



# ASIA CREDIT REPORT

## Fourth Quarter 2015

PREPARED IN PARTNERSHIP WITH



**ASIFMA** is an independent, regional trade association with over 80 member firms comprising a diverse range of leading financial institutions from both the buy and sell side including banks, asset managers, law firms and market infrastructure service providers. Together, we harness the shared interests of the financial industry to promote the development of liquid, deep and broad capital markets in Asia. ASIFMA advocates stable, innovative and competitive Asian capital markets that are necessary to support the region's economic growth. We drive consensus, advocate solutions and effect change around key issues through the collective strength and clarity of one industry voice. Our many initiatives include consultations with regulators and exchanges, development of uniform industry standards, advocacy for enhanced markets through policy papers, and lowering the cost of doing business in the region. Through the GFMA alliance with SIFMA in the US and AFME in Europe, ASIFMA also provides insights on global best practices and standards to benefit the region.

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## 2. G3 Asia ex Developed Market Asia (Japan, Australia and New Zealand)

### Market Overview and Highlights of Asia (ex-Japan, Australia and New Zealand) debt issuance in Fourth Quarter 2015

Total issuance in 4Q'15 came in at USD 29.9 billion (bn) as of December 31, up 13.1% quarter-over-quarter (qoq) from 3Q'15 (USD 26.4bn) but down 37.5% year-over-year (yoy), inclusive of high grade (HG), high yield (HY), and unrated deals. For the full year, issuance was USD 169.2 billion, comprised of USD 134.3bn HG issuance, USD 16.0bn HY issuance, and USD 19.7bn unrated issuance, well below the high of USD 201.3 billion reached in 2014. Just about the only silver lining in the data is the fact that Asian issuance overall held up considerably better than overall EM debt issuance, which fell nearly 40% yoy in FY'15, compared to Brazilian global bond issuance dropping an almost unimaginable 80+ % on a yoy basis in 2015 and primary markets in Russia and the Middle East faring not much better.

Key highlights of the quarter (and the year) were as follows:

- 1) HG issuance (of USD 19.9bn) easily outpaced HY issuance of USD 3.7bn represents. HY issuance represents 12.2% by dollar amount of total debt issuance in the fourth quarter, up from 5.6% in the third quarter of 2015. For the full year high yield issuance represented 9.4% of total issuance, a new low in HY issuance. The sector has been especially hard hit, on a combination of factors: Chinese property sector borrowers have found it cheaper and easier to access the onshore debt markets, commodity sector issuers' credit profiles (particularly in India and Indonesia) continue to suffer as the long commodity bear market shows no sign of ending and finally, the global phenomenon of relentlessly widening credit spreads in the benchmark HY indices during a time of overall market weakness, has contributed to increased investor caution.
- 2) Some of the other key trends worth noting are:
  - a) the gradual growth and recognition of "green bonds" as a legitimate asset class within the Asian region – According to data provided by Thomson Reuters, both India and China with approximately USD 1.4 billion apiece in green bond issuance are leading the way in Asia, through the development of an effective framework of established principles, which would help support the nascent green finance market.
  - b) The formal re-opening of the "panda bond market" in China. Besides HSBC and the Bank of China, international issuers as diverse as the South Korea sovereign and the province of British Columbia have tapped the onshore CNY ("panda") bond market – the last such issuers to tap this market prior to 2015 were the Asian Development Bank (ADB) and the International Finance Corporation (IFC) a decade ago in 2005.
- 3) While China continued to dominate total G3 issuance, one notable feature was the emergence of a number of new issuers from both the HG and the HY space (even though total issuance in the latter category was limited). Among first time issuers, China Huarong, Ping An and China State Engineering Corp were high grade, while China Energy Reserve and Hsin Chong Construction Group who, while unrated, raised short-term 3-year funding at effectively high yield rates.

On a quarterly basis, Asian HY debt outperformed Asian HG paper, with HG paper reporting total returns of 0.80% in 4Q'15, compared to a 2.75% gain in HY paper during the quarter. For the full year, HY debt also outperformed HG paper, with total returns of 4.10% compared to 2.14%. A combination of carry (which

offset some of the spread widening) and the perception of relative scarcity at a time when HY issuers shunned the primary markets, also contributed to relative HY outperformance.

### **State of the Asian leveraged loan market**

Asian leveraged loan debt, excluding developed market Asia, reached USD 56.0bn in 4Q'15, a 37.4% decline qoq (USD 89.5bn) but an 16.3% increase yoy (USD 48.1bn). For the full year, leveraged loan issuance was USD 213.0 billion, falling short of 2014's USD 230.0bn in issuance. Leading sectors in 4Q'15 issuance were from utility & energy (USD 11.8bn), computers & electronics (USD 5.7bn), and finance (USD 5.5bn). Sponsored loan deals rose by percentage, representing 8.7% by dollar amount in the fourth quarter.

### **Key trends in Asia (ex-Japan, Australia and New Zealand) G3 & LCY bond issuance**

For the fourth quarter 2015, total G3 issuance stood at USD 29.9bn, up 13.1% qoq but down 37.5% yoy. China remains the largest issuing country in the fourth quarter, accounting for a total of USD 15.4bn, or just over half (51.4%) of G3 issuance in 4Q'15; USD 10.6bn and USD 850mn in HG and HY deals, respectively, were priced from China alone. South Korea continues trail behind as the second largest issuing nation, with USD 4.9bn issued in 4Q'15, followed by Indonesia with USD 3.6bn in issuance.

Finance remained the largest sector of G3 issuance in the fourth quarter (USD 12.7bn), followed by sovereigns (USD 5.2bn), and real estate (USD 2.3bn).

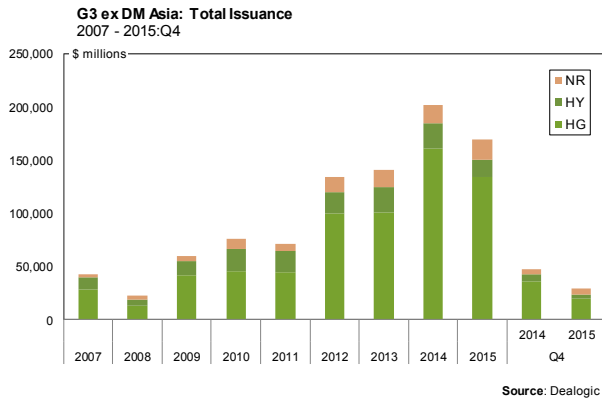
In terms of ratings, within the HG space, A- transactions continued to account for the largest share of deals priced during the quarter, with USD 4.1bn in total issuance, followed by BBB- rated transactions totaling USD 3.9bn and A rated issuance with USD 3.4bn. Within HY issuance, the BB- category dominated with USD 2.1bn of issuance, followed by BB rated transactions (USD 563.3mn).

By tenor, Asia ex-Japan, Australia and NZ G3 deals with tenors of 5 years or less continued to account for the bulk of issuance in 4Q'15, with a total of USD 17.0bn in short tenor issues being priced during the quarter. Of these, USD 11.4bn were HG deals, USD 1.3 billion were HY deals and the balance unrated.

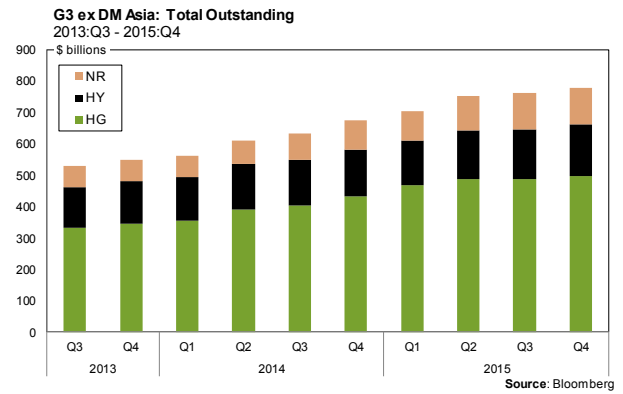
Overall G3 debt outstanding in the region stood at USD 779.76bn, a growth of 2.2% qoq. High grade debt accounted for the bulk of total outstanding debt at USD 496.37bn (a 2.0% increase qoq), followed by HY debt at USD 164.54bn (a growth of 3.0% qoq) and NR debt at USD 118.85bn (a growth of 1.9% qoq). China (with USD 278.5bn), South Korea (with USD 123bn) and Hong Kong (with USD 96.6bn) remain the three countries with the largest shares of G3 debt outstanding. In terms of ratings, within the HG space, deals rated A- (USD 67.3bn) accounted for the largest share of debt outstanding, while BB+ transactions (USD 74.1bn) dominated the deals outstanding in the HY space. By sector, financials with a total of USD 254.8bn accounted for nearly a third of outstanding G3 paper, followed by sovereigns (USD 180.6bn). Finally, deals with remaining tenors of 5 years or less (USD 445.0bn) accounted for the bulk of total Asia (ex-Japan, Australia and NZ) debt outstanding.

Finally, turning to the LCY debt markets, USD 226.2bn in total LCY-denominated debt was issued in Asia (ex-Japan, Australia & NZ) in 4Q'15, an increase of 12.9% qoq (USD 200.3bn) and 41.1% yoy (USD 160.2bn). For the full year, LCY issuance reached USD 736.2bn, well above 2014 volumes (USD 687.7 billion) but below the highs of prior years. Total LCY debt outstanding at the end of 4Q'15 in Asia (ex-Japan, Australia and NZ) stood at USD 12.1tn, rising by 6.4% qoq, with HG and HY debt outstanding declining 1.2% and 4.6% qoq, respectively, while non-rated debt rose 7.8% qoq. China also continues to account for the bulk of total outstanding LCY debt at USD 7.36tn, followed by India (USD 1.59tn) and South Korea (USD 1.40tn).

