

Benchmark for Pricing Islamic Credit Instruments

Islamic Research and Training Institute

Islamic Development Bank

October 2020



البنك الإسلامي للتنمية
Islamic Development Bank

Challenge

- Many Islamic banks are using LIBOR to price their credit products
- LIBOR Scandal, 2012
- LIBOR will officially cease by 2021
 - Loss of trust
 - Decline in interbank market
- Are there alternatives to LIBOR?

What We Need

- A benchmark for pricing Islamic credit transactions
- Can be used by any one involved in Islamic finance:
 - financial institutions
 - central banks
 - businesses
 - individuals

Desirable Properties

- Independent from interest rate
- Sound economic rationale
- Forward-looking
- Linked to the real economy
- Serves investors to:
 - Preserve the real value of capital
 - Compensate for fair opportunity cost

Independence

- Avoid circular referencing
- Examples:
 - Islamic banks profitability
 - Return on Islamic deposits
 - Sukuk rate of return
 - Cost of Capital
 - etc.

Investor's Perspective

- Recover net real value of capital
- Two components of minimum rate:
 - Real value of capital
 - Net return

Benchmark

Benchmark = expected GDP growth + expected inflation



Opportunity cost



Preserve capital

- Independent of interest
- Sound economic reasoning
- Forward looking
- Reflects economy-wide conditions

Taylor Rule

- Monetary Policy: Rules vs. discretion
- Money supply rule—Milton Friedman
- Interest rate rule—John Taylor:
 - $i = r^* + \text{expected inflation} + \text{policy components}$
 - r^* : long-run of GDP growth potential $\sim 2\%$
 - Other estimates: 2.6-3.4%

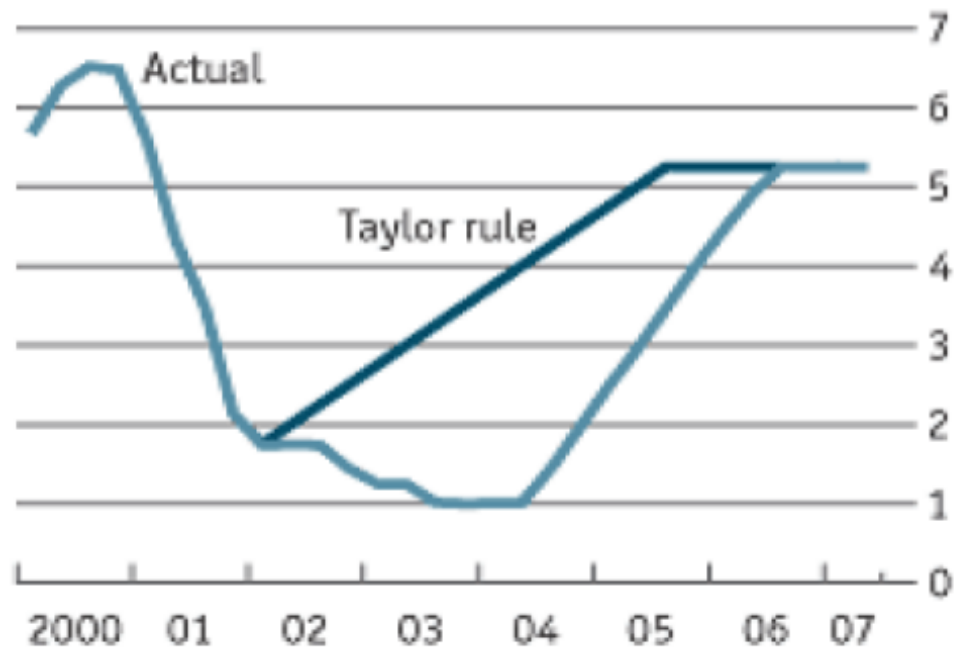
Taylor Rule and the Crisis

- Taylor and others:
 - Had the Fed used Taylor Rule, the crisis would have been largely avoided

