

Iraq: Selected Issues

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IRAQ

SELECTED ISSUES

April 26, 2013

Approved By
**Middle East and
Central Asia
Department**

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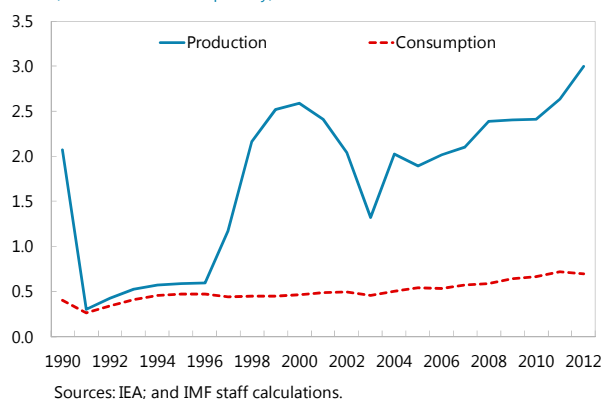
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OIL SECTOR DEVELOPMENTS¹

A. Introduction

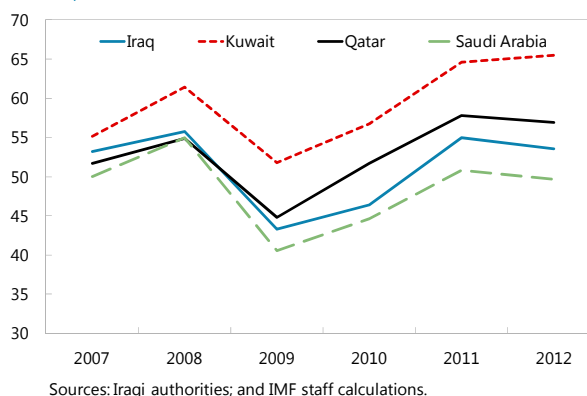
1. Over the last decade, Iraq has become one of the world's leading oil producers. At approximately 143 billion barrels, Iraq's proven oil reserves rank fifth largest in the world, after Saudi Arabia, Venezuela, Canada, and Iran.² Since the collapse in production in 2003, when it fell to 1.3 million barrels per day (mbpd), production has risen steadily, reaching 2.95 mbpd in 2012. Last year, Iraq contributed over 3 percent to the global supply of 90 mbpd. Iraq is currently the second-largest OPEC oil producer and the third-largest oil exporter in the world, and oil GDP is at levels comparable to other energy-exporting countries in the region. Oil revenues have been boosted since 2011 by oil prices above \$100 per barrel, driven by continued geopolitical uncertainty and low spare supply capacity.

Total Oil Production and Consumption, 1990 — 2012
(In millions of barrels per day)



2. In the medium term, Iraq's expansion of oil production is expected to continue, making the country a key contributor to global market supply. Production and export trends are however vulnerable to significant risks, principally failure to expand export infrastructure and a worsening in the political and security situation. Moreover, the envisaged ramp-up in production could weigh on global supply capacity and depress prices, particularly in case of lower-than-expected global demand. This paper describes the structure of the Iraqi oil industry, recent developments and medium-term prospects.

Oil GDP as a Share of Total GDP
(In percent of GDP)



¹ Prepared by Koralai Kirabaeva.

² Iraq has also large reserves of natural gas, which is however mostly flared.

B. Oil Production

3. Iraqi oil production is highly concentrated in a small number of large oil fields. Oil production is broadly concentrated in the south (which contains about 60 percent of the reserves) and the north of the country (with 17 percent of reserves), and is dominated by a few very large oil fields. Of total production of 2.95 mbpd in 2012, about 2.1 mbpd were produced in the southern fields and 0.76 mbpd in the northern fields. The super-giant southern field Rumaila produced 1.3 mbpd, output of other southern fields reached 0.8 mbpd, including 0.45 mbpd from West Qurna 1 and 0.26 mbpd from Zubair. Kirkuk and other northern fields produced on average about 0.6 mbpd. Market sources estimate oil production in the Kurdistan Regional Government (KRG) at about 0.23-25 mbpd in 2012, which includes average export contributions to the central government of 0.061 mbpd as well as oil produced for KRG internal consumption and direct exports to Turkey. At an average of \$3.3 per barrel as estimated by the Ministry of Oil, crude production costs are low since all fields are onshore, in locations with favorable geology.

4. Most of the producing fields with the exception of Kirkuk are operated by international oil companies (IOCs). The Ministry of Oil and its regional branches control all oil production, but the fields are operated by IOCs under “technical service” contracts (as opposed to production-sharing contracts). These contracts specify the initial production target as well as the maximum remuneration fee per barrel, and envisage reimbursement to the IOCs for operating and investment expenses, plus remuneration fees of about \$1–2 per barrel. The contracts provide IOCs with an option to be paid for services in-kind (in oil) or in-cash. Initially contracted aggregate target production was set at an ambitious 12 mbpd by 2017. However, currently the contracts are being re-negotiated on a bilateral basis, to reflect more realistic production paths, with aggregate production likely to be lowered to about 8-9 mbpd.

5. In addition, the KRG has awarded disputed production-sharing contracts to IOCs. The validity of these contracts has been contested by the central government, on the grounds that only Baghdad is legally entitled to enter in contractual agreements with foreign oil companies. Exports from these contracts are however counted in total Iraqi exports. The KRG suspended the exports arising from related operations twice in 2012, following the prolonged disputes with the federal government over cost recovery payments to KRG producers and export revenue sharing. The hydrocarbon law, which was supposed to clarify uncertainties about jurisdiction of oil and gas exploration and development projects, has been under discussion since 2006 but progress has been scarce, in part because of the differences between the KRG and the central government.

Iraq-Oil Fields



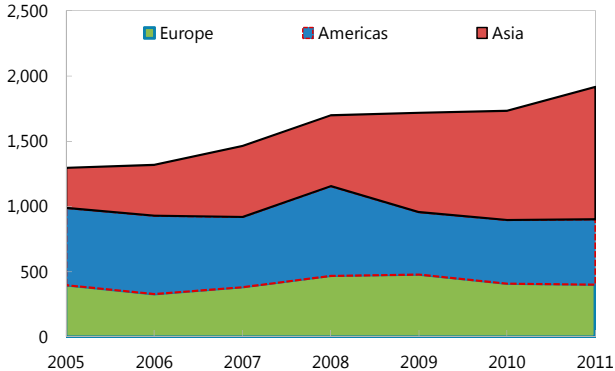
Source: http://esplift.com/iraq_oil-map.jpg

C. Oil Exports

6. Asia is the primary destination for Iraqi exports, both in absolute level and as a share of total exports. The share of export to Asia increased from 24 percent in 2005 to 53 percent in 2011, even though 2012 shows stabilization in market destinations. The shift in oil exports towards the east aims at capturing shares in a dynamic market, as demand from

Oil Exports by Destination

(In thousands of barrels per day)



Sources: Iraqi authorities; and IMF staff calculations.

Asia has been increasing in the past few years against declining demand from Europe and relatively stable demand from North and South America. Furthermore, exports to Asia are more profitable since Iraqi oil enjoys a premium there.

