Oil Revenue Volatility, Sanctions and Mismanagement: Lessons from Iran

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Based on joint work with Hadi Salehi Esfahani (University of Illinois), Jeff Nugent (USC), M. Hashem Pesaran (USC), Mehdi Raissi (IMF), and Hoda Selim (IMF).

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For over 80 years the Arab region has been deriving massive wealth from its natural resources. Its economic performance has been at the mercy of the ebbs and flows of oil prices and its resources have been slowly depleting. The critical question is how Arab countries might escape the oil curse.

Institutions and Macroeconomic Policies in Resource-Rich Arab Economies focuses on the unique features of the Arab World to explain the disappointing outcomes of macroeconomic policy. It explores the interaction between oil and institutions to draw policy recommendations on how Arab countries can best exploit their oil revenues to avoid the resource curse. Case studies and contributions from experts provide an understanding of macroeconomic institutions (including their underlying rules, procedures, and institutional arrangements) in oil-rich Arab economies and of their political economy environment, which has largely been overlooked in previous research.

Institutions and Macroeconomic Policies in Resource-Rich Arab Economies offers novel macroeconomic policy propositions for exchange rate regimes, fiscal policy, and oil wealth distribution that is more consistent with macroeconomic stability and fiscal sustainability. These policy reforms, if implemented successfully, could go a long way toward helping the resource-rich countries of the Arab region and elsewhere to avoid the oil curse.

Jacket image: ARV / Alamy Stock Photo

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Institutions and Macroeconomic Policies in Resource-Rich Arab Economies

EDITED BY
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Jeffrey B. Nugent, Professor of Economics, University of Southern California, USA; Senior Associate, Economic Research Forum, Egypt.

Hoda Selim, Research Fellow, Economic Research Forum, Egypt.

Iranian Economy: Challenges

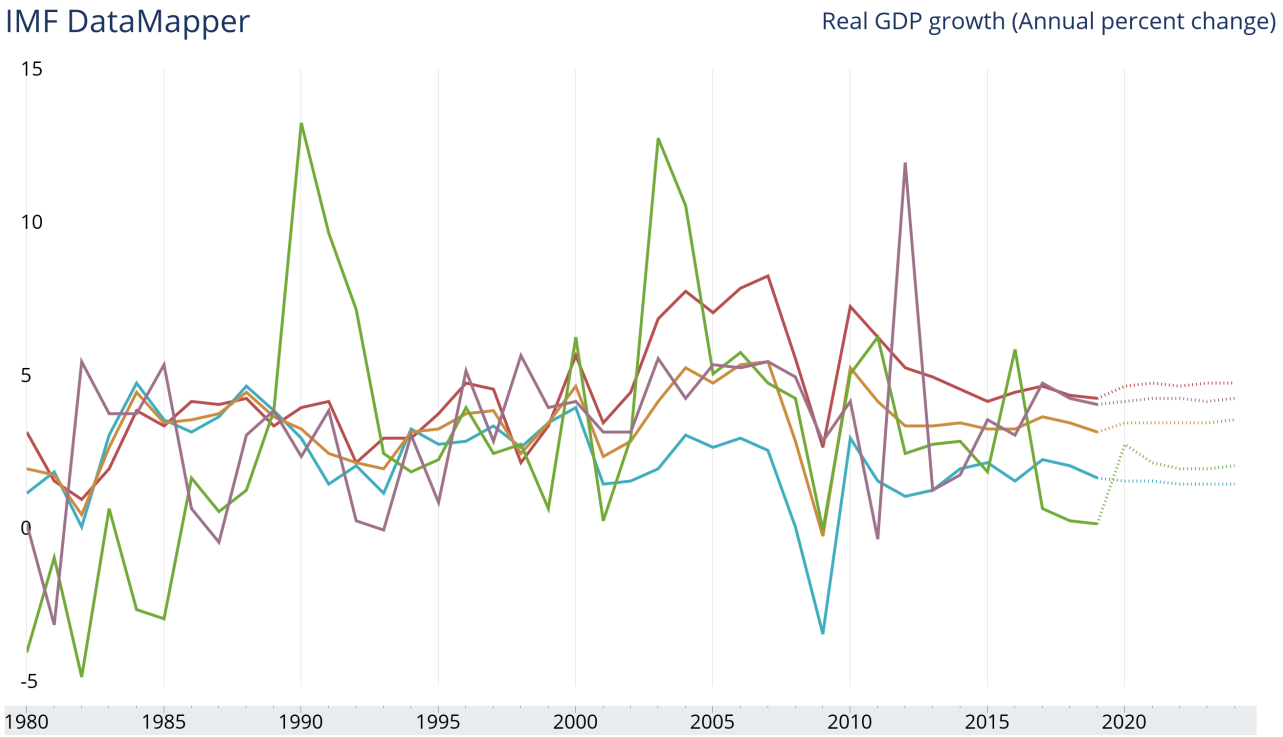
- Iranian economy has been functioning below capacity due to years of economic mismanagement, 8 years of war with Iraq, prolonged and at times severe trade and financial sanctions.
- **High and persistent inflation**. Annual rate of inflation has been around 20% and been persistently high whilst inflation has been falling worldwide.
- **High unemployment and low female labour participation**: Unemployment has been consistently above 12% with youth and female at 30-40%.
- **Fragile banking and financial sector**. US financial sanctions against Iran has worsened the risk facing the commercial banks.
- **Continued dependence on oil revenues**: over 60% of foreign exchange revenues and 40% of government revenues are from oil exports.
- **Rising income inequality and poverty.**

Volatility is a Major Problem

- If commodity revenue volatility and external shocks are **not managed properly**, they can result in higher GDP growth volatility and **disappointing long-term economic performance**.

- Since the Revolution the average output growth has been around 2% with volatility of 7.7%, whilst world output growth has averaged at 2.9% with volatility of 1.3%. That is **Iran's economy has been 6 times more volatile as compared to the rest of the world**.

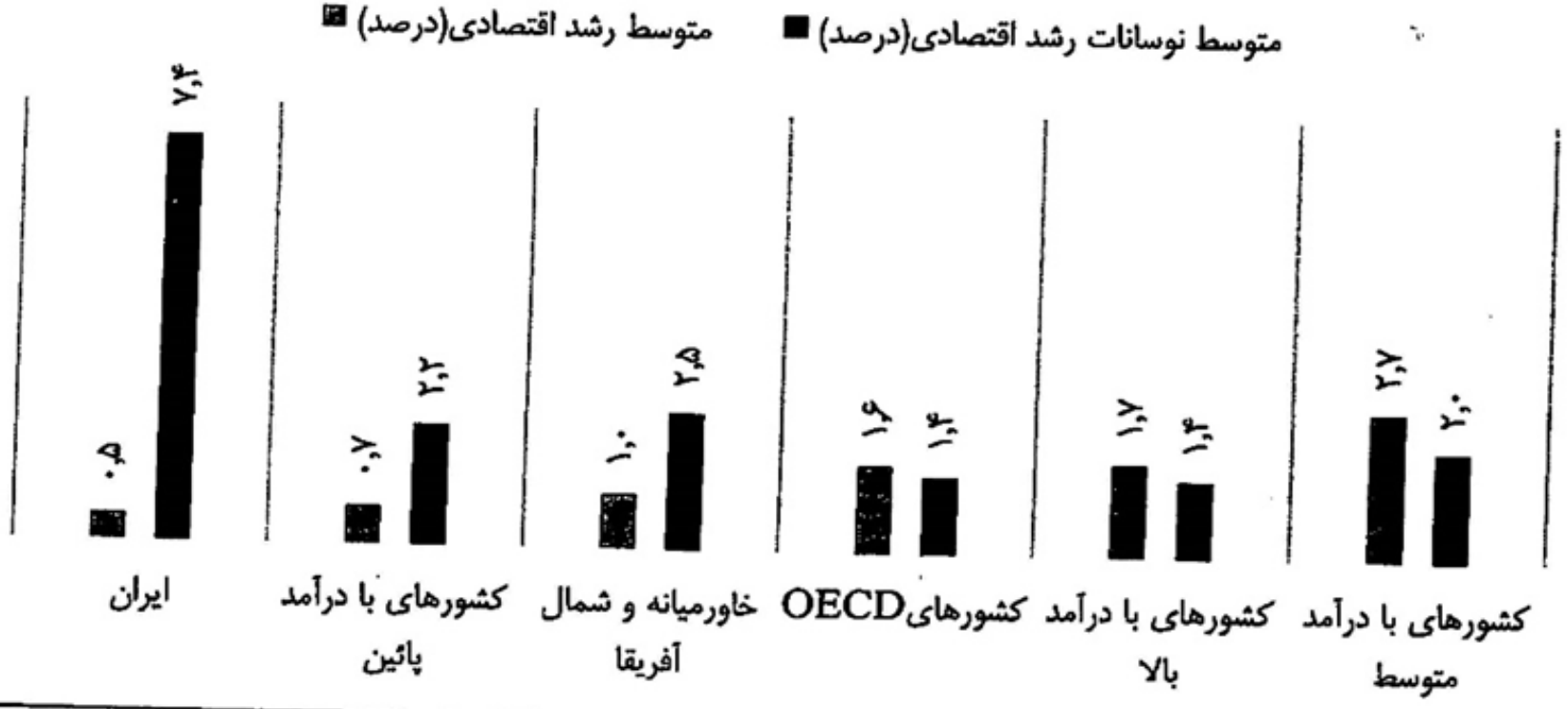
- We need strong **institutions** and better **macroeconomic policies**.



