

Bond Market Development in Emerging East Asia

Thematic Issues in Emerging East Asia

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Thematic Topics

- I. Bond Financing for Infrastructure
- II. Sukuk in Emerging East Asia
- III. AsianBondsOnline Bond Market Liquidity Survey 2015
- IV. Determinants of Sovereign Bond Yields in Emerging Asia

Bond Financing for Infrastructure

Many emerging East Asian economies still lag behind in their infrastructure quality

Region or Country	Overall	Road	Railroad	Port	Air Transport	Electricity Supply
G7 Average	5.7	5.7	5.3	5.4	5.8	6.3
East Asia Average	5.5	5.5	5.5	5.5	5.7	6.0
China, People's Rep. of	4.3	4.4	4.6	4.4	4.5	5.2
Hong Kong, China	6.5	6.3	6.4	6.5	6.7	6.8
Korea, Rep. of.	5.8	5.8	5.6	5.5	5.9	6.0
South East Asia Average	4.6	4.5	3.2	4.5	5.0	4.7
Brunei Darussalam	5.1	5.2	2.1	4.5	4.9	5.5
Cambodia	4.2	4.0	2.3	4.2	4.4	3.6
Indonesia	3.7	3.4	3.2	3.6	4.2	3.9
Malaysia	5.4	5.4	4.9	5.5	5.9	5.9
Philippines	3.6	3.4	1.9	3.3	4.1	3.7
Singapore	6.5	6.5	5.7	6.8	6.8	6.7
Thailand	4.9	5.0	2.6	4.6	5.7	5.5
Viet Nam	3.2	2.7	2.6	3.4	3.6	3.1

Note: Based on a scale of 1 (underdeveloped) to 7 (extensive and efficient by international standards)

Source: World Economic Forum's Global Competitiveness Report (2012-13) as reported in

ADB's Asia Bond Monitor – September 2013 issue.

asianbondsonline.adb.org



Asia's infrastructure needs for 2010-2020 estimated at USD8 trillion

Sector or Subsector	New Capacity (USD million)	Replacement (USD million)	Total (USD million)
Energy (Electricity)	3,176,437	912,202	4,088,639
Telecommunications	325,353	730,304	1,055,657
Mobile Phones	181,763	509,151	690,914
Landlines	143,590	221,153	364,743
Transport	1,761,666	704,457	2,466,123
Airports	6,533	4,728	11,261
Ports	50,275	25,416	75,691
Railways	2,692	35,947	38,639
Roads	1,702,166	638,366	2,340,532
Water and Sanitation	155,493	225,797	381,290
Sanitation	107,925	119,573	227,498
Water	47,568	106,224	153,792
Total	5,418,949	2,572,760	7,991,709

Source: ADB-ADB Institute. 2009. Infrastructure for a Seamless Asia. Manila, as reported in
ADB's Asia Bond Monitor – September 2013 issue

Infrastructure Spending in Asia

- Infrastructure spending in Asia are still mostly provided for by the public sector amid market failures.
- Central government spending on infrastructure after the 2008-09 global financial crisis has remained stable or even fell for many emerging East Asian economies.
- Governments in the region missed the opportunity of taking advantage of plentiful liquidity given capital inflows and low global interest rates.
- Private sector participation in infrastructure projects has increased, but not much, since the crisis period.

Tapping the bond market for infrastructure financing

- Main source of long-term financing for private sector in Asia is the banking system.
- Long-term bank lending has slipped amid the 2008-09 global financial turmoil and Basel III capital requirements.
- Infrastructure projects need to get more funding from the bond market.

Policy Recommendations

- Improve the pipeline of bankable infrastructure projects by developing a long-term strategic framework for infrastructure development.
- Raise the credit rating of infrastructure projects via:
 - Guarantees
 - Subordinated debt tranches
 - Securitization

Policy Recommendations

- Make data on infrastructure project cost and performance more transparent in order to help close the information gap for investors.
 - Governments can require infrastructure projects to provide financial and performance-based variables.
 - ADB can serve as repository of infrastructure-related information.