Loose fitting

6

Federal funds rate, actual and counterfactual, %



Source: John Taylor, "Housing and Monetary Policy", Sept 2007

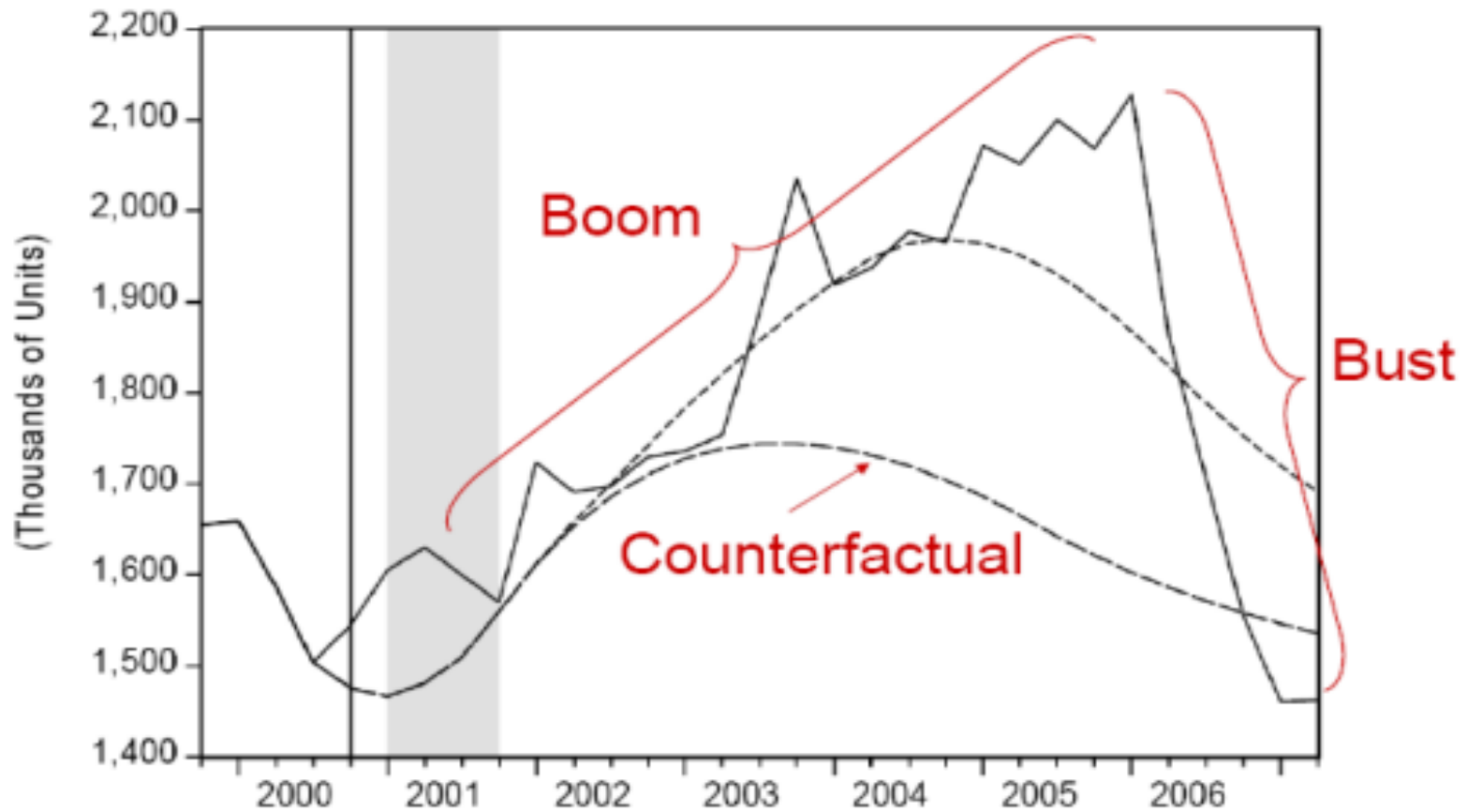


Figure 2. The Boom-Bust in Housing Starts Compared With the Counterfactual. (The line with shorter dashes shows *model* simulations with the actual interest rate.)