Output Growth and Volatility in Iran

- **Three main sources of volatility**: oil revenues, sanctions, and mismanagement of the economy.

شکل ۱-۲۰- مقایسه متوسط رشد اقتصادی و نوسانات آن در بازه زمانی ۱۹۸۰-۲۰۱۵



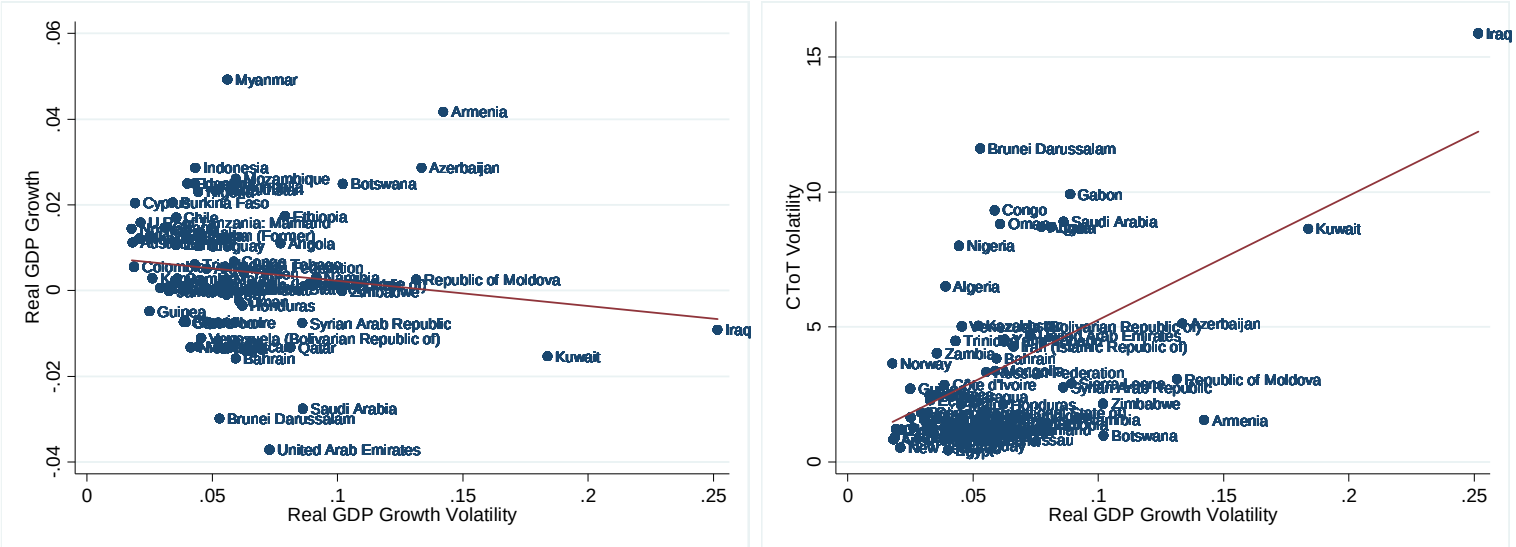
منبع: بانک جهانی

The Volatility Curse

- While commodity price booms significantly increase economic growth, **volatility affects it negatively** (for more details see Mohaddes and Raissi, 2017).

- Fiscal and current account balances of commodity-exporting countries are affected by swings in resources revenues with **destabilizing effects on the macroeconomy**.

Figure 1: Scatter Plots of GDP Growth and Volatility of CToT against Volatility of GDP Growth, 1981-2014



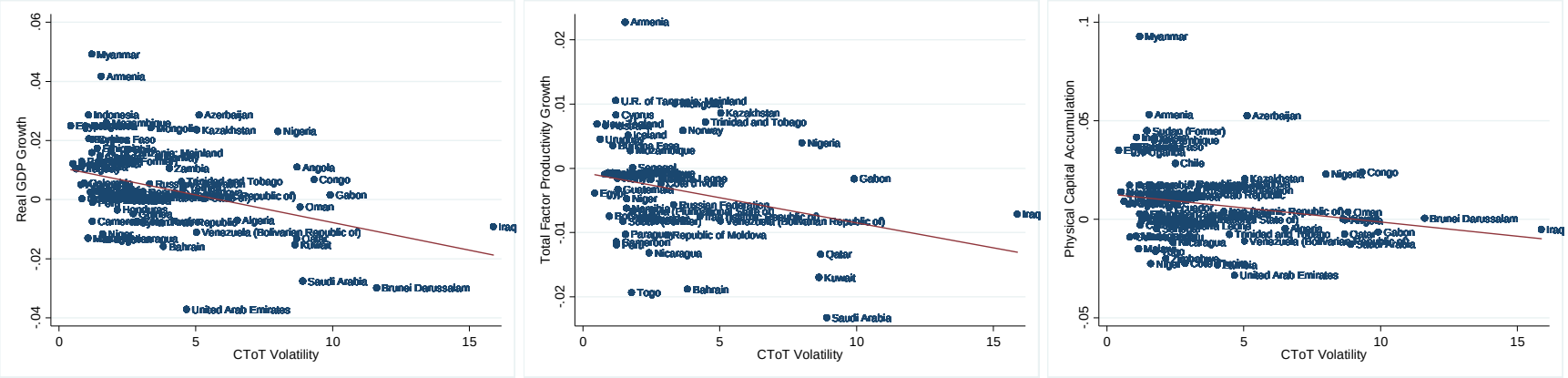
Source: Authors' calculation based on data from *Penn World Table Version 9.0* and International Monetary Fund *International Financial Statistics* databases. These are cross-sectional averages over 1981-2014.

The Volatility Curse

- Do natural resource abundant countries have **fewer possibilities for technological progress?**

- Is the **capital accumulation** another important channel through which volatility affects GDP per capita growth?