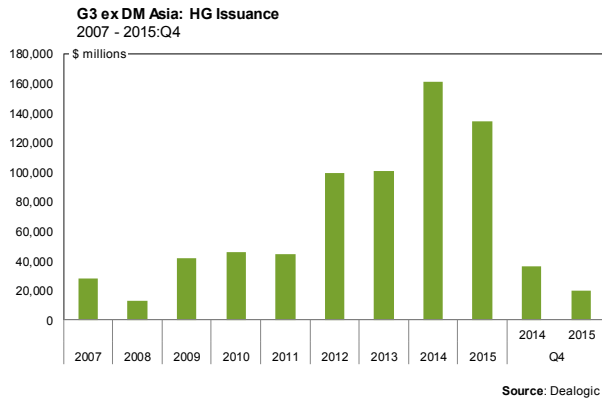
### 2.1. G3 ex DM Asia: Total Issuance



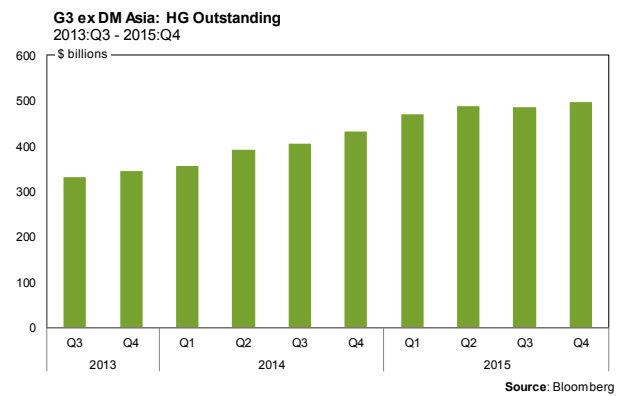
### 2.2. G3 ex DM Asia: Total Outstanding



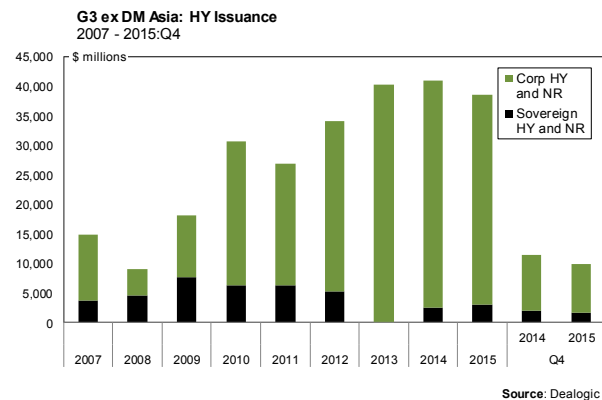
### 2.3. G3 ex DM Asia: HG Issuance



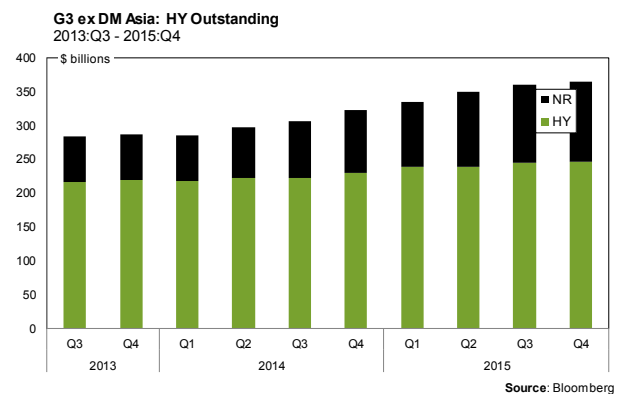
### 2.4. G3 ex DM Asia: HG Outstanding



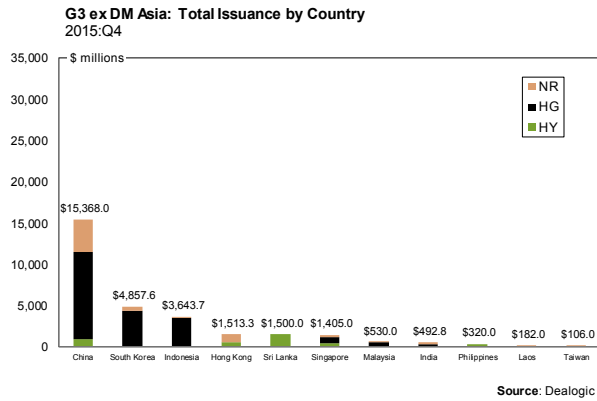
### 2.5. G3 ex DM Asia: HY Issuance



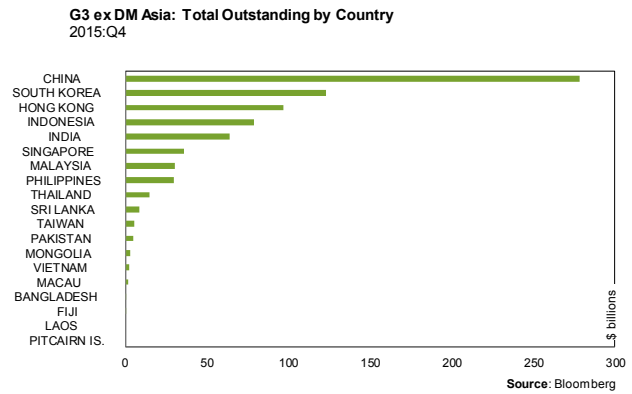
### 2.6. G3 ex DM Asia: HY Outstanding



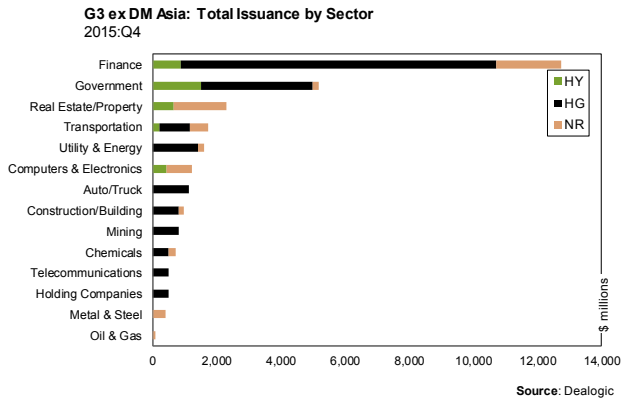
### 2.7. G3 ex DM Asia: Total Issuance by Country



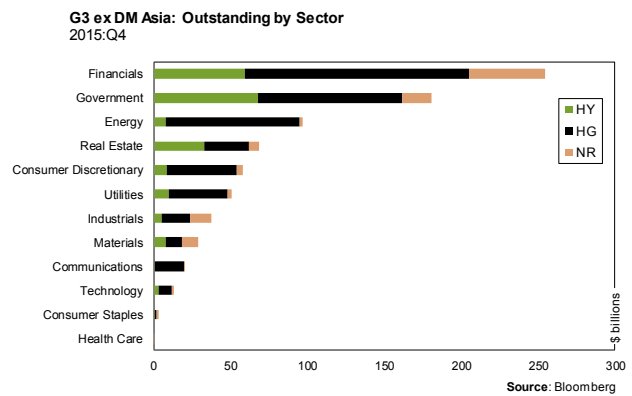
### 2.8. G3 ex DM Asia: Total Outstanding by Country



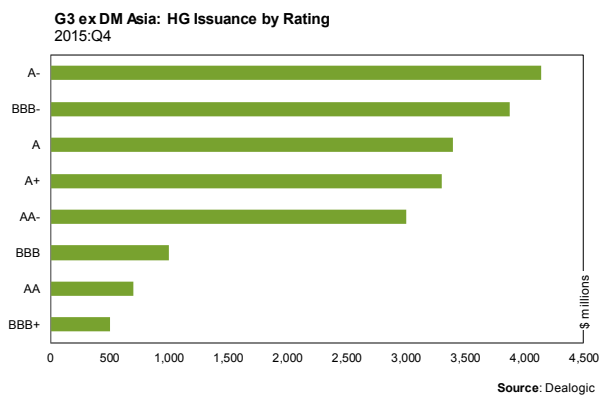
### 2.9. G3 ex DM Asia: Total Issuance by Sector



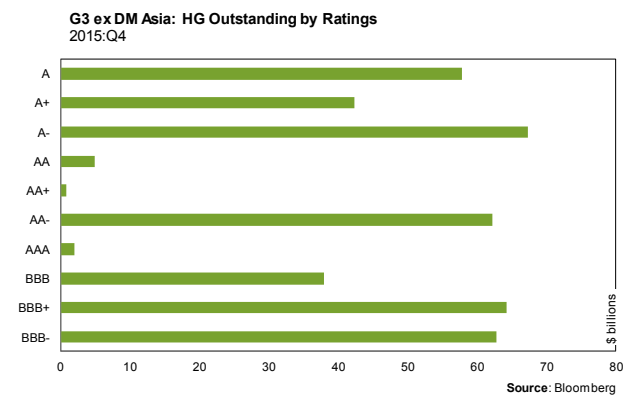
### 2.10. G3 ex DM Asia: Total Outstanding by Sector



### 2.11. G3 ex DM Asia: HG Issuance by Rating

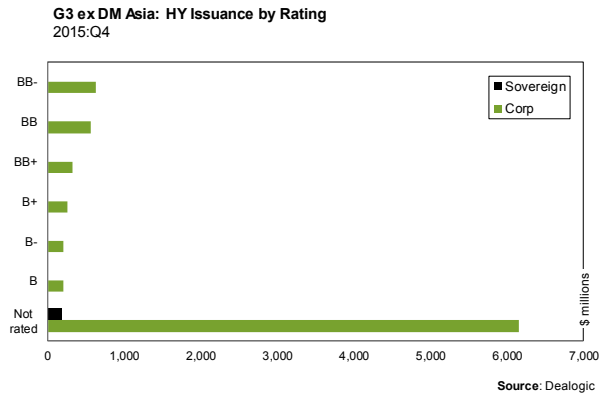


### 2.12. G3 ex DM Asia: HG Outstanding by Rating

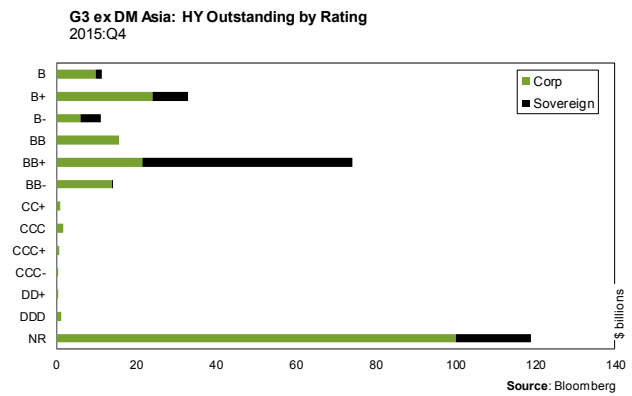




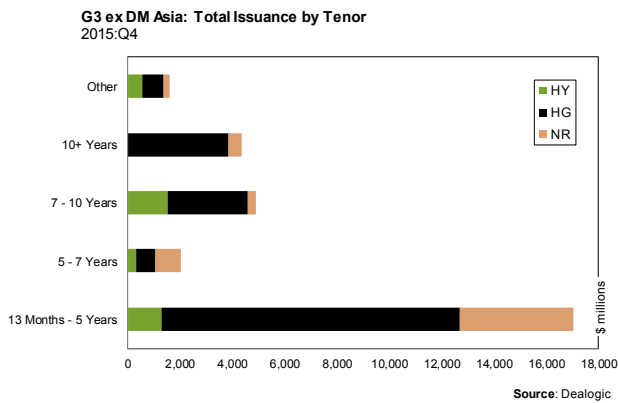
### 2.13. G3 ex DM Asia: HY Issuance by Rating