Benchmark vs. Price

- Price = Benchmark + spread
- Spread = operational costs + credit risk + market component
- Market component could be positive or negative, depending on supply and demand conditions
- Actual price might be higher or lower than the Benchmark
- The Benchmark serves as a guiding reference for banks and investors

Interaction with Interest Indicators

- Interest-indicators might deviate from the Benchmark in the short run
- These deviations are not sustainable in the long run
 - Example: negatives interest rate
- Interest-indicators should converge to economic fundamentals reflected by the Benchmark
- When the information is widely used, investors will align pricing with the Benchmark

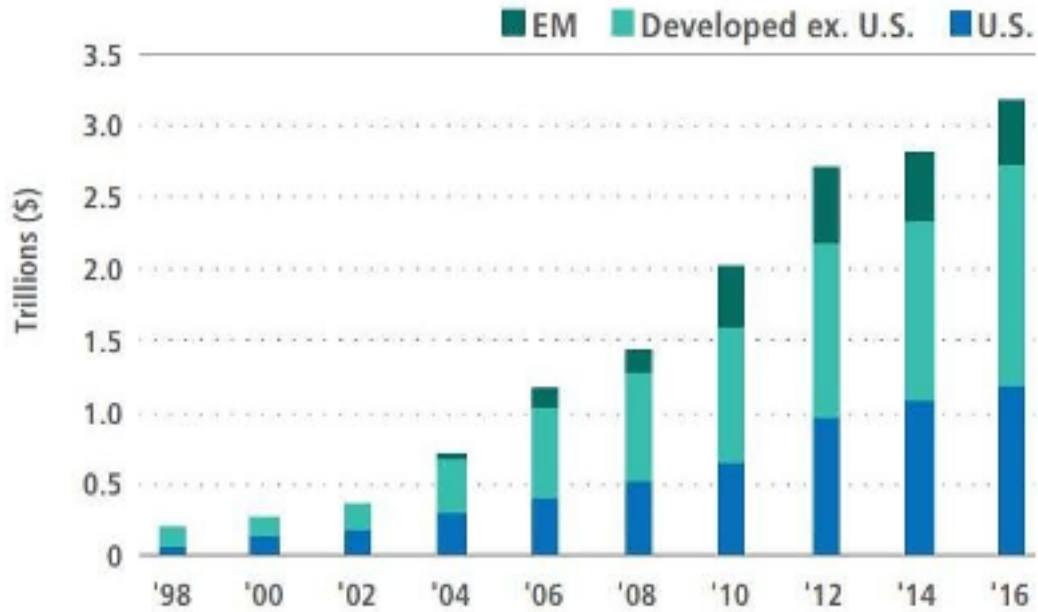
Benchmark vs. LIBOR

	Benchmark	LIBOR
Based on the economic fundamentals	Yes	No
Forward looking	Yes	No
Volatility	Low	High
Preserving real value of capital	Yes	No
Fair opportunity cost	Yes	No
Governance	Non-market players	Market players