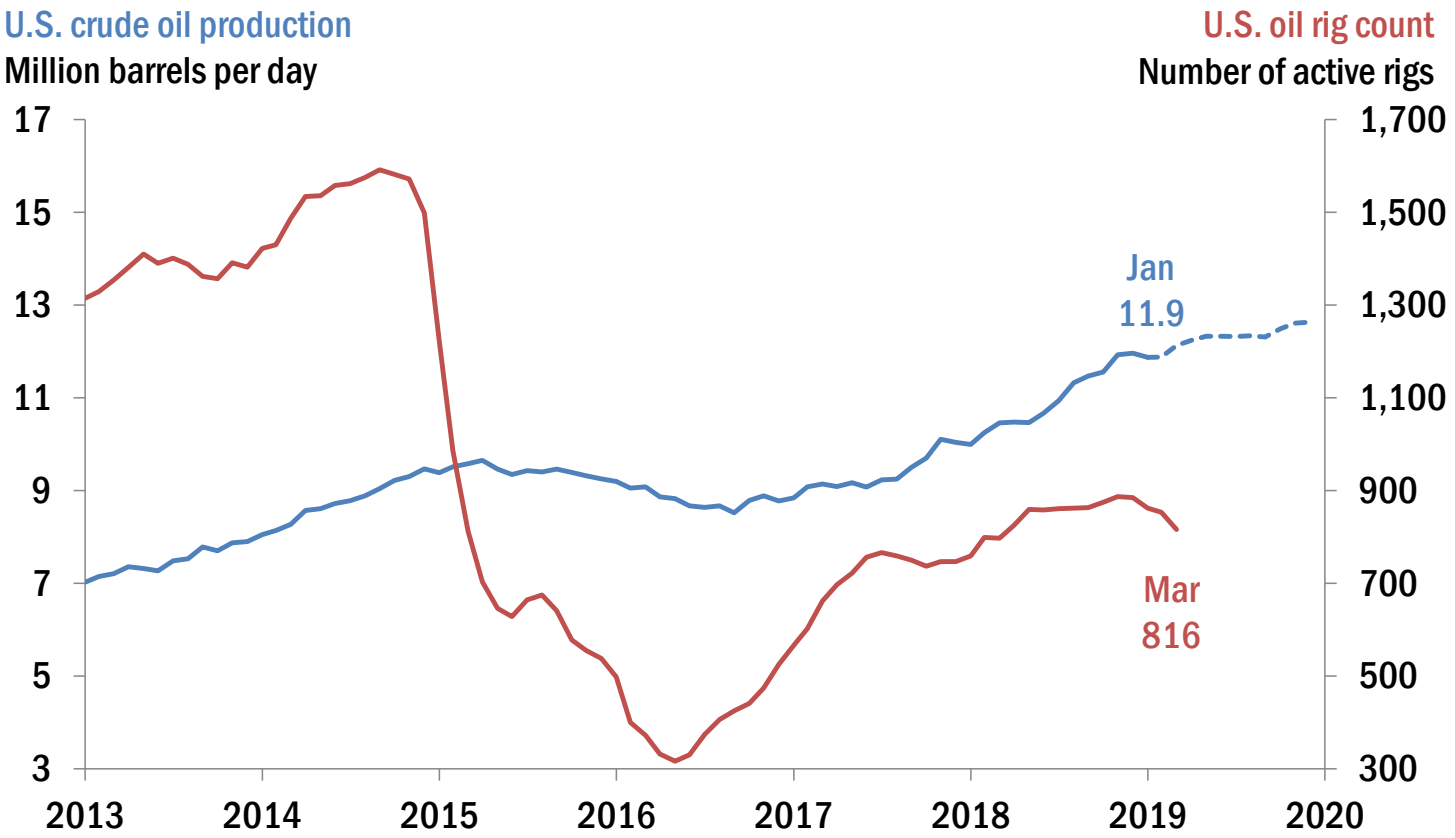
Figure 2: Scatter Plots of CToT Volatility against Real GDP growth, TFP Growth and Capital Accumulation, 1981-2014



Source: Authors' calculation based on data from *Penn World Table Version 9.0* and International Monetary Fund *International Financial Statistics* databases. These are cross-sectional averages over 1981-2014.

A New Oil Order: A Low Oil Price Environment?

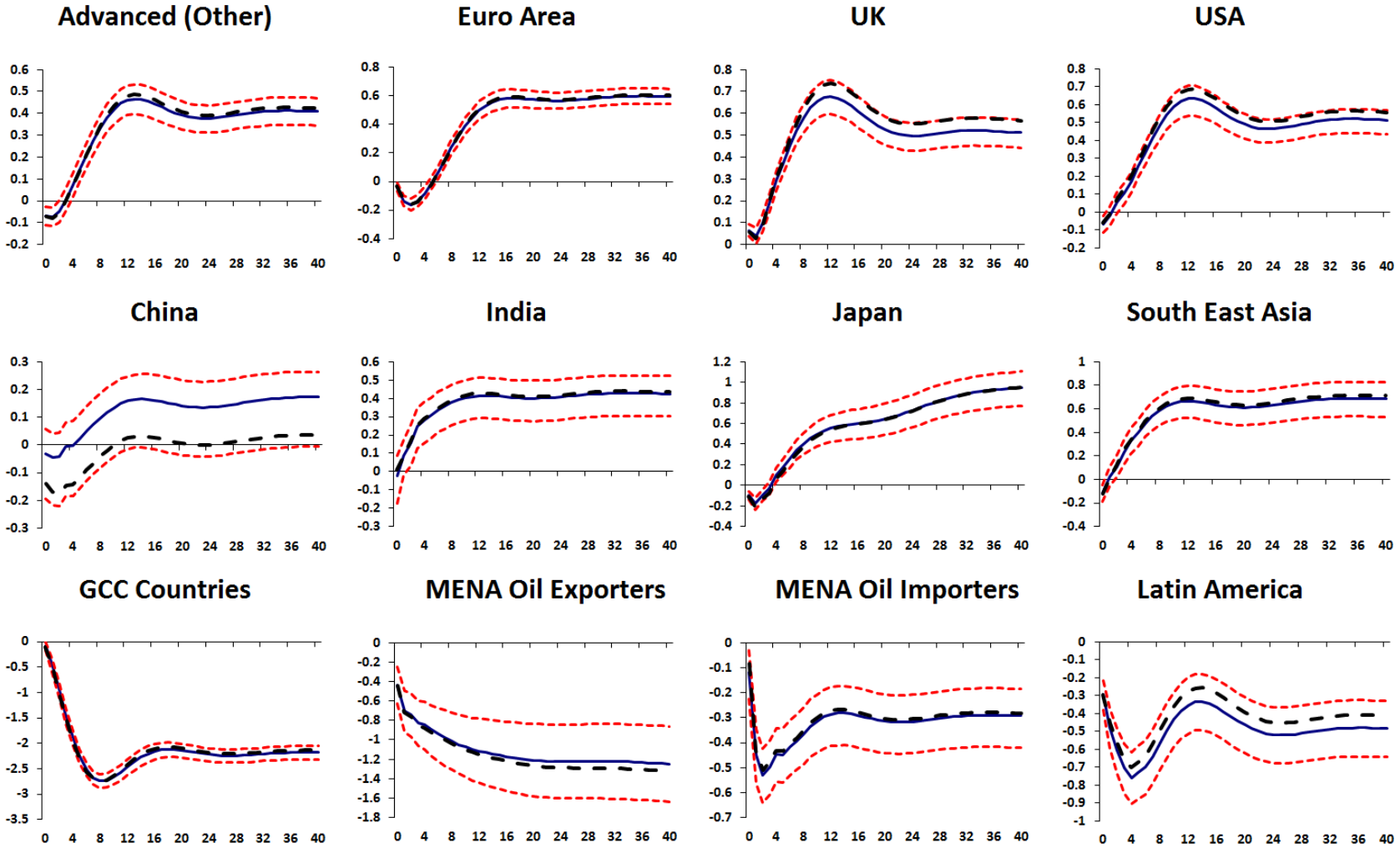
- The technological advancements over the last decade have not only reduced the costs associated with the production of unconventional oil, but they have also made **extraction of tight oil resemble a manufacturing process** in which one can adjust production in response to price changes with relative ease.



Federal Reserve Bank of Dallas

NOTES: Dashed line shows the forecast as of 3/12/19. Rig count series shows the last weekly count each month.
SOURCES: Baker Hughes; Energy Information Administration.