Sukuk Developments in Emerging East Asia

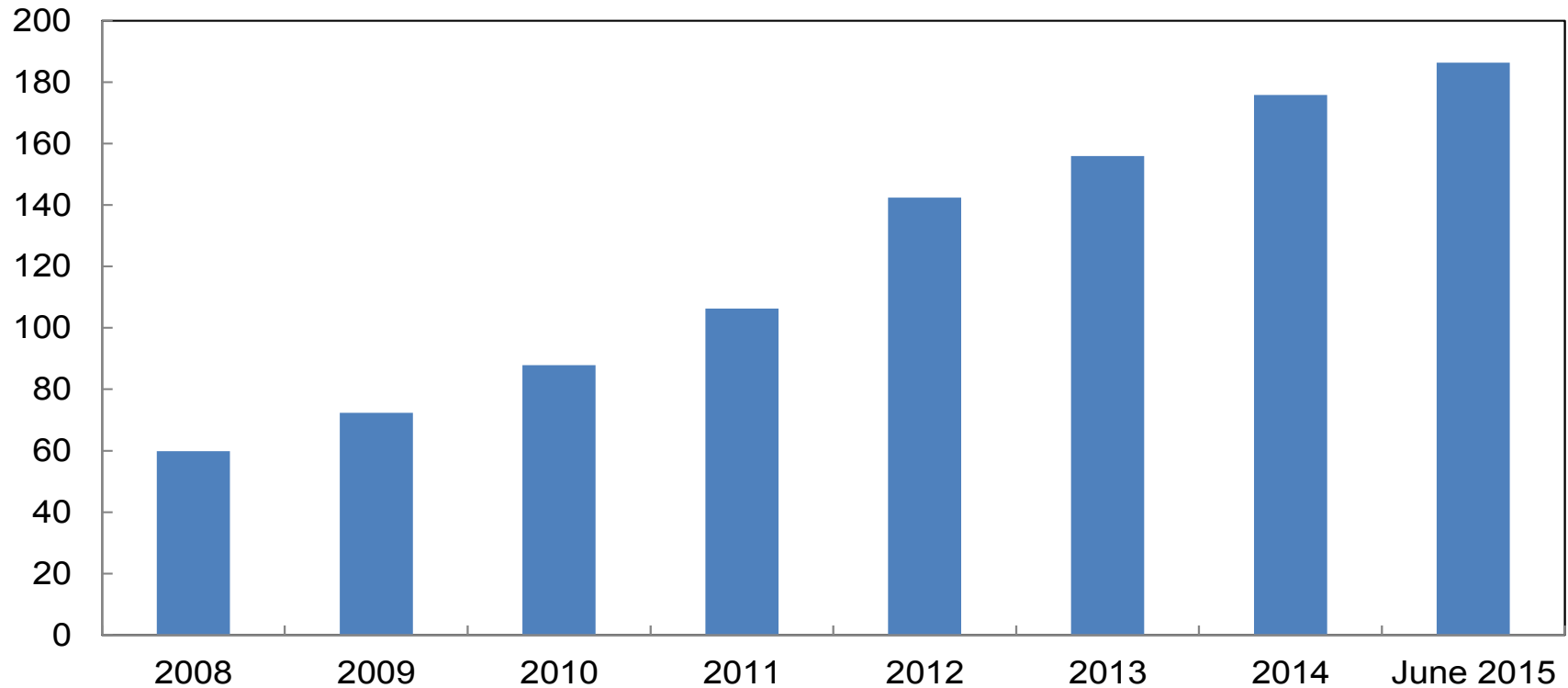
Sukuk

- An investment certificate representing a claim on an existing or well-defined asset, which must be compliant with Islamic principles—prohibiting unjust enrichment, gambling or speculation, unnecessary risk, and corruption.
- Also known as Islamic bonds; different from conventional bonds, which represent claims on cash flows.
- Closely resembles asset-backed securities.

Emerging East Asia's sukuk market growing continually

USD billion

Outstanding *Sukuk* in Emerging East Asia



Notes:

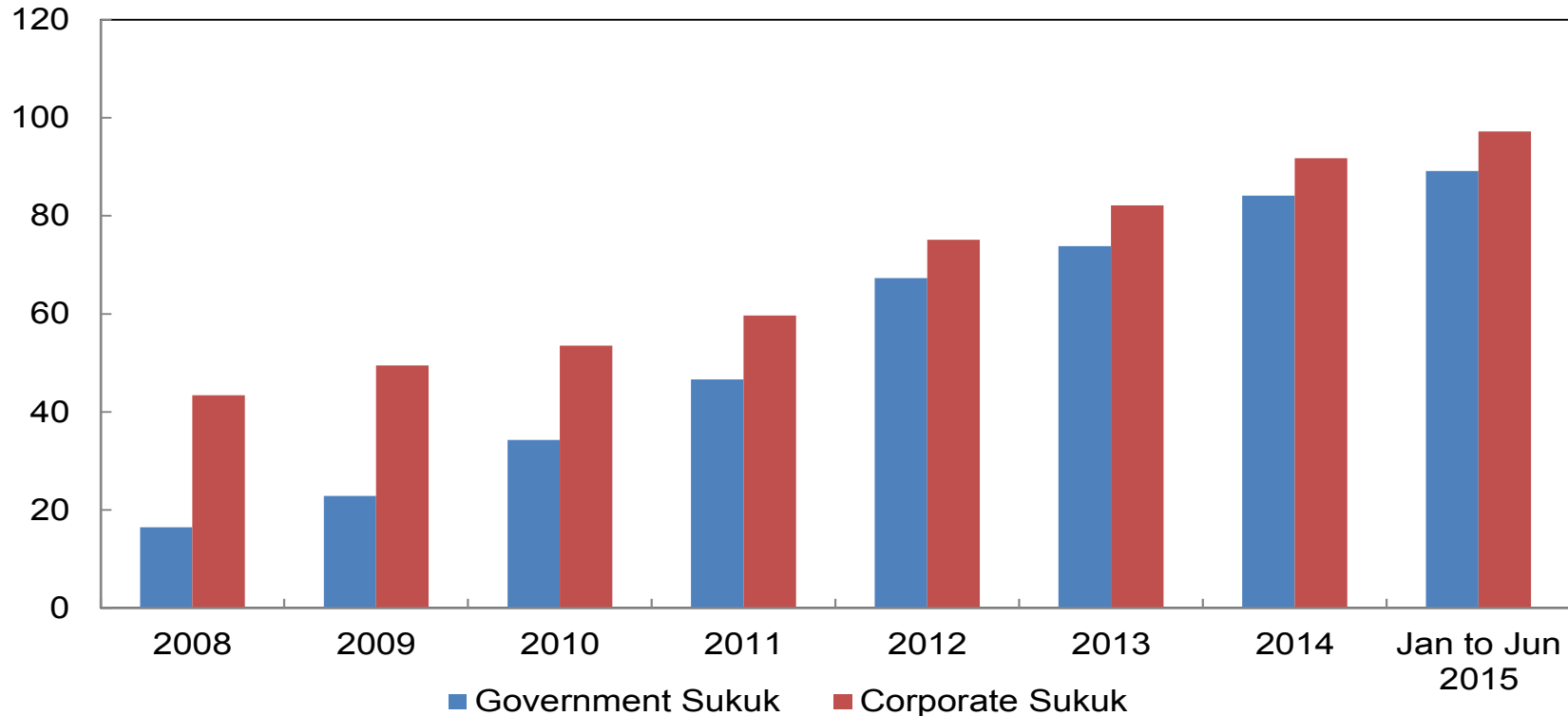
1. Emerging East Asia's *sukuk* market comprises Brunei Darussalam; Hong Kong, China; Indonesia; Malaysia; and Singapore.
2. Data includes local currency and foreign currency *sukuk*.
3. Local currency and foreign currency values were converted based on 30 June 2015 currency exchange rates and do not include currency effects.