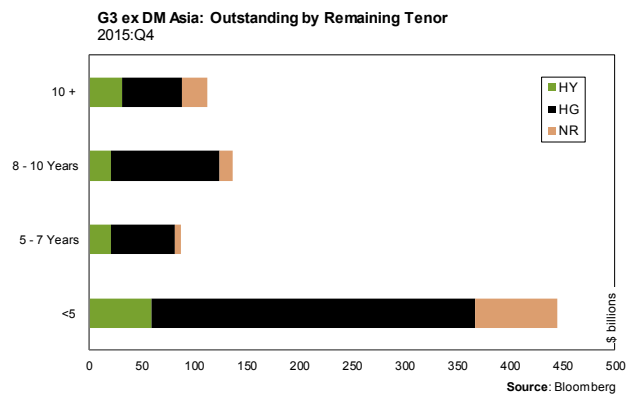
### 2.14. G3 ex DM Asia: HY Outstanding by Rating



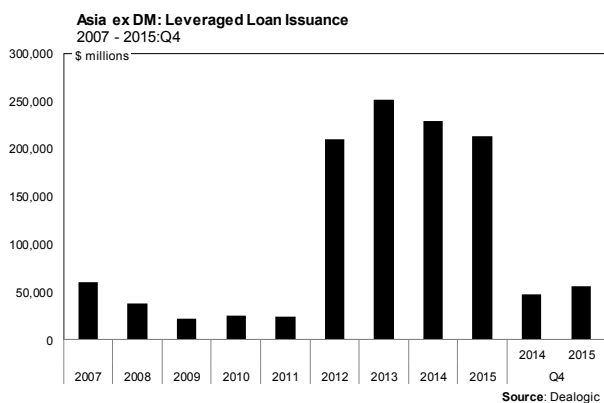
### 2.15. G3 ex DM Asia: Total Issuance by Tenor



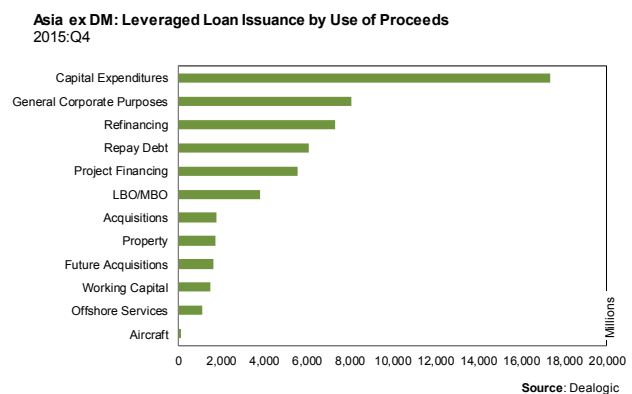
### 2.16. G3 ex DM Asia: Outstanding by Remaining Tenor



### 2.17. Asia ex DM: Total Leveraged Loan Issuance

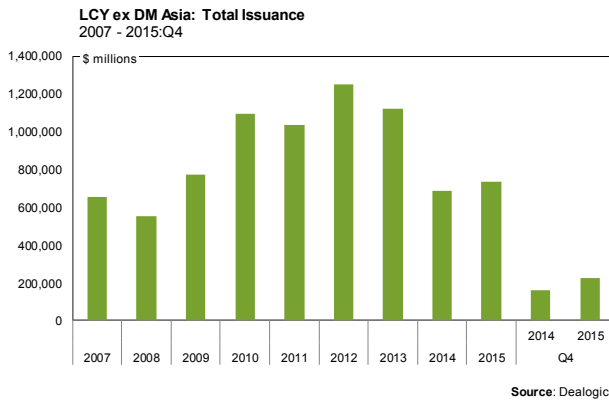


### 2.18. Asia ex DM: Total Leveraged Loan Issuance by Use of Proceeds

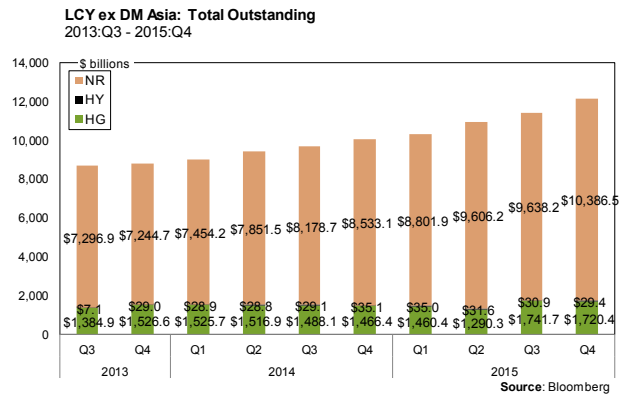


## 3. LCY Asia ex Developed Market Asia (Japan, Australia and New Zealand)

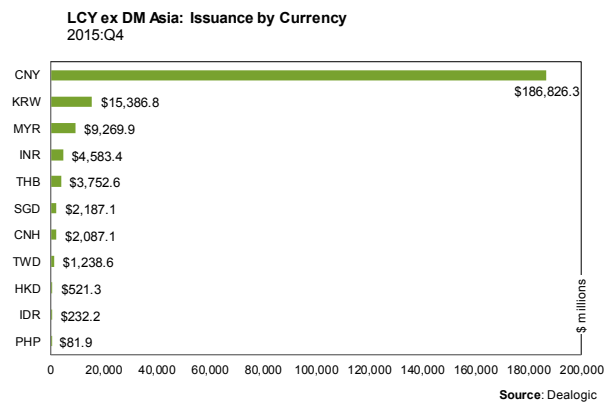
### 3.1. LCY ex DM Asia: Total Issuance



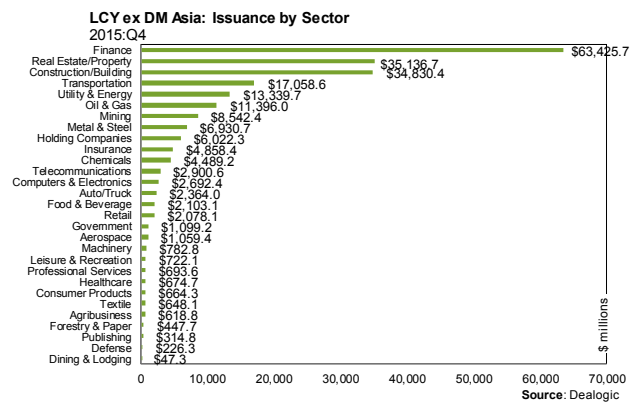
### 3.2. LCY ex DM Asia: Total Outstanding



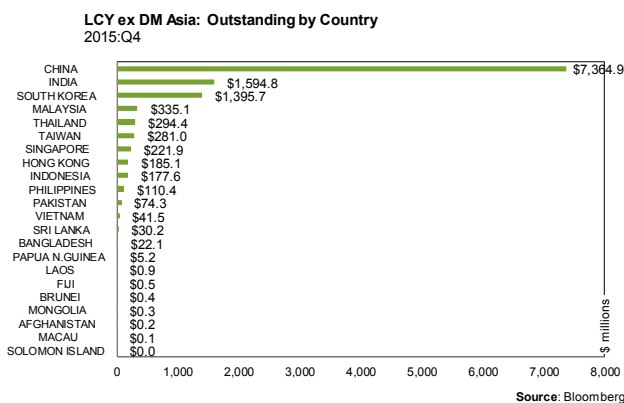
### 3.3. LCY ex DM Asia: Issuance by Currency



### 3.4. LCY ex DM Asia: Issuance by Sector



### 3.5. LCY ex DM Asia: Outstanding by Country



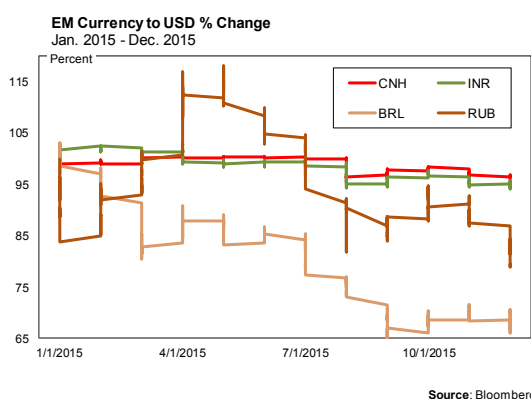
## 4. All Asia

### Total Issuance & Outstanding – G3 and LCY for Asia (including Japan, Australia and New Zealand)

Total G3 issuance in Asia (including Japan, Australia and New Zealand) stood at USD 94.6bn in the fourth quarter of 2015, a growth of 2.6% qoq but a decline of 12.7% yoy. In 4Q'15, total HG G3 issuance in Asia was USD 58.2bn, a growth of 5.3% qoq but a decline of 19.8% yoy; HY issuance was USD 3.8bn, a decline of 36.4% qoq and 44.0% yoy; and unrated issuance was USD 32.6bn, a decline of 6.0% qoq but an increase of 12.5% yoy. For the full year, total G3 issuance reached USD 440.8bn, falling just short of 2014 volumes of USD 487.3 billion, comprised of USD 291.2bn HG issuance, USD 22.2bn HY issuance, and USD 133.9bn unrated issuance. Outstanding G3 debt, including developed market Asia, stood at USD 11.86tn at the end of fourth quarter 2015, a decline of 0.5% qoq, with declines in unrated debt (USD 2.2tn, a 3.2% decline), but growth in HG debt (USD 9.4tn, a 0.2% growth) and HY debt (USD 214.5bn, a 1.5% growth).

