

Discussion Topics

Database Management and Usage

Business Cycle and Early Warning Indicators An Application to the Financial Markets (A macro Perspective)

Capital Markets Authority - Kuwait



Disclaimer

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The Views expressed herein are those of, Mahmoud A.M BuShehri.

Presentation Outline

1. CMA Financial Database Management and Usage.

Applications

2. Business Cycle and Leading Economic Indicators.

3. Stock Price Indices for Sharia compliant Companies.

4. Early Warning Indicators Related to Capital Markets.

5. Financial Bubble in the Equity Markets.

6. Evaluating the Performance of Listed Companies.

7. Concluding Remarks

1. CMA Financial Database Management and Usage

The main objectives of CMA include (not limited to):

- Ensure efficiency and the development of the capital markets.
- Investor protection.
- Mitigate systemic risks in capital markets.
- Prevent the use of inside information.
- Enhance public awareness about the benefits and risks associated with investments in security markets.

1. CMA Database

- By Law CMA cannot disseminate any information.
- However, CMA may release some Islamic financial data in aggregate form, and may be limited to:
 - ❑ Islamic Investment Funds.
 - ❑ Sukuk Issuance.
 - ❑ Types of licenses issued to Islamic financial institutions regulated by CMA and working in securities activities.

1. CMA Database.....

CMA Database Sources

Capital Markets Authority
*(Investment funds, Sukuk,
Financial statements, ...)*

Central Bank
*(Money supply, Cost of debt
Exchange rates, ...)*

Central Statistical Office
*(Macroeconomic data,
Survey data, ...)*

Stock Exchange
*(Financial statements,
Market activity, ...)*

Financial Institutions
*(Financial products,
Asset allocation, ...)*

International data providers
*(International financial
markets data)*

1. CMA Database.....

Usage of Database (*examples*)

Identify potential trend
of the economy

Building Macroeconometric
models (*financial bubbles*)

Develop stock
price indices

Evaluate the financial
performance of companies

Develop systems of
early warning indicators

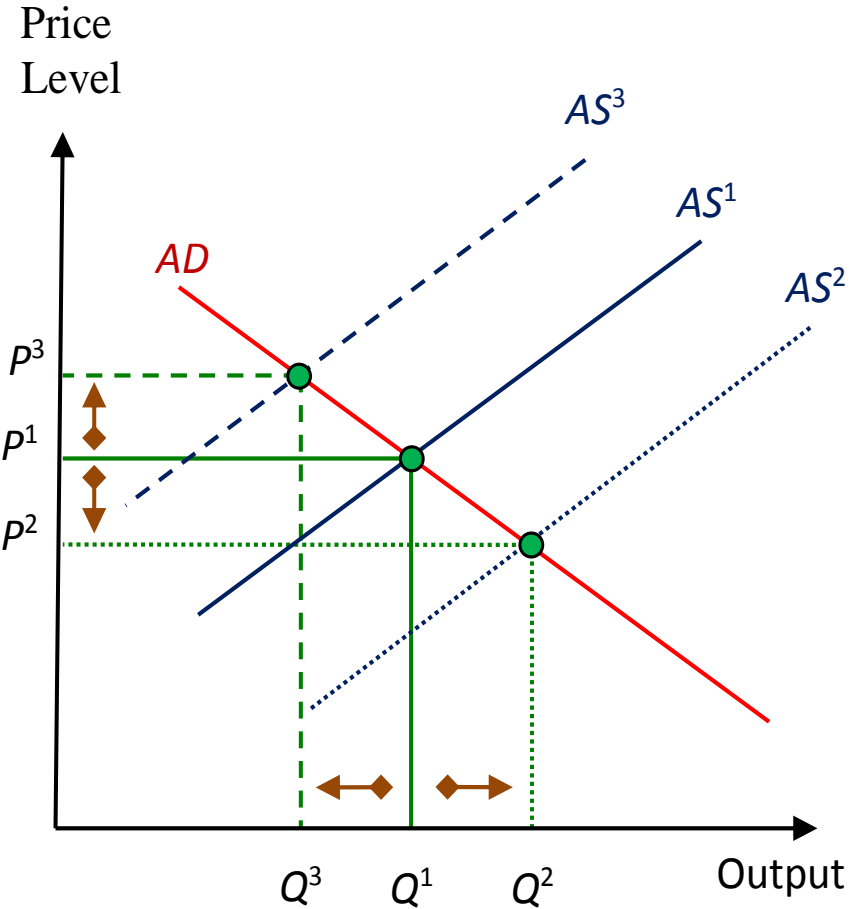
Detect unusual trading
in the equity markets