Sources: Autoriti Monetari Brunei Darussalam, Bank Indonesia, Bank Negara Malaysia Fully Automated System for Issuing/Tendering (FAST), Directorate General of Budget Financing and Risk Management Ministry of Finance, Otoritas Jasa Keuangan, and Bloomberg LP, as reported in ADB's Asia Bond Monitor, September 2015.

Corporate *sukuk* market bigger than government *sukuk* market in emerging East Asia

Composition of Outstanding *Sukuk* in Emerging East Asia

USD billion



Notes:

1. Emerging East Asia's *sukuk* market comprises Brunei Darussalam; Hong Kong, China; Indonesia; Malaysia; and Singapore.

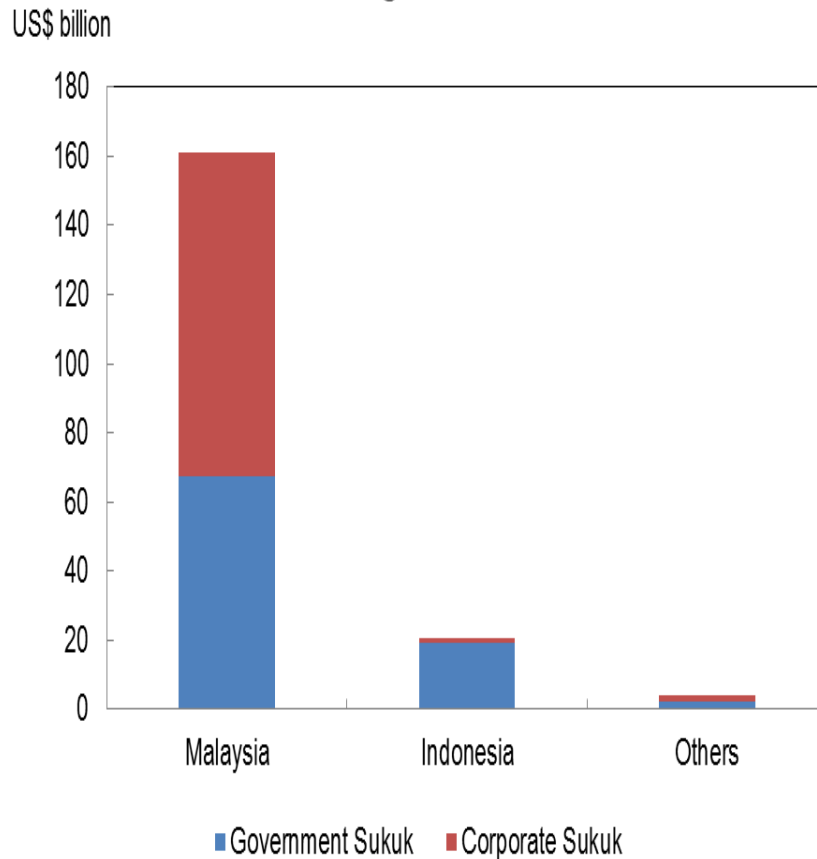
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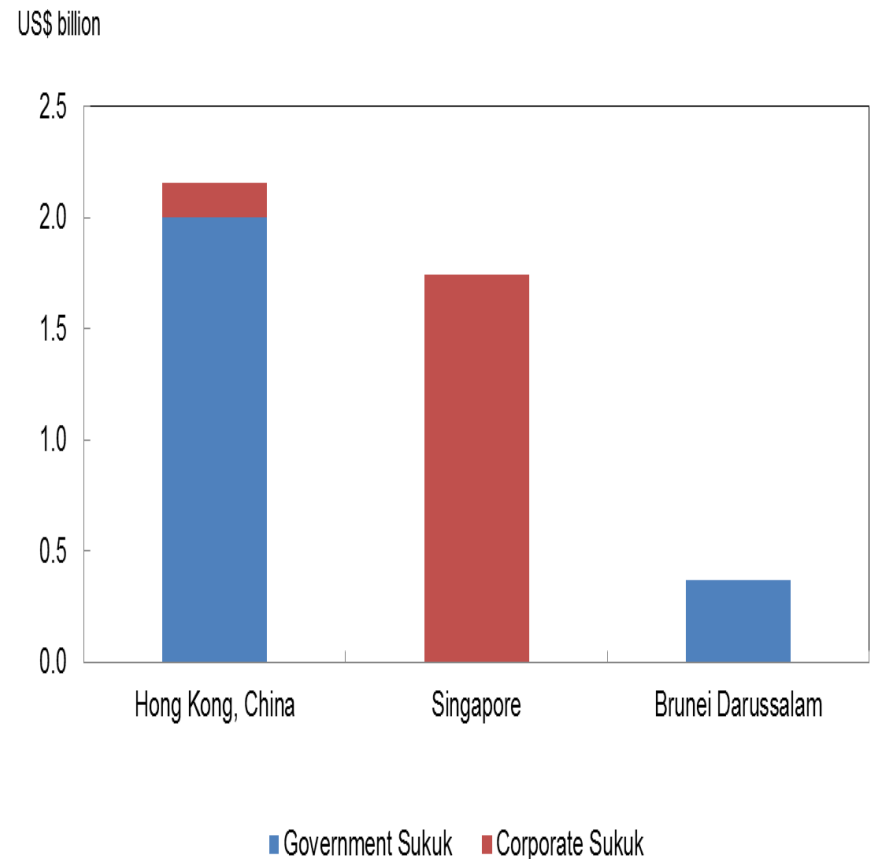
Sources: Autoriti Monetari Brunei Darussalam, Bank Indonesia, Bank Negara Malaysia Fully Automated System for Issuing/Tendering (FAST), Directorate General of Budget Financing and Risk Management Ministry of Finance, Otoritas Jasa Keuangan, and Bloomberg LP, as reported in ADB's Asia Bond Monitor, September 2015.