Finally, turning to LCY debt issuance, total HG issuance, including Japan, Australia, and New Zealand, stood at USD 297.0bn in the fourth quarter of 2015, while HY issuance and unrated issuance combined was USD 256.7bn, for a total of USD 553.7bn in issuance. Issuance for 4Q'15 was 11.7% above 3Q'15 (USD 495.7bn) and 11.8% above 4Q'14 (USD 495.1bn). For the full year, LCY issuance was USD 2.0tn, unchanged from 2014 totals.

Looking ahead, the outlook for 2016 looks to be distinctly mixed – World markets have commenced the year on a bearish note pretty much across the board – with two factors foremost in investors' minds: a) the apparent commencement of the “normalization” of the US interest rate cycle with the expected 0.25% interest rate hike implemented by the US Federal Reserve at the end of 2015 and b) continued fears of an abrupt economic slowdown/hard landing in China. Accumulating signs of a slowdown in manufacturing and trade, not just in China but globally, and the weakness in the renminbi and the Chinese stock markets have served to reinforce investor fears that the bearish trend has just commenced.



Additionally, continued strength in USD (particularly vis-à-vis the bulk of the EM currencies), sharply higher yields in the weaker corners of the credit markets, a surge in safe haven government bond buying and finally, the weakness in oil prices and a whole range of commodities have all combined to suggest that global deflation is just around the corner.

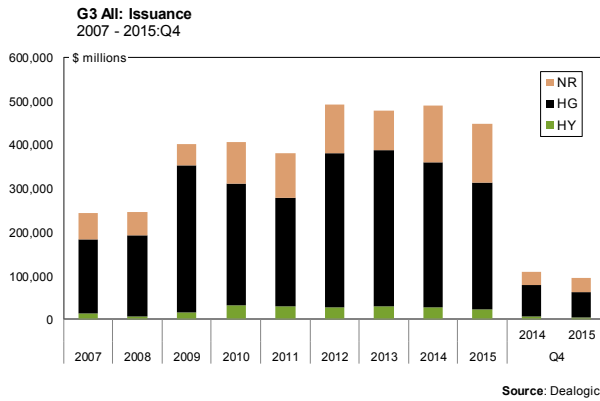
Under the circumstances, it is difficult to see USD issuance gaining traction in the EM world in general (and Asia in particular) if the consensus view leans towards continued USD strength (since future debt repayments will cost more in LCY terms); on the other hand, any signal from the US Federal Reserve that they are willing to adopt a more dovish viewpoint and either a) considerably slow the pace of

rate increases or b) even better, reverse the rate increases and unveil further monetary accommodation (e.g., more quantitative easing) – would lead investors to conclude that the USD rally is at (or near) an end. This would then serve as a catalyst for increased USD issuance on the part of EM and Asian entities, the precise opposite of the first scenario where LCY issuance will be favoured should USD strength continue.

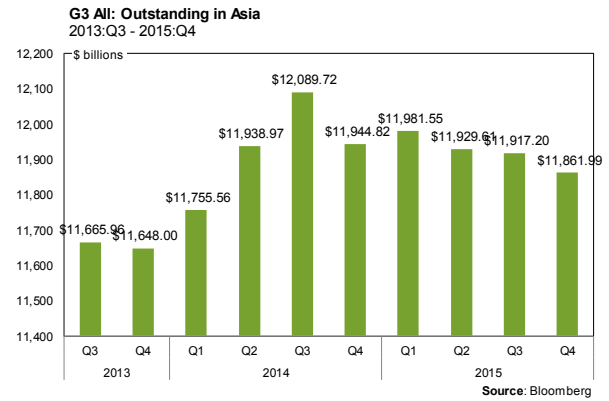
Our own view leans towards the first scenario – we believe that the forces that have combined to contribute to EM weakness and USD strength are set to continue for a while; additionally, local currency liquidity in many countries in the region (and China in particular) remains ample – finally, at a time of widening

USD/global credit spreads, issuers can generally obtain lower funding costs in their home markets relative to the offshore USD/global markets. Thus, on a yoy basis, 2016 is likely to see muted USD/G3 issuance relative to 2015, while LCY-denominated issuance will likely show growth over the same period.

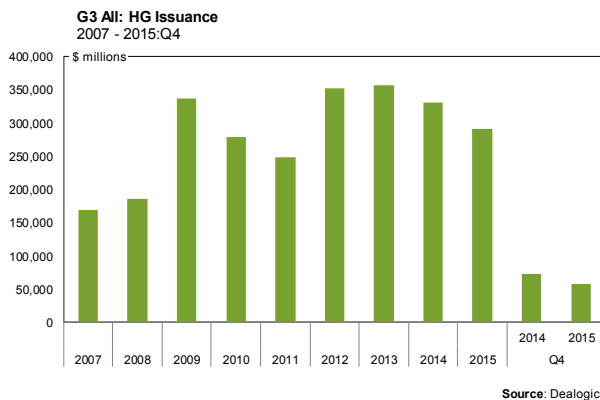
#### 4.1. G3 All: Total Issuance



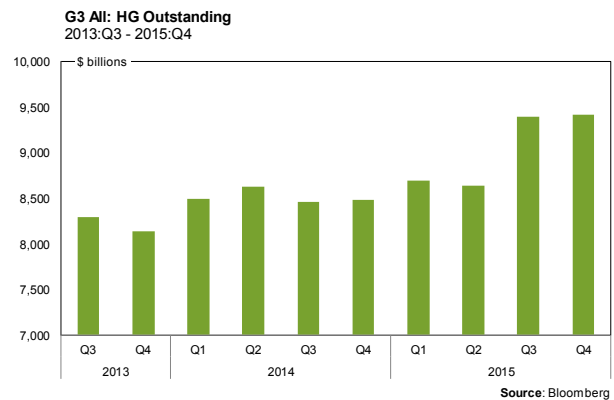
#### 4.2. G3 All: Total Outstanding



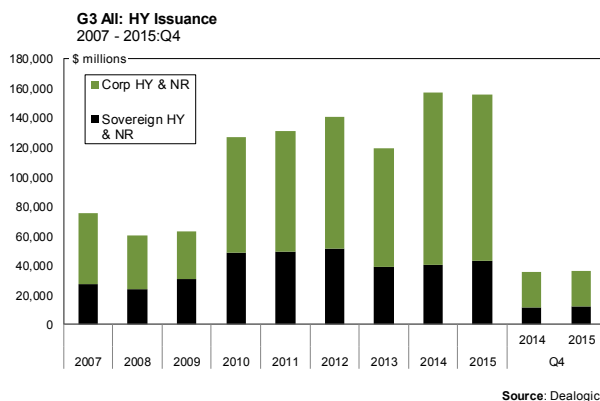
#### 4.3. G3 All: HG Issuance



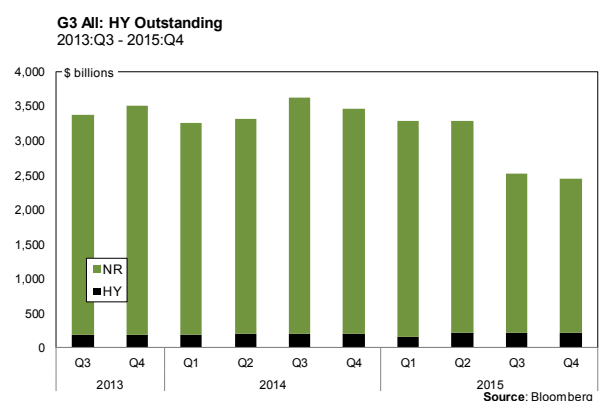
#### 4.4. G3 All: HG Outstanding



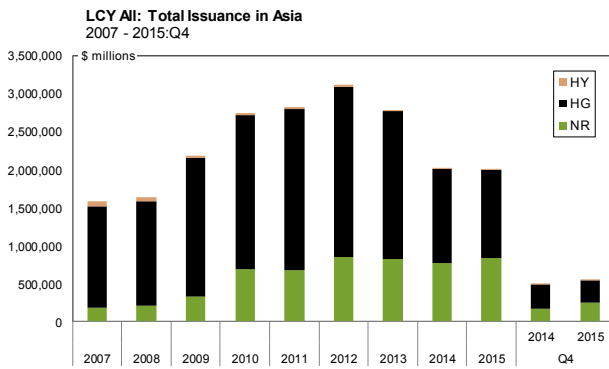
#### 4.5. G3 All: HY Issuance



#### 4.6. G3 All: HY Outstanding



#### 4.7. LCY All: Total Issuance



Source: Dealogic

## 5. China – Domestic

### Total Issuance & Outstanding – Domestic CNY issuance

Total domestic CNY issuance stood at USD 187.6bn in the fourth quarter of 2015, up 19.9% from third quarter volume (USD 156.5bn) and 70.1% yoy (USD 110.3bn). Fourth quarter volumes more than made up for the relatively low levels of issuance in the first three quarters; for the full year, domestic CNY issuance reached USD 558.4bn, well above 2014 volumes (USD 498.7bn) but half that of prior years. By tenor, 60.7% of fourth quarter issuance (USD 114.0bn) would mature in five years or less, followed by the 7 – 10 year bucket (USD 27.7bn, or 14.8% of issuance). By sector, finance led issuance totals (USD 39.7bn), followed by real estate (USD 32.8bn).