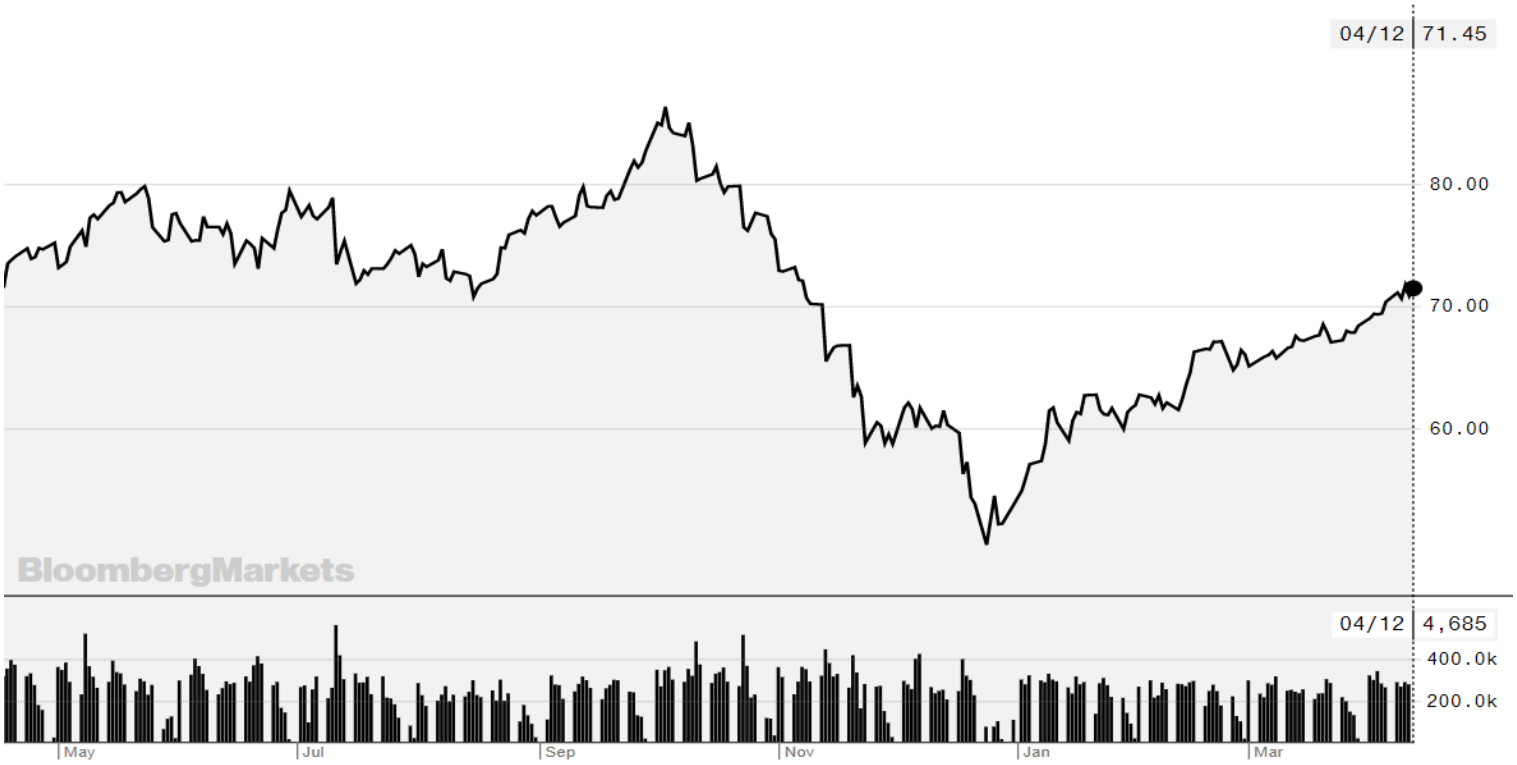
Impact of the U.S. Oil Supply Revolution on Real Output (Mohaddes and Raissi, 2019)



Notes: Figures are median (blue solid) and median target (black long-dashed) impulse responses to a one standard deviation fall in the price of oil, equivalent to an annualized drop of 51% in year 1 and 45% in year 2, together with the 5th and 95th percentile error bands. The impact is in percentage points and the horizon is quarterly.

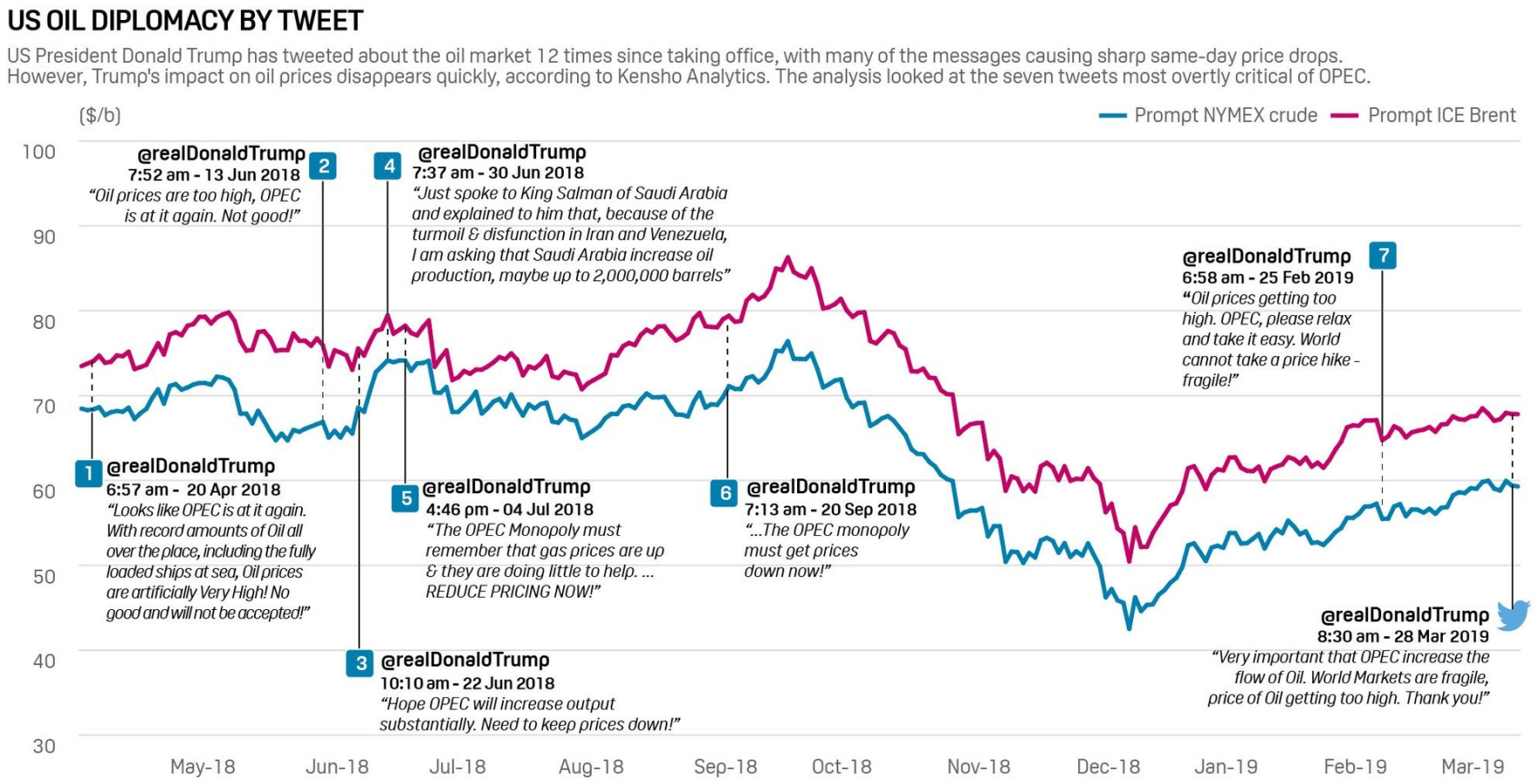
A New Oil Order: A More Volatile Environment

- With oil prices being 50% higher than January 2019, are we in a low oil price environment?
- This is not just about low oil prices, but more **uncertainty** and more **volatility**.
- Bottom line: policy makers should think about **volatility** as opposed to (just) **sustained low or high prices**.