Malaysia remains the largest and most liquid sukuk market in emerging East Asia

Outstanding Size of Sukuk



Outstanding Size of Sukuk



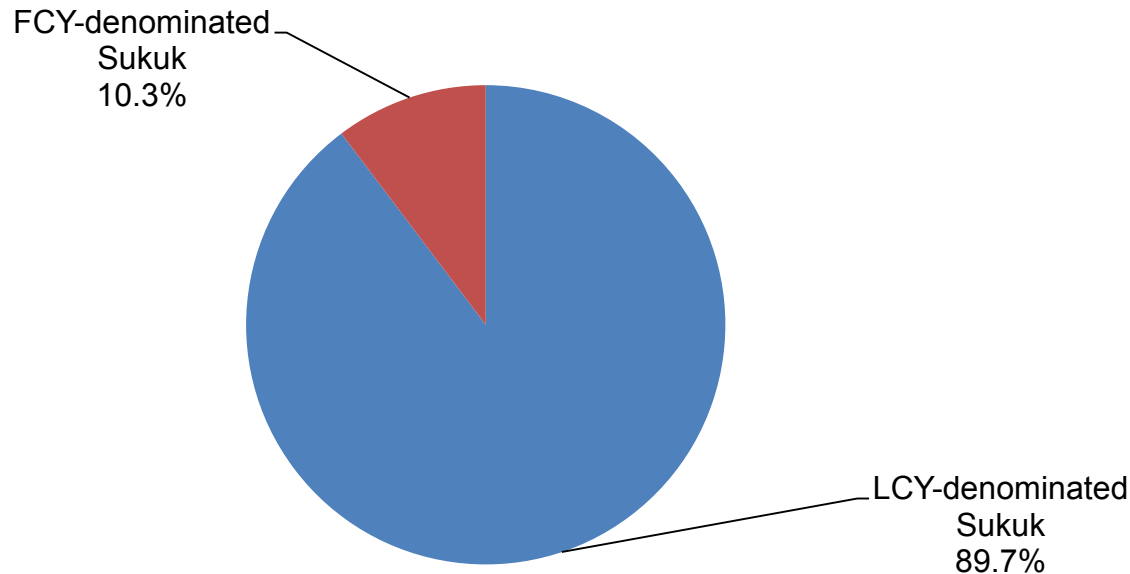
Source: AsianBondsOnline

asianbondsonline.adb.org



Local currency (LCY)-denominated *sukuk* dominates emerging East Asian *sukuk* market

Outstanding LCY and FCY *Sukuk* in Emerging East Asia



FCY=foreign currency, LCY = local currency.

Notes:

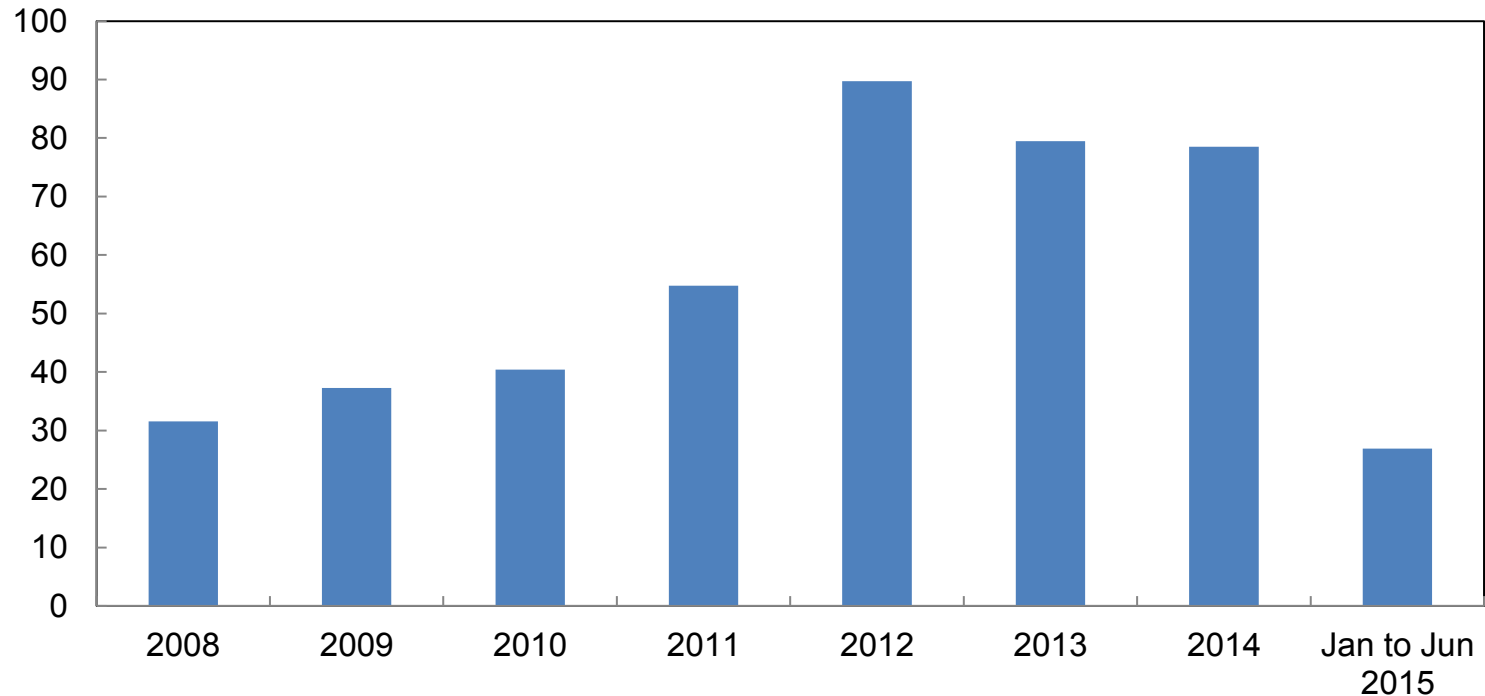
1. Emerging East Asia's sukuk market comprises Brunei Darussalam; Hong Kong, China; Indonesia; Malaysia; and Singapore.
2. LCY-denominated sukuk refers to a market's issuance of sukuk denominated in its home currency, while FCY-denominated sukuk refers to a market's issuance of sukuk denominated in a currency other than its home currency.
3. Data as of end-June 2015.