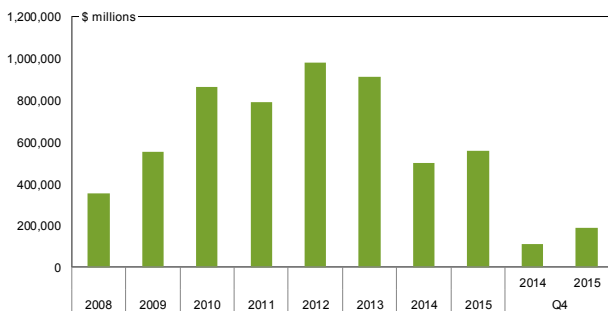
Outstanding domestic CNY debt stood at USD 7.2tn at the end of fourth quarter 2015, with sovereigns leading totals (USD 4.05tn), followed by financials (USD 1.58tn) and industrials (USD 593.22bn).

In our credit report published at the end of the third quarter, we had indicated that domestic CNY issuance would be strong going into the final quarter of 2015 – while this prediction did come true, many of the same factors that drove strong Chinese domestic issuance during the tail end of 2015, continue to remain intact.

- 1) The panda bond market pipeline remains strong and the pace of issuance is likely to pick up during the first quarter of 2016 as first-time issuers worldwide access the Chinese domestic bond market.
- 2) The CNY has continued to trade relatively weak against the USD – the mixed outlook for the CNY suggests that domestic issuers will favour LCY issuance at the expense of the USD.
- 3) The inclusion of the CNY as a constituent currency of the SDR basket beginning October 2016 will, at the margin, spur demand for at least some assets denominated in the Chinese currency on the part of central banks.
- 4) Chinese bank capital requirements remain considerable over the next few years; As the largest Chinese banking institutions are designated as systemically important globally – China Construction Bank was added to the global systemically important banks (G-SIBs) by the Financial Stability Board in 2015, bringing the number of Chinese G-SIBs up to 4 - they will need to build up additional capital buffers. This is likely to drive incremental domestic bond issuance.
- 5) Finally, the Chinese regulatory authorities have indicated that they will continue to liberalize access to the Chinese bond markets through Qualified Foreign Institutional Investor (QFII), RMB Qualified Foreign Institutional Investor (RQFII) and other steps, supporting CNY debt issuance.

### 5.1. Domestic CNY All: Total Issuance

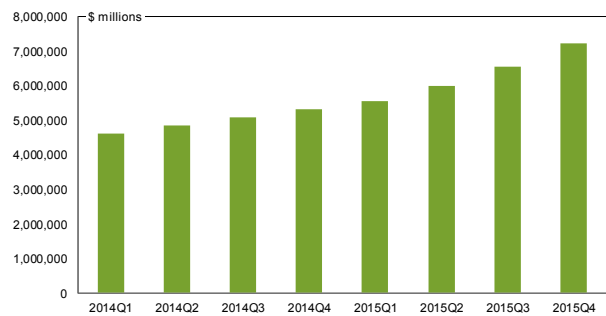
Domestic CNY All: Total Domestic Issuance  
2008 - 2015:Q4



Source: Dealogic

### 5.2. Domestic CNY All: Total Outstanding

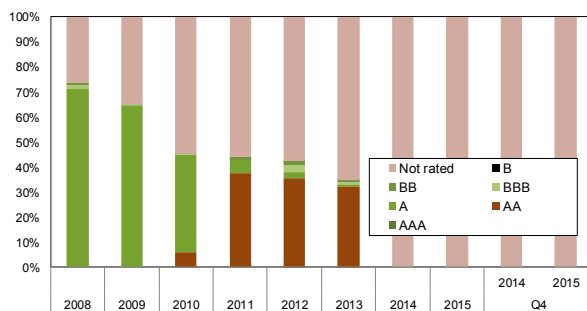
Domestic CNY All: Total Outstanding  
2014:Q1 - 2015:Q4



Source: Bloomberg

### 5.3. Domestic CNY All: Issuance by Rating

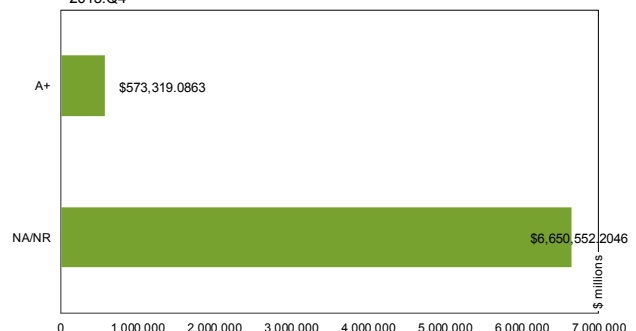
Domestic CNY All: Issuance by Rating  
2008 - 2015:Q4



Source: Dealogic

### 5.4. Domestic CNY All: Outstanding by Rating

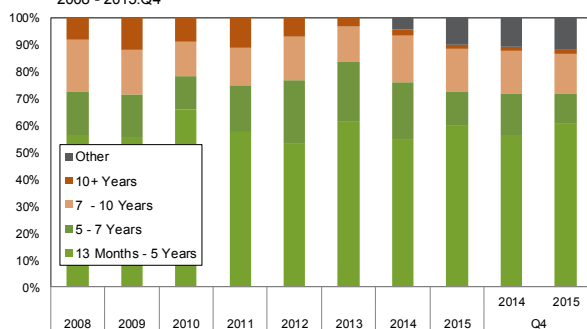
Domestic CNY All: Outstanding By Rating  
2015:Q4



Source: Bloomberg

### 5.5. Domestic CNY All: Issuance by Tenor

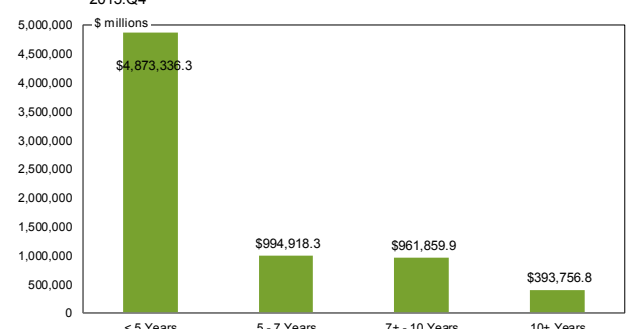
Domestic CNY All: Total Issuance by Tenor  
2008 - 2015:Q4



Source: Dealogic

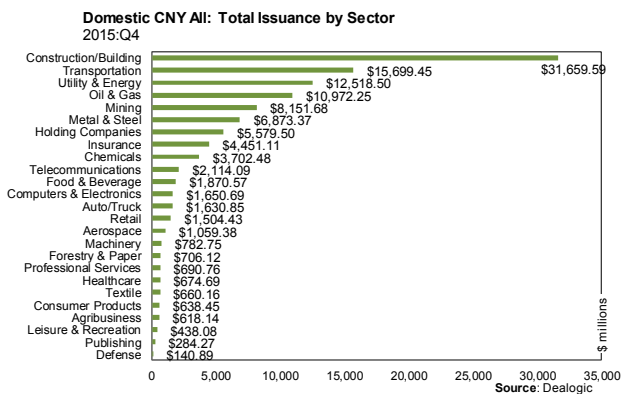
### 5.6. Domestic CNY All: Outstanding by Remaining Tenor

Domestic CNY All: Outstanding By Remaining Tenor  
2015:Q4

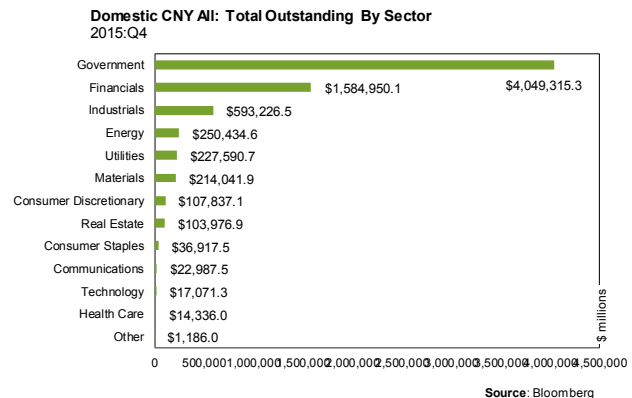


Source: Bloomberg

### 5.7. Domestic CNY All: Issuance by Sector



### 5.8. Domestic CNY All: Outstanding by Sector



## 6. China – CNH

### Key trends in offshore renminbi (CNH) and the dim sum bond markets

The pace of issuance picked up slightly on both a qoq and a yoy basis in the fourth quarter. For the fourth quarter of 2015, an equivalent of USD 8.6bn in CNH bonds were issued, an increase of 119.2% qoq but a decline of 14.7% yoy. For the full year, CNH issuance was USD 29.4bn, a decline of 30.3% from 2014 totals. (USD 42.1bn). In terms of tenor, with all of fourth quarter issuance accounted for by transactions with tenors of 5-years or less and two-thirds alone from short-term paper (USD 5.6bn). HG deals rated A+ totaling USD 252.4mn had the highest share among rated deals (2.9%). In terms of sector, finance sector transactions totaling USD 6.2bn accounted for the largest volume of deals by sector (72.3%), followed by real estate, totaling USD 1.6bn (representing 18.2% of issuance).

CNH Deposit Base by Location	Amt (USD bn)	As of
Hong Kong	131.6	Nov-15
Singapore	34.3	Sep-15
Taiwan	48.4	Dec-15
Korea, Republic of	14.3	Jul-15
Luxembourg	9.7	Dec-14
United Kingdom	3.8	Sep-15
France	4.0	Dec-14

Sources: HKMA (Hong Kong), MAS (Singapore), Central Bank of Republic of China (Taiwan), Reuters (Korea), Luxembourg for Finance (Luxembourg), Bank of England (UK), Standard Chartered (France); Exchange Rate: CNH 6.57 = USD 1.0, GBP 1.48 = USD 1.0

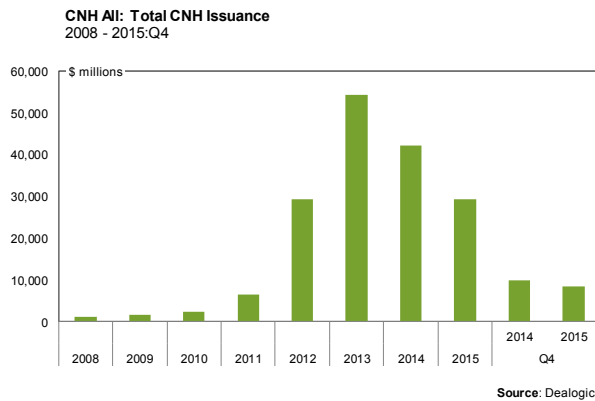
The total of dim sum bonds outstanding stands at USD 108.8bn, an increase of 11.7% qoq. Continued erosion of the CNH deposit base in Hong Kong following steep falls in the offshore Chinese currency, which at one point in time traded considerably weaker than its onshore counterpart, contributed to negative investor perceptions towards the CNH and the dim sum bond market overall. In addition, while intervention in the offshore markets by Chinese authorities helped stabilize the currency, this was accompanied by a liquidity squeeze which drove offshore

interest rates to well over double digits in percentage, for extended periods of time (with a high of 66% being recorded briefly in overnight rates). All these factors have tended to dim the lustre of the CNH as an investment vehicle for large sections of the offshore investor community.