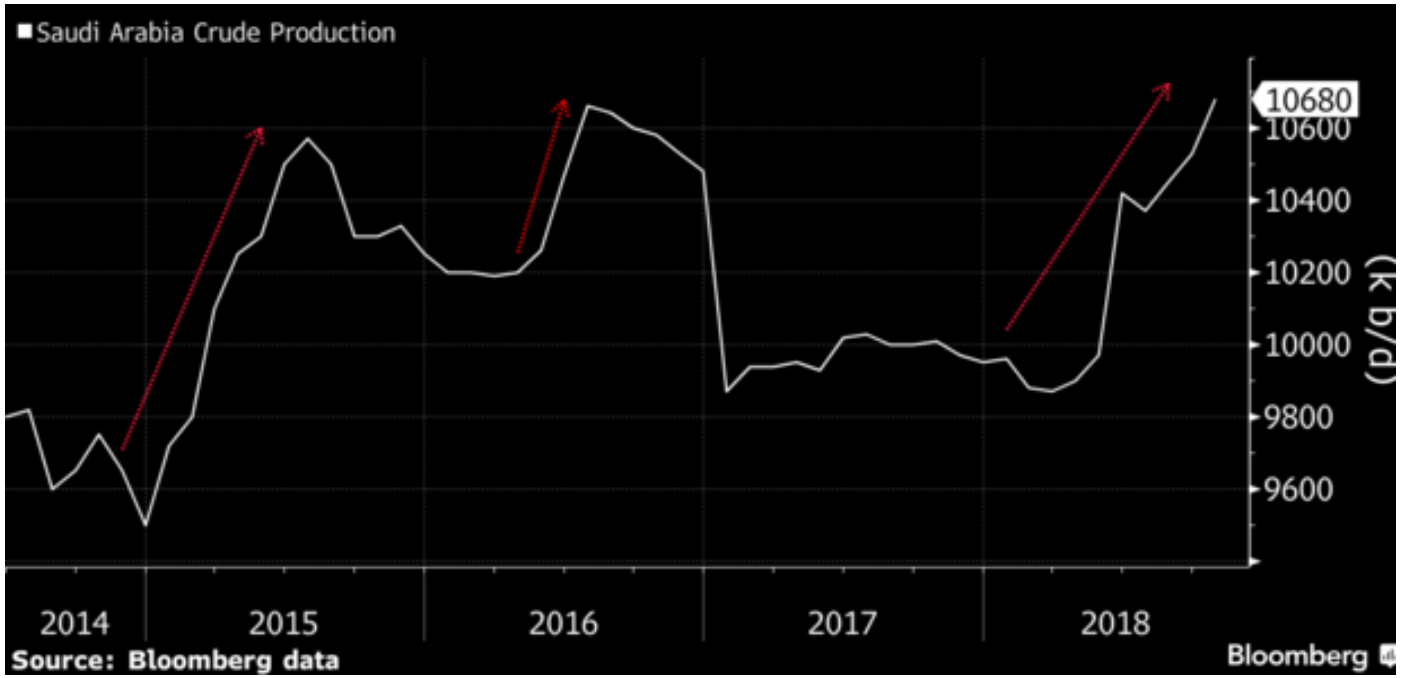
New Source of Volatility: the Trump Factor

- President Trump is the new "swing factor" in global oil markets.
- What are the effects of the **competing policy objectives** of the Trump administration on the oil market?
  - Geopolitical agenda: **sanctions on Iran**;
  - Domestic political agenda: lowering **American petrol prices**; and
  - **Trade wars** with China and the EU.

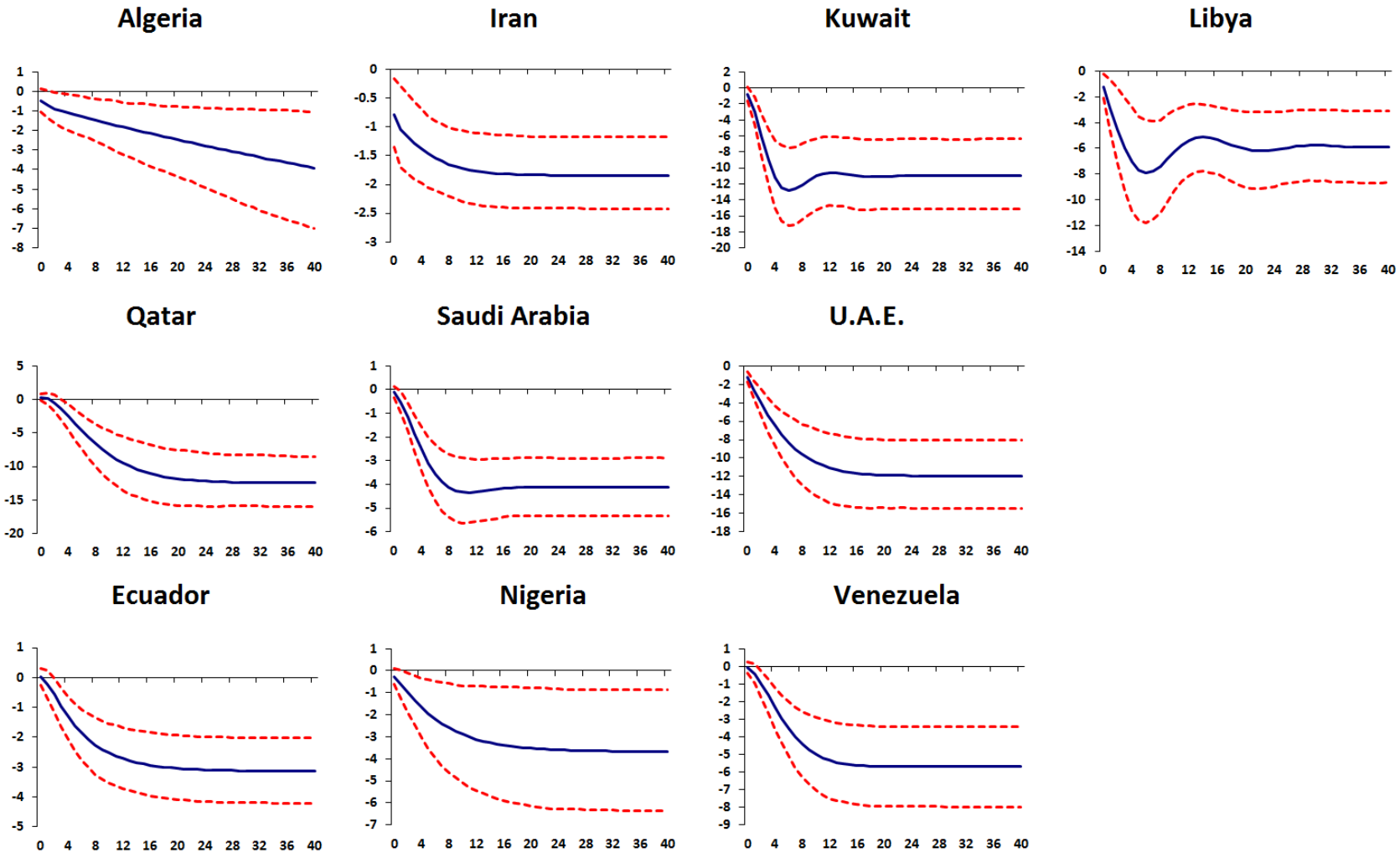


What about OPEC Policy?

- Major source of oil price volatility. Just take the last few years, where an **increase in supply has been quickly reversed**.
  - In 2015: waging a price war against U.S. shale oil producers;
  - In 2016: maximizing sales before OPEC agreements;
  - In 2018: pressure due to sanctions on Iran and President Trump (as discussed).



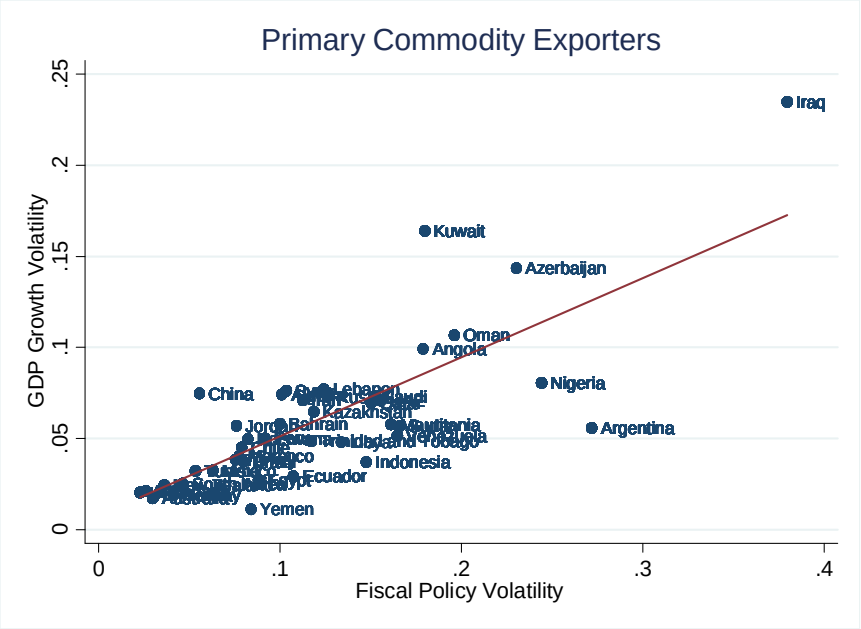
Impact of a Negative Oil Revenue Shock for OPEC Countries (Mohaddes and Raissi, 2019)

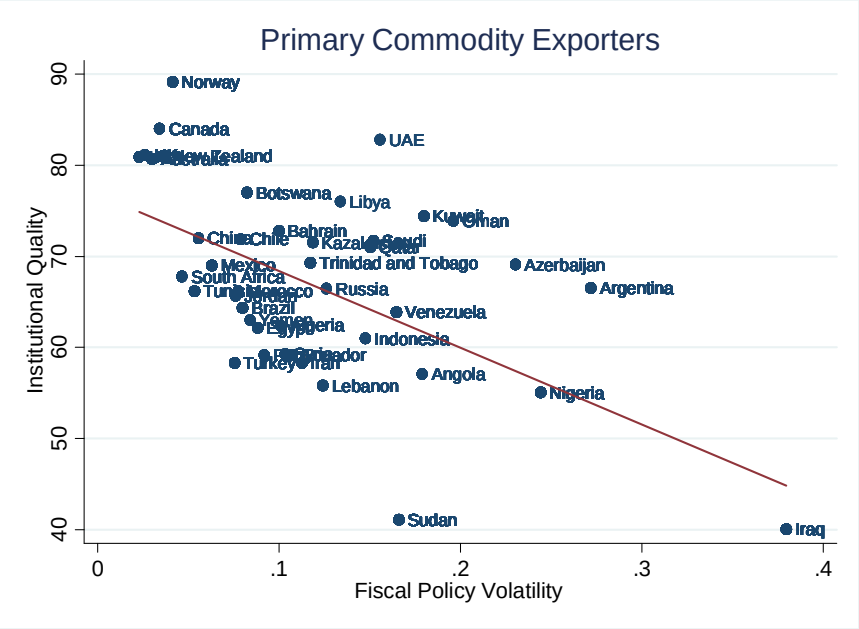


Notes: Figures are median generalized impulse responses to a one standard deviation fall in oil revenue, together with 95 percent bootstrapped confidence bounds. The impact is in percentage points and the horizon is quarterly.

The Role of Institutions and Policy Frameworks

- What is the potential **role of institutions and policy frameworks** in dampening the negative effects of volatility.





Source: K. Mohaddes, J.B. Nugent, and H. Selim (2019), *Institutions and Macroeconomic Policies in Resource-Rich Arab Economies*, Oxford University Press.
Notes: This volatility is interpreted as the component of discretionary policy which is not related to smoothing the business cycle, such as changes in political preferences or the decision by the politicians to generate a short-term boom so as to keep the population happy–as was seen in the region following the Arab Spring.

Sanctions: A Counterfactual Exercise

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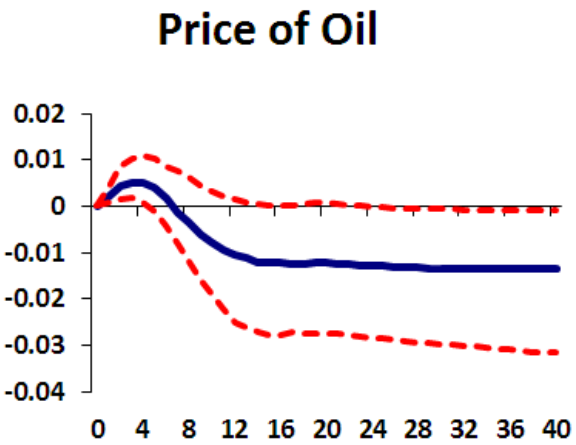
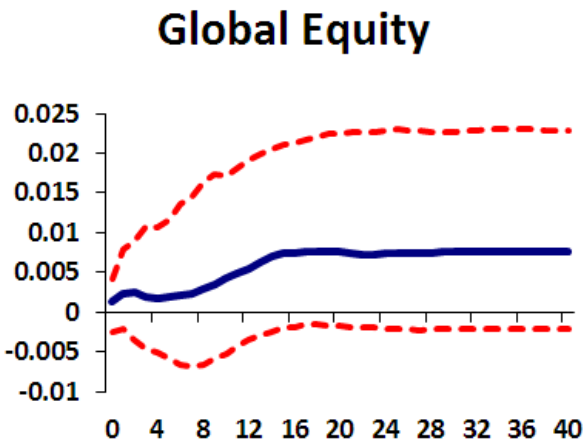
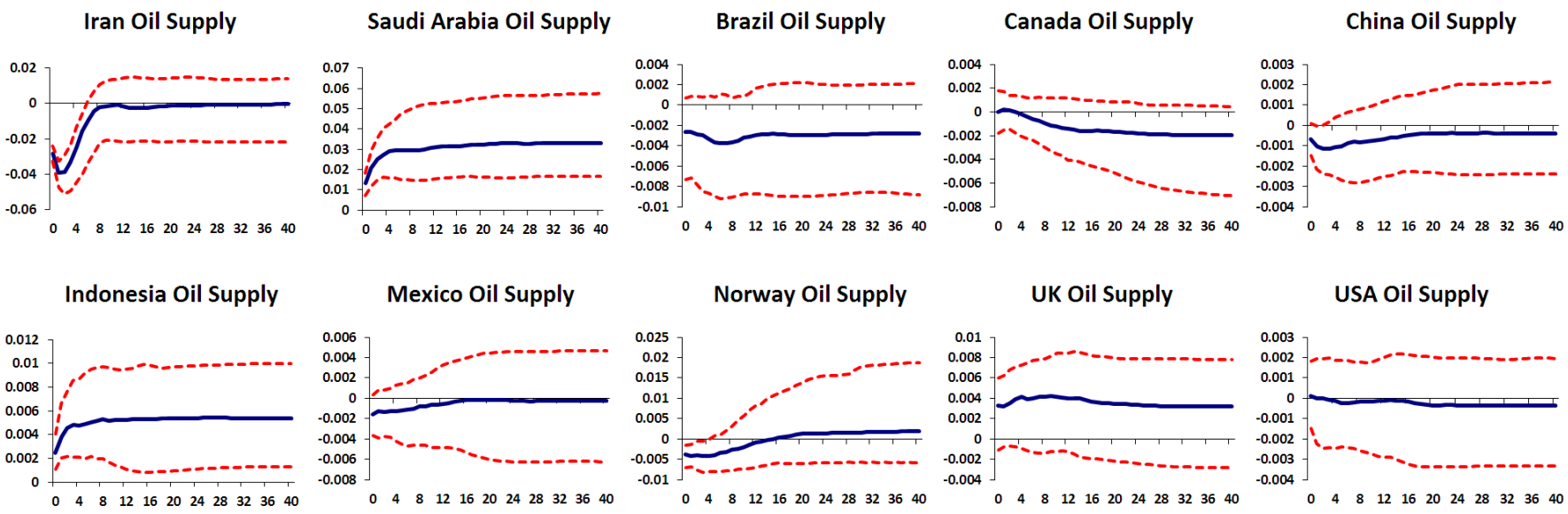
.@NordhausYale "sometimes #sanctions or #embargoes are launched as less destructive means of coercion...such embargoes should be expected to have no effect on world [#oil] prices or production, no impact on the target countries [#Iran]...They are purely symbolic measures." #ایران





Source: Mohaddes and Pesaran (2016). "*Country-Specific Oil Supply Shocks and the Global Economy: A Counterfactual Analysis*". Energy Economics 59, 382-399.