Sources: Autoriti Monetari Brunei Darussalam, Bank Indonesia, Bank Negara Malaysia Fully Automated System for Issuing/Tendering (FAST), Directorate General of Budget Financing and Risk Management Ministry of Finance, Otoritas Jasa Keuangan, and Bloomberg LP, as reported in ADB's Asia Bond Monitor, September 2015

Sukuk issuance in emerging East Asia recorded modest decline in 2014 compared to 2013 and 2012

Sukuk Issuance in Emerging East Asia

USD billion



Notes:

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Key Messages

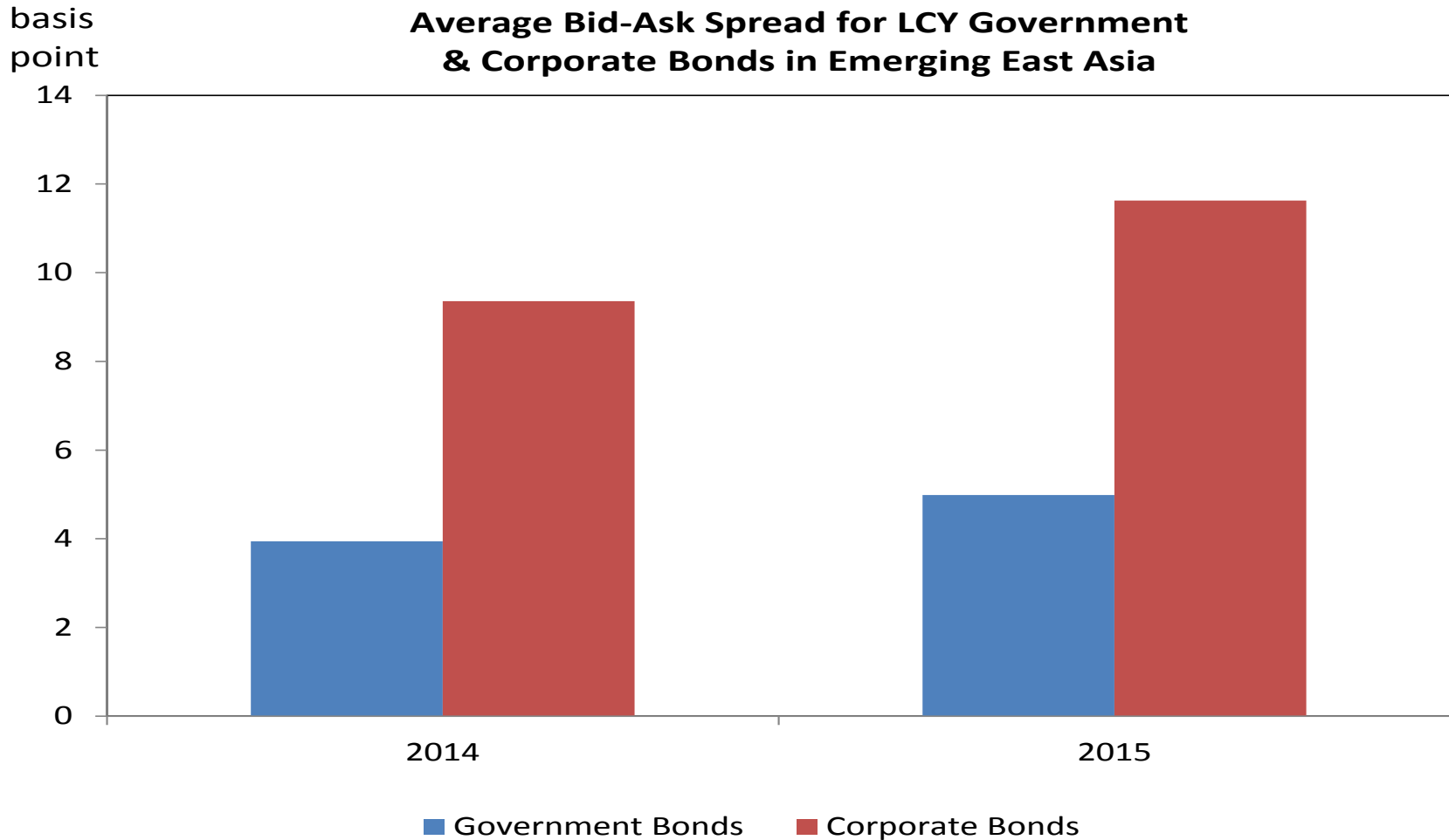
- Emerging East Asia's *sukuk* market continues to grow
 - At end-June 2015, outstanding amount of *sukuk* reached USD186.3 billion
 - Malaysia is still the largest and most liquid *sukuk* market in the region
 - LCY-denominated *sukuk* accounts for a larger share of *sukuk* outstanding
 - Outstanding *sukuk* is mostly dominated by Malaysian ringgit *sukuk* issues
- The corporate *sukuk* market is larger than the government *sukuk* market
 - Singapore's *sukuk* market is currently composed entirely of corporate issuances.
 - Malaysia's corporate *sukuk* has a 72.1% share of *sukuk* outstanding in Malaysia.
- There is growing interest in *sukuk* by nonmainstream markets
 - Hong Kong, China issued two global sovereign *sukuk* in US dollar, one in 2014 and one in 2015, with a size of USD1 billion each.

