

A person with a backpack stands on a large, white, curved architectural structure, possibly a dome or a large-scale sculpture, under a clear blue sky. The structure has a grid-like pattern on its surface. The overall scene is bright and modern.

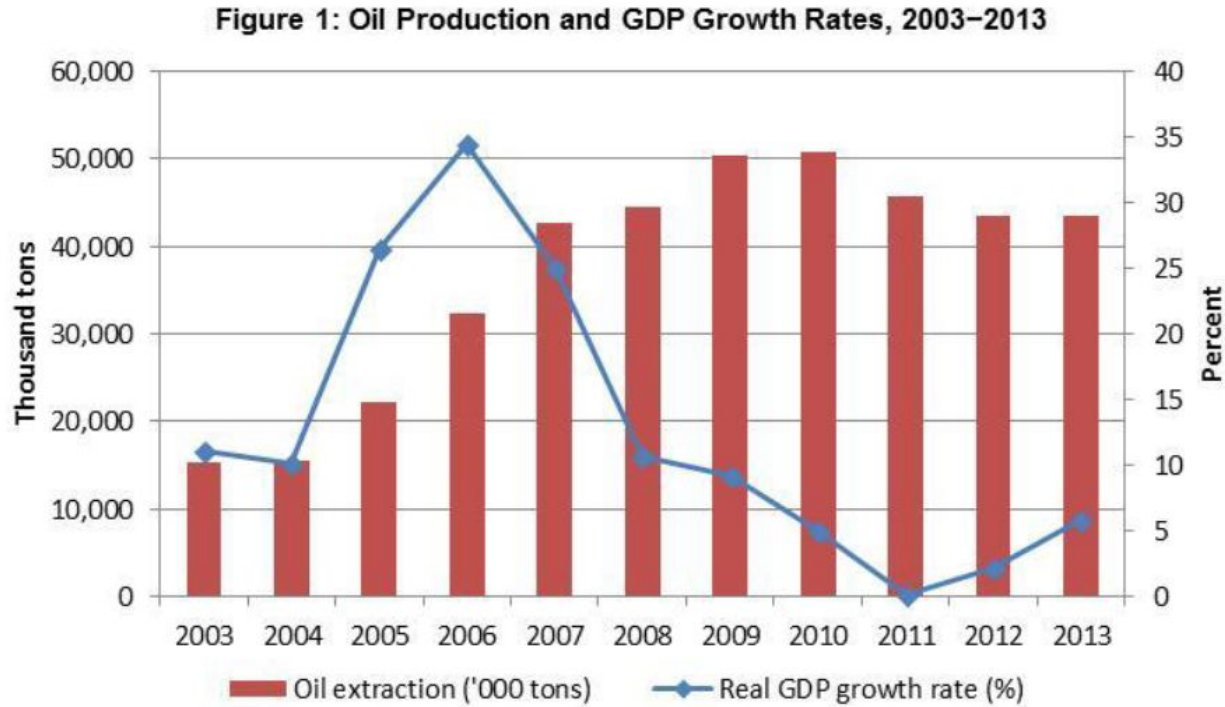
AZERBAIJAN

THE LAND OF FIRE

But what about the oil?