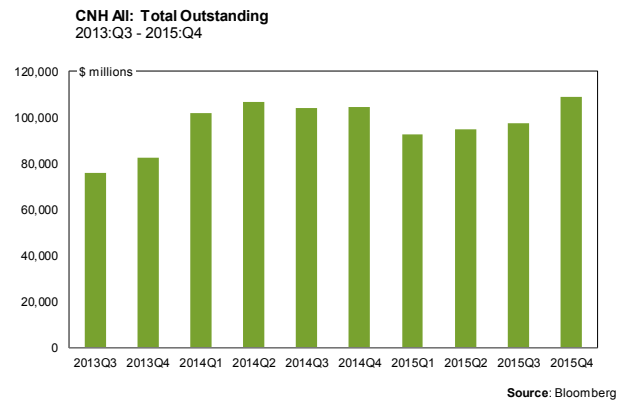
Going forward, China is looking to liberalize access to the onshore bond market for through a series of gradual measures. This, coupled with the ongoing convergence between onshore and offshore interest rates and most importantly, with the size of the onshore CNY bond market several multiples of the offshore dim sum bond market, it does appear that the gradual dominance of the onshore market over a period of time, at the expense of the CNH market, is all but assured.



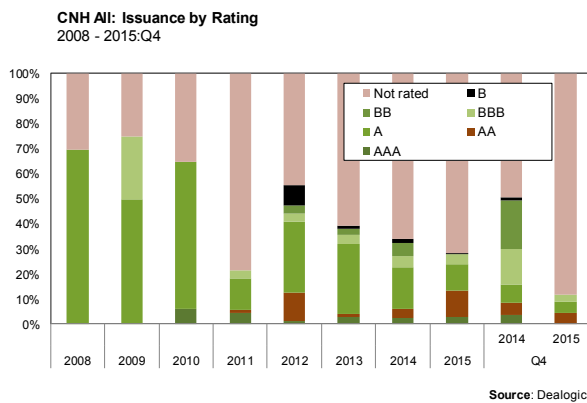
### 6.1. CNH All: Total CNH Issuance



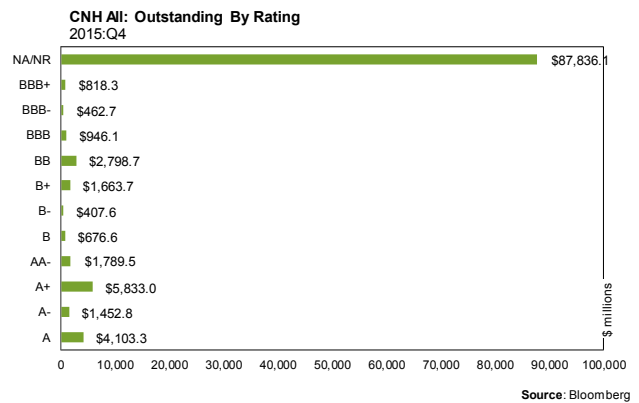
### 6.2. CNH All: Total Outstanding



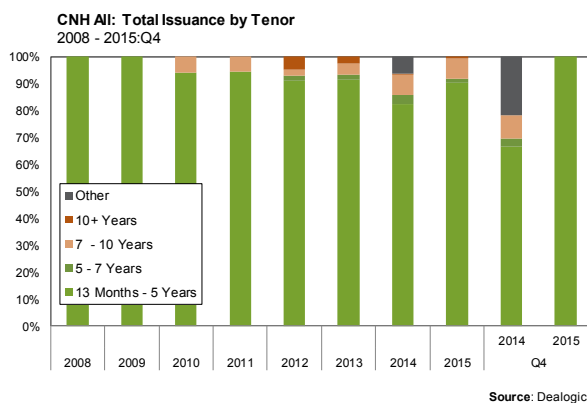
### 6.3. CNH All: Issuance by Rating



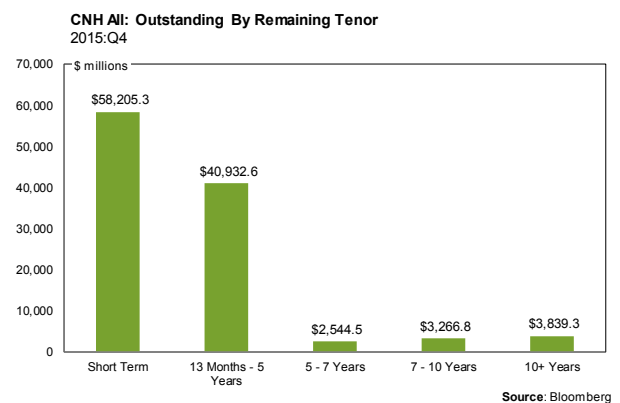
### 6.4. CNH All: Outstanding by Rating



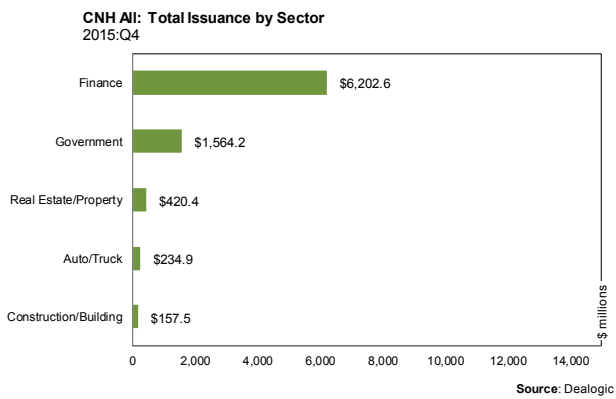
### 6.5. CNH All: Issuance by Tenor



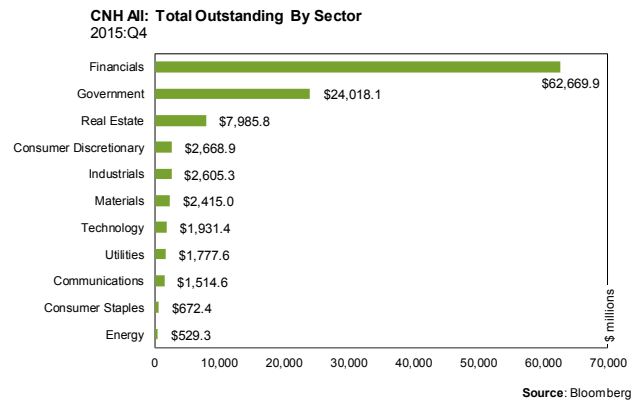
### 6.6. CNH All: Outstanding by Remaining Tenor



### 6.7. CNH All: Issuance by Sector



### 6.8. CNH All: Outstanding by Sector



## 7. Spreads, Credit & Total Return

### Relative Value and returns (Asia ex-Japan, Australia & New Zealand G3)

In a trend consistent with previous quarters, Asian bonds continue to trade wider than their US and European counterparts. At the end of 4Q'15, Asian HG bonds on a composite basis were quoted at an average spread of 178 basis points (bps), while US and European HG bond issues were quoted at average spreads of 173 bps and 133 bps respectively. Likewise, in the HY space, Asian HY corporates were quoted at a composite spread of 720 bps, but US and European HY bonds were tighter at 695 bps and 535 bps respectively.

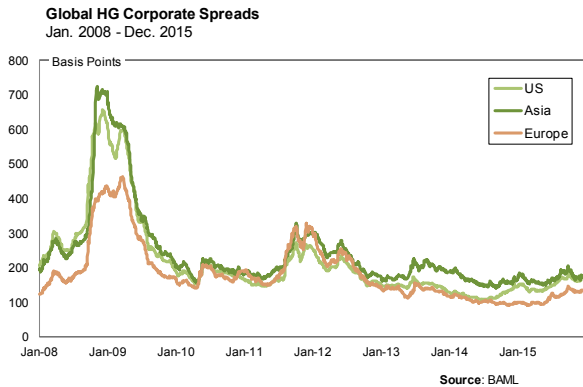
In terms of total return in the fourth quarter, global developed market equities led returns, followed by global corporate credit, while commodities and emerging market equities underperformed. Asian HG gained 0.80% in the fourth quarter, while HY indices gained 2.75%.

Our view, going into the final quarter of 2015, are that idiosyncratic factors will drive Asian HY bond outperformance vis-à-vis HG names from within the region and investors looking for alpha should look to selectively switch into HY bonds from within the region. Some of these idiosyncratic factors worth highlighting include:

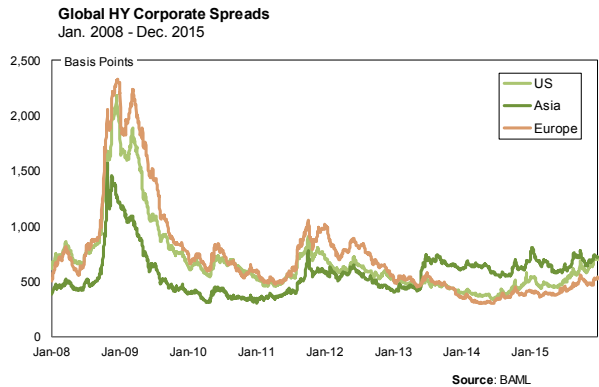
- a) The relative scarcity of HY issuance for all of 2015.
- b) Credit spreads (particularly in the Chinese property sector) had widened to a point where at least a few names in the sector looked attractive – more so in the context that Chinese house prices showed signs of stability and domestic liquidity allowed Chinese property sector issuers to borrow/refinance in the domestic capital markets.
- c) The outlook for US treasuries' continued strength (which in turn would be supportive of HG bonds) looked difficult to justify, in the context of imminent rate increases on the part of the US Federal Reserve and the normalization of the US interest rate cycle.