AsianBondsOnline Bond Market Liquidity Survey 2015

AsianBondsOnline Bond Market Liquidity Survey

- AsianBondsOnline team conducts a bond market liquidity survey annually to assess liquidity conditions in emerging East Asian local currency bond markets.
- Survey respondents include bond traders and dealers, brokers, asset managers, bond market researchers and strategists, bond pricing agencies, and regulatory bodies.
- Survey is conducted via interviews and email correspondence.
- Survey results are presented in the November issue of the Asia Bond Monitor (ABM)—a quarterly ADB publication.

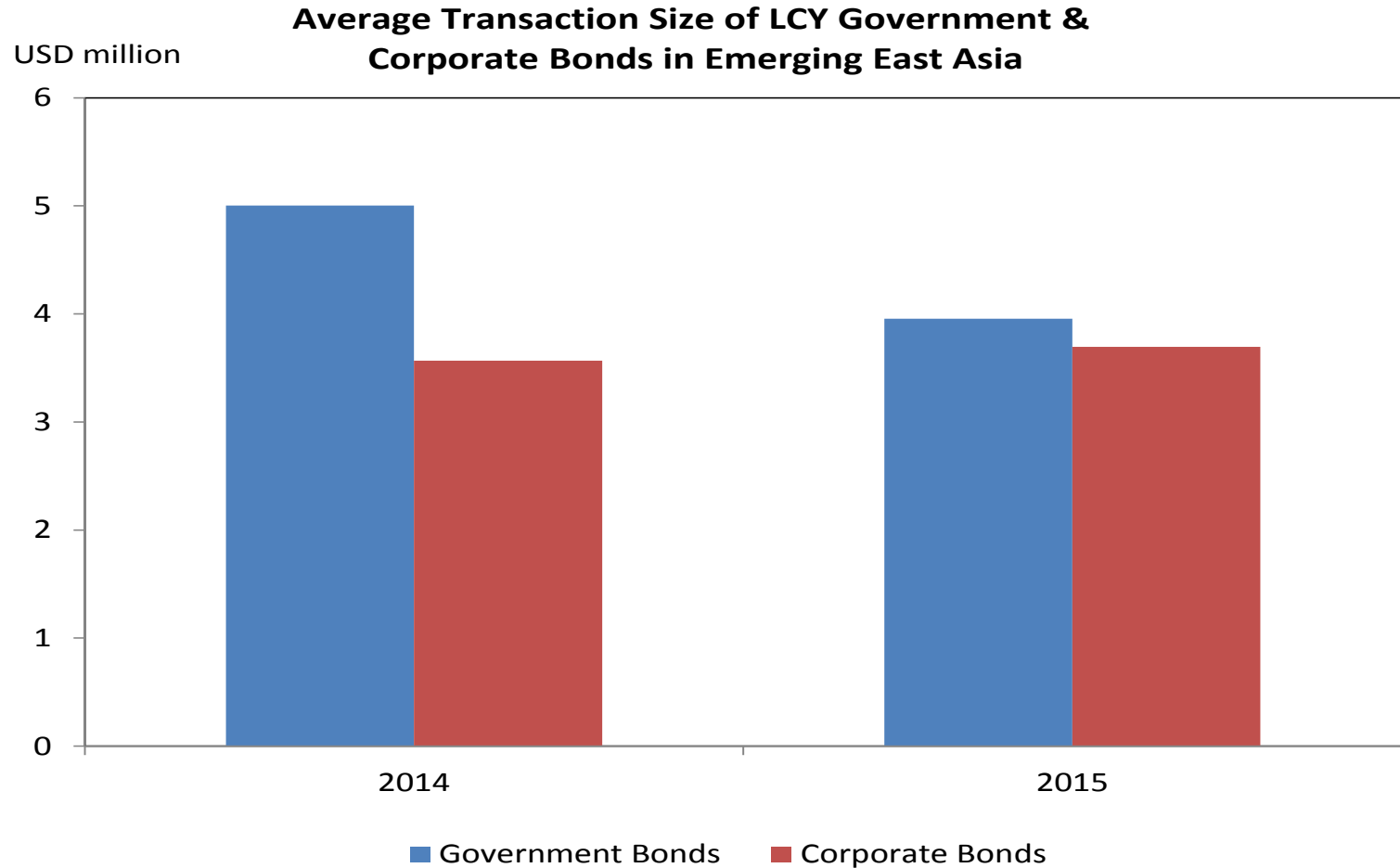
Bid-ask spreads for LCY corporate and government bonds in emerging East Asia climb between 2014 and 2015