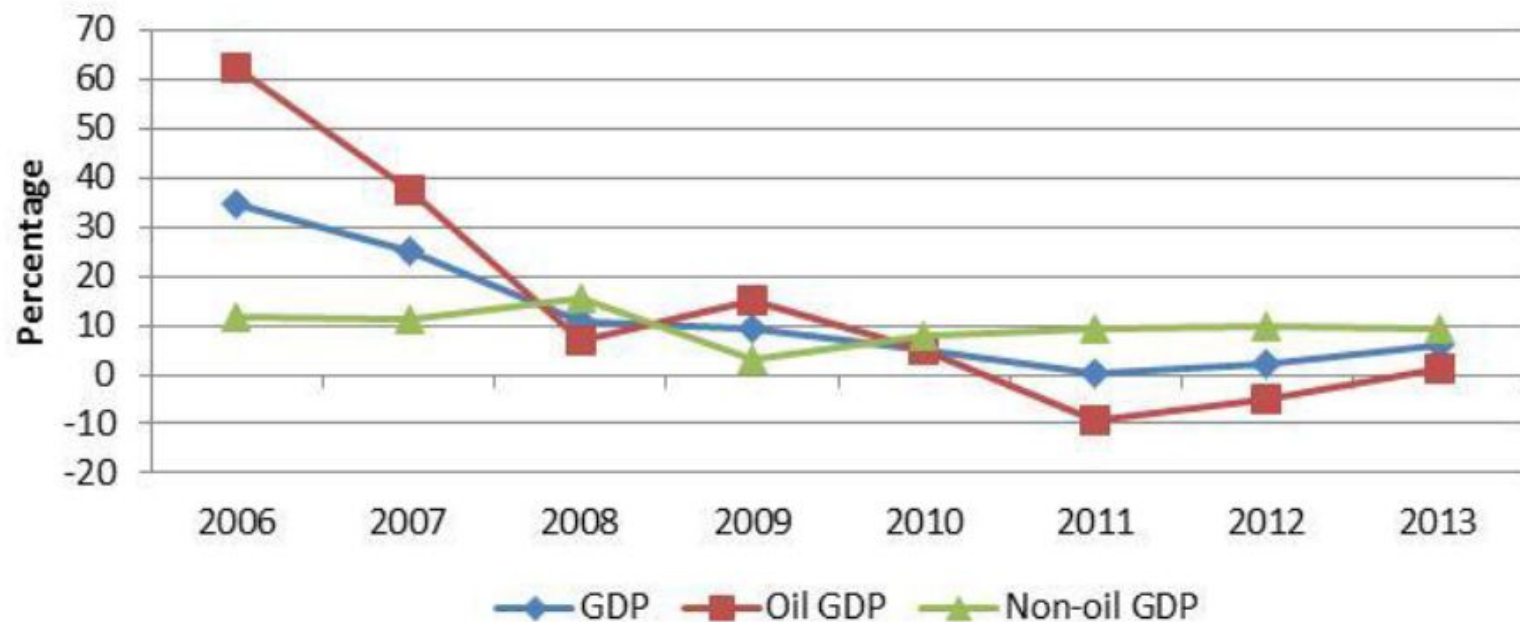
Július Danko, Vojtěch Janků, Martin Kutlak, Ngoc Nam Nguyen

BTC oil pipeline and GDP



Sources: State Statistical Committee, Central Bank of Azerbaijan, and SOCAR websites.