Export Infrastructure

7. Constraints to oil export volumes arise from export bottlenecks and technical production issues. Production is held back by technical challenges such as the need for water injection in the southern oil fields and limited supply of electricity, of which the oil industry is one of the main consumers. Export (and domestic transport) infrastructure has suffered during many years of decay due to sanctions and wars. Most of oil exports in the south are channeled through the offshore terminals at Fao peninsula, near Basrah. In the north, oil exports go through pipeline to the Turkish port of Ceyhan.

8. The Iraqi government is focusing on building up export infrastructure in the south, north, and west:

- **The most immediate gains will be made by expanding the southern tanker terminal.** Southern routes export most of Iraqi oil. The new offshore export terminal is not operating at full potential because of pumping capacity constraint at Zubair and a lack of storage at Fao. Moreover, vulnerability of Fao's Single Point Moorings (SPMs) to bad weather often holds back exports, especially in the winter months. The government has undertaken the refurbishment of the Fao terminal, and expects new SPMs and storage tanks to be completed by 2016, increasing export capacity to 5 mbpd.
- **In the north, the main export infrastructure development focuses on rehabilitating the existing northern Kirkuk-Ceyhan pipelines.** So far only one of the twin pipelines (with nameplate capacity 1.6 mbpd) is operational with average flows of 0.3 mbpd in 2012. The KRG is considering a separate pipeline to Turkey for the exports of the oil from its own fields.
- **In the west, instability in Syria has put on hold plans to build a new 2.25 mbpd pipeline to Syria.** The pipeline, which was supposed to replace an old infrastructure, will now be split at Haditha, with 1 mbpd going to Jordan (and possibly Northern Africa) and the remaining 1.25 mbpd still envisaged to be exported to Syria. This set-up will also allow exporting oil via Aqaba and supply the Zarqa refinery with up to 0.15 mbpd.

Oil Prices

9. After the 2008-09 crisis, oil prices remained above \$100 per barrel for most of 2011 and 2012. On the supply side, geopolitical uncertainty has been an important factor in keeping prices high, in addition to declining global inventories and low spare capacity.

10. Recently, Iraqi oil prices have performed better than the APSP benchmark. The discount on Iraqi oil price was \$3–4 per barrel in 2009 and 2010. However, in 2011 this spread turned positive, with a premium relative to APSP of \$1.2 per barrel in 2011, and \$1.4 in 2012 on

average. This positive development is related to the export shift towards Asian markets, which offer a premium compared to Europe and the United States owing to more limited competition and strong market growth.

11. The Iraqi crude is priced as an average of a benchmark oil price for 15 or 30 days from the bill of lading.

The length of the pricing formula depends on the destination, with 15 days for exports to Europe, and 30 days to Asia and the U.S. Iraq uses different benchmarks depending on the export destination, namely Brent for its exports to Europe, a combination of Oman and Dubai for its exports to Asia, and the Argus Sour Crude Index (ASCI) for exports destined to the United States.

D. Supply to Domestic Refineries and Fuel Products

12. Domestic refinery capacity is very limited. Oil supply to domestic refineries was 0.59 mbpd in 2012 and 0.55 mbpd in 2011.

According to the U.S. Energy Information Agency, the current nameplate capacity of refineries is around 0.95 mbpd, of which only 70 percent is operational.

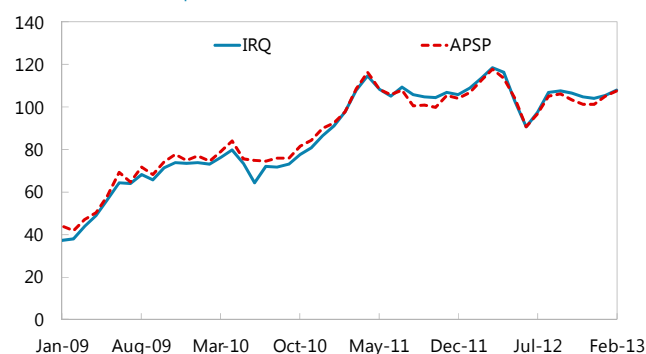
13. Domestic production of other refined products such as gasoline, diesel, kerosene, and LPG is not sufficient to cover demand in Iraq.

About half of the refined products in Iraq are heavy fuel oil which has a limited use. As a result, Iraq imports about 20 percent of consumed refined products, including over 30 percent of gasoline consumption, from neighboring countries.

14. Domestic production and consumption of oil derivatives benefit from generous subsidies.

The fuel subsidies for 2011 are estimated at \$9.8 billion, or 5.4 percent of GDP, up from \$5.2 billion (3.9 percent of GDP) in 2010.³ Crude oil is supplied to refineries at \$1–2.5 per barrel, depending on the region. Then refineries output is sold to distribution companies at production cost plus 10 percent margin. The distribution companies sell refined products, both imported and

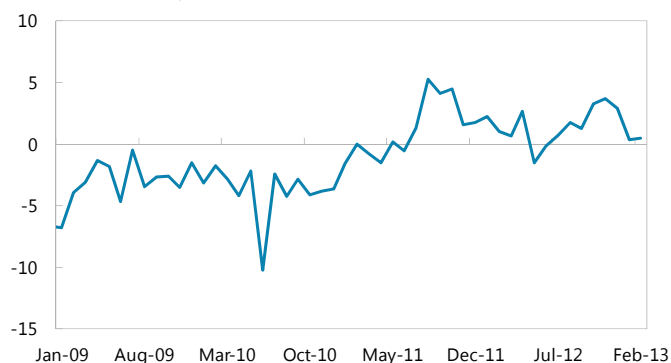
Iraqi Oil Prices vs. Average Petroleum Spot Prices^{1/}
(In U.S. dollars per barrel)



Sources: Iraqi authorities; and IMF staff calculations.

^{1/} APSP is the simple average of three spot prices: Dated Brent, West Texas Intermediate, and the Dubai Fateh.

Spread between APSP and Iraqi Oil Prices^{1/}
(In U.S. dollars per barrel)



Sources: Iraqi authorities; and IMF staff calculations.

^{1/} Positive values indicate a higher Iraqi than APSP oil price.

³ These estimates exclude subsidies for fuel oil.

domestically produced, to consumers at prices above cost-recovery, but below international market levels, which have remained constant since 2008.

E. Medium-Term Projections for Oil Production and Exports

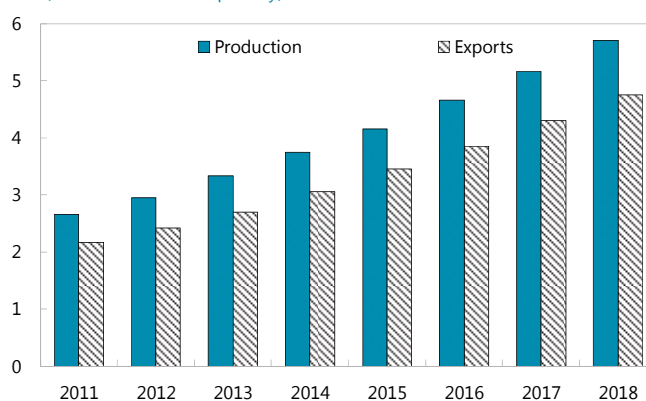
15. Production and export trends are positive. The Iraqi Ministry of Oil expects Iraq to produce 3.65 mbpd and export 2.9 mbpd in 2013, by 2018 and plans to increase production to 7 mbpd and exports to 6 mbpd by 2018. Especially in light of challenges in infrastructure development, staff forecasts more conservative level oil production and export, which would reach 5.7 mbpd and 4.75 mbpd respectively.

16. However, the ramp-up in exports is subject to large risks. The increase in production and exports will mainly come from the southern fields. The envisaged production growth can be constrained by delays in onshore infrastructure development, and, in particular, by failure to expand pipeline, storage, and pumping capacity. Furthermore, oil companies continue to report that bureaucratic, logistical and operational constraints are posing significant challenges and delays to project work. In the north, oil exports from Kurdistan are contingent on resolution of the ongoing disputes with federal government over revenue sharing. Furthermore, projections are vulnerable to a deterioration in the political and security situation, which could especially affect export routes, as production is concentrated in relatively protected enclaves.

F. Role of Iraq in Global Oil Markets

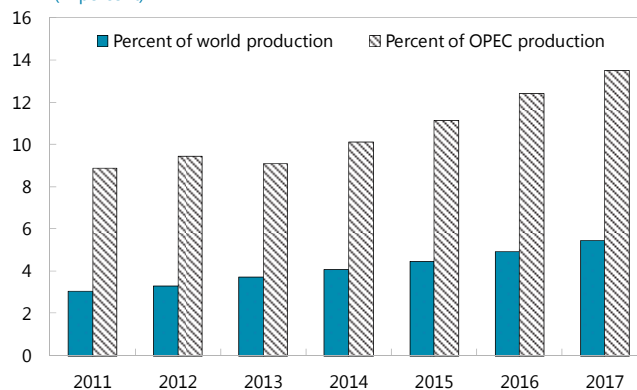
17. In the medium-term, Iraq's expansion of oil production will make it a key contributor to the global market

Oil Production and Exports
(In millions of barrels per day)



Source: IMF staff estimates and projections.

Iraqi Oil Production in Context
(In percent)



Sources: IEA; and IMF staff calculations.

supply needed to meet the growth in energy consumption. The International Energy Agency projects medium-term global demand to increase to about 95 mbpd by 2017.⁴ However, the agency expects global production capacity to increase to approximately 102 mbpd in 2017, with OPEC producing about 37 mbpd. Iraq's contribution to the increase in production capacity is 20 percent. Other sources of the increase in supply capacity include North American oil sands, light tight oil production, and NGLs. The discrepancy between supply and demand could lead to further downward pressure on prices, and, given Iraq's role in increasing global supply, could lead to friction within OPEC. Iraq's OPEC quota is currently suspended, but pressures to start negotiating quota are likely to intensify in line with increasing production.

⁴ See International Energy Agency (2012).

References

International Energy Agency, 2012, "Medium-Term Oil Market Report 2012: Market Trends and Projections to 2017"

FISCAL POLICY TOOLS FOR IRAQ¹

A. Introduction

1. Iraq faces large fiscal policy challenges following more than 30 years of sanctions and conflict, which have resulted in very large infrastructure and social needs. Iraq needs to transform resource wealth into assets that support sustained reconstruction and development, while adopting mechanisms to avoid the boom-bust cycles that stem from volatility in natural resource revenues. This paper applies tools to assess long-term fiscal sustainability,² and proposes a fiscal policy framework to improve macroeconomic management of the economy, including a procedural fiscal rule to help delink the budget process from fluctuations in international oil prices.

2. Iraq's government plays the central role in channeling oil revenues into the domestic economy. The government receives one-hundred percent of Iraq's oil export revenues, and in turn decides how much to save abroad or channel into the domestic economy via government spending. Thus, the chosen expenditure path has a substantial impact on macroeconomic developments in the non-oil economy, macroeconomic stability, and intergenerational equity.

B. Characteristics of a Fiscal Framework

3. A medium-term fiscal plan for Iraq should ensure solvency. This entails assessing whether the medium-term spending path is consistent with long-term fiscal sustainability, and it is tied to exhaustibility of oil reserves based on Iraq's oil wealth and its exploitation.

4. Iraq's ambitious spending plans need to be also balanced against implementation capacity and financing constraints. The authorities aim at boosting non-oil investment as much as possible. For instance, in 2013, the budget authorizes capital spending allocations of 40 percent of non-oil GDP. However, based on past experience, such investment levels may not be possible because of low capacity and economic absorption constraints.

5. A medium-term fiscal framework should address Iraq's vulnerability to fluctuations in international oil prices. With oil export revenues accounting for more than 90 percent of total government revenues, and fiscal buffers at only about six months of salaries and pensions in 2012, Iraq is highly vulnerable to oil price volatility. Revenue vulnerability is exacerbated by the high degree of concentration of both production and export infrastructure, 70 percent of which

¹ By Francisco Parodi.

² See IMF (2012a).

is concentrated in the Basra province alone. Moreover, Iraq's budget structure is skewed towards non-discretionary current expenditure, which would make it difficult to adjust to sustained revenue shocks through expenditure adjustment. This vulnerability has increased over the past few years as the gap between the break-even and budget oil price narrowed considerably, resulting in one of the highest fiscal break-even oil prices in the region at \$102 per barrel in 2012.

6. Thus, the dependence of government revenues on a single source of revenue requires high levels of fiscal buffers. For Iraq, useful measures for the level of fiscal buffers are (a) coverage of current spending (e.g., salaries and pensions), which reflects how much of the short term government obligations can be financed in case of a complete shortfall of oil revenues; and (b) coverage in terms of lower oil prices or oil export volumes than projected under the baseline scenario in any given year, which indicates the share of government spending that can be financed by the buffers in case of shocks to oil markets resulting in a fall in oil revenues.

Fiscal Buffers Stress Testing

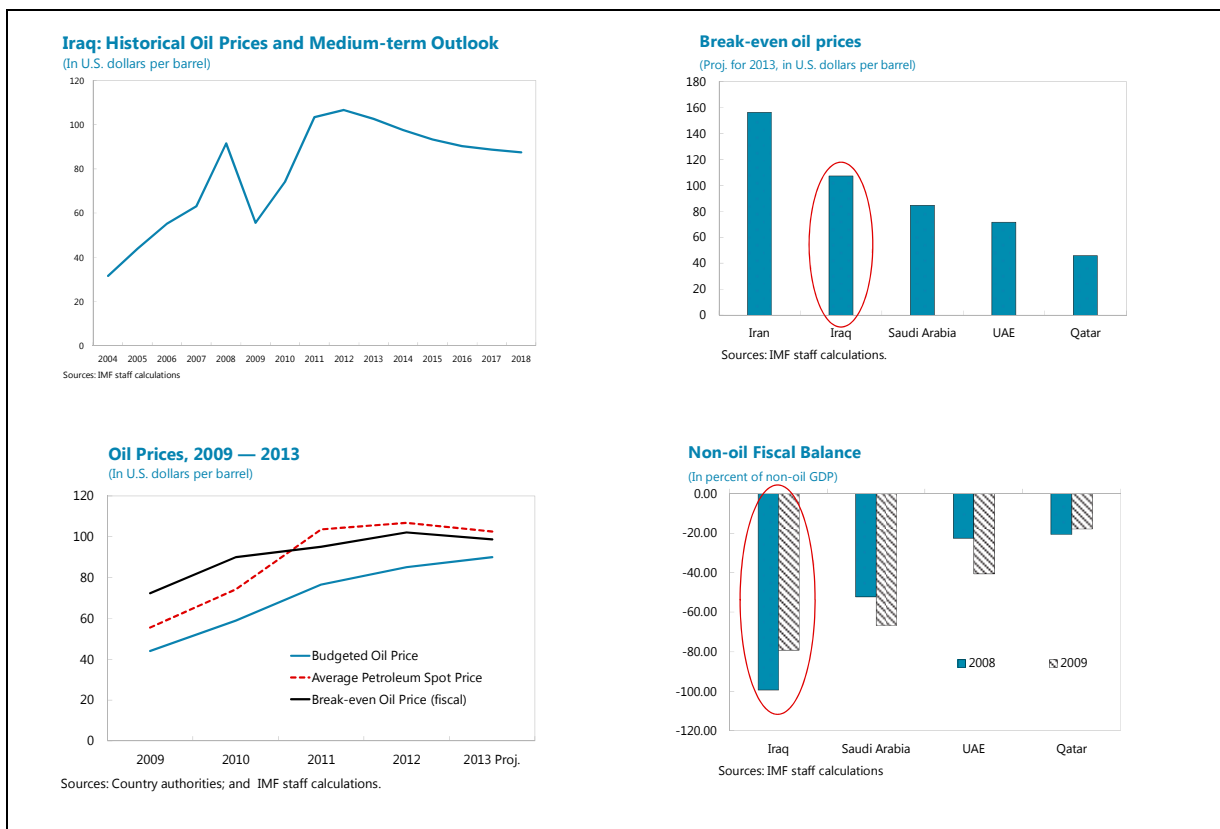
Year	Baseline						Memo: Stress Scenarios	
	Oil exports (mbpd)	Oil price (US\$ per barrel)	End-year DFI balance				2008-09 oil shock (40% drop in oil prices)	GRAM EM scenario (15% drop in oil prices)
			US\$ billion	In months of salaries and pensions	Equivalent to difference in oil prices compared to baseline of US\$:	Equivalent to difference in export volume compared to baseline of mbpd:	Equivalent to difference in oil prices compared to baseline of US\$:	Equivalent to difference in oil prices compared to baseline of US\$:
2013	2.7	102.6	18.1	5.9	-19.2	-0.5	41.0	15.4
2018	4.75	87.5	62.5	12.3	-36.4	-1.98	35.0	13.1

Sources: Country authorities and IMF staff calculations.

7. Currently, fiscal buffers are not yet sufficient to withstand large oil revenue shocks. At \$18 billion, or 6 months of salaries and pensions at end-2012, Iraq's current fiscal buffers held in the Development Fund for Iraq (DFI) would be sufficient to absorb a relatively small short term revenue shocks (as laid out in the downside scenario of the 2013 Article IV Staff Report) and help avoid a socially destabilizing disruption to public finances. Buffers are not sufficient, however, to absorb a shock of the magnitude of the 2008 oil price shocks, or a collapse in production or exports that would severely limit Iraq's earnings in foreign currency.

8. Fiscal policy should be formulated to delink expenditures from volatility of oil revenues. As the government channels oil revenues generated abroad through government spending in the domestic economy, domestic demand is affected. The Non-oil Primary Balance (NOPB) is a good measure to assess this impact, since focusing on the overall balance or

expenditure levels as a percent of total GDP would be misleading.⁵ For instance, following a 40 percent decline in oil prices in 2009, the overall fiscal deficit increased to 13 percent of GDP compared to 1 percent in 2008. Likewise, total expenditures increased by 2 percent of GDP. However, the non-oil primary deficit declined by almost 20 percent of non-oil GDP, mostly because of a 19 percent of non-oil GDP decline in capital spending, showing the true contractionary fiscal stance adopted by the authorities.



C. Application of Permanent Income Hypothesis (PIH) and Modified Permanent Income Hypothesis (MPIH) Models to Assess Long-Term Fiscal Sustainability

9. Various policy analysis tools can help enhance IMF policy advice for Iraq.³ While the estimates of these models are subject to large parametric uncertainty and data weaknesses, they provide a useful framework to look at the impact of fiscal policies on sustainability of government non-oil spending trends.

⁵ For a discussion and applications of the NOPB, see Barnett and Ossowski (2002) and Villafuerte and Lopez-Murphy (2010).

³ See IMF (2012b).

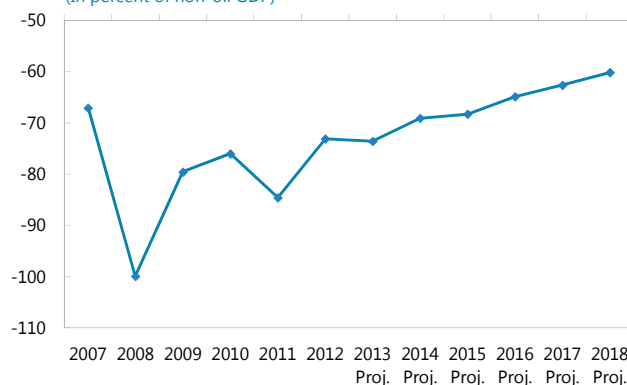
PIH Model Application

10. The PIH model can help assess long-term fiscal sustainability. Staff used assumptions that are consistent with the baseline scenario laid out in the 2013 Article IV staff report. The scenario is predicated on the implementation of prudent fiscal policies. Key assumptions include:

- Oil production will rise gradually by about 400–500 thousand barrels per year, reaching 5.7 mbpd by 2018. The non-oil sector will grow by about 6 percent and reach 51 percent of GDP in 2018. Overall, growth will remain above 8 percent over the medium term.
- Strong oil export revenues will lead to higher nontradable prices and cause an appreciation of the real exchange rate. Domestic inflation at 5.5 percent will be higher than inflation in trading partners.
- The pace of financial sector reforms will continue to be slow, and real interest rates will remain constant at about 7 percent over the medium-term.
- Oil exports will support strong current account surpluses over the medium term and boost CBI reserves to \$104 billion by end-2018 (eight months of imports).
- The authorities will target fiscal surpluses and target a gradual improvement in the NOPB over the medium term by rationalizing spending.
- This fiscal path will allow doubling the size of fiscal buffers held at the DFI to 12 months of wages and salaries by end-2018. These buffers would allow Iraq to withstand a negative shock of \$36 per barrel in oil prices, the magnitude of the 2008–9 crisis, or a decline in exports by 2 million barrels per day (mbpd), i.e., back to 2012 levels.
- For the long-term oil export projections, staff assumes an oil-export horizon of 35 years and that oil exports rise steadily from 2011 until the plateau in 2041 at 9.0 mbpd, where they remain constant until the end of the period.
- Oil prices follow the World Economic Outlook baseline through 2018, and long-term prices are based on International Energy Agency’s projections adjusted for U.S. dollar inflation.

Non-Oil Primary Fiscal Balance

(In percent of non-oil GDP)



Sources: Country authorities; and IMF staff calculations.

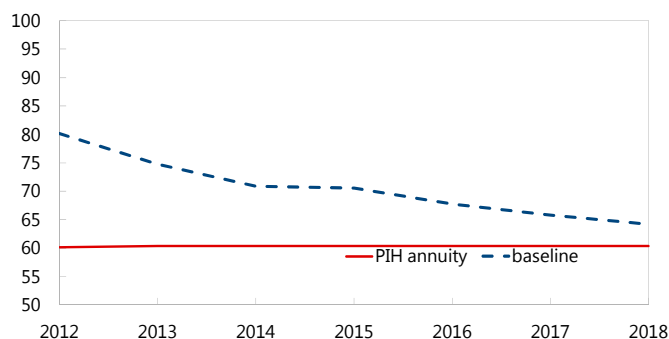
11. The computation of PIH-consistent expenditure levels includes three steps:

- 1) Computing the present value of the financial wealth (in Iraq’s case held at the DFI) and of future oil export revenues.
- 2) Computing a constant annuity in terms of non-oil GDP, which is equal to the real rate of return of financial and oil wealth, and the full depletion of financial and oil wealth by the end of 35 years.
- 3) Setting the NOPB level equal to the constant annuity value.

12. The results suggest that Iraq’s medium-term fiscal policies as outlined in the baseline scenario are broadly consistent with long-term fiscal sustainability. The PIH

benchmarks yields constant primary expenditures of about 60 percent of non-oil GDP over the long term, compared to estimated non-oil revenues of 9.5 percent of non-oil GDP, yielding a non-oil primary fiscal deficit of about 50.5 percent of GDP. Iraq’s medium term projected medium-term expenditures are broadly in line with these results. Projected non-oil primary expenditures are significantly higher than the benchmark PIH expenditure levels in 2013–2016, but converge towards the benchmark level by 2017–2018.

PIH model vs. baseline scenario -- primary expenditures
(Percent non-resource GDP)



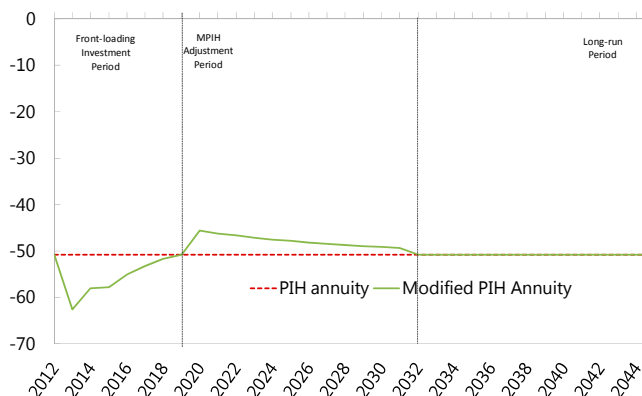
Sources: IMF staff calculations.

MPIH Model Application

13. Application of the Modified Permanent Income Hypothesis (MPIH) model can help quantify the potential risks of ‘scaling up’ expenditures. While a ‘scaling up’ of social and

infrastructure spending may have growth-enhancing effects, its impact is highly uncertain because of low implementation capacity and a volatile domestic and regional context. The MPIH model, which allows for ‘scaling up’ of spending over the medium term that is followed up by a ‘scaling down’ of spending to preserve long-term wealth, computes the necessary fiscal adjustment if the “scaled-up” spending does not result in higher growth. The

Non-resource primary balance
(Percent non-resource GDP)



Sources: IMF staff calculations.

need to save in later years could be lessened by a positive growth and tax revenue impact of the additional investment spending upfront, which are conservatively assumed at zero in the model.

14. The MPIH model is useful to look at the long-term impact of front-loading investment. The model allows for front-loading investment in 2013–2018 by an average of 5.5 percent of non-oil GDP, which is the difference in annual spending between the baseline medium-term scenario and the spending levels derived from the PIH simulation, to quantify the ‘scaling up’ scenario. Thus, the MPIH scenario allows for an increase in annual spending equivalent to about 5.6 percent of non-oil GDP on average for 6 years (front loading investment period in accompanying chart). The period of front-loaded spending then needs to be compensated by an annual improvement in the NOPB of 3 percent of non-oil GDP on average smoothed from 2020 until 2031 (MPIH adjustment period in accompanying chart). The model sets the future value in 2032 of the front-loading and adjustment periods equal to preserve long-term wealth. Spending levels return to PIH-consistent levels from 2032 until 2045.

D. Fiscal Rules

15. Fiscal rules could help delink budget formulation from volatility in international oil markets. A procedural rule, outlining steps to be followed during the budget preparation process, would be relatively simple to implement. In addition, since 2004 the authorities set conservative oil price and export volume assumptions in the context of IMF-supported programs.

Procedural Fiscal Rule

16. The authorities could adopt the budgeting procedures based on financial programming that were used during past IMF programs. This approach could include the following steps when determining the medium-term budget envelopes, such as:

- 1) **Setting a clear medium-term fiscal objective, and corresponding NOPB targets.** Staff suggests, as outlined above, that Iraq’s overall fiscal medium-term fiscal objective should be to accumulate fiscal buffers, while preserving social and investment spending needs. For instance, under current projections, a fiscal buffer of 12 months of salaries and pensions by 2018 would require a gradual improvement in the NOPB implying overall fiscal surpluses of 3–4 percent of GDP.
- 2) **Establishing a conservative baseline scenario, with realistic oil price and export volume assumptions.** The Ministry of Finance does not have a macro-fiscal unit that is capable of making macroeconomic projections. As a consequence, the Budget Directorate of the Ministry of Finance relies on export volumes that are planned by the Ministry of Oil. Over the past few years, these plans tended to over-project oil export volumes. For example, the authorities could replicate the procedure followed under IMF programs to set the budgeted oil price by applying a 10–15 percent uncertainty premium to the year-ahead World Economic Outlook oil price projections. Alternatively, the authorities could consider adopting a simple formula to set oil price assumptions based

- on a moving average of past and future price (see numerical fiscal rules section below). In the future, Iraq could also benefit from having a politically independent institution set macroeconomic projections.
- 2) **Identifying domestic and external sources of financing.** The 2011–13 budgets included overly ambitious external financing projections, and, most importantly, overall spending plans that were not fully financed. The budget also did not fully reflect all sources of domestic financing, such as domestic banks loans and use of government deposits.
 - 3) **Identifying non-discretionary spending commitments.** The budget should reflect all non-discretionary obligations of the central government, including U.N. compensation payments to Kuwait, and all public sector salaries and pensions (including state-owned enterprises salaries financed with loans from Banks Rafidain and Rasheed).
 - 4) **Setting realistic discretionary spending path that include all spending commitments.** The 2011 and 2012 budgets did not include all planned spending explicitly in the budget tables, including some large items such as transfers to state-owned enterprises and purchases of military equipment. The inclusion of all spending commitments in the budget would help ensure that all spending is actually funded by planned revenues and sources of finance, and would also help increase transparency.
 - 5) **Preparing a statement of fiscal risks.** This statement is intended to raise awareness of the vulnerabilities associated surrounding budget outcomes, and to strengthen fiscal discipline by helping to ensure that risks are appropriately identified and managed.

Numerical Fiscal Rules

17. Iraq could, in principle, benefit from adopting a structural primary balance rule based on oil price smoothing. Experience in a number of resource-rich countries suggests that numerical fiscal rules can help maintain sustainability and support macroeconomic stability. Over the medium-term, Iraq could adopt a numerical fiscal rule to help mitigate the impact of oil price volatility on the budget, and build buffers. The first step is to compute the structural oil revenues by forecasting oil revenues by deliberately adopting conservative oil price assumptions. The second step is to target a specific NOPB using the structural revenues projections. This rule would be simple to implement, and easy to communicate to the general public and parliament.