2. Business Cycle and Leading Economic Indicators

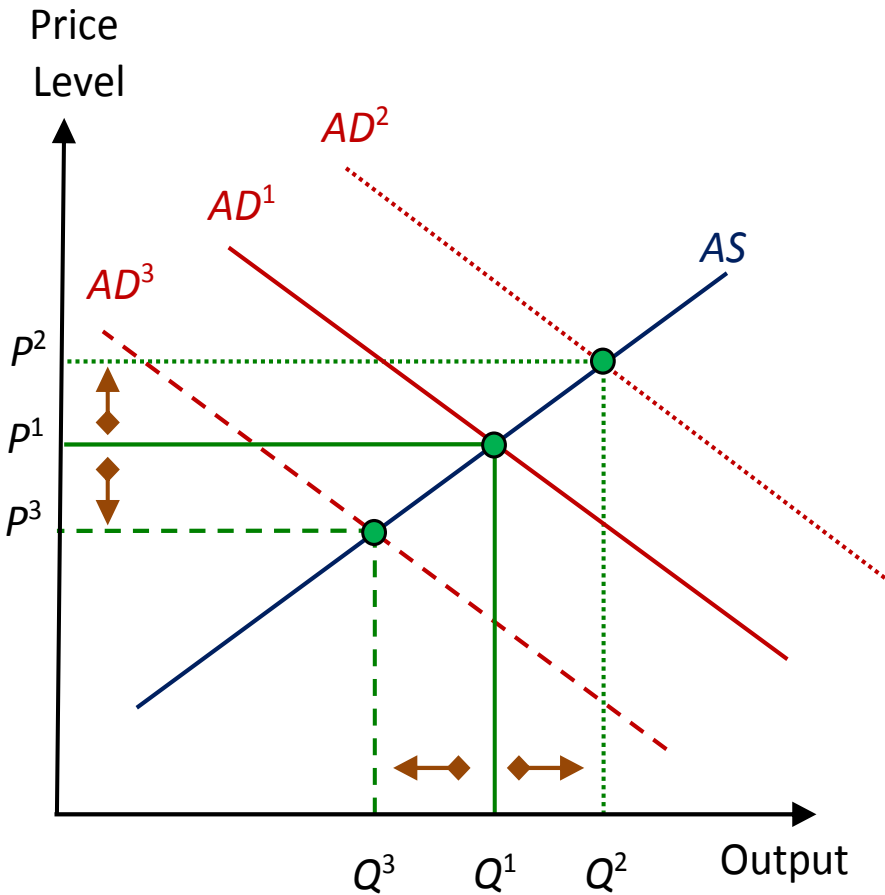
- The business cycle is defined as a repeated sequence of economic expansion (boom) giving way to decline (recession) followed by a recovery.
- The causes of the business cycles are supply and demand shocks.
- There is uncertainty about the timing and direction of the business cycle because of data and recognition lags.

2. Business Cycle and Leading Economic Indicators

Supply Shocks



Demand Shocks



2. Business Cycle LEIs

- LEIs move in advance and in the same direction as the business cycle, they are reflective of the future direction of the economy.
- LEIs can assist
 - ✓ Government officials in choosing the appropriate policy at the right time to smooth business cycle fluctuations (stabilizing policies).
 - ✓ Managers in financial institutions in improving their portfolio allocation models and minimizing risk of taking bad decisions in uncertain environments.

2. Business Cycle LEIs

➤ Examples of LEIs:

1. Aggregate demand/Output

- ✓ Expected industrial production of large, medium, and small size firms.