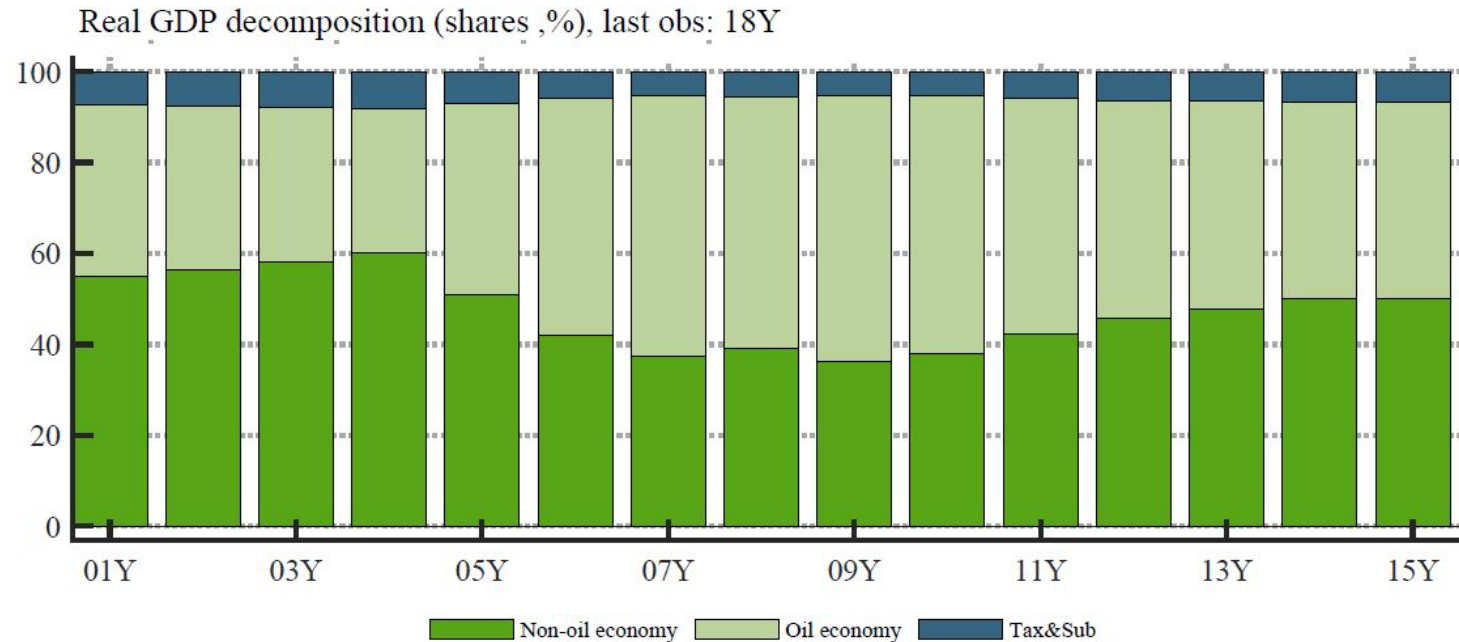
Figure 2: Oil and Non-Oil GDP Growth, 2006–2013



Sources: Central Bank of Azerbaijan website and IMF Article IV reports

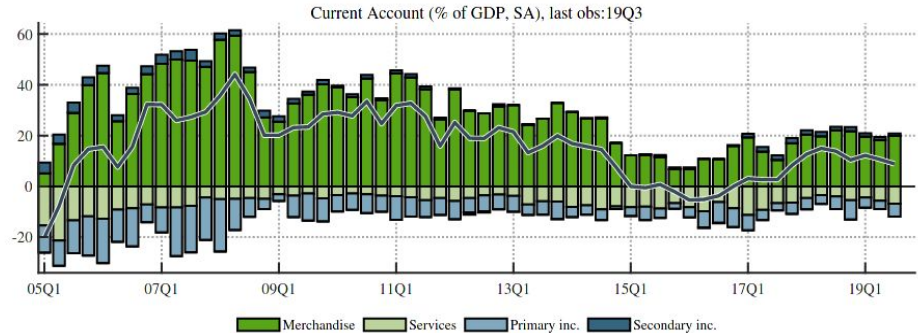
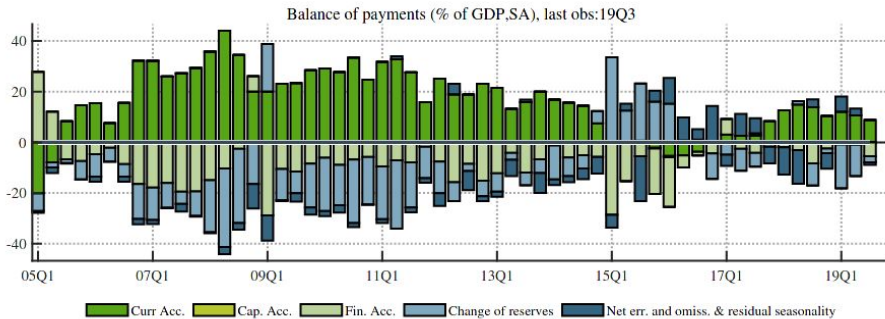
GDP decomposition

- Oil sector accounts for more than half of GDP, however other sectors are indirectly financed from the oil revenues because of huge government expenditures



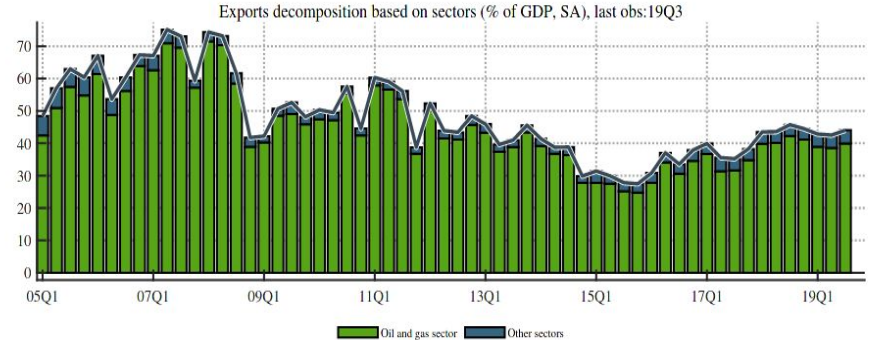
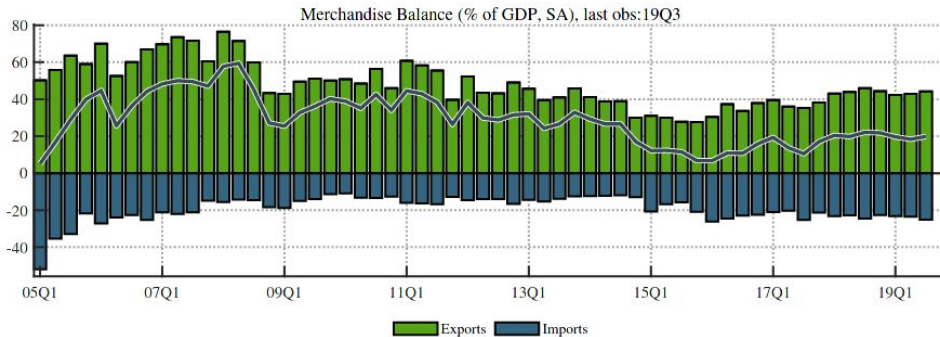
BOP - current account

- CAB mainly consisted of BOT (trade surplus caused by surge in gas and oil sector exports)
- CAB peak in 2008 at 40% of GDP, since then it has fallen down to roughly 20% in 2014



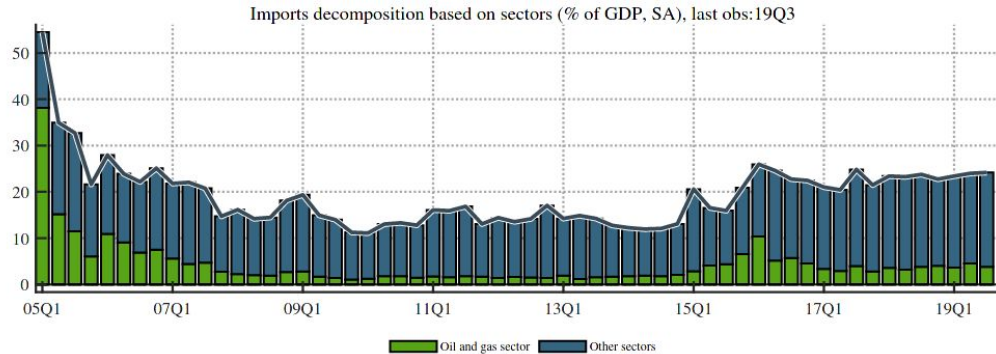
BOT - focus on exports of oil and gas

- heavy dependency on oil and gas sector in exports
- similar trend as in CAB (due to surge in gas and oil exports)
- oil and gas exports: on average 94,7% of total exports (from 2006 to 2012, according to IMF)