Sanctions: A Counterfactual Exercise



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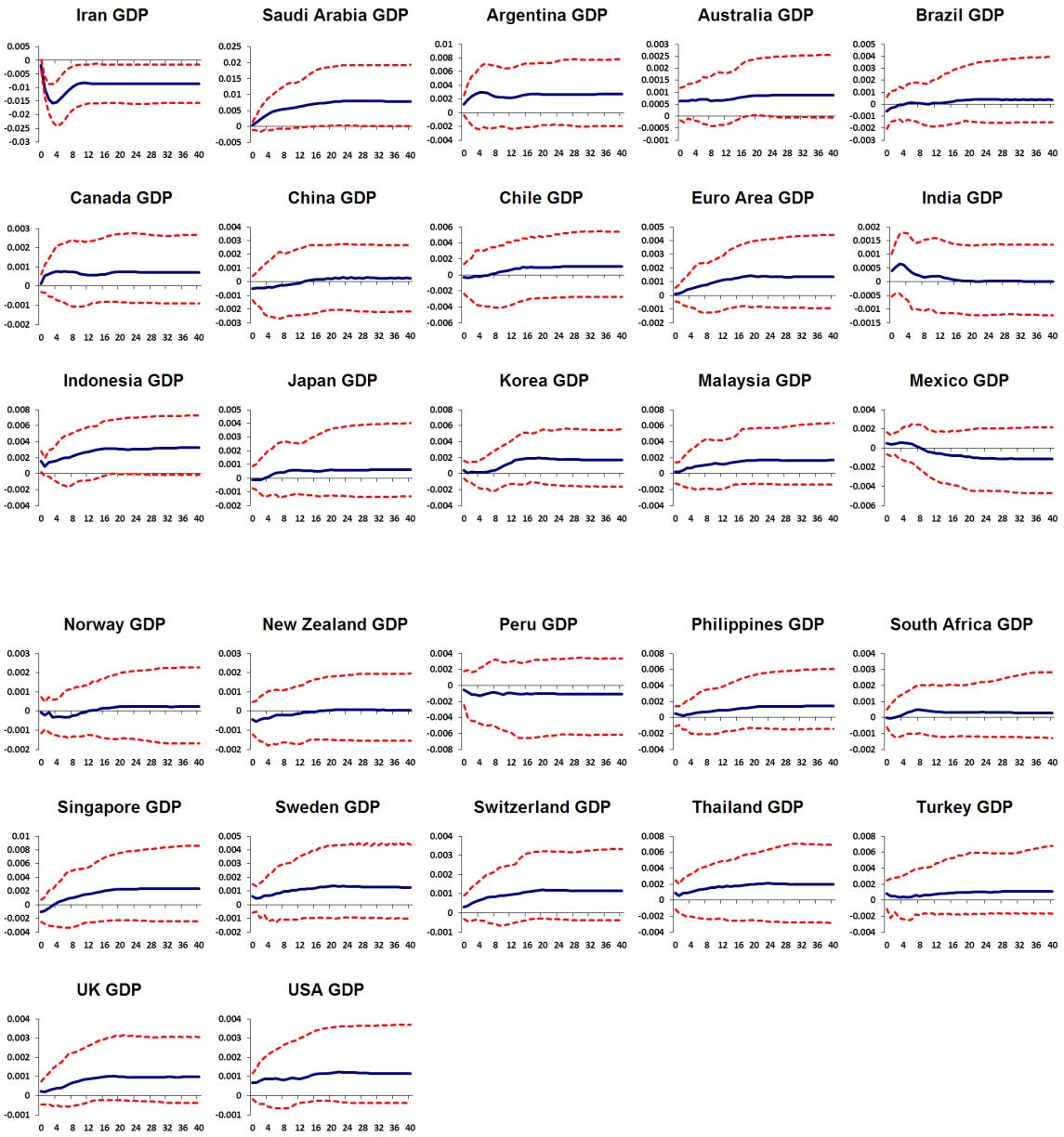
Sanctions: A Counterfactual Exercise



Source: Mohaddes and Pesaran (2016). "*Country-Specific Oil Supply Shocks and the Global Economy: A Counterfactual Analysis*", Economic Journal, 50, 290-309.

Iran needs a much more Diversified and Efficient Economy

شکل ۲-۴- سهم درآمدهای مالیاتی و درآمد نفتی از کل درآمدهای دولت (درصد)

منبع: بانک مرکزی جمهوری اسلامی ایران

توضیحات: در این شکل درآمد مربوط به مالیات عملکرد نفت جزء درآمدهای مالیاتی محسوب شده است. این نکته در مقایسه درآمدهای مالیاتی و نفتی دولت می‌تواند باعث ایجاد خطا شود. با حذف این جزء، سهم درآمدهای مالیاتی در سال‌های ۱۳۸۶ و ۱۳۸۷ نیز کمتر از درآمدهای نفتی خواهد بود.