18. However, a numerical rule needs to be calibrated carefully. Simulation of structural balance rules suggest that further work is necessary to calibrate fiscal rules and systematically assess the tradeoff between setting feasible expenditure levels, delinking expenditures from oil

price volatility, and building adequate fiscal buffers. Staff simulated structural balance rules targeting a 1 percent of non-oil GDP primary surplus to build fiscal buffers using three different price-smoothing formulas:⁶

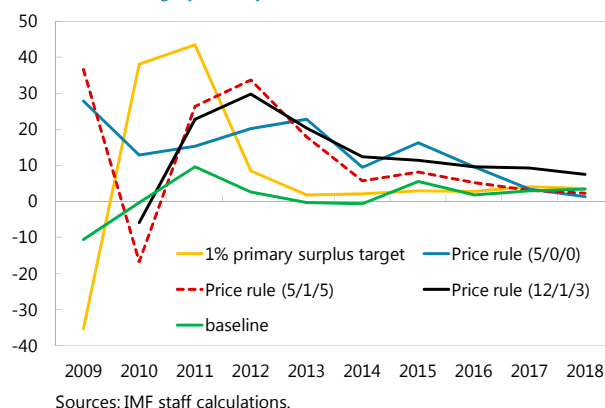
Rule 1: 5-year moving average of the past 5 years. This rule can track changes in prices, but may result in volatile spending envelopes and pro-cyclical fiscal policy (light blue line).

Rule 2: Simple average of past 5 years, the current year, and the future 5 years (as Trinidad and Tobago) (red dotted line).

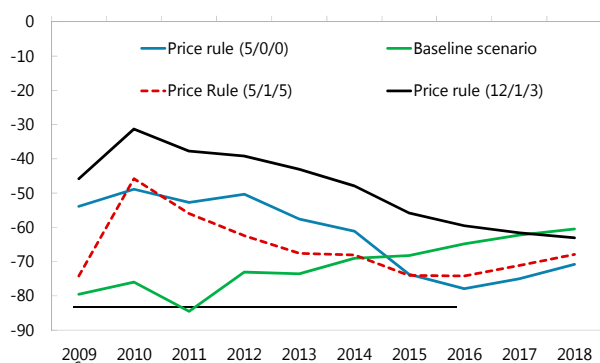
Rule 3: A 16-year moving average of oil prices (prices for the past 12 years, projected prices for current and next 3 years) (as Mongolia). This rule attaches high weight to past prices and allows a more gradual incorporation of future prices (black line).

19. Simulations of these three rules illustrate the potential challenges in implementing these rules in times of large oil shock (2009) or declining oil prices (2013–2018). The simulation results are affected by the large drop in oil prices in 2009, and the subsequent rebound in 2010–2012. The 2010–2012 price levels get carried over to the oil price formulas in a declining oil-price outlook for 2013–2018. Thus, further work is needed to calibrate an oil-price smoothing formula that is realistic, simple to compute, and projects fiscal outturns consistent with the overall expenditure path envisaged in the medium-term policy scenario of the 2013 Article IV report.

Real primary expenditure growth
(Percent change, year-on-year)

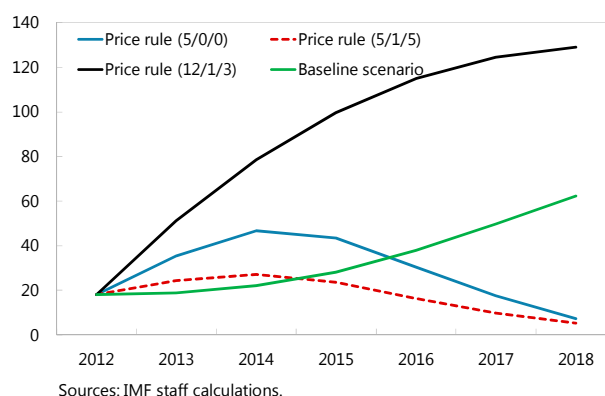


Realized Non-Oil Primary Balance
(Percent non-LNG GDP)



⁶ For more information on the formulas, see IMF (2012b).

Cumulative financial savings
(USD billion)



E. Building Fiscal Institutions

20. International experience suggests that successful implementation of fiscal rules depends on strong fiscal institutions. At present, Iraq's fiscal institutions are weak. While the Public Financial Management law of 2004 codifies best international practices, it is not fully enforced. Efforts to implement an Integrated Financial Management Information System (IFMIS) that would help improve budgeting, budget execution, spending controls, and fiscal reporting have stalled. Iraq still relies on manual recording of spending, spending controls and reporting has lagged. The authorities have relied on off-budget advances without allocation to fund immediate spending needs, undermining the budget process. The authorities also lack a coherent debt management strategy, and rely on financing from state-owned banks Rafidain and Rasheed to fund state-owned enterprise operations.

21. The authorities have a good window of opportunity to codify key Public Financial Management (PFM) reforms as part of their present process to redraft the Public Financial Management Law. Moreover, the authorities should redouble their efforts in enhancing PFM practices by implementing IFMIS, refraining from off-budget spending, and improving investment planning and execution, debt management, and fiscal reporting.

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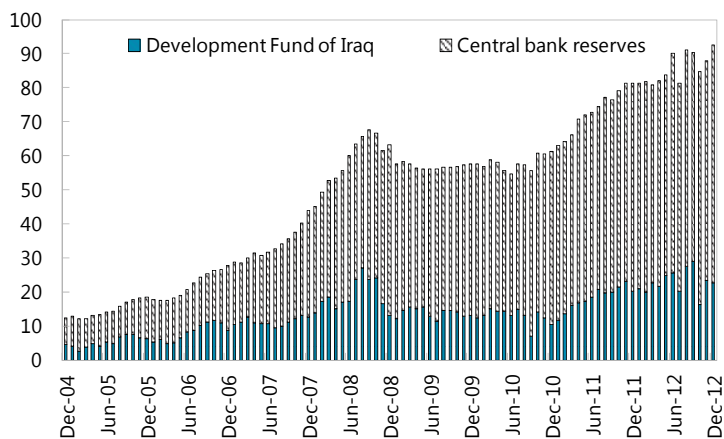
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SOVEREIGN WEALTH FUND OPTIONS¹

A. Introduction

1. Oil revenues boosted Iraq's sovereign reserves during the past ten years. Iraq's monetary reserves (held by the Central Bank of Iraq, CBI) and fiscal reserves (maintained in the Development Fund for Iraq, DFI) grew strongly over the past ten years, reaching \$18 and \$70 billion respectively by the end of 2012. Reserves are financed almost exclusively from oil revenues which account for over 90 percent of both export receipts and government income. Since Iraqi law prohibits government borrowing from the CBI, official international reserves play no role in financing the government.

Central Bank Reserves and Development Fund of Iraq
(In billions of U.S. dollars)



Source: Iraqi authorities.

2. The rapid growth of Iraq's sovereign reserves has prompted discussions within Iraqi policy circles about their appropriate level and how best to manage them. This note addresses these questions, drawing on the experience of other natural-resource rich countries.

B. The Current Set-Up for the Management of Iraq's International Reserves

3. Post-2003, Iraq set up a two-tier architecture to manage its international reserves. Monetary reserves are managed by the CBI and kept in highly liquid assets or cash, following the investment guidelines developed with the help of the Fund. Fiscal reserves are held in the DFI, which was established in 2003 by the UN Security Council Resolution 1483 as a way of accumulating Saddam-era frozen assets, monitoring its oil revenues and ensuring the payment of war compensations to Kuwait. Also, to enhance the protection of Iraqi assets from debtors and other claims, the resolution gave multilateral immunity to the DFI, which expired in 2011 (Iraqi assets are protected by general U.S. immunities on sovereign assets, and by special immunities granted by the U.S. in 2003).