All these factors did indeed combine to support HY outperformance relative to HG names last year – we believe that all these factors remain in place to support continued HY outperformance in 2016 as well. Here again, selectivity and rotation out of HY sectors that have outperformed, into underperforming Asian HY sectors might be worthwhile. For those inclined to be contrarian, some of the best value lies in the “beaten down” commodities space, not just globally but within Asia as well. Selective buying of certain commodity names (particularly those trading at deeply distressed levels) could deliver handsome rewards to brave investors. It is not entirely unreasonable to expect at least a partial recovery in commodity prices after a long period of weakness – this in turn is likely to help underpin the better HY credits which have suffered largely on account of this prolonged downturn in the commodities cycle. Improving credit profiles in the commodity sector is a theme worth considering in 2016, in our view.

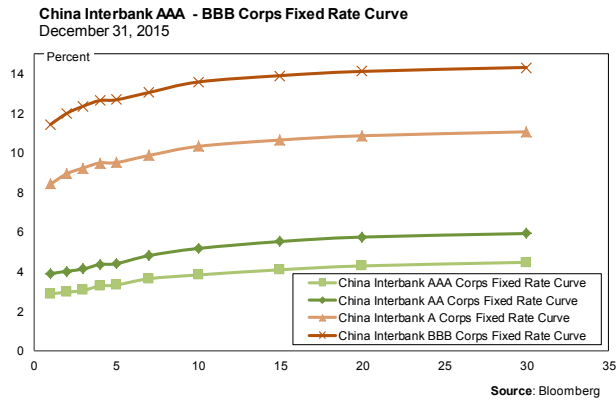
### 7.1. Global HG Corporate Spreads



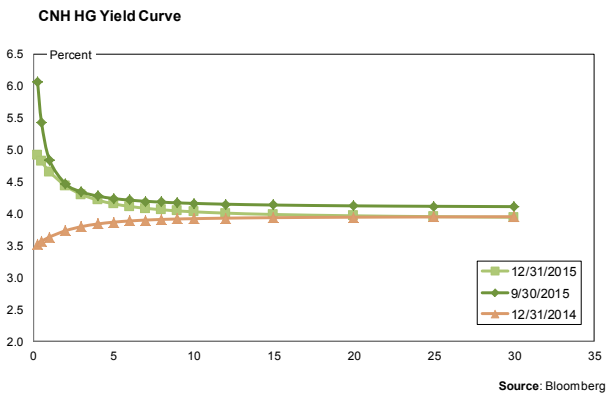
### 7.2. Global HY Corporate Spreads



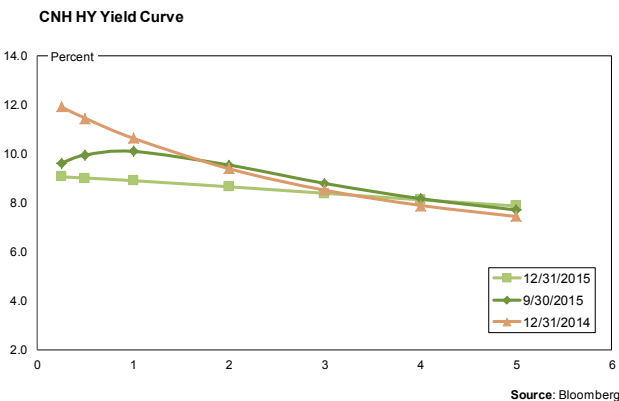
### 7.3. China Interbank AAA - BBB Corps Fixed Rate Curve



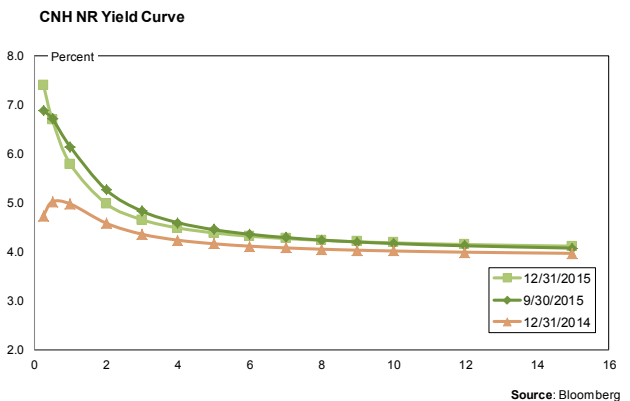
### 7.4. CNH HG Yield Curve



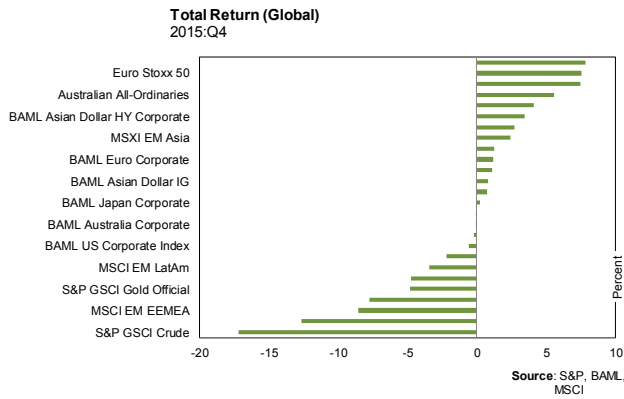
### 7.5. CNH HY Yield Curve



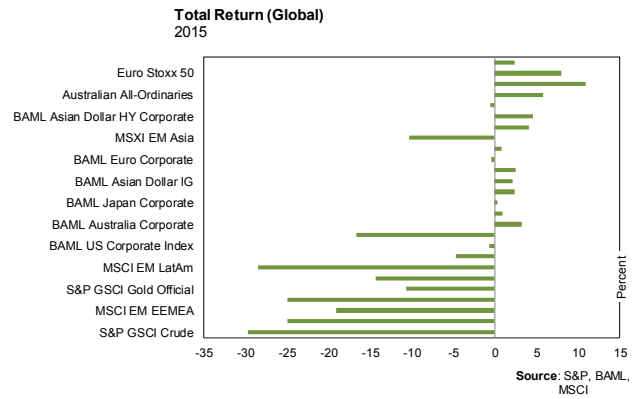
### 7.6. CNH NR Yield Curve



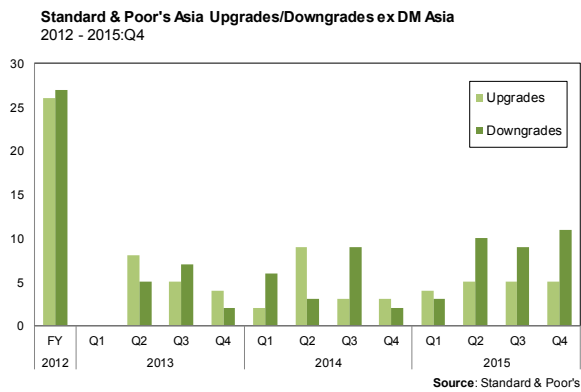
### 7.7. Global Returns, Quarter-End



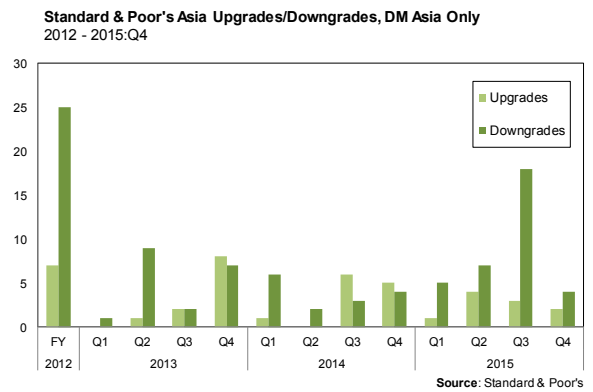
### 7.8. Global Returns, 2015



### 7.9. Asia Upgrades / Downgrades ex DM Asia



### 7.10. Asia Upgrades / Downgrades, DM Asia



## 7.11. Asian Upgrades & Downgrades, Standard & Poor's, Fourth Quarter and Full Year 2015

Upgrades	Country	Date	Rating
Korean Railroad Corp. (Republic of Korea)	Korea, Republic of	1/20/2015	A+
Hyundai Motor Co.	Korea, Republic of	1/29/2015	A-
Hyundai Capital Services Inc. (Hyundai Motor Co.)	Korea, Republic of	1/30/2015	A-
Arysta LifeScience Corp.	Japan	2/19/2015	BB
BOC Aviation Pte. Ltd. (Bank of China Ltd.)	Singapore	3/19/2015	A-
China Metallurgical Group Corp.	China	4/15/2015	BBB-
Tokyo Electric Power Co. Inc.	Japan	4/21/2015	BB-
Flextronics International Ltd.	Singapore	5/20/2015	BBB-
Sunac China Holdings Ltd.	Hong Kong	5/26/2015	BBB+
China Longyuan Power Group Corp. Ltd.	China	5/29/2015	A-
Federation Centres	Australia	6/11/2015	A-
Banglalink Digital Communications Ltd.	Bangladesh	6/11/2015	BB-
NEC Corp.	Japan	6/25/2015	BBB
Atlas Iron Ltd.	Australia	6/30/2015	CCC+
Fukoku Mutual Life Insurance Co.	Japan	7/15/2015	A
Boart Longyear Ltd.	Australia	7/15/2015	CCC+
Toyota Tsusho Corp.	Japan	7/30/2015	A+
Republic of Korea	Korea, Republic of	9/15/2015	AA=
Korea Land and Housing Corp. (Republic of Korea)	Korea, Republic of	9/16/2015	AA-
Korea National oil Corp. (Republic of Korea)	Korea, Republic of	9/16/2015	AA-
Korea Development Bank (Republic of Korea)	Korea, Republic of	9/16/2015	AA-
CITIC Group Corp.	China	9/30/2015	A=
Korea Electric Power Corp. (Republic of Korea)	Korea, Republic of	10/30/2015	AA-
Korea Expressway Corporation (Republic of Korea)	Korea, Republic of	10/30/2015	AA-
SK Broadband Co., Ltd. (TSK Telecom Co. Ltd.)	Korea, Republic of	11/3/2015	A-
Qantas Airways Ltd.	Australia	11/16/2015	BBB-
Panasonic Corporation	Japan	11/25/2015	A-
China National Bluestar (Group) Co. Ltd.	China	12/1/2015	BBB
China Orient Asset Management (International) Holding Limited (China Orient Asset Management Corporation)	Hong Kong	12/22/2015	BBB+