2. Government Spending

- ✓ Government expenditure and financial status.

3. Personal Income and Expenditure

- ✓ Household income and earnings.

4. Gross Private Domestic Investment

- ✓ Building permits & construction spending.

2. Business Cycle LEIs

5. Prices

- ✓ Changes in consumer price Index (inflation) and the prices of construction and industrial materials.

6. Consumers

- ✓ Consumers confidence index.

7. Labor Market

- ✓ Change in wages.

8. International Trade

- ✓ Commodity prices.

2. Business Cycle LEIs

9. Financial Markets

- ✓ Change in Money supply.
- ✓ Changes in the stock prices.
- ✓ Changes in listed companies financial status.
- ✓ Changes in real estate prices.

“The recent global financial crisis has highlighted the need for statistical agencies around the world to provide and feature up-to-date indicators that can help analysts identify potentially harmful trends in the economy.” (Carol Moylan –Bureau of Economic Analysis, US Department of Commerce)

3. Stock Price Indices for Islamic Companies

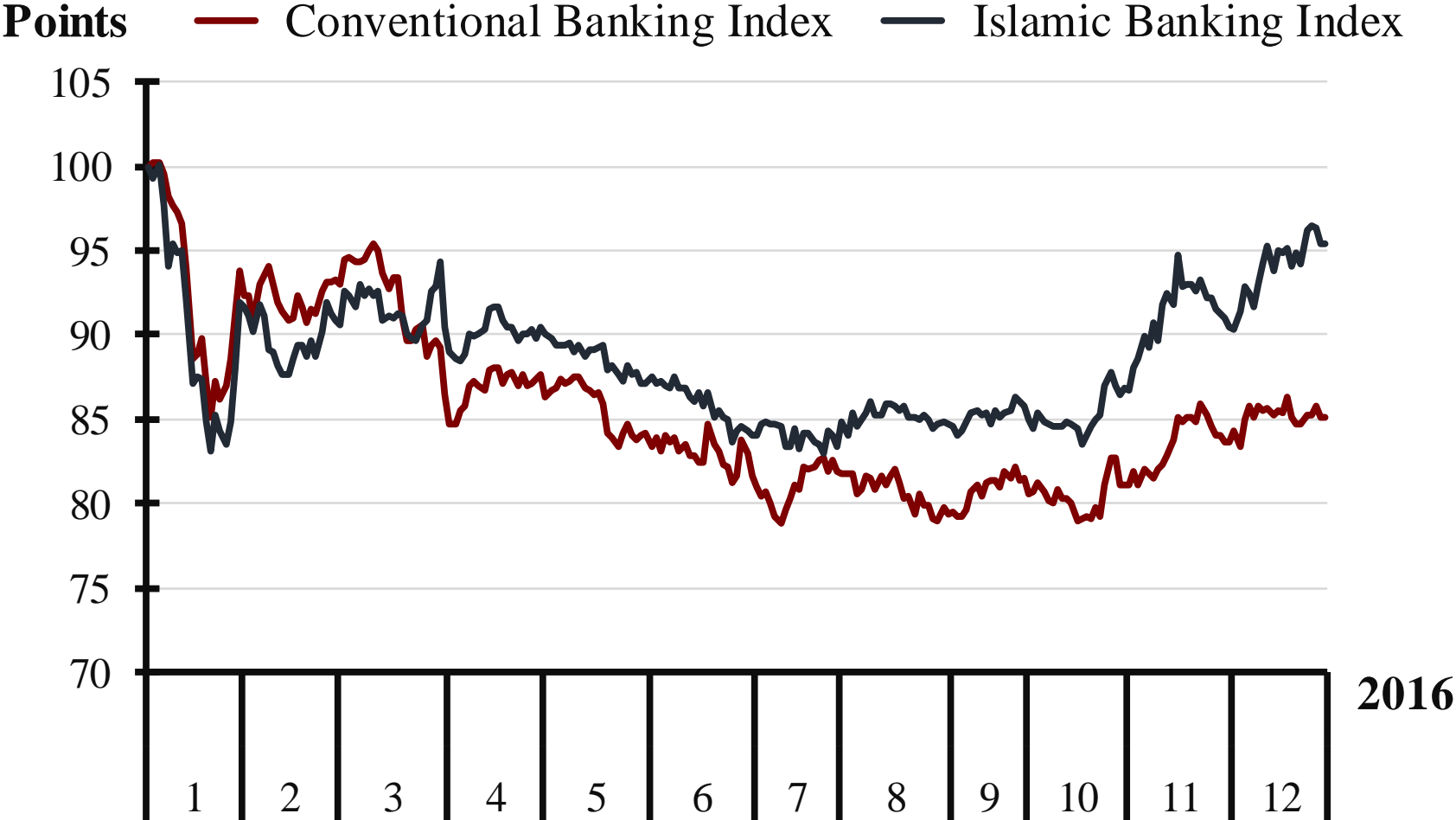
- It is highly important to have broad based stock price indices for companies that are compliant with Sharia law.
- One of the useful indices that we have implemented is the Stone Price Index, which is given by the following formula:

$$\bar{P} = \prod_{i=1}^n P_i^{w_i} \approx \ln \bar{P}_t = \sum_{i=1}^n w_{it} \ln P_{it}$$

where, \ln is the natural logarithm, w_i is the market cap of company i , and P_i is company i stock price.

3. Stock Price Indices for Islamic Companies

Stock Price Indices: Islamic versus Conventional Banking



4. Early Warning Indicators

The objective of this project is to have a general index that tracks the movements (changes) of the most influential macroeconomic and financial variables affecting the equity markets.

These variables Include:

- Non oil GDP.
- Money supply.
- Kuwait oil price per barrel.
- Inflation rate.
- Personal credit facilities to purchase securities.

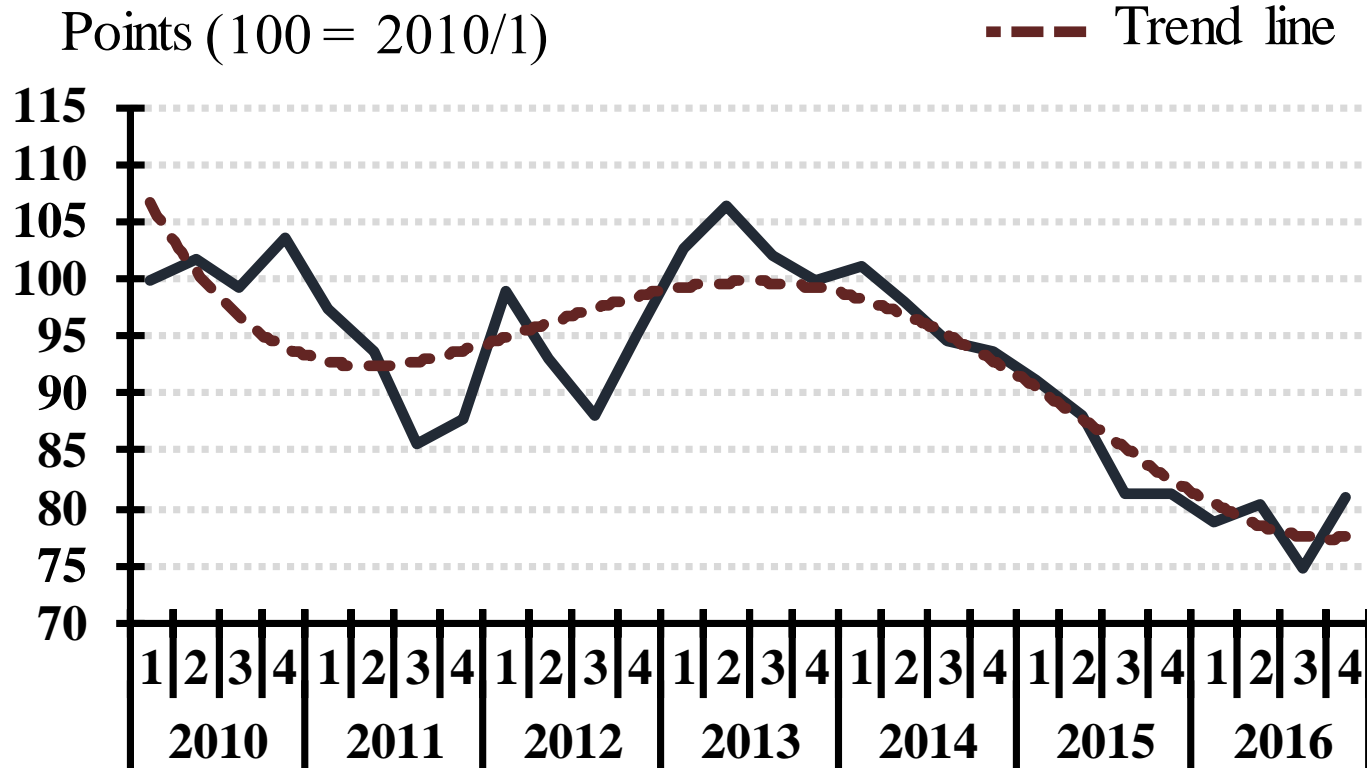
4. Early Warning Indicators

- The exchange rate of the Kuwaiti Dinar (KD) against a basket of currencies.
- Weighted average interest rate on long term deposits.
- Total assets and shareholder equities of listed companies at BOURSA Kuwait (BK)
- Net Income of listed companies
- Return on Investment
- The depth of equity markets as a measure of the liquidity.

(Total number of variables = 20)

4. Early Warning Indicators

General Index of Early Warning Indicators



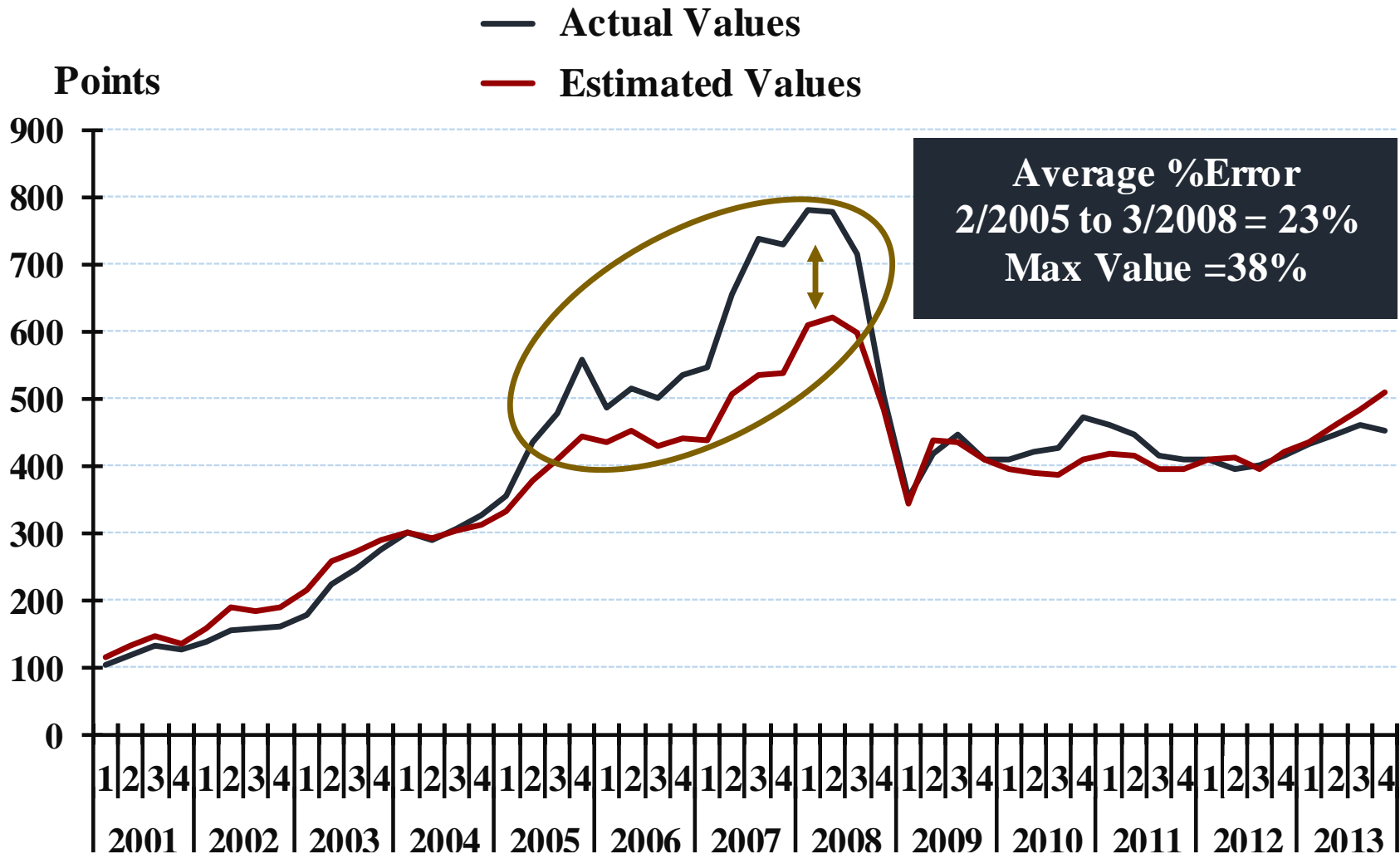
5. Financial Bubbles in the Equity Markets