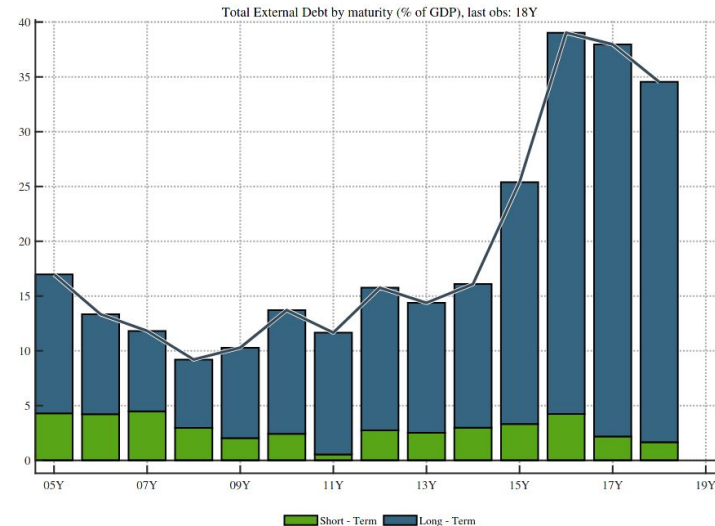
BOT - imports

- rapid increase of oil production between 2006 and 2008 removed the reliance on foreign oil and gas imports
- after that imports mainly consisted of non-oil sectors



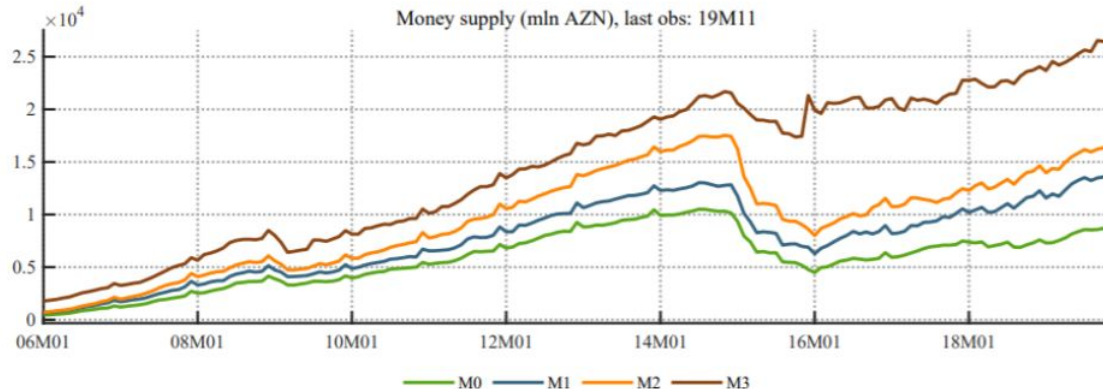
Remittances and external debt

- dependency on received remittances decreased (from 4.70 to 2.45%)
- external debts between years 2005 and 2014 remained stable between 10 and 15% of GDP



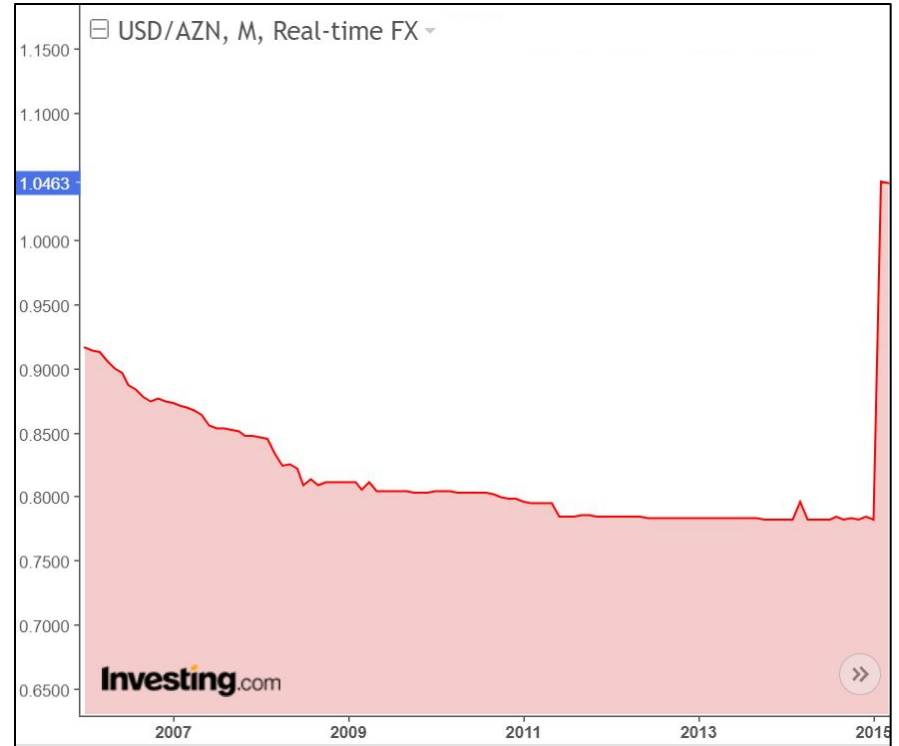
Monetary policy

- Focus: **stable exchange rate**
- Underdeveloped domestic debt market → limited monetary tools
- Azeri manat denomination in 2006 → new currency
- Currency appreciation since 2006 → expansionary monetary policy to cover currency demand → M2 expanded 546% between 2006 and 2012 and continued to grow



Nominal exchange rate

- Basically **fixed against USD** (oil markets priced in dollars)
- Maintaining a managed exchange rate gives some benefits of “importing” a relatively stable monetary policy
- This limits policy options and has contributed to inflation and output volatility.



Source: [IMF: Republic of Azerbaijan: Selected Issues \(2013\)](#)

Real exchange rate

Large influx of foreign currencies from oil exports

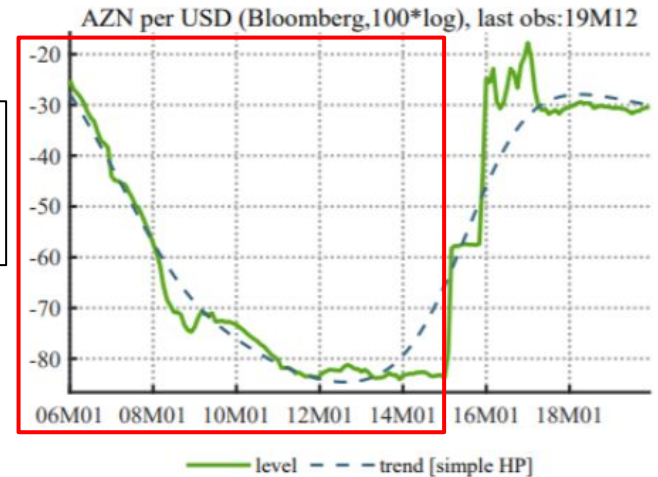
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Insufficient instruments for effective sterilization and the weak monetary policy transmission channel

↓

Volatility and an appreciation of the real effective exchange rate, which hurts competitiveness and prospects for export diversification.

Source: [IMF: Republic of Azerbaijan: Selected Issues \(2013\)](#)



Inflation

- volatile inflation in 2000-2014 (nearly 21% in 2008)
- determinants of inflation in Azerbaijan:
 - **Monetary policy** - converting the oil revenues of the state budget which in turn leads to high money growth and therefore high inflation
 - **Fiscal policy** - huge government spending (infrastructure and social projects) financed directly by oil revenues (SOFAZ)
 - **Exchange rate** - real appreciation caused deflationary pressures (not exactly observed)
 - **Oil price** - indirect transmission through imported goods (import cost-push shock)