Inflation-linked Bonds

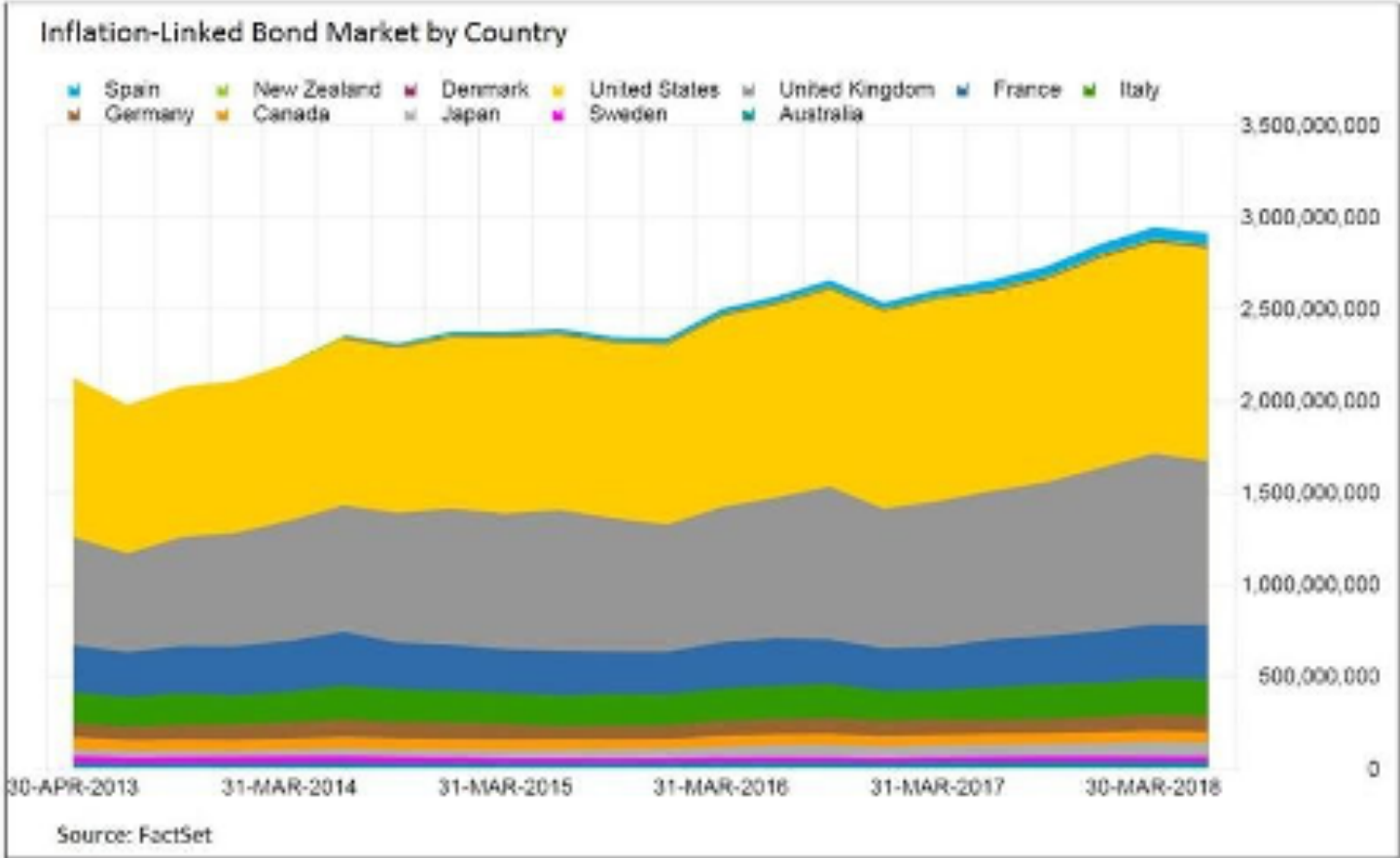
- ILBs are designed to protect real value of capital
- ILBs are indexed to inflation so that the principal and interest payments rise and fall with the rate of inflation
- They have have been consistently growing since 1990s

GROWTH OF UNIVERSAL ILB MARKET



As of 31 March 2016

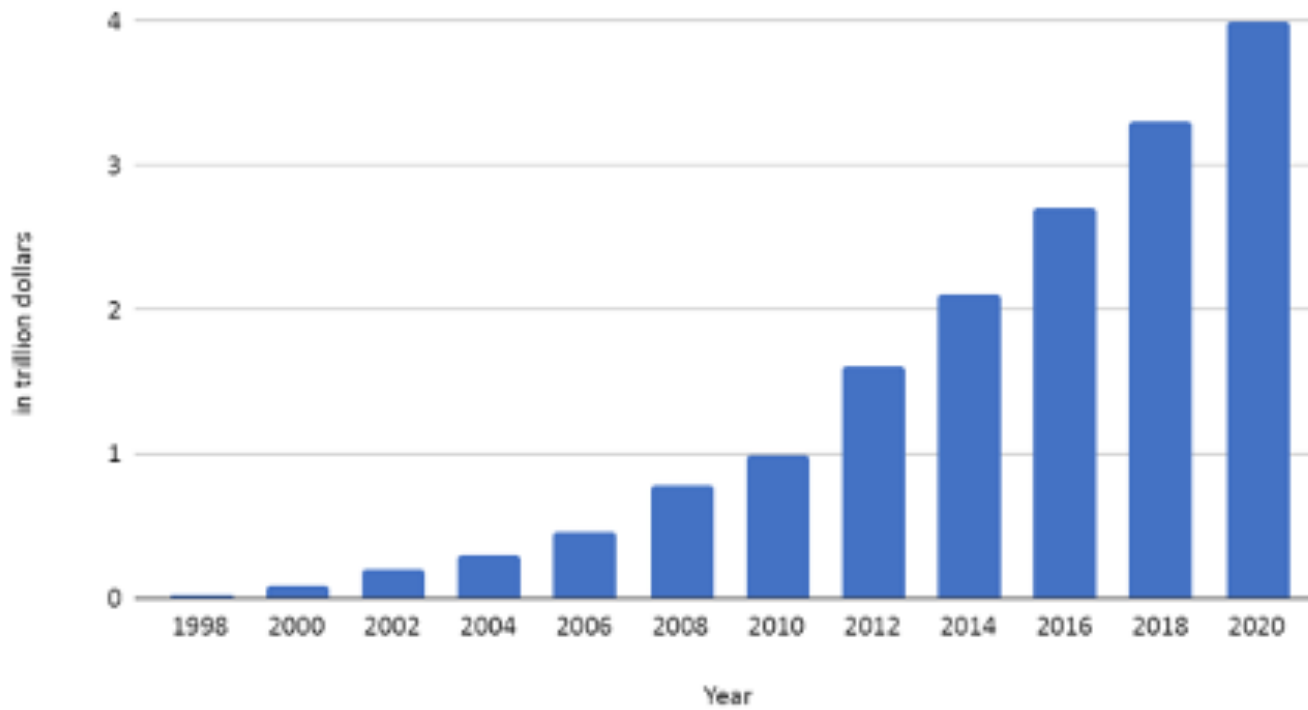
Source: Components of Barclays Universal Government Inflation-Linked All Maturities Bond Index