Downgrades	Country	Date	Rating
Nippon Telegraph and Telephone Corp.	Japan	1/20/2015	AA-
PT Berau Coal Energy Tbk	Indonesia	1/21/2015	CCC-
Atlas Iron Ltd.	Australia	1/28/2015	B-
MagnaChip Semiconductor Corp	Korea, Republic of	2/17/2015	B-
Sharp Corp.	Japan	3/3/2015	CCC+
Ausdrill Ltd.	Australia	3/20/2015	B+
Sumitomo Corp.	Japan	3/26/2015	A-
Yanlord Land Group Limited	Singapore	3/31/2015	B+
Sound Global Ltd.	Singapore	4/1/2015	B
Zoomlion Heavy Industry Science and Technology Co. Ltd	China	4/2/2015	B+
Atlas Iron Ltd.	Australia	4/7/2015	CCC
Origin Energy Ltd.	Australia	4/21/2015	BBB-
Fortescue Metals Group Ltd.	Australia	4/22/2015	BB
Yanzhou Coal Mining Co. Ltd.	China	4/22/2015	BB
Transurban Finance Co. Pty Ltd.	Australia	4/29/2015	BBB+
Guangzhou R&F Properties Co. Ltd.	China	4/30/2015	B+
Sound Global Ltd.	Singapore	4/30/2015	CCC
BIS Industries Ltd.	Australia	5/13/2015	B-
Sharp Corp.	Japan	5/15/2015	CCC-
Sime Darby Berhad	Malaysia	5/28/2015	A-
MagnaChip Semiconductor Corp	Korea, Republic of	6/15/2015	CCC+
China Shanshui Cement Group Ltd.	Hong Kong	6/17/2015	CCC
Sharp Corp.	Japan	6/30/2015	SD
STATS ChipPAC Ltd.	Singapore	6/30/2015	BB
PT Berau Coal Energy Tbk	Indonesia	7/15/2015	SD
PT MNC Investama Tbk.	Indonesia	7/16/2015	B+
Viva Industrial REIT	Singapore	7/24/2015	BB
China South City Holdings Limited	Hong Kong	7/28/2015	B+
PT Japfa Comfeed Indonesia Tbk	Indonesia	7/31/2015	B
PT Gajah Tunggal Tbk.	Indonesia	8/4/2015	B
Greenland Holding Group Company Ltd.	China	8/19/2015	BBB-
Woolworths Ltd.	Australia	8/27/2015	BBB+
EMECO Holdings Ltd.	Australia	8/28/2015	B-
Tronox Ltd.	Australia	9/1/2015	BB-
Mongolian Mining Corp.	Mongolia	9/2/2015	CCC
Toshiba Corp.	Japan	9/9/2015	BBB-
Amtek Global Technologies Pte Ltd.	Singapore	9/15/2015	CCC+
Japan	Japan	9/16/2015	A+
MassMutual Life Insurance Co. (Massachusetts Mutual Life Insurance Co.)	Japan	9/17/2015	A+
Mizuho Financial Group Inc.	Japan	9/17/2015	A-
Electric Power Development Co. Ltd	Japan	9/17/2015	A-
Narita International Airport Corp.	Japan	9/17/2015	A+
Sumitomo Mitsui Financial Group Inc.	Japan	9/17/2015	A
Sumitomo Mitsui Trust Bank (Sumitomo Mitsui Trust Holdings)	Japan	9/17/2015	A
Development Bank of Japan Inc (Japan)	Japan	9/17/2015	A
Japan Housing Finance Agency (Japan)	Japan	9/17/2015	A+
Tokio Marine & Nichido Fire Insurance Co. Ltd. (Tokio Marine Holdings Inc.)	Japan	9/17/2015	A+
Okinawa Electric Power Co. Inc.	Japan	9/17/2015	A+
Shinkin Central Bank	Japan	9/17/2015	A
Norinchukin Bank	Japan	9/17/2015	A
Seven Bank Ltd. (Seven & I Holdings Co. Ltd)	Japan	9/18/2015	A+
Fontterra Co-operative Group Ltd.	New Zealand	10/13/2015	A-
China Fishery Group Ltd.	Hong Kong	10/19/2015	CCC+
Mongolia	Mongolia	11/3/2015	B
PT Alam Sutera Realty Tbk.	Indonesia	11/3/2015	B
Sharp Corp.	Japan	11/4/2015	CCC+
China Shanshui Cement Group Ltd.	Hong Kong	11/6/2015	CC
STATS ChipPAC Ltd.	Singapore	11/6/2015	BB-
PT MNC Investama Tbk.	Indonesia	11/11/2015	B
China Shanshui Cement Group Ltd.	Hong Kong	11/13/2015	D
China Fishery Group Ltd.	Hong Kong	11/26/2015	SD
PT Tower Bersama Infrastructure Tbk.	Indonesia	11/26/2015	BB-
China South City Holdings Limited	Hong Kong	12/9/2015	B
CITIC Securities Co. Ltd.	China	12/14/2015	BBB
Toshiba Corp.	Japan	12/22/2015	BB+
Atlas Iron Ltd.	Australia	12/23/2015	CC

## 7.12. Asian Defaults, Standard & Poor's, 2015

Defaults	Country	Type
Sharp Corp.	Japan	Capital goods
PT Berau Coal Energy Tbk	Indonesia	Metals and mining
China Shanshui Cement Group Ltd.	Hong Kong	Forest products and building materials
China Fishery Group Ltd.	Hong Kong	Consumer products

## 8. Summary of the Methodologies Adopted for this Report

### 2. G3 Asia ex Developed Market Asia (Japan, Australia, and New Zealand)

#### Issuance

Bond transactions are sourced primarily from Dealogic, with supplemental information sourced from Bloomberg. Unless otherwise noted, all issuance are long-term debt. High grade transactions are defined as transactions with a Dealogic “effective” rating of equal or greater than BBB-, and may include unrated transactions based on issuer and desk notes. High yield transactions are defined as transactions with a Dealogic “effective” rating of equal or less than BB+, and may also include unrated transactions based on issuer and desk notes. Unrated deals are those deals with no effective rating from Dealogic.

“All Asia” issuance are defined as being a corporate bond issue having a Dealogic “deal nationality” as within Asia, regardless of market, including domestic. Sovereign, sub-sovereign, medium-term notes, and agencies are also included from issuance, while supranational and ABS/MBS issuers are excluded from issuance. Loans are excluded from issuance as well.

“DM”, or Developed Market Asia, include those deals with a Dealogic deal nationality from Australia, Japan, and New Zealand. “Ex DM Asia” will refer to all deals excluding those deals with a Dealogic deal nationality from Australia, Japan, and New Zealand.

G3 deals are defined a subset of deals in “All Asia” that are rank eligible, according to Dealogic’s rank eligibility guidelines, with a tranche currency in US dollar (USD), European euro (EUR), or Japanese yen (JPY). There may exist deals within “All Asia” issuance that are denominated in a G3 currency but are not rank eligible and therefore not included in G3 tables but may be included in all other non-G3 exclusive tables.

“LCY”, or local currency, are defined as a subset of deals in “All Asia” flagged by Dealogic local currency flag. G3 and LCY deals are not mutually exclusive and may overlap (e.g., in the case of Japanese JPY deals).

All issuance are denoted in USD equivalents based on exchange rates as of the issue date of the bond.

#### Outstanding

Outstanding figures are sourced from Bloomberg and contain all bonds from its corporate securities database, including private placements. Structured notes and debt secured by assets are excluded. All other criteria new closely to the criteria for issuance.

All outstandings are denoted in USD equivalent based on exchange rates as of quarter-end.

Outstanding G3 deals are defined a subset of deals in “All Asia” that are rated with at least one rating by one of the four rating agencies: Fitch Ratings, Moody’s, Standard & Poor’s, or DBRS; and denominated in US



dollar (USD), European euro (EUR), or Japanese yen (JPY). Deals that are not rated by one of the four rating agencies (those deals with a Bloomberg composite rating of “NA”) are excluded. The “NA” exclusion is due to overlap between rank ineligible deals and those deals with no rating; a close analysis of the data reveals that the figures for data excluding “rank ineligible” deals and the figures for data excluding data rated N.A. in Bloomberg are similar.

**2.1., 2.3, 2.5., 2.7., 2.9., 2.11., 2.13., 2.15., 2.17., 2.18.**

Data are sourced from Dealogic.

Issuance by country is determined by Dealogic's deal nationality.

Issuance by tenor is determined by years of maturity at issuance.

Issuance by sector is defined by Dealogic's General Industry Group ("GIG") groupings and are not analogous to Bloomberg's Sector grouping.

**2.2., 2.4., 2.6., 2.8., 2.10., 2.12.**

Data are sourced from Bloomberg.

Outstanding by rating are by current composite rating assigned by Bloomberg. Composite ratings by Bloomberg are the average of ratings assigned by Moody's, Standard & Poor's, Fitch Ratings, and DBRS; a minimum of two ratings must be given to a bond before a composite rating is generated. "NR" denotes a bond with a single rating assigned by the four rating agencies, whereas "NA" denotes a bond with no rating from any of the four.

Outstanding by tenor are based on current tenor as quarter-end. "Other" includes those bonds with no listed maturity date and perpetuals.

**3. LCