Declining Oil Prices and Kuwait’s Economic Performance

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Presentation Outline

• Introduction
• Policy Challenges
• Model Structure
• Estimation Methods
• Model Assessment: Predictive Ability
• Policy Simulations
• Policy Options under Alternative Oil Price Scenarios
Introduction

Historical Development in the Price of Crude Oil: Monthly Average
Introduction

- Developments in the price of crude oil in the international market
- After remaining above US$ 100/barrel for almost 45 months (Feb. 2011 to Aug. 2014), the price of oil has dropped to below US$ 50/barrel. Average price in Feb. 2016 was US$ 31 per barrel.
- For both oil exporting and importing countries, the recent development with respect to oil price has profound implications.
- As a result of high oil price, Kuwait experienced a surplus in its budget and managed to accumulate reserves (FGF and GRF). It is estimated that reserves under GRF increased sharply.
Introduction

General Reserve Fund

Future Generation Fund
Introduction

• While it is difficult to accurately predict the price of oil in the future, it is expected to remain low for a number of reasons (US Shale Oil, Expected Supplies from Iran, OPEC decision to maintain its market share, Weak Asian Growth – China, etc.). The World Bank forecasts the price of oil to be around $37 and $48 for 2016 and 2017 respectively.

• Although the price is still high compared to its level between July 1985 and Dec. 2004, what has made the situation worrisome is the increase in expenditure obligation of the government. World Bank/IMF Estimate, for Balanced Budget the Break-even Price for Kuwait is around US$ 55/barrel for the year 2015.

• Kuwait must prepare itself to face deficit in its annual budget, and formulate appropriate plans and policies to counter likely negative implications.
Introduction

• In this context, it is important to know the likely impact of policies and domestic and/or external shocks on the economy in terms of nature (favorable vs. adverse and permanent vs. temporary), magnitude, and duration (how soon the economy return to stable equilibrium). This is especially in the case of adopting measures to counter any possible adverse impacts.

• We present results that are based on a macro-econometric model for Kuwait recently developed by TED/KISR.
Policy Challenges

• Existence and Persistence of Structural Imbalances
  ▪ Dominance of Oil
  ▪ Large Public Sector
  ▪ Absence of Effective Tax Structure
  ▪ Dualistic Labor Market

• Exposure to Global Markets
  ▪ Oil Production (Determined by OPEC)
  ▪ Oil Price (International Market)
  ▪ Exposure to Trade (Economic Growth in other Countries/Regions)
  ▪ Capital Invested Abroad (Equity Market)
Policy Challenges

• As a result of the dual nature of the economic problem or dependence (i.e., domestic internal structural imbalances and exposure to external factors), the Kuwaiti authorities face much trickier challenges in economic planning and policy-making than authorities in other countries where domestic demand is an important driver of economic growth.

• Removing structural imbalances and at the same time insulate the economy from adverse international crises to ensure that Kuwait’s economy can move to a sustainable growth path.

• It is necessary to carefully study the direct and indirect impacts of internal and external shocks on economic performance, and use evidence-based economic planning and policy reforms.
Model Structure: ME 2015

- Main Components
  - Aggregate Demand
    - Domestic Demand: Private Consumption, Public Consumption, Investment (by Economic Activity)
    - External Demand: Exports (3), and Imports (3)
  - Aggregate Supply/Production: 16 Economic Activities
  - Fiscal: Government Revenues and Government Expenditures
  - Labor Market: Labor Demand and Wages (by Economic Activity)
  - Prices
  - Monetary

- Key Features
  - Focus on Public and Private Sectors (Production, Investment, Labor Demand, Wages)
  - Focus on Impact of Sovereign Wealth Fund (FGF & GRF) on Kuwaiti Economy
  - Government Expenditure: Endogenous
  - Complete Labor Module (for both Supply and Demand)
  - Policy Variables: Public Employment, Public Wage
Model Structure

- Variables = 327
  - Endogenous = 293
  - Exogenous = 34 (including dummy)
    - Policy = 14 (Average wage and employment in publicly-owned activities)
    - External = 6 (Crude Oil Price, Crude oil Production, LIBOR, CPIUS, NASDAQ, Exchange Rate)

- Relations (Distribution of Endogenous Variables)
  - Behavioral = 74 : Estimated Econometrically
  - Technical/Identities = 219
Estimation Methods

• Data: Annual Time Series - 1970 to 2012 (most variables start from 1983)
• Stationarity (Unit Roots: Dickey-Fuller Test)
• Co-integration (Johanssen Method: Trace and Maximal Eigenvalue)
• The Non-stationary Time Series Estimated as either
  • Auto-regressive Distributed Lag
  • Partial Adjustment
  • Error Correction
• The Behavioral Equations Estimated in Logarithmic Form
Model Assessment: Within Sample Forecast

- Forecast Period 2008-2012
- Static Forecasts (One Step Ahead Forecast Tests)
- Dynamic Forecasts
- Very close results for both types of in sample forecasts
- Theil coefficient between 0.016 and 0.062 (except Inflation 0.13) which means that forecasting ability of model is adequate
Out-of-Sample Forecast: 2015 - 2020

• Baseline: Average Annual Price of Oil at Level of $50 per barrel
• Low Price: Average Annual Price of oil at $25 per barrel (inspired by the price in Kuwait's 2016/2017 proposed budget)
• In these forecasts assume that there is no changes in government policy (Business as Usual)
Out-of-Sample Forecast: 2015 - 2020

Aggregate Demand (Lower Oil Prices) vs. Aggregate Demand (Baseline)

Current Account Balance (Lower Oil Prices) vs. Current Account Balance (Baseline)

Public Consumption (Lower Oil Prices) vs. Public Consumption (Baseline)

Private Consumption (Lower Oil Prices) vs. Private Consumption (Baseline)
Out-of-Sample Forecast: 2015 - 2020
Out-of-Sample Forecast: 2015 - 2020

- Public Output (Lower Oil Prices)
- Public Output (Baseline)

- Private Output (Lower Oil Prices)
- Private Output (Baseline)

- Public Investment (Lower Oil Prices)
- Public Investment (Baseline)

- Private Investment (Lower Oil Prices)
- Private Investment (Baseline)
Oil Price Reduction: Policy Options

• Oil Price 2016-2020: $25 per Barrel
• We compare the no government intervention scenario with restricting government expenditure growth:
  ✓ Scenario A: Growth Across Different Expenditure Categories is Below Recent Trend
    ➢ Compensation to Employees (Public Sector Employment and Wages)
    ➢ Purchase of Goods and Services
    ➢ Domestic Transfers
    ➢ Foreign Transfers
    ➢ Subsidies
    ➢ Capital
  ✓ Scenario B: Scenario A + Further Restrictions on Employment
Policy Scenarios: Comparison

- **Aggregate Demand:**
  - Baseline
  - Scenario A
  - Scenario B

- **Current Account Balance:**
  - Baseline
  - Scenario A
  - Scenario B

- **Public Consumption:**
  - Baseline
  - Scenario A
  - Scenario B

- **Private Consumption:**
  - Baseline
  - Scenario A
  - Scenario B
Policy Scenarios: Comparison

- Government Revenues: Available (Baseline)
- Government Revenues: Available (Scenario A)
- Government Revenues: Available (Scenario B)

- Surplus/Deficit (Baseline)
- Surplus/Deficit (Scenario A)
- Surplus/Deficit (Scenario B)

- Government Expenditure (Baseline)
- Government Expenditure (Scenario A)
- Government Expenditure (Scenario B)

- General Reserve Fund (Baseline)
- General Reserve Fund (Scenario A)
- General Reserve Fund (Scenario B)
Policy Scenarios: Comparison

Output: Public (Baseline)
Output: Public (Scenario A)
Output: Public (Scenario B)

Investment: Public (Baseline)
Investment: Public (Scenario A)
Investment: Public (Scenario B)

Output: Private (Baseline)
Output: Private (Scenario A)
Output: Private (Scenario B)

Investment: Private (Baseline)
Investment: Private (Scenario A)
Investment: Private (Scenario B)
# Table: Forecast Comparison

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1. For Budget Surplus/Deficit Average growth is from 2016-2020
## Table: Forecast Comparison

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<td></td>
<td></td>
</tr>
<tr>
<td>$50 Per Barrel</td>
<td>2698.6</td>
<td>2845.0</td>
<td>3002.8</td>
<td>3193.3</td>
<td>3431.7</td>
<td>3732.7</td>
<td>6.7%</td>
</tr>
<tr>
<td>$25 Per Barrel</td>
<td>2698.6</td>
<td>2828.4</td>
<td>2983.5</td>
<td>3160.5</td>
<td>3382.8</td>
<td>3667.3</td>
<td>6.3%</td>
</tr>
<tr>
<td>$25 Per Barrel + Lower Expenditure</td>
<td>2694.3</td>
<td>2825.8</td>
<td>2984.4</td>
<td>3166.3</td>
<td>3392.6</td>
<td>3679.8</td>
<td>6.4%</td>
</tr>
<tr>
<td>$25 Per Barrel + Lower Expenditure + Strict Employment</td>
<td>2693.5</td>
<td>2824.3</td>
<td>2981.8</td>
<td>3162.5</td>
<td>3387.3</td>
<td>3672.6</td>
<td>6.4%</td>
</tr>
</tbody>
</table>
Concluding Remarks

- If oil prices remain low, Kuwait will be facing deficit in its annual budget. Depending on the oil price and policy response scenario, the accumulated deficit for period 2015 – 2020 could range from KD 43 billion to KD 67 billion.
- If the deficit persists, the GRF will deplete (around 2022) and the government will have to think about options for financing the deficit (Debt instruments, increasing money supply, reducing/freezing share of FGF, Taxes). Budget cuts do lower the deficit and relief pressure on GRF, yet it is crucial for Kuwait to address the structure of its production base (Diversify).
- The performance of the private sector (GDP, Investment, Consumption.) is robust to developments with respect to oil price and government expenditure policy.
- While Policy option B helps in curtailing the deficit, but it restricts the growth of the economy (to some extent even the private sector). So there is a trade-off between budgetary and growth objectives.
Thank You