Source: AsianBondsOnline
asianbondsonline.adb.org



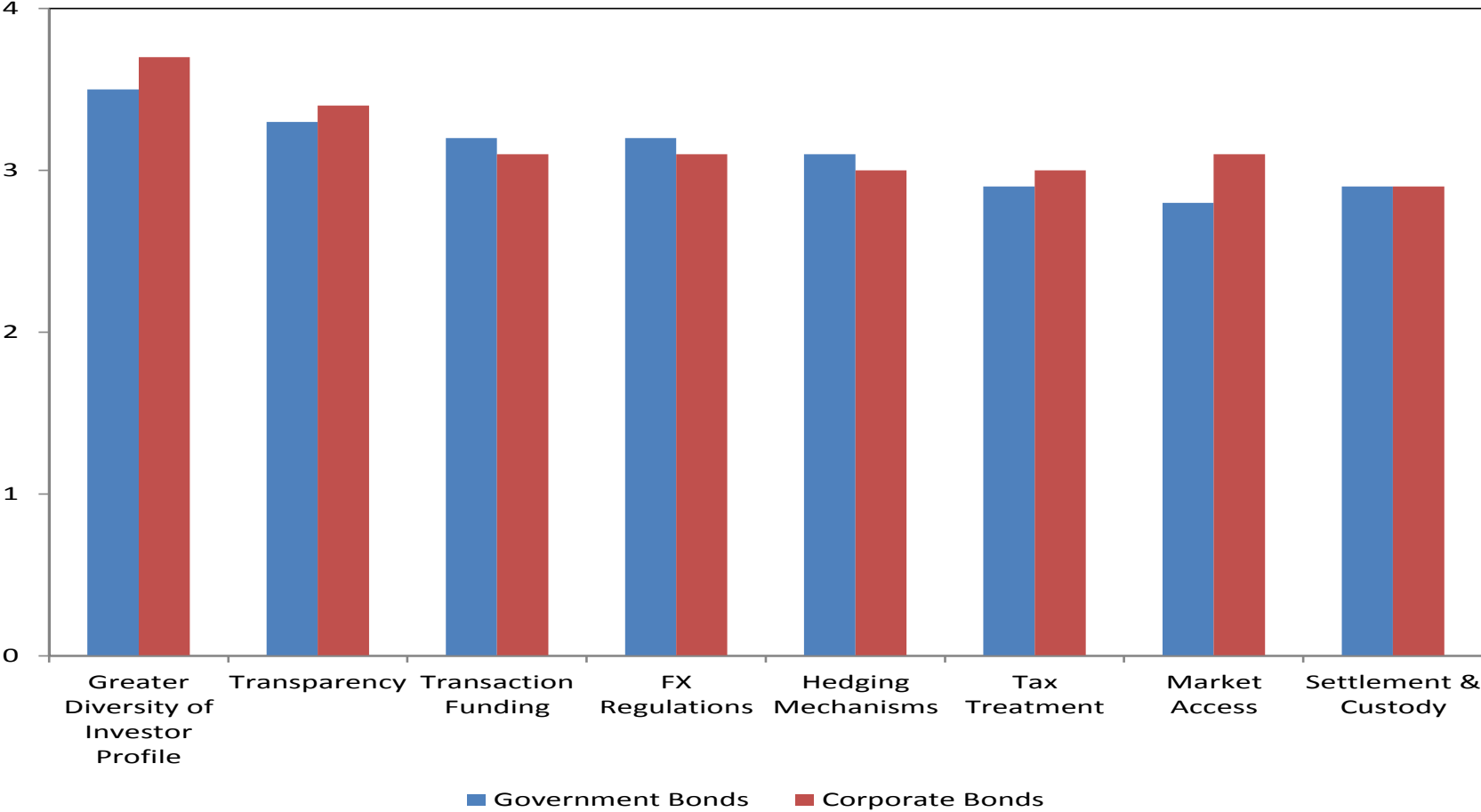
Bond transaction size falls for LCY government bonds, rises for LCY corporate bonds between 2014 and 2015



Source: AsianBondsOnline

Greater investor diversity most important structural indicator in improving bond market liquidity in 2015