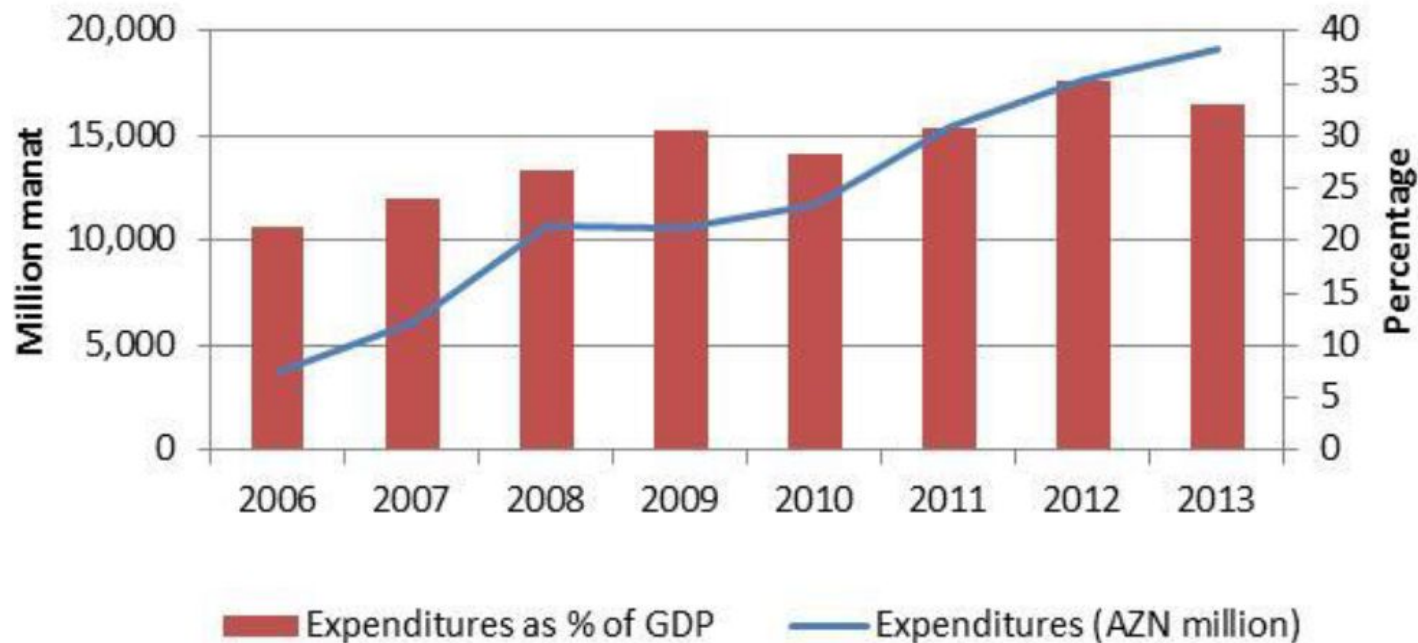
Inflation, consumer prices (annual %) - Azerbaijan