- The objective of this project is to monitor whether the movements of the weighted stock price index at BK are consistent with the fundamental of the markets.
- In doing so, a macro-econometric model was developed relating the stock price index to a set of macroeconomic variables and lag traded volume as a proxy for investors confidence.

The Model was able to detect the financial bubble

5. Financial Bubbles in the Equity Markets

Actual and Estimated values of the Weighted Stock Price Index



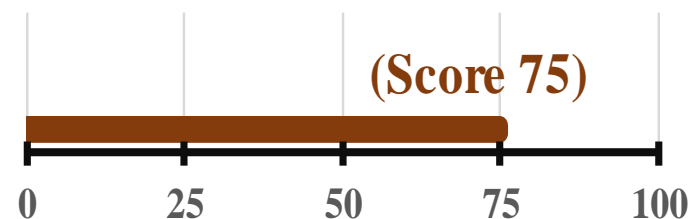
6. Evaluating the Performance of Listed Companies

- The objective of this project is to develop a performance index that measures the overall financial strength of companies listed at BK.
- The performance index is based on the financial ratios obtained from companies' financial statements (i.e., Balance sheet and Income statements)
- The performance index has a score that ranges from 0 (lowest value) to 100 (the highest value).

6. Evaluating the Performance of Listed Companies

Listed Companies at KSE

Financial Statements	2016	Financial Ratios	
Total number of companies	196	Current Ratio	0.84
Total Paid up Capital (million KD)	9,957	Leverage Ratio	3.54
Total Outstanding Shares (million shares)	174,430	Market Value to Book Value	1.13
Total Assets (million KD)	122,685	Net Operating Profit Margin	26.1%
Total Current Assets (million KD)	62,828	Return to Equity	6.5%
Total Liabilities (million KD)	95,647	Earnings to Price Ratio	6.7%
Total Current Liabilities (million KD)	74,748		
Total Shareholders Equity (million KD)	27,038		
Total Operating Revenues (million KD)	13,011		
Total Net Operating Profit (million KD)	3,402		
Total Net Income (million KD)	1,746		
Earning Per Share (Fils)	10		
Average Book Value (fils)	132		
Average Market Value (fils)	149		



7. Concluding Remarks

- Statistical agencies in OIC member countries need to develop and maintain a complete set of leading economic indicators covering all economic sectors and markets.
- It is imperative to develop and maintain complete database for all companies listed at the Islamic countries stock exchanges.
- It will be very useful to develop and maintain stock price indices for companies operating in different Islamic geographic regions (*analogous to the MSCI Emerging Market Indices*).

THANK YOU