Qualitative Indicators



Source: AsianBondsOnline



Key Findings

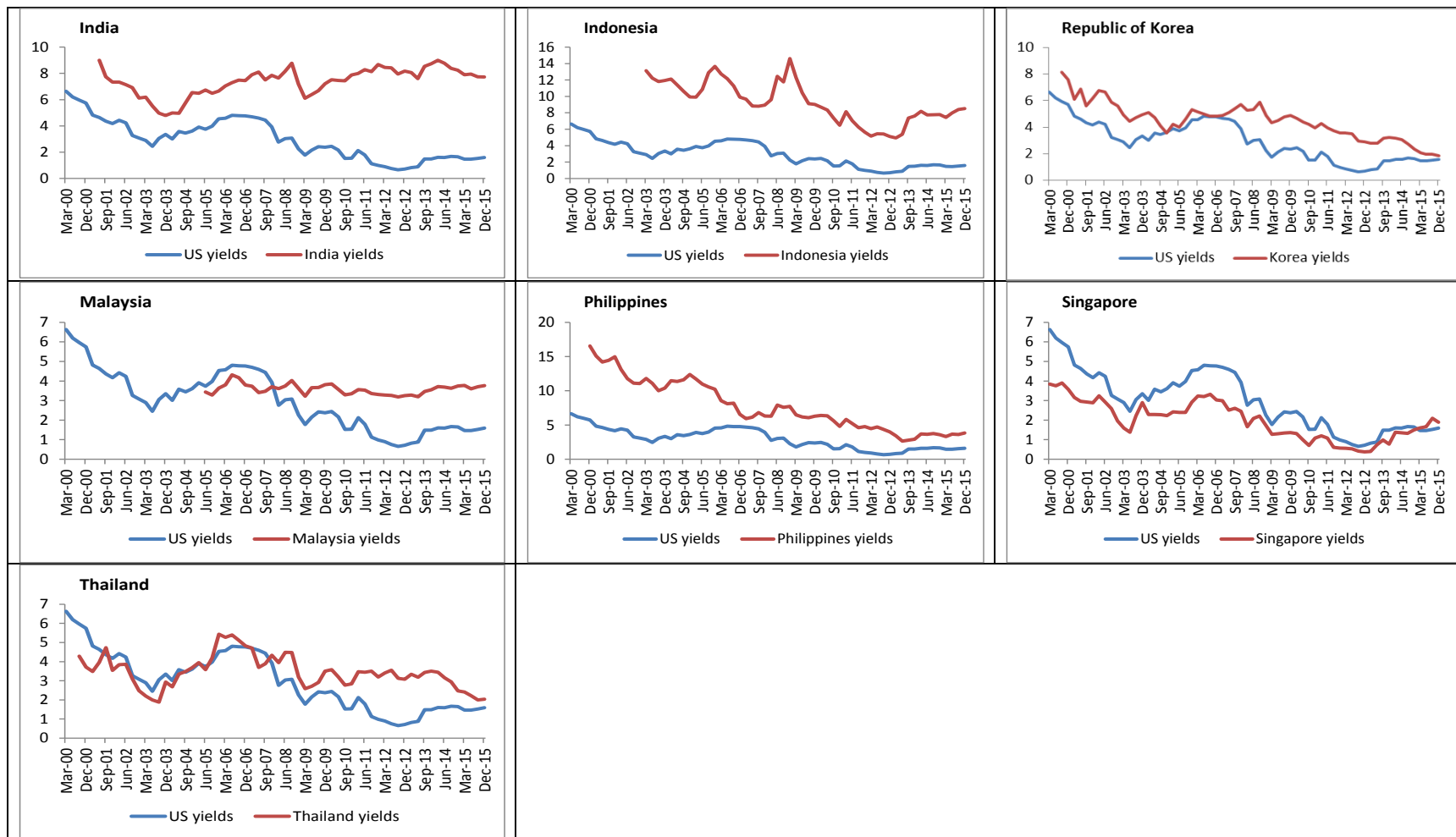
- Views of market participants were mixed when asked whether liquidity conditions has improved
 - In the PRC, an overall improvement in liquidity condition was noted on bullish sentiments from PBOC stimulus measures
 - Hong Kong, China and the Republic of Korea noted that liquidity has been stable due to the fairly developed status of their markets
 - In Indonesia, although liquidity conditions have somewhat tightened structural reforms has helped to support liquidity conditions
 - In Malaysia, liquidity tightened along with the sharp depreciation of the Malaysian ringgit.

Key Findings

- Liquidity conditions was largely affected by uncertainty over the timing of US Federal Reserve rate hike and the unexpected devaluation of the Chinese renminbi
- Government bond market remains more liquid compared with corporate bond market

Determinants of Sovereign Bond Yields in Emerging Asia

Sovereign bond yield movements vary across emerging Asian markets, indicating economy-specific macroeconomic conditions influencing yield patterns



Source: ADB, Asia Bond Monitor, June 2016

asianbondsonline.adb.org



Related Literature and Significance of Study

- Bond yields in emerging Asia are driven by both domestic fundamentals and global factors.
- Literature suggests economic growth, inflation, short-term interest rates, fiscal health, and other domestic factors, as well as global factors, affect bond yields.
- A better understanding of the domestic factors that affect the cost of borrowing can help economies manage such factors more effectively.
- A better understanding of the impact of global factors can help economies prepare for and adjust to global shocks.

Data and Empirical Model

- Quarterly data: Q1 2000 – Q4 2015
- 9 emerging Asian economies: India, Indonesia, the Republic of Korea, Malaysia, Pakistan, Philippines, Singapore, Sri Lanka, and Thailand
- A yield-macro model is used to explain the yields of 5-year government bonds with four domestic variables (inflation, short-term interest rate, GDP growth, and government debt growth) and one global variable (5-year US Treasury bond yield).

Empirical Results

- Inflation has a positive impact on emerging Asian sovereign bond yields.
 - Higher inflation erodes real returns, thereby pushing bond yields up.
 - CPI inflation has a bigger impact on bond yields in Malaysia and Thailand; PPI inflation more influential for bond yields in India and the Republic of Korea.
- Other main drivers of emerging Asian bond yields are short-term interest rates and US Treasury bond yields.
- GDP growth and government debt growth affect yields, but indirectly through inflation.

Policy Implications

- Low inflation and macroeconomic stability are both important for the development of local-currency bond markets in emerging Asia.
- Monetary and government policies that affect inflation and hence bond yields will be felt through the CPI channel in some countries while through the PPI channel in the other countries in the region.