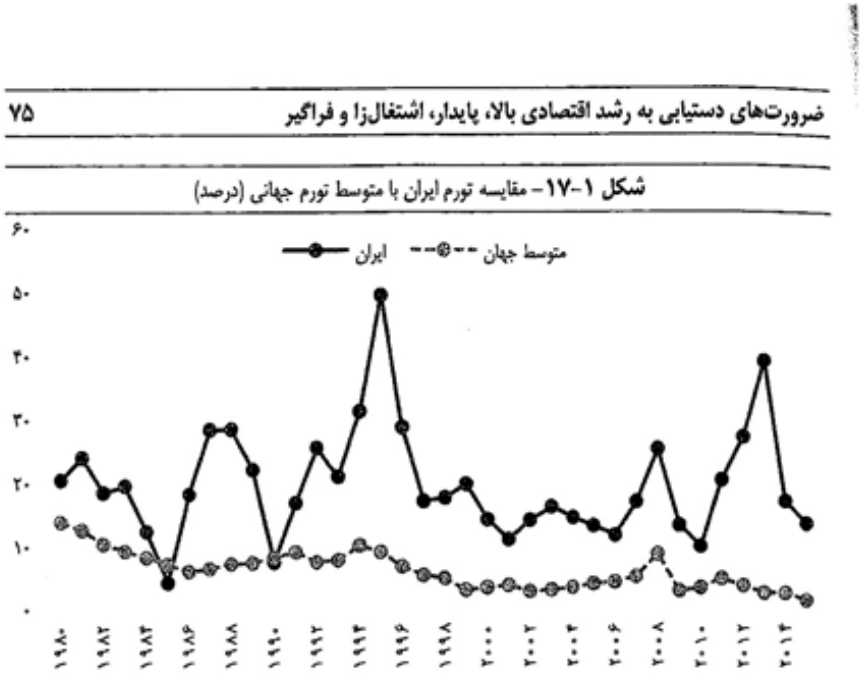
Fiscal Policy

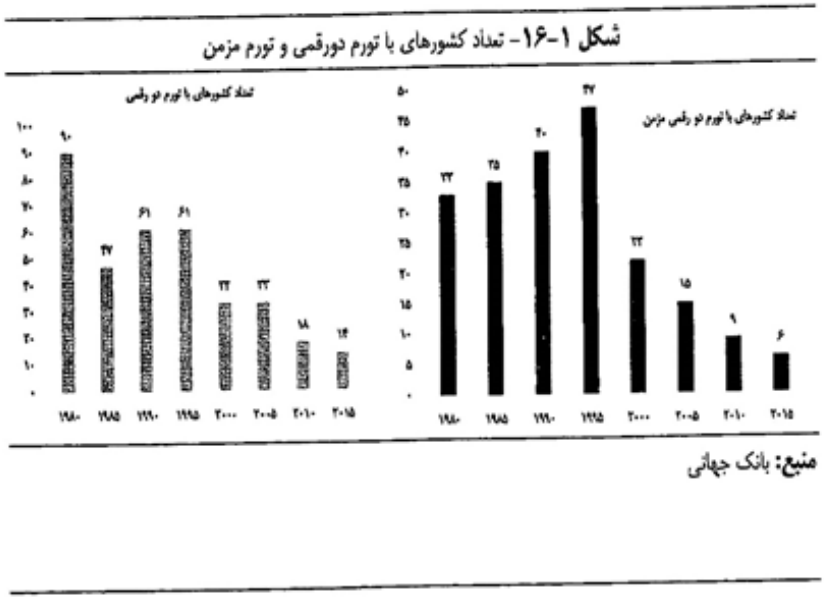
- **Revenue re-balancing:** raising non-distortionary taxes, such as consumption tax (VAT) and reducing the dependence on oil revenue;
- **Improved tax administration**; and
- **Spending side**: better targeting of subsidies (electricity, water, petrol). Urgent reforms are needed in the area of energy subsidy – which results in waste, economic distortions and air pollution.
- Reducing **fiscal dominance**.
- **Transparency**: on public sector balance sheet (not just the central government)
  - "publication of debt and asset data would enhance transparency and provide investors greater assurance about the government's capacity to repay debt and ultimately lower borrowing costs.
  - The Debt Management Office: "The on-going audit of arrears has revealed government arrears of about 30 percent of GDP which brought the debt-to-GDP ratio to near 50 percent in 2016/17. The audit shows that the central government's (CG) arrears are owed to banks, private contractors, and social security institutions."

Monetary Policy

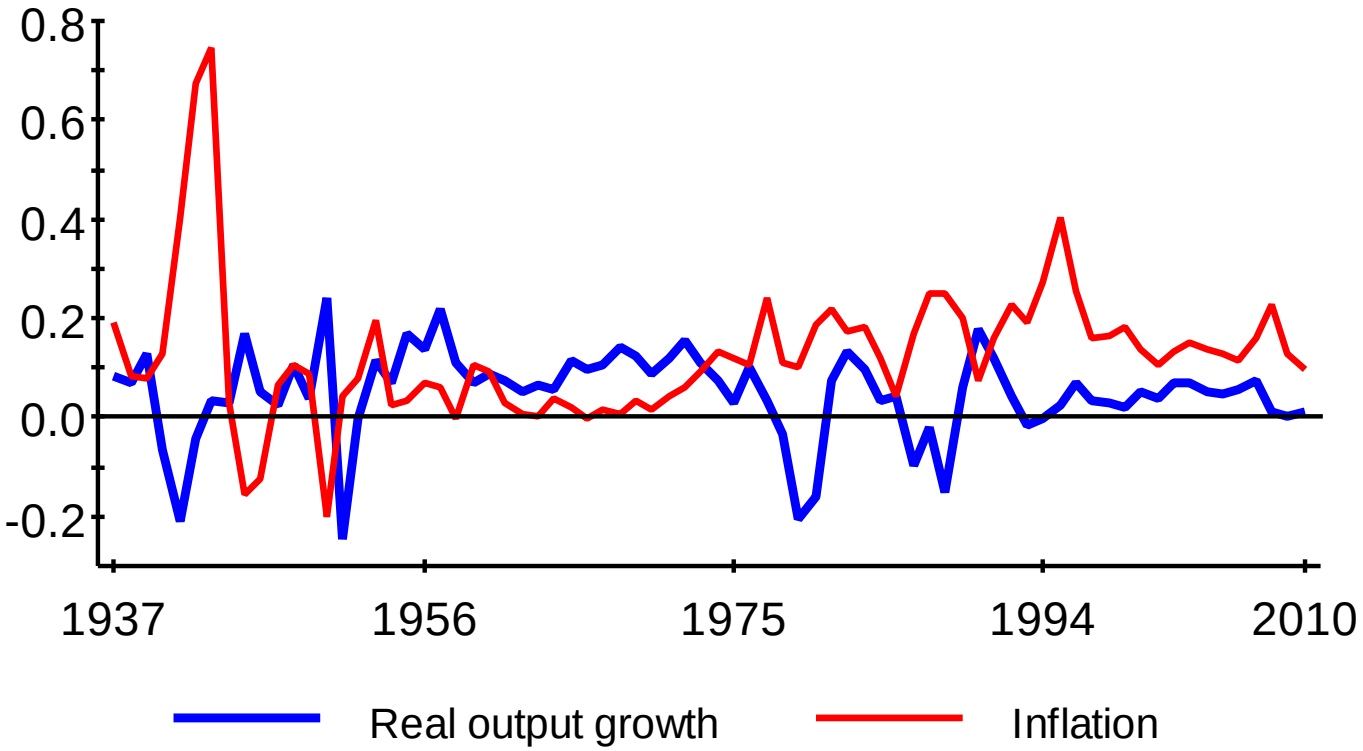
- **Keeping inflation in check**. This will require:
  - management of inflation expectations by building confidence in the government and the monetary authorities; and
  - that the nominal interest rates should be set above the level of prevailing inflation expectations. Otherwise there will be excess demand for loans (primarily destined for speculative purposes). In the case of Iran, following such a policy is particularly important, due to the presence of politically strong semi-government agencies with access to bank loans.
- A degree of **Central Bank Independence**; public sector fiscal balance and banking reforms.
- **Stability** of the financial system.
- **Orderly management** of foreign exchange markets!

High and Persistent Inflation





Real Output Growth and Inflation, 1937–2010



Source: K. Mohaddes and M. H. Pesaran (2014), *One Hundred Years of Oil Income and the Iranian Economy: A Curse or a Blessing?*, in P. Alizadeh and H. Hakimian (eds.), *Iran and the Global Economy: Petro Populism, Islam and Economic Sanctions*, Routledge, London.

Badly Needed Structural Reforms

- It will be important to reform the economic structure, increasing transparency and openness to private sector initiatives and foreign investment and **improve the business environment in general**.
- This may be very **threatening to existing economic vested interests**. Removal of price controls and untargeted subsidies may also be **politically difficult**.
- **Reforms of the banking sector** (stricter supervision and increased capitalization).
- **Labour market reforms** should be in place to increase labour force participation (in particular female).
- Product and service market reforms.

The Role of Revolutionary Guard in the Economy

- **Scope of IRGC Activities:** It is estimated that IRGC control between 10-30% of the Iranian economy. There are few public details available about the Revolutionary Guards' business interests. Companies known to be affiliated to IRGC include Sadra Iran Maritime Industrial Company (oil and gas projects), Shahid Rajaee Professional Group (construction), Etemad Mobin Development Company (bought Telecom Company of Iran for $7.8bn in 2009), Ansar Bank and Sepanir Oil and Gas Engineering.

- The **economic reach of IRGC** is wide-ranging and cover many other sectors, such as health, agriculture and petrochemicals.

- Due to the semi-state nature of the companies affiliated to the IRGC, they have **distortionary effects** on the private sector, are **not adequately accountable**, and tend to **encourage cronyism**.

- With new US sanctions against IRGC, there is the additional concern that IRGC's economic involvement **might deter foreign investors** who fear they could inadvertently end up doing business with entities linked to IRGC

Concluding Remarks

- Sanctions have, no doubt, harmed the Iranian economy – but one should not underestimate the damage done by years of economic mismanagement.

- **Iran needs a more resilient economy**, which implies:
  - strengthened institutions and policy mechanisms which act as shock absorbers in the face of high levels of oil revenue volatility
  - better conduct of fiscal and monetary policy
  - growth-friendly fiscal policies as well as structural reforms
  - private sector investment
  - diversification
  - regional development policies should be initiated that give priorities to remote regions that have been left behind
  - the role of semi-government agencies in initiating politically motivated expenses, and having priority over access to bank loans and credits must also be curtailed.

Concluding Remarks

- **In order to promote growth**, policies should be devised:
  - to control inflation;
  - to serve as shock absorbers negating the adverse effects of oil revenue volatility;
  - to reduce rent seeking activities; and
  - to prevent excessive dependence of government finances on oil income.

- Bottom line: Iran needs to adopt a comprehensive package of fiscal, monetary, financial and structural reforms aimed at addressing its inter-related challenges.

- **The policy choices are not easy**!