven, B. et al., 2010). It has become an area of serious attention in the United Nations Framework Convention on Climate Change (UNFCCC), the COP 21, and other conventions<sup>22</sup>

**62. Iran's petrochemical industry is one of the largest in the Middle East.** Activities of the National Petrochemical Company (NPC) was initially limited to operating a small fertilizer plant. However, it now brings in the most revenues to the country's economy after crude oil exports. The industry may gain significantly from sanctions relief. Export of petrochemical products peaked at about \$15.2 billion in 2011 but declined to \$12 billion in 2012 to 2014. The government intends to expand this industry in order to extract more downstream value-added from the hydrocarbon resources. The pros and cons of such expansion should be studied while taking account of the opportunity cost of the feedstock and the prospects in the international markets.

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<sup>22</sup> The World Bank has launched a public-private partnership initiative called Global Gas Flaring Reduction (GGFR) in 2002 to provide technical assistance to the countries and companies that attempt to reduce gas flaring/venting. Several bilateral and multilateral climate change funds, particularly the Clean Investment Fund, provide financial assistance to the projects that are aimed at reducing gas flaring and venting.

## SPECIAL FOCUS 2: IRAN'S FINANCIAL SECTOR AT THE DAWN OF THE LIFTING OF SANCTIONS

### ABSTRACT

*Iran's financial sector is critical to propel Iran's economy towards the high, sustained and inclusive growth targeted in the country's sixth five-year development plan. The sector, however, has been battered by the disruptive impact of the sanctions but also by longstanding distortive policies including directed lending schemes and effective interest rate ceilings amid high inflation. Our second Special Focus reviews the structure of Iran's banking and financial sector, the implications of the lifting of the sanctions, and outlines key structural reforms areas. While the lifting of the sanctions will provide much needed breathing space to the financial sector, in and by themselves, they can only deliver moderate gains in terms of growth and jobs; only when coupled with essential structural reforms can Iran be expected to reach the growth target of its sixth five-year plan. Structural reforms include improving the independence and effectiveness of the Central Bank of Iran to fulfil its monetary policy, and banking regulatory and supervisory mandates.*

### INTRODUCTION

**63. This special focus offers a high level overview of the Iranian financial sector and possible impacts of the lifting of sanctions under the JCPOA.** The preparation and supporting analysis of the financial sector has been constrained however owing to the limited availability of data regarding banks, non-bank financial institutions, securities market and the financial infrastructure. As such, the scope and the detail of findings and recommendations were constrained. Notwithstanding these limitations,

this chapter highlights some early sequential actions in order to better define the needed financial sector reform measures to follow.

**64. The special focus is divided into three sections.** Section A provides a broad overview of the contemporary Iranian financial sector and recent relevant policy developments in the financial sector. Section B identifies some of the possible effects of lifting of sanctions on financial development. Finally, Section C highlights key reform measures needed to further strengthen the resiliency of the financial sectors and to provide for its long term sustainability. The text is further supplemented by three Annexes on the financial architecture, capital markets and non-bank financial institutions and a short summary of international financial sector standards.

## STRUCTURE AND RECENT DEVELOPMENTS IN THE BANKING AND FINANCIAL SECTOR

### The Banking Sector

*The Iranian banking system is large and financial access is high. The government is heavily involved in the sector directly through public banks, and moreover, through directed lending schemes and in establishing and maintaining effective interest rate ceilings.*

**65. The Iranian banking system is large, with total assets of near 150 percent of GDP in 2010** (including assets by the CBI). The system consists of 35 institutions divided into four broad categories: three government owned commercial banks, five specialized government banks, 27 private banks and one near bank (Credit Institution for Development) in 2014. Banks Melli (public), Mellat (privatized), Maskan (public) and Parsian (private) dominate the market. State and privately owned banks alike are often subject to state influence, as their shares may be acquired by state affiliated entities, which can influence banking policies (EUI, 2014<sup>23</sup>). Moreover, some private banks are financial extensions of large parastatal, commercial and/or industrial groups. The reduction of these cross-shareholdings is among the stated goals of the Central Bank of Iran (CBI). Moreover, the Iranian banking system is fully Islamic, among the highest in the world at 100 percent. Comparator countries such as Saudi Arabia, Brunei and Kuwait are less than 50 percent.

**66. Iran has the second highest banking penetration rates in the MENA region** (Business Monitor International, 2015<sup>24</sup>). A total of 74 percent of adults have an account at a formal financial institution and 20 percent of them made savings using a formal account (Demirguc-Kunt and Klapper, 2012<sup>25</sup>). Only 3.1 percent of adults have credit cards, which is low for Iran's economic size and population. Debit cards are common, while electronic payment points and POS systems and ATM networks are extensive and debit card issue rose from 24 to 155 million cards held between 2006 and 2012 (Business Monitor International, 2015). Annex 1 provides an overview of Iran's financial infrastructure.

**67. Banks' market shares (or percentage of total system assets) have changed considerably in recent years owing largely to a series of partial privatizations launched by the Government.** In 2007, the banking system was composed of 13.5

23 Economist Intelligence Unit (2014) "Industry report, Iran Financial Services," September, London.

24 Business Monitor International (2015) "Iran Business Forecast Report: Q1 2015".

25 Asli Demirguc-Kunt and Leora Klapper (2012) "Measuring Financial Inclusion: The Global Findex Database" World Bank Policy Research Working Paper 6025, April, Washington DC.

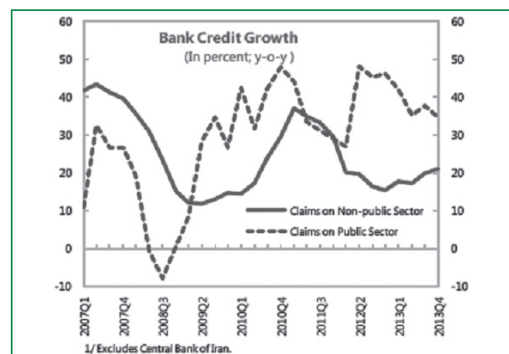


FIGURE 38. Iran: bank credit growth.

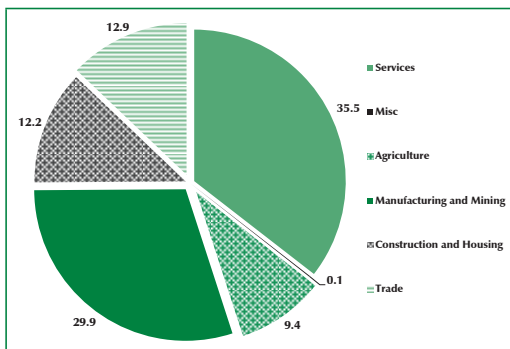
Source: "Islamic Republic of Iran" IMF Staff report for the 2014 Article IV consultation. March 13, 2014

percent private banks, 18.5 percent public specialized banks and 68 percent public commercial banks. Subsequently, the partial privatization of a number of public banks was launched, wherein a small portion (about 10-15 percent) of equity was placed on the Tehran Stock Exchange. By 2011, the market shares in all bank segments shifted dramatically. The private banks had about a 20.5 percent market share according (IMF, 2011<sup>26</sup>). The newly privatized (or former public) banks had about a 33.8 percent market share and public commercial banks and specialized banks had 21.8 percent and 23.9 percent share, respectively (for a total of 54.7 percent).

**68. Through the central bank's Monetary and Credit Committee<sup>27</sup> (MCC) the Government determines deposit rates, interest equivalent borrowing charges and intervenes through key banks' credit allocations for specific sectors.** The specialized banks depend on CBI refinancing to implement large, directed credit programs of the government. As an illustration of the scope of public funding, by end-2010 the CBI lent the specialized banks an amount equivalent to about half the deposits of the private banks (believed to mostly support

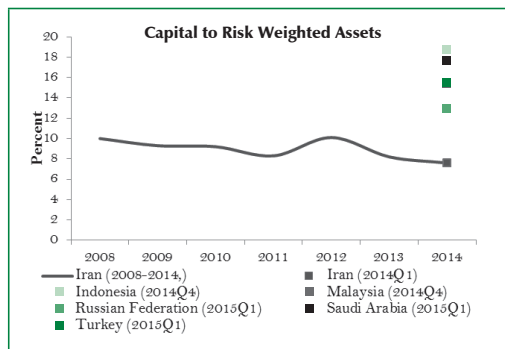
26 IMF (2011) "Islamic Republic of Iran: Selected Issues paper," Country report No. 11/242, Washington DC

27 The MCC, established under Article 18 of the 1972 Monetary and Banking law, is chaired by the CBI Governor and composed of, inter alia, a number of Government ministries, the Budget Bureau, Bankers' Association, the Prosecutor General. It is authorized to approve CBI regulations, provide credit allocation recommendations and some CBI decisions.



**FIGURE 39. Share of economic sectors in facilities extended by banking sector (2013/14, percentage out of 2,362 trillion Rials)**

Source: Data from CBI Annual Review. Year: 1392 (2013/14).



**FIGURE 40. Regulatory capital to risk-weighted assets (CAR) for Iran and comparator countries**

Source: FSI (IMF eLibrary Data on 8/5/2015) and CBI data.

housing finance). While such large schemes have substantially abated in recent years, past government directed lending and on-going interest rate equivalent ceilings lead to higher Non-Performing Loan (NPL) ratios, the misallocation of capital, undermining banks' profitability and capital. Credit growth under these conditions can weaken the soundness of banks even further.

**69. Between 2007 and 2014, banks shifted their credit portfolios toward government exposures** (Figure 38). Claims on public sector have grown more than claims on non-public sector during this period (IMF, 2014). However, negative real interest rate spreads on the back of high inflation and interest equivalent rate ceilings reduced banking profits even lower, as spreads reduced from 0.1 to -3.8 percent between 2010 and 2013 (Insignia Consulting, 2015<sup>28</sup>).

**70. Moreover, negative real deposit rates due to high inflation in 2013 caused depositors to shift assets to other areas such as property or gold.** Indeed, the gold and foreign currency held by public is estimated around US\$21.5 billion, five times more than the US\$3.9 billion gold reserves of central bank. However, promoting public trust to attract and utilize these resources in the banking system to increase lending ability may be challenging due to past

economic volatility (AI Monitor, 2015<sup>29</sup>). Of note, in 2013 two of the largest specialized government banks (Bank Maskan and Bank Keshavarzi, for housing and agriculture, respectively), each realized negative net interest income. Together with high NPL's, low spreads contributed to reduced cash flows, increased provisions / write-offs and reduced ability for lending.

**71. Against the backdrop of tightened sanctions, during 2010-11 the government intervened further in the banks' credit allocation to support job creation as access to foreign capital became more restricted.** The MCC recommended that banks allocate 80 percent of their increase in deposits to priority sectors—37 percent to manufacturing and mining, 25 percent to agriculture, 20 percent to construction and housing, 10 percent to trade, and 8 percent to export (Figure 39). The remaining 20 percent of the increase in deposits could be used freely, although there are sub-limits on credit for consumer durables or home improvement loans (IMF, 2011). The cumulative effect of these constraints is to severely limit banks' credit underwriting and risk management decision making and otherwise depress earnings and moreover, capital accumulation.

*Capital levels and key performance ratios have deteriorated markedly in recent years and the banking system appears vulnerable in the event of further shocks.*

28 Insignia Consulting (2015), "Banking Sector Reforms," June.

29 AI Monitor (2015) "Action needed to reform Iranian banks," January 13.

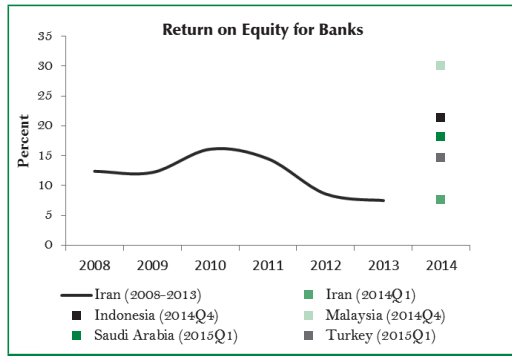


FIGURE 41. Return on equity for banks for Iran and comparator countries.

Source: Financial Soundness Indicators (FSI). Data Extracted from IMF eLibrary Data on 8/5/2015 and CBI data.

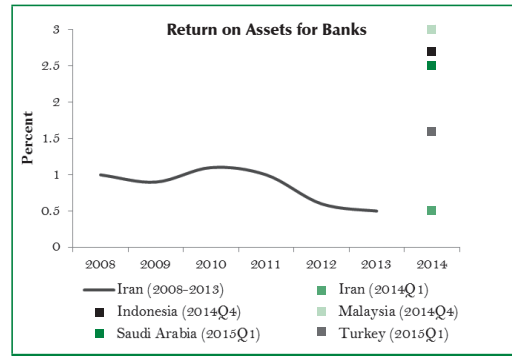


FIGURE 42. Return on assets for banks for Iran and comparator countries.

Source: FSI (IMF eLibrary Data on 8/5/2015) and CBI data.

**72. The banking system remains vulnerable to shocks, as it is currently operating with limited capital.** Iran's system-wide Regulatory Capital to Risk-Weighted Assets (CAR) dropped from a peak of 10.0 percent in 2008 to 7.6 percent in 2014 (Figure 40). This sharply declining trend suggests banks' loss absorptive capacity is weak. Regional cross country comparisons suggest Iran's banking sector is the most vulnerable to shocks, as the CAR is significantly below its peers (even prior to the onset of the latest sanctions).

**73. Banks' NPL ratios are comparatively high in Iran, and may be understated given the large public and quasi-public bank sectors, indicating the need for more efficient credit provision practices and better risk management.** Banks' aggregate reported NPL ratio was 12.0 percent in March, 2014 and is higher for private banks (16.5 percent) -- which hit a peak of 26.2 percent in 2009. Bank loans, which contracted more than deposits in 2013 are expected to continue to grow more slowly than deposits in coming years. In comparison, the ratio of NPL to gross loans is 1.2 percent for Saudi Arabia, 1.6 percent in Malaysia and 2.7 percent for Turkey.<sup>30</sup> This fact points out to the necessity of having more efficient credit provision practices and better risk management for the banking sector.

30 Data from Financial Soundness Indicators (FSI) and extracted from IMF eLibrary Data on 8/5/2015

**74. Moreover, Iranian bank provisioning practices for impaired assets are different from traditional (non-Sharia) banks, resulting in substantially lower provisions -- likely overstating reported capital levels.** Under Sharia banking principals, losses are generally 'shared' between the creditor and borrower at the time the borrower's obligation falls due. Given that Iran's banking system is 100 percent Sharia (among the highest in the world) limits direct comparisons with other Islamic countries' NPL provisioning levels, as most such countries have a smaller portion of Sharia banking practices in place.

**75. Banks' profitability has sharply declined relative to the pre-sanctions levels.** Profitability measured by banks' overall return on equity (ROE) plunged in the post sanctions era, reaching 7.5 percent in 2013 compared to 16.1 percent in 2010 (Figure 41). Similarly, return-on-assets (ROA), which was already low at 1.1 percent in 2010, dropped to 0.5 percent in 2013 (Figure 42), indicating the impact of the economic slowdown in 2011-2013, the accumulation of NPLs and weak management of bank assets. As illustrated in both the ROA and ROE figures, Iran's bank profitability measures are the by far the lowest when compared to peer countries.

**76. Importantly, liquidity in the Iranian banking system has sharply declined since 2008, signaling that banks have little room to maneuver in the event of need.** Overall, banks' liquid assets

as a percentage of total assets has fallen from an already low 13.6 percent in 2009 to 8.3 percent in 2014. Equally, the broader measure of bank liquidity -- liquid assets as a percentage of short-term liabilities -- mirrors this sharp decline in liquidity. Thus, banks are dependent upon wholesale or institutional funding, confirmed by the fact that the relatively high 2014 LDR of 118.4 percent is higher than any of Iran's comparator countries.

**77. Finally, giving rise to serious concerns as to banks' exposure and management of their assets, some banks have made large investment in mines, buildings, shopping malls, steel factories, etc.** This practice appears to be pervasive, as the CBI declared in mid-2014 that banks' investments in non-banking sector asset holdings are not to exceed 40 percent of their capital (Financial Times, 2014<sup>31</sup>). As well, the CBI requested banks submit a list of the companies they directly and indirectly owned by September 2014, and divest excessive holdings within three years<sup>32</sup>. Banks' use of deposit resources for these investments inevitably reduces financial access for other borrowers, can sharply impact bank liquidity and exacerbate financial difficulties if the investments do not generate expected cash flows.

## Recent Banking Sector Policy Developments and Key AML/CFT Outstanding Issues

*The new government recognizes the need to modernize its banking, capital markets and government debt infrastructure, including strengthening CBI's policy and operational independence, banks' financial disclosure standards*

31 Financial Times (2014) "Iranian banks pressed to retreat from asset speculation" by Najmeh Bozorgmehr, September 8.

32 Calculations from above note #12 indicate that the official resources estimate banks' total investments in their companies to be around 53 percent of their total capital.

*and practices, and anti-money laundering and terrorism financing law.*

**78. The CBI's regulatory reach was expanded after 2010 to strengthen its supervisory powers, especially towards public banks.** In particular, the CBI has been given authority to disqualify directors and senior officers of banks, and extend its fit and proper tests to public bank officers. However, CBI's means to strengthen its governance, influence inflation and directed lending or utilize its enforcement (or "cease-and-desist") powers are circumscribed. As an example, regulatory violations are referred to a Bank Disciplinary Committee, which is comprised of non-CBI members.

**79. More broadly, Iran has begun improving banking practices and standards of information disclosure and corporate governance through the listing of recently privatized banks.** Currently near half of the banking system (by number of banks) now disclose some financial information through the Securities and Exchange Organization on a quarterly basis, thereby improving transparency of the banking sector (IMF, 2011). Furthermore, the CBI issued a regulation in 2007 on the classification and provisioning of banking that made core financial soundness more comparable, helping to illustrate the extent of forbearance required for banks to work in the context of economic isolation (IMF, 2011).

**80. Crucially, the government has recognized the need to introduce additional financial sector reforms to modernize its banking, capital markets and government debt infrastructure.** To that end, President Rouhani issued a potentially far-reaching Executive Order in mid-2015 to establish a task force of MoF, CBI and other officials to focus on developing a time-bound reform plan in accord with the following three broad parameters: (i) Banking: better regulate SME financing; reduce NPLs; improve accounting standards for banks and borrowers alike; regulate illegal credit institutions; improve banks' capacity to finance working capital lending; (ii) Capital Markets: better direct long-term financing (or infrastructure) lending to the capital market or foreign sources; deepen firms' access to capital market financing (debt or equity);



and (iii) Government Debt Markets: assess and re-profile payment of government debt held by banks; develop new instruments and approach to public debt auction.

**81. Nevertheless, Iran’s international ranking on anti-money laundering and terrorism financing remain very negative, exacerbating risk perceptions abroad.** The Basel Institute published its 2015 Basel Anti-Money Laundering (AML) AML Index<sup>33</sup>, ranked Iran the worst of 152 countries surveyed according to their risk of money laundering and terrorist financing. The August 2015 edition of the Basel AML Index report is developed by the Basel Institute on Governance and is derived from 14 indicators based on publicly available sources such as the FATF, Transparency International, the World Bank and the World Economic Forum. The scores are aggregated as a composite index using a qualitative and expert-based assessment.

## IMPLICATIONS OF THE LIFTING OF SANCTIONS

*The lifting of sanctions will serve to substantially reconnect Iranian banks to (parts of) the international financial market infrastructure<sup>34</sup> thereby reducing time and cost of doing business and trade.*

**82. Sanctions and Government policies alike have affected banks’ lending, asset quality, liquidity and profitability, thus eroding their overall capital levels.** Numerous sanctions over time have created external shockwaves to the economy, reduced oil revenues, limited trade, investment opportunities and substantially disconnected Iran from international financial system. Domestic conditions such as volatility of inflation and output further deteriorated the operational environment of firms and banks. As

33 See: [https://index2015.baselgovernance.org/sites/default/files/aml-index/Basel\\_AML\\_Index\\_Report\\_2015.pdf](https://index2015.baselgovernance.org/sites/default/files/aml-index/Basel_AML_Index_Report_2015.pdf)

34 The US non-nuclear sanctions (e.g., related to terrorism) will remain in place and will not allow Iranian banks to use the US financial and banking infrastructure including via correspondent banks.

a result, corporate and financial sector vulnerab combined with external trade and cash restrictions in the corporate sector (especial SOEs) have reduced banks’ asset quality, profita and capitalization levels. Public banks, as previ indicated, are further exposed through nume directed lending schemes and weak SOE borrow Moreover, banks’ reported NPLs may be u estimated due to past supervisory forbearance weak loan classification and enforcement standa

**83. Prolonged economic isolation and dir targeted sanctions on financial and insur industries have led to both sectors oper. well below their potential compared to c countries.** For example, Iran’s financial ser exports were only US\$94 million (1.4 percent of service exports) and imports were US\$445 m (3.3 percent of total service imports) in 201 (CBI, 2014). Turkish financial services exports US\$531 million and imports were \$1,221 m during 2014, while insurance services exports US\$869 and imports were US\$1276 million<sup>35</sup> terms of FDI, Turkey attracted approximately U billion of FDI in financial and insurance service five years, 2010-2014<sup>36</sup>.

**84. Iran has an estimated US\$100-120 bi of frozen assets held abroad due to nume economic sanctions, of which about US\$30-60 be available.** In addition, the CBI has limitations its hard currency reserves, since substantial arr of Iranian international trade (with main par Russia and China) are made in kind (such as o goods) rather than cash. Additional sanction mea: adopted in early 2013 prevented Iran from taki hard currency back and prohibited transfer of t currencies to a third country for payments, h forcing Iran to buy products of countries that in oil from Iran. Transfer of precious metals to Iran is prohibited. In addition, many foreign credit card not function in Iran due to international sanctior the event the sanctions are lifted, there is tremen scope to begin to reform, re-capitalize and consol the government owned banking system.

35 Data from the UN Trade Database.

36 Data updated Apr 2015; 2013 and 2014 are predicti

**85. The CBI and many Iranian banks have been blocked from the international funds exchange network (SWIFT)<sup>37</sup>**, effectively precluding the ready transfer of funds in and out of country. Exclusion from SWIFT system has left affected Iranian banks more dependent on other domestic banks, driving up their costs and inhibiting their foreign business dealings. Even non-sanctioned Iranian banks have difficulties to find international counterparts, which are wary of being excluded from US financial system due to their transactions with Iran.

**86. In terms of access to international financial markets, Iran has the second lowest regional position, in line with Libya, Syria and Yemen – and only above Afghanistan.** Most Iranian banks' international operations and money transfers are routed through other financial institutions, thus are more time consuming and expensive with relatively few banks able to maintain European and Asian correspondent bank accounts (BMI, 2015). This situation further restricts international business opportunities of Iranian companies due to increased costs and time for international transactions. The prolonged isolation is likely to have resulted in the increase in hawala money transfers, which are completely unregulated, informal and honor based. Additionally, the increase in use of smaller scale, or unlicensed institutions to conduct financial transactions is likely to have occurred (though by definition such cannot be corroborated): non-licensed credit institutions reportedly constitute around 15 percent of Iranian banking activities (CBI, 2015)<sup>38</sup>.

**87. Looking forward, the removal of sanctions can expand access of Iran's financial sector, aid in the attraction of new credit lines, capital, technology and know-how.** The return of foreign credit lines, which are likely to initially be slowly put in place, will enable banks to help stimulate domestic lending demand, thereby creating new business and economic growth opportunities for Iran. Equally, the lifting of sanctions is likely to promote further

liberalization, reforms and recapitalization of the financial system. Moreover, new strategic investors<sup>39</sup> bring additional know-how and technology transfer to the financial sector, which will further strengthen its resiliency and ability to innovate. The removal of sanctions is expected to pave the way in the medium term to a wide range of financial sector reforms affecting financial institutions and consumers alike.

## KEY AREAS OF POTENTIAL FINANCIAL SECTOR REFORM

*The prospect of lifting sanctions provides an opportunity to engage into much needed structural reforms, the specifics of which should be informed by, inter alia, a comprehensive asset quality review of banks, and a benchmarking exercise of the financial sector regulatory and supervisory regime against applicable international standards.*

**88. Iran's banking system is in need of structural reforms to fulfill its role of boosting growth, job creation and prosperity.** The banking system is likely to need, inter alia, new capital, liquidity and knowledge transfer to support development of both a more resilient banking sector and a more robust, comprehensive prudential regime. With many variables at issue internally and externally, the envisaged structural reform process will oblige consistent coherence on behalf of the authorities and moreover, will take time to be realized.

**89. The below reform measures could be considered to strengthen the asset quality, financial stability and supporting regulatory, supervisory and institutional framework.** Some of the key weaknesses in the banking system can be addressed within the near term, inter alia, through modernizing the regulation, supervision

<sup>37</sup> SWIFT stands for the Society for Worldwide Interbank Financial Telecommunication.

<sup>38</sup> Central Bank of Iran (2015) "Banking Sanctions will be lifted once nuclear agreement is implemented," May 17.

<sup>39</sup> Strategic investors, as compared to financial investors, typically follow after foreign credit lines are successfully re-opened





and the bank resolution frameworks. In the longer term, financial sector linkages within the corporate, government and banking sectors can be addressed through restructuring, new capital and the transfer of knowledge.

### Possible short-term financial sector actions (about one year):

- **Undertake a comprehensive review of the central bank's legal, regulatory, supervisory, macro-prudential, resolution and supporting frameworks.** To strengthen the policy and operational independence of the CBI and align its legal mandate and supervisory and regulatory framework with international norms, a series of thorough assessments will be essential in the following areas: bank supervision, regulation, financial stability, crisis management (e.g., deposit insurance, bank resolution, lender of last resort facility) and anti-money laundering/counter-terrorism financing areas. Overall the independence of the CBI is constrained at a number of levels.
- **Launch a comprehensive triage exercise utilizing objective solvency and corporate governance assessments of each public and quasi-public bank.** Develop an accurate understanding of the asset quality, capital and governance issues at each bank is essential to determine prospective solutions and fiscal costs alike.
- **Thoroughly assess the bankruptcy or insolvency regime for both enterprises and persons to align with best practice standards, as deficiencies could have important implications for the resolution of banks and NPLs alike.**
- **Consideration could be given to the establishment of either a public asset management company and/or special creditors' court to expedite the resolution of banks' NPLs.** Bad loans and the dominance of highly leveraged state owned banks will continue

to be a key constraint to profitability, new lending and capital accumulation. Moreover, strategic investors will require banks' balance sheets to be scrutinized and NPLs addressed before providing much needed new equity capital. Fortunately, there is a wide body of knowledge available regarding such matters from Malaysia, Indonesia and Turkey.

**90. Drawing from the earlier asset quality review and corporate governance diagnostic assessments, Iran could form a standing high-level Financial Sector Commission composed of key stakeholders.** The proposed Commission could develop and begin to take further concrete, time-bound steps to align with international prudential and supervisory norms for banking, insurance, securities, corporate governance, insolvency, deposit insurance, anti-money laundering, payment systems, etc. Regulatory and electronic systems in banking sector and financial markets (specifically capital markets) need to be compatible with international systems for inter-operability to provide fast, accurate, secure cross-border transactions. Annex 3 provides an extensive summary of international financial sector benchmarks which will help the authorities determine the scope, sequence and quantum of reforms to be put in place.

**91. To stem the flow of new non-performing borrowers, an upgrade and expansion of the existing credit registry, in line with accepted consumer data protection and risk mitigation standards, would be desirable.** In this context, establishment of a mandatory prudential provision to oblige each licensed credit provider to provide data on its borrowers will enable better risk management and the eventual establishment of individual borrowers' credit scoring and corporate borrowers' credit ratings based on their financials, business model and management quality. These agencies can rate banks, listed companies and debt issuers, improving transparency and accountability in the corporate sector.

### Potential longer-term Action Plan (from one to three years):

- **Develop time-bound financial and/or operational restructuring plans for each public and quasi-public bank.** The merger of some banks may be necessary to most efficiently allocate financial and human capital. Equally, as discussed above, the overall stock of public enterprise NPLs may oblige the formation of a public asset management company (AMC) to resolve such obligations and ‘clean’ remaining public banks’ balance sheets.
- ***The bank solvency assessment is to be followed, inter alia, by selected bank re-capitalizations.*** This will be essential for Iranian banks to better compete domestically, invest in needed technology, risk management and staff capacity building -- and to successfully undertake business abroad.
- **To better ensure the viability of remaining banks and minimize fiscal outlays going forward, the scope of government involvement in the banking sector should be more narrowly defined.** This is especially the case regarding credit allocation targets, management and board appointments, deposit and interest equivalent rate ceilings. Continuing such involvement undermines effective credit risk management, corporate governance and internal control. It is necessary to improve bank profitability, capital and liquidity levels. Resulting productivity gains can enable public banks to better compete and introduce new Islamic banking instruments.
- **Banking and central bank laws should be modernized to strengthen the authority of the CBI to issue and enforce its regulations, monitor and act on threats to financial stability and to better control weak, failing or illegal banks.** The authorities should adopt a suitably robust macro-prudential framework to identify and mitigate potential risks to financial stability. Inconsistent regulation and supervision weakens the banking system. Equally, the CBI can oblige banks to prepare their financial statements in line with International Financial Reporting Standards (IFRS) Sharia standards and strengthen external audits by issuing regulations on audit standards and manage approval of external auditors by the CBI. Proper audits would contribute to improving the competitiveness and transparency of banks, enabling to raise more equity or debt through the Tehran Stock Exchange, or later, abroad.
- **Anti-money laundering and counter-terrorism financing (AML/CFT).** In light of the new CFT law recently passed in Parliament, the earlier proposed assessment would offer the authorities concrete findings and recommendations to mitigate such risks, align its AML/CFT regime to international norms and accordingly, improve perceptions aboard.
- **Reduction of cross shareholdings among banks and different parts of economy is essential.** This would affect those institutions with linkages to many financial and non-financial parts of economy. Linkages between banks and large borrowers through ownership or connected lending must be reduced, as these linkages can delay or block restructuring when they are either sector specific or beyond accepted large exposure limits (IMF, 2011). As well, these cross-shareholdings and equity investment can magnify shocks across different sectors, threatening the solvency of financial institutions.
- **Stronger financial reporting, accounting and regulatory disclosure standards should be adopted.** This should especially be the case for financial institutions and other TSE listed firms, and for adopting IFRS Sharia requirements to promote transparency, strengthen investors’ confidence and thus, stimulate new demand.
- **Financial consumer protection regime should be independently assessed against best practice standards.** Public confidence in the financial sector is enhanced when depositors and borrowers alike understand both their rights and banks’ obligations to disclose the true or all-in cost of credit. Mandating a consistent



financial consumer disclosure regime will enable customers to compare banks' offers, stimulating competition and enhancing transparency in deposit taking and lending activities.

- **Professional knowledge and skill development of key public financial sector staff should be organized.** Key areas for skills development could include, inter alia, corporate governance, credit risk management, IT security training, international accounting and auditing standards, international financial reporting standards and Basel related reforms. This could be undertaken through additional resources provided either the CBI and/or the Iranian Bankers' Association.
- **Iranian foreclosure, collateral execution and insolvency laws need improvement to reduce the stock of NPLs.** Collateral execution related weaknesses yield the lowest recovery rates within peer group of countries such as Turkey, Egypt, Saudi Arabia, BRIC countries (Insignia Consulting, 2015). Equally, the insolvency regime should be effective and bankruptcy should be a credible threat for persons, enterprise owners and management alike. This will require removal of political interference in the insolvency process and more efficient courts with adequate expertise in corporate restructuring (IMF, 2011).
- **Informal finance seems a widespread alternative for borrowers who do not access the formal banking system** (IMF, 2000)<sup>40</sup>. Iranian financial system has non-licensed credit institutions that offer higher deposit rates and account for around 10-15 percent of banking activities (CBI, 2015). The continued existence of such non-licensed lenders – some of which may accept deposits – warrants careful consideration to address given the potential social implications.
- **Capital and technology inflows in the non-bank sectors need improvement.** This can be achieved through:
  - a. *Having the majority of market capitalization made up by companies with no indirect*

40 IMF financial sector evaluation report on Iran, 2000.

*government ownership.* Privatization process created complex ownership patterns where many firms have shareholders, which are partly owned by government or its related agencies. Although a large number of private shareholders are also involved, the extent of their holdings compared to State or parastatal organizations needs to be known. Deepening of capital markets towards private companies is important for efficient allocation of financial resources towards that part of the economy.

- b. *Developing a stronger insurance sector.* The sector is only about 2 percent of GDP in Iran, offering tremendous scope for risk mitigation and growth. Iran will especially need help of international firms (capital and know-how, etc.) to revive insurance and re-insurance in, inter alia, the oil and shipping industries, which fits their goal of becoming a regional hub.
  - c. *Cross listing of some companies between TSE and other markets.* The regulatory and institutional alignment reduces cost of listing for the firms, and also serves to help attract capital.
- **Iran could review its foreign investment regime to best utilize new financial investments.** Currently, banking regulations allow foreigners to have 40 percent stake in local banks, however there are European and Arab investors, among others, interested in establishing new banks, open branches and buy stakes in private banks (CBI, 2015<sup>41</sup>). In exchanges and OTC markets, foreign non-strategic investors are subject to following limits (TSE, 2012<sup>42</sup>): The number of shares of these investors cannot exceed 20 percent of total share number of firms (listed on exchange or OTC markets) or 20 percent of shares number of any company (listed on exchange or OTC markets). The number of

41 Central Bank of Iran (2015) "Banking Sanctions will be lifted once nuclear agreement is implemented," May 17.

42 Tehran Stock Exchange (2012) "Iran's Capital Market. How to invest in Tehran Stock Exchange (TSE)," TSE guide.

shares owned by each investor in any listed company cannot exceed 10 percent of shares number of that company.

- **The limits on foreign financial investments need to be updated over time to incentivize long-term flows.** The authorities optimal pace of liberalization need to be decided and the financial markets need to be supported with strong regulatory and supervisory standards as well as investor protection to better ensure long term investment opportunities rather than short term flows, which can be destabilizing.

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## ANNEX 1.

# IRAN'S FINANCIAL INFRASTRUCTURE

**1. The CBI has begun to improve its monitoring of the banking system through implementation of new electronic systems, which help to secure financial system transactions.**

These arrangements include implementation of systems for retail fund transfers, establishment and operation of interbank financial telecommunication/transaction systems (SEPAM), electronic card payment and settlement system (SHAPARAK), and creation of infrastructure to centralize payment operations of governments.

**2. The financial infrastructure also includes small value wire transfer system (SAHAB), automated clearing house system (PAYA-for small funds transactions), RTGS system (SATNA-for large fund transfers) and interbank clearing house.**

Data indicates that transactions processed through SATNA and PAYA systems increased more than 100 percent in 2013/14 compared to the prior year and for SAHAB and SHETAB systems 95 percent and 47 percent respectively. The major reform steps taken in 2013/14 include:

- Expansion of interbank information transfer network (SHETAB) for trilateral fund transfers,
- Improvement of the government's financial operations by CBI's integrated comprehensive wire transfer system,
- The launch of script-less securities through the pilot system of securities depository,
- Design of the Mobile Payment System (SEPAS) and the Mobile Wallet (KIVA),
- Launch of a pilot system to control funds transfer using the Nationwide Standard Bank Account Number (SHEBA).

**3. The CBI also started testing of electronic system for check clearance (CHAKAVAK) to standardize checks among banks, harmonize process of check issuance, eliminate physical check clearance, and enable the full electronic transfer of checks.**

## ANNEX 2.

# CAPITAL MARKETS AND NON-BANK FINANCIAL SECTOR

**1. The over the counter (OTC) market-Iranian Fara Bourse- has different components:** The OTC markets involve various activities such as IPO's with block or retail offerings, underwriting of securities, and stock trade as well as transactions of other securities such as CD's, sukuk and mortgage backed securities (MBS).

**2. The Iranian Mercantile Exchange (IME) trades spot contracts of agricultural products, manufacturing and mining products, and oil and petrochemical products.** The IME provides spot, credit and forward transactions totaling 428 trillion Rials<sup>43</sup> (or about US \$12 billion equivalent). It is also planning to offer crude oil contracts and futures<sup>44</sup> and to launch new petrochemical contracts on the Iranian Oil Bourse on Kish Island to promote existing and planned contracts<sup>45</sup>. According to the IMF 2011 selected issues paper, Iran intends to use prices in IME as benchmark to adjust domestic prices for the subsidy reform.

**3. The mutual fund industry grew fast in recent years, as open ended funds rose from 21 to 120 between 2009 and 2014 and started to invest through the TSE in 2009.** By end-2014, there were 136 funds established, with total assets of just over US \$1 billion under management, with much more potential to grow and attract retail investors to the market (Thompson Reuters, 2014<sup>46</sup>). In terms of underlying assets, they can be stock, fixed income or hybrid funds. The mutual funds can have their liquidity guaranteed or non-guaranteed. In addition, their returns can

be guaranteed minimum return, non-guaranteed minimum return or expected return. Finally, they can engage in securities as well as gold or commodities markets.

**4. The mutual funds industry is highly concentrated** (EUI, 2014<sup>47</sup>). As of September 2014, the top 10 mutual funds accounted for 79 percent of total mutual funds industry. Among these, seven are fixed income funds, while the remainder are stock funds. The largest mutual fund is the Bank Kehavarzi (Agriculture) fixed income fund, which represents 44 percent of total mutual funds industry with about \$ 600 million of total assts.

**5. Mutual funds industry supports the stock markets:** As of 2011, there were 2 million active direct retail accounts in TSE, which represent half of the market turnover and 21 percent of market capitalization. The rest were held by closed end investment companies (25 percent), pension funds (17 percent), government affiliated investment companies (16 percent), banks (5 percent) and justice shares (16 percent), which are mostly passive investors (Agah Group, 2015<sup>48</sup>).

**6. Iran has a large pension system with heavy government involvement.** The Social Security Organization managing pensions of private sector employees, is the largest public fund. There is also Civil Service Retirement Organization (CSRO) for civil servants and the Armed Forces Social Welfare Investment Organization (SATA). In 2010, SATA took control of power stations and six petrochemical plants. Moreover, there are pension funds of two largest automotive manufacturers in Iran, which became the main buyers of the shares

43 Ibid.

44 "Islamic Republic of Iran: Selected Issues Paper", August 2011, IMF

45 "Petrochemical Contracts to Be Offered in Iran's Oil Bourse" July 26, 2015. <http://www.defenddemocracy.org/>

46 Thompson Reuters (2014) "Persian Profits" Zawya, Nov 24.

47 Economist Intelligence Unit (2014) « Industry report, Iran Financial Services,» September, London.

48 Agah Group (2015) Iran's Capital Market Review.



in companies, through which the Government reduced its stakes in September 2010.

**7. The pension funds are heavily involved with governmental sector, as pensions include the parastatal sector and share ownership in many privatized companies.** About a decade ago, mandatory pension schemes of Iran covered more than 40 percent of labor force; given public sector size, the coverage could be higher (Robalino et al., 2005<sup>49</sup>). There were also occupational plans as substitutes to the main scheme: Iran had at least 20 occupational pension plans, all defined-benefit arrangements (Robalino et al., 2005). Management of pension funds had mandates unrelated to their core functions such as to finance economic and social development projects.

**8. The recent Iranian privatizations enabled parastatal pension funds to acquire equity ownership in privatized SOE's in lieu of cash payments due.** Additionally, the Social Security Organization's (SSO) investment company, SHASTA, is one of the largest investment fund companies. The SSO has holdings in 150 firms with a combined market value of \$15 billion in 2012, and has since increased its purchases of government bonds and shares of SOE's to relieve government's fiscal pressures (Harris, 2013<sup>50</sup>).

**9. The insurance sector is under-developed in Iran:** Total premiums are only 2 percent of GDP as of 2014, however this is similar to Saudi Arabia (0.85 percent) and UAE (2 percent), with 90 percent of premiums coming from the non-life market (EUI, 2014<sup>51</sup>). There were 30 insurance companies operating by March 2014, the largest being state owned Iran insurance, which accounted for 41 percent of total premiums in Iranian insurance sector as of March 2012 (EUI, 2014). Foreign

companies can set themselves up in six free trade zones of Iran but there are also discussions to allow foreign insurers to operate in mainland.

49 Robalino David with Edward Whitehouse, Anca Mataoanu, Alberto Musalem, Elisabeth Sherwood, and Oleksiy Sluchynsky (2005) "Pensions in the Middle East and North Africa: Time for Change," Orientations in Development Series, World Bank.

50 Harris, Kevin (2013) "The rise of the Subcontractor State. Politics of Pseudo Privatization in Islamic republic of Iran," International Journal of Middle East Studies, Vol. 45.

51 Economist Intelligence Unit (2014) "Iran: League tables, Financial Services" May 28, London.

## ANNEX 3.

# GUIDE TO INTERNATIONAL FINANCIAL SECTOR RELATED STANDARDS

Featured below are key international financial sector related standards to guide the authorities in determining the scope, sequence and quantum of financial sector reforms to be undertaken in the coming years:

*Central Bank governance:* <http://www.bis.org/search?q=central+bank+governance>

*Bank Supervision and Regulation:* <http://www.bis.org/publ/bcbs230.htm>

*Core Principle for Islamic Bank Regulation:* [http://www.ifsb.org/standard/IFSB17-20Core%20Principles%20for%20Islamic%20Finance%20Regulation%28Banking20Segment29-April202015\\_final.pdf](http://www.ifsb.org/standard/IFSB17-20Core%20Principles%20for%20Islamic%20Finance%20Regulation%28Banking20Segment29-April202015_final.pdf)

*Macro-prudential stress testing:* <http://www.imf.org/external/np/pp/eng/2012/082212.pdf> ; <https://www.imf.org/external/pubs/ft/wp/2013/wp1368.pdf>

*Transparency and Beneficial Ownership:* <http://www.fatf-gafi.org/media/fatf/documents/reports/Guidance-transparency-beneficial-ownership.pdf>

*Capital Markets Supervision and Regulation:* <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD154.pdf>

*Deposit Insurance:* <http://www.iadi.org/docs/Revised2014nov.pdf>

*Insolvency and Creditor Rights:* <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTLAWJUSTICE/EXTGILD/0,,menuPK:64874173~pagePK:4789692~piPK:4789698~theSitePK:5807555,00.html>

*Corporate Governance:* <http://www.oecd.org/corporate/ca/>

*Corporate Governance Principles:* <http://www.oecd.org/dataoecd/31/57/7724.pdf>

*AML / CFT:* [http://www.fatf-gafi.org/media/fatf/documents/recommendations/pdfs/FATF\\_Recommendations.pdf](http://www.fatf-gafi.org/media/fatf/documents/recommendations/pdfs/FATF_Recommendations.pdf)

*Payment, clearing and settlement systems:* <http://www.bis.org/press/p100202.htm>

*Credit reporting and registries:* [http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/Credit\\_Reporting\\_text.pdf](http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/Credit_Reporting_text.pdf)  
<http://www.ifc.org/wps/wcm/connect/0f572a804dde8d028f9daf7a9dd66321/Credit+Reporting+lowres+NEW.pdf?MOD=AJPERES>





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