Source: <https://data.worldbank.org/>

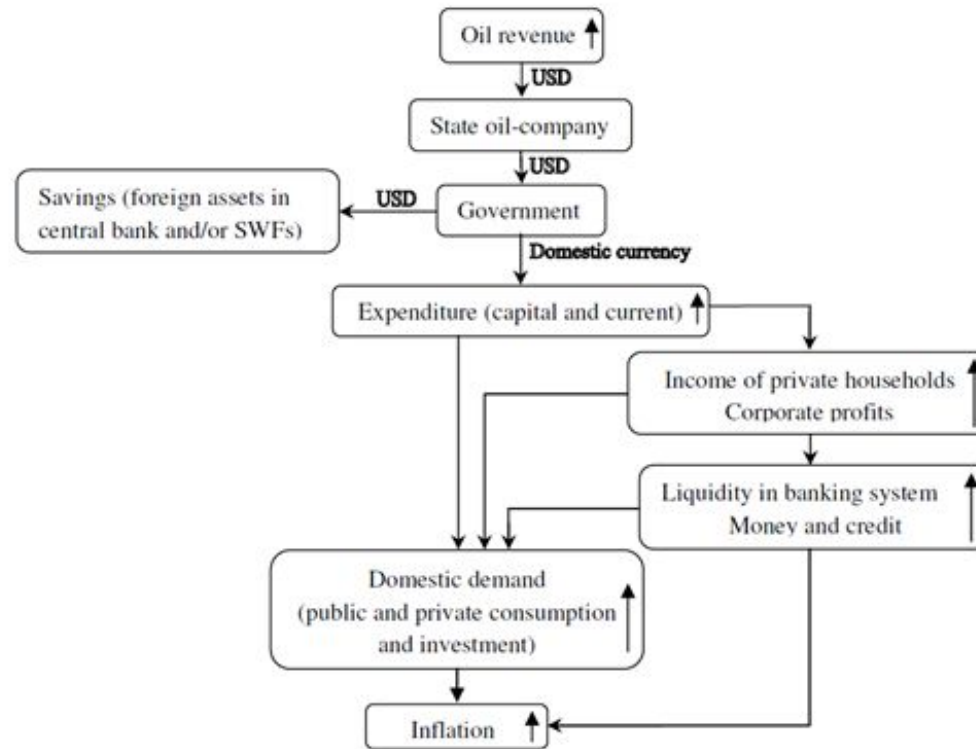
Fiscal policy

Figure 5: Budget Expenditures, 2006–2013



Source: National Budget Group and 2013 state budget

Government spending pass-through



Source: Hasanov (2009) - Analyzing price level in a booming economy - the case of Azerbaijan

QPM: Monetary policy rule

$$i_t = \gamma_1 i_{t-1} + (1 - \gamma_1)(i_t^{neutral} + \gamma_2(E_t \pi_{t+1} - \pi^{tar}) + \gamma_3 \hat{y}_t) + \epsilon_t^i$$

- Poorly developed financial markets and dependence of the commercial banks on the foreign borrowing, as well as absence of inflation targeting suggest different formulation of the equation.
- The usual interpretation of the monetary policy shock is not valid in case of Azerbaijan

QPM: Uncovered interest rate parity

- UIP equations might be misspecified because it determines the nominal exchange rate, which is in case of Azerbaijan fixed during most of the examined period

$$i_t = i_t^{US} + E_t \Delta s_{t+1} + prem_t$$

QPM: IS curve

- Due to high dependence of Azerbaijan's economy on oil revenues, impact of oil price changes on Azeri GDP is fairly important (Zulfigarova and Neuenkirch, 2020)
- As Chafik (2019) suggests, including the **oil price** in IS curve might be more appropriate description of the the output in oil exporting countries

$$\begin{aligned}\hat{y}_t &= \alpha_1 E_t \hat{y}_{t+1} \\ &+ \alpha_2 \hat{y}_{t-1} \\ &- \alpha_3 \cdot \hat{r}_t \\ &+ \alpha_4 \cdot \hat{z}_t \\ &+ \alpha_5 \cdot \hat{y}_t^{US} \\ &+ \epsilon_t^y\end{aligned}$$

QPM: Phillips curve

- We did not find anything particularly problematic about the QPM equation for the Phillips curve

$$\begin{aligned}\pi_t &= \beta_1 E_t \pi_{t+1} \\ &+ (1 - \beta_1) \pi_{t-1} \\ &+ \beta_2 \hat{y}_t \\ &+ \beta_3 (\hat{z}_t - \hat{z}_{t-1}) \\ &+ \beta_4 \hat{z}_t \\ &+ \epsilon_t^\pi\end{aligned}$$

QPM: Real exchange rate

- Movements in the RER trend are considered to reflect country's productivity and therefore have no impact on output gap or inflation
- Not the case of Azerbaijan
 - volatile inflation
 - unstable output
- This leads to big gap

$$z_t = s_t + p_t^{us} - p_t$$

$$\Delta \bar{z}_t = \rho \cdot \Delta \bar{z}_{t-1} + (1 - \rho) \cdot \Delta \bar{z}_{ss} + \epsilon_t^{\bar{z}}$$

QPM model - summary

- Apart from the mentioned misspecifications (monetary policy rule, IS curve, real exchange rate and the UIP equation) the fiscal policy block and the exports should be explicitly modelled, because they are the main drivers of the economic dynamics in Azerbaijan.

Literature

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