¹ Prepared by Yahia Said.

4. The DFI has been the most successful fiscal institution in Iraq. The DFI is an account held by the CBI at the Federal Reserve Bank of New York on behalf of the Iraqi Finance Ministry. All Iraqi oil export receipts are deposited directly by the buyers into the Oil Proceeds Receipt Account (OPRA). After an automatic 5 percent deduction for Kuwait war compensations mandated by the UN is applied, revenues are transferred to the DFI. Payments out of the DFI are carried out against checks signed by the Minister of Finance and the Prime Minister of Iraq, including for financing government imports and other foreign expenditure. Over the past years, the Iraqi government has directed investment partners to credit the account with other types of payment, such as oil contract signature bonuses or mobile phone license fees.

5. The DFI is designed to maximize transparency. From its creation, the DFI was subject to robust international oversight, which was later transferred to the Iraqi authorities on June 30, 2011 when the original DFI structure created under the UN mandate expired. The authorities decided to maintain the DFI essentially unchanged. The account is audited twice a year by an international audit firm selected by a supervisory board, previously co-chaired by the UN and the Iraqi Government and now chaired by the Iraqi Board of Supreme Audit. The audit results are published on a dedicated website (www.cofe-iq.net/pages/e_home.htm).

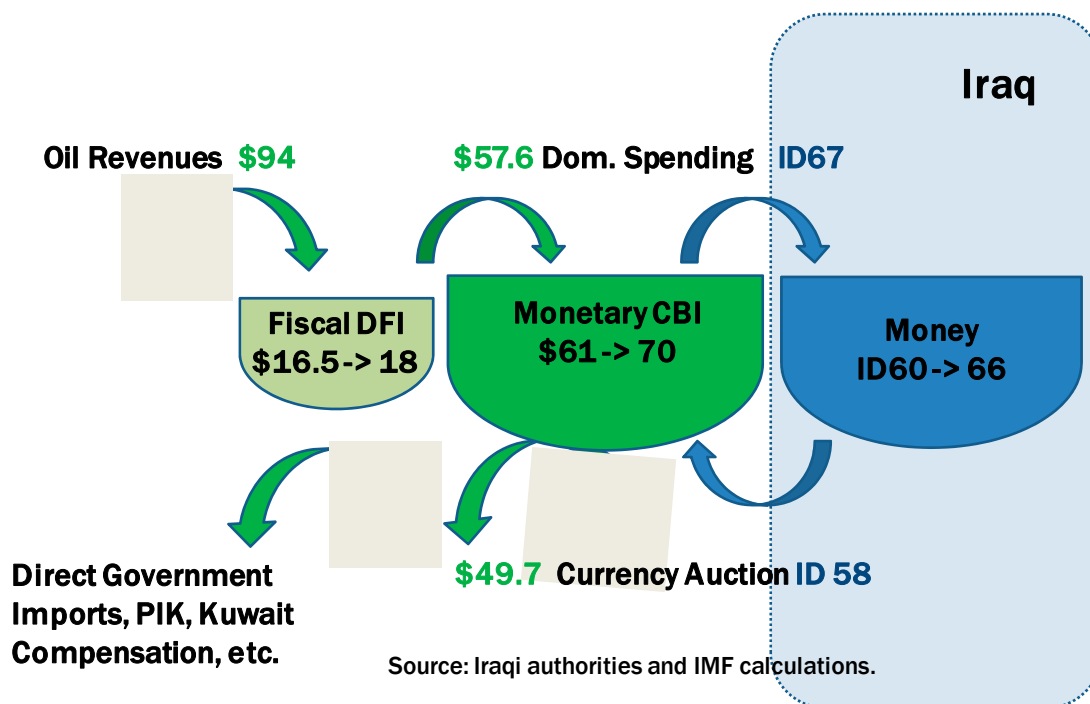
6. The DFI has helped Iraq absorb negative oil price shocks. While originally conceived as a transit account, the DFI has been operating as a de facto stabilization fund, allowing the government to accumulate reserves through strong fiscal performance in boom years, and financing spending when oil revenues fall short. Thus, the government drew resources from the DFI to avoid slashing spending, especially on current expenditure, following the 2008 oil price shock. As a result, the DFI was almost depleted in the course of 2009, declining from \$27 billion in August 2008 to \$7.7 billion in June 2009.

7. Oil revenues feed the DFI and are partly transferred to the CBI reserves through government spending. Oil revenues which accumulate at the DFI as fiscal reserves become international reserves of the CBI when the government repatriates the foreign exchange and sells it to the CBI to finance domestic spending. The foreign currency amount adds to the international reserves of the CBI, and domestic currency spent by the government increases domestic currency liquidity in the economy, which in turn creates demand for foreign exchange. Given the high dollarization of the economy, the size of the additional demand for foreign currency (the rate of transformation of the DFI reserves into CBI foreign assets) is estimated by staff at about 40–50 percent of domestic government spending assuming that (a) a large share of goods consumed by households is imported, (b) durable consumption goods and real estate are paid in dollars, and (c) most savings, except for small working balances, are converted into dollars or directly transferred

abroad given the lack of confidence in the banking system and the limited investment opportunities.²

DFI and CBI: Flows and Stocks of Iraq's Oil Revenues in 2012

(In billions of U.S. dollars and trillions of Iraqi dinars)



C. Adequacy of Reserves

8. **Central bank international reserves are adequate.** The level of reserves meets with large margins standard measures of adequacy (months of imports, ratio of short-term foreign currency obligations, and coverage of monetary aggregates).⁷ Maintaining extra buffers compared to the standard thresholds for these metrics is justified in light of the exceptional political and security risks in the country and in the region and the dependence on a single source of balance of payments revenues. Over the medium term, as Iraq's difficult situation and oil sector dominance is likely to continue, maintaining these buffers would require rising absolute levels of international reserves that broadly keep the metrics at their current range.

² Government imports of goods and services and other foreign payments, such as debt service, are financed directly through the DFI.

⁷ See External sector analysis in Appendix I of the 2013 Article IV Staff Report.

9. But, fiscal buffers are not yet sufficient to withstand large oil revenue shocks. At \$18 billion, or 6 months of salaries and pensions at end-2012, Iraq's current fiscal buffers held in the DFI would be sufficient to absorb a relatively small short term revenue shocks (as laid out in the downside scenario of the 2013 Article IV Staff Report) without socially destabilizing disruption to public finances. Buffers are not sufficient, however, to absorb a shock of the magnitude of the 2008 oil price shocks, or a collapse in production or exports that severely limits Iraq's earnings in foreign currency. Staff projections show that building adequate buffers would only be possible over the medium term. As a result, excess reserves, i.e., reserves over and beyond the level of fiscal buffers, would not be accumulated in the foreseeable future.

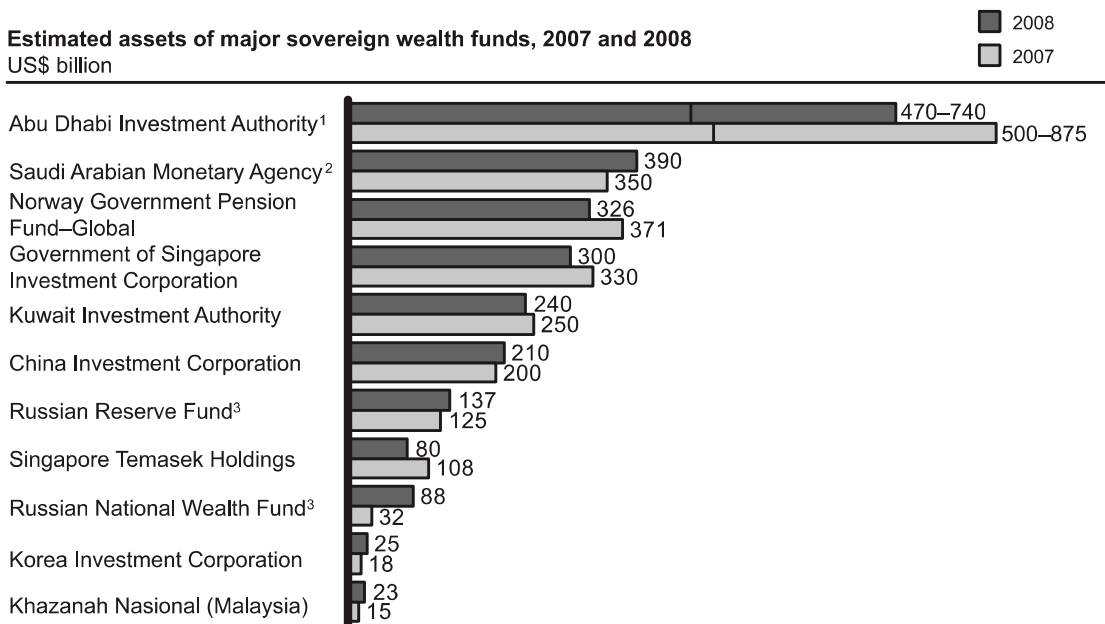
10. The need for high fiscal buffers—separate from CBI international reserves—is heightened in Iraq by the government's lack of access to international capital markets and central bank lending. These financing sources would allow absorbing fiscal shocks, but currently they are not an option for the government. In particular, Iraq's legal framework forbids central bank lending to the government (and therefore, use of international reserves) to buttress central bank independence, which is particularly important to avoid fiscal dominance given Iraq's weak governance and low administrative capacity.

D. Investing Excess Reserves Through Sovereign Wealth Funds

11. The current reserve management set-up prioritizes liquidity and is appropriate for CBI reserves and DFI buffers. The main criterion for managing monetary reserves and countercyclical fiscal buffers is liquidity, rather than profitability. The current set-up, which conservatively allocates these assets in high quality sovereign instruments meets this criteria, and is supported in the CBI by investment guidelines developed with the help of Fund technical assistance.

12. A Sovereign Wealth Fund (SWF) could help manage excess fiscal reserves more aggressively. SWFs can be defined as "pools of government-owned or controlled assets that include some international assets (Truman 2011). In many resource-rich countries, SWFs have emerged as the main vehicle for managing reserves, especially fiscal reserves, with the purpose of generating long term income and providing for future generations. Emerging resource exporters also use SWFs to generate returns abroad which cannot be productively invested at home. In addition, SWFs absorb excess liquidity and reduce inflationary pressure, which are typical macroeconomic challenges in natural resource-rich countries due to the size of export revenues (Das et al. 2010).

Estimated assets of major sovereign wealth funds, 2007 and 2008
US\$ billion



Source: Truman (2011).

13. SWFs represent a broad category that encompasses a variety of different types of financial vehicles. There are over 51 SWFs in 44 countries today, with \$3.3 trillion of assets under management. Over 86 percent of SWF resources are held in foreign assets. With the exception of the five SWF in Asia, SWFs assets (over 70 percent of the total) are financed from natural resource revenues (Truman 2011).

14. International examples can be useful for the case of Iraq. SWFs differ along several dimensions:

- Objectives (stabilization vs. long term growth and income):** Over 65 percent of SWF assets are managed in savings and stabilization funds, where the main objective is to insulate the economy from the volatility of commodity markets. Examples of savings and stabilization funds are Norway's SWF, which was initially structured similarly to the DFI, and the Russian Reserve Fund. In the remaining SWFs, assets are managed with the objective of generating long term income. Income could be generated either for the benefit of the government, as with the Kuwait or Azerbaijan SWF, or for the benefit of the central bank, as in the Korean and Singapore SWFs.
- Funding and withdrawal rules (discretionary vs. automatic).** Funding modalities for SWFs differ widely. The China Investment Corporation was initially funded by a one-off purchase of government bonds by the central bank. Other SWFs are funded through a fiscal rule setting a discrete allocation, such as in Kuwait and Azerbaijan. Norway, Malaysia and Australia automatically fund their SWF with the proceeds from realized budget surpluses. The funding modality of the DFI is similar, since oil revenues are immediately deposited in the DFI account abroad. Withdrawals from SWFs could be automatic, for example when

automatically triggered by budget or balance of payment shortfalls, or scheduled based on expected future expenditures, such as pension liabilities as in the example of Norway and Kuwait.

- **Investment policies (liquidity vs. long term income):** Investment guidelines for SWFs are normally tailored for their specific objectives. Saving and stabilization funds tend to emphasize liquidity as opposed to income, concentrating on ‘safe’ fixed income assets. Reserves held for long term income pursue a more diverse portfolio allocation with varying weights given to asset classes along an increasing scale of risk and return starting with fixed income instruments and ending with commodities. SWF have usually established procedures for the adoption, evaluation and review of investment policies to ensure rigor and transparency (IWG 2008a). The Santiago Principles adopted in 2008 by the International Working Group on SWF (IWG 2008b), are a voluntary code of conduct governing investment policies, disclosure rules and other parameters of SWF activity.

E. Conclusions and Implications for Iraq

15. Iraq’s sovereign reserves are high, but should be increased further. Based on several metrics, the level of international reserves held by the CBI appears adequate. Additional fiscal reserves are, however, needed, in order to maintain adequate buffers, especially given the lack of market access and the prohibition of central bank lending to the government. Furthermore, liquidity should be the main priority in managing CBI and DFI reserves.

16. The current two-tier architecture is appropriate for the foreseeable future. CBI reserves should continue to be managed prudently, following the CBI investment guidelines. The existing typology of SWFs shows that the DFI is already a de facto SWF which carries out mainly stabilization and, to a lesser extent, savings functions. Compared to other SWFs of this type, the DFI has characteristics which make it particularly suited for Iraq’s needs. First, it offers a simple and transparent revenue account. Second, by eschewing dedicated funding and withdrawal rules, it preserves the integrity of the budget process. Third, the DFI has greater political sustainability than a separate SWF would, thanks to its low profile/visibility and relatively long history, and is less likely to attract rent-seeking attention than a dedicated vehicle with a specific spending agenda. At the same time, the DFI—in its present form of stabilization fund—could be further strengthened through new features such as investment policies and guidelines, as Iraq’s capacities in these areas evolve.

17. Relatively marginal modifications to the DFI should be sufficient to manage excess reserves. Should excess reserves be accumulated beyond an adequate level of fiscal buffers, modifications along the lines of other SWFs could be considered to increase the rate of return on excess reserves. Achieving this objective should be possible by modifying the current framework without changing its main features, for example, by adding a high-return subaccount appropriately ring-fenced from the fiscal buffers.

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