Source: Factset



ILBs Market Growth



Source: Bloomberg and IRTI calculations

Inflation-linked Sukuk

Issuer Name	Maturity	Issue Date	Amount Out (in USD million)
Hazine Mustesarligi Varlik Kiralama AS	9/22/2021	9/28/2016	357.26
Hazine Mustesarligi Varlik Kiralama AS	10/30/2024	11/6/2019	299.1
Hazine Mustesarligi Varlik Kiralama AS	10/12/2022	10/18/2017	149.74
Hazine Mustesarligi Varlik Kiralama AS	6/7/2023	6/13/2018	94.5

Source: Bloomberg and IRTI calculations

Methodology

- Methods to compute expected variables:
 - Surveys
 - Models
- Best overall: Surveys
- Professional forecasters' surveys:
 - Widely used
 - Tend to be better informed
 - Response rate is high

Available Surveys

- Surveys are conducted regularly by professional firms and by governments
- Central Banks' Surveys in MCs:
 - Indonesia
 - Malaysia
 - Turkey
- Professional Surveys: Consensus Economic

Indonesia

Survey	Variable	Respondents	Primary Use
Consumer Survey - Monthly	CPI	4,600 households	Gauging information about confidence
Retail Sales Survey - Monthly	Retail Sales Survey CPI Monthly 700 retailers Gauging information about confidence	700 retailers	Gauging information about confidence
Business Survey - Quarterly	CPI	Approximately 3,000 financial and non-financial corporations	Checking anchoring of expectations and gauging information about confidence
Macroeconomic Indicators Forecasting Survey - Quarterly	CPI	25–35 professional forecasters	Checking anchoring of expectations and gauging information about confidence
Consensus Forecasts - Monthly	CPI	Approximately 25 professional forecasters	Checking anchoring of expectations and gauging information about confidence

Malaysia

Survey	Variable	Respondents	Primary Use
BNM Consumer Sentiment Survey - Monthly	General prices and prices of selected categories, one-year- ahead	1,000 households	Gauging information about confidence and assessing growth and inflation outlook
BNM Quarterly Survey of Firms - Quarterly and annually	One-quarter-ahead CPI, average operating cost and selling prices	Approximately 130 non-financial corporations	Gauging information about confidence and assessing growth and inflation outlook
BNM Consumer Sentiment Survey -Monthly	General prices and prices of selected categories, one-year- ahead	1,000 households	Gauging information about confidence and assessing growth and inflation outlook
BNM Quarterly Survey of Firms - Quarterly and annually	One-quarter-ahead CPI, average operating cost and selling prices	Approximately 130 non-financial corporations	Gauging information about confidence and assessing growth and inflation outlook
Analysts' Consensus forecast -Monthly	One-year-ahead CPI	Approximately 30 professional forecasters	Gauging information about confidence and assessing growth and inflation outlook

Turkey

Survey	Variable	Primary Use	
Survey of Expectations - Monthly	CPI	110 professional forecasters from financial and real sectors	Setting policy, monitoring credibility, checking anchoring of expectations and gauging information about confidence
Business Tendency Survey - Monthly	CPI, PPI	2,659 senior managers of the manufacturing Industry	Gauging information about confidence
Consumer Tendency Survey - Monthly	CPI	4,848 households	Gauging information about confidence

“Consensus Economics”

- Surveys leading forecasters for more than 1,000 variables from 80+ nations
- Responses are then processed using proprietary software and checked for accuracy, completeness and integrity
- It covers the G-7, Asia Pacific, Eastern Europe and Latin America
- 14 Member Countries
- 7-21 professional forecasters per country

No	Country	MC
1	<u>Albania</u>	1
2	<u>Argentina</u>	
3	<u>Armenia</u>	
4	<u>Australia</u>	
5	<u>Austria</u>	
6	<u>Azerbaijan</u>	2
7	<u>Bangladesh</u>	3
8	<u>Belarus</u>	
9	<u>Belgium</u>	
10	<u>Bolivia</u>	
11	<u>Bosnia & Herzegovina</u>	4
12	<u>Brazil</u>	
13	<u>Bulgaria</u>	
14	<u>Canada</u>	
15	<u>Chile</u>	
16	<u>China</u>	
17	<u>Colombia</u>	
18	<u>Costa Rica</u>	
19	<u>Croatia</u>	
20	<u>Cyprus</u>	
21	<u>Czech Republic</u>	
22	<u>Denmark</u>	
23	<u>Dominican Republic</u>	
24	<u>Ecuador</u>	
25	<u>Egypt</u>	5
26	<u>El Salvador</u>	
27	<u>Estonia</u>	
28	<u>Euro zone</u>	
29	<u>Finland</u>	
30	<u>France</u>	

No	Country	MC
31	<u>Georgia</u>	
32	<u>Germany</u>	
33	<u>Greece</u>	
34	<u>Guatemala</u>	
35	<u>Honduras</u>	
36	<u>Hong Kong</u>	
37	<u>Hungary</u>	
38	<u>India</u>	
39	<u>Indonesia</u>	6
40	<u>Ireland</u>	
41	<u>Israel</u>	
42	<u>Italy</u>	
43	<u>Japan</u>	
44	<u>Japan</u>	
45	<u>Kazakhstan</u>	7
46	<u>Latvia</u>	
47	<u>Lithuania</u>	
48	<u>Macedonia</u>	
49	<u>Malaysia</u>	8
50	<u>Mexico</u>	
51	<u>Moldova</u>	
52	<u>Myanmar</u>	
53	<u>Netherlands</u>	
54	<u>New Zealand</u>	
55	<u>Nicaragua</u>	
56	<u>Nigeria</u>	9
57	<u>Norway</u>	
58	<u>Pakistan</u>	10
59	<u>Panama</u>	
60	<u>Paraguay</u>	

No	Country	MC
61	<u>Peru</u>	
62	<u>Philippines</u>	
63	<u>Poland</u>	
64	<u>Portugal</u>	
65	<u>Romania</u>	
66	<u>Russia</u>	
67	<u>Saudi Arabia</u>	11
68	<u>Serbia</u>	
69	<u>Singapore</u>	
70	<u>Slovakia</u>	
71	<u>Slovenia</u>	
72	<u>South Africa</u>	
73	<u>South Korea</u>	
74	<u>Spain</u>	
75	<u>Sri Lanka</u>	
76	<u>Sweden</u>	
77	<u>Switzerland</u>	
78	<u>Taiwan</u>	
79	<u>Thailand</u>	
80	<u>Turkey</u>	12
81	<u>Turkmenistan</u>	13
82	<u>UK</u>	
83	<u>Ukraine</u>	
84	<u>United States</u>	
85	<u>Uruguay</u>	
86	<u>Uzbekistan</u>	14
87	<u>Venezuela</u>	
88	<u>Vietnam</u>	

The Way Forward

- Surveys of expected growth and expected inflation are already available for many MCs
- Expanding the surveys for other MCs in collaboration with CBs
- Using the blockchain technology to validate and verify the surveys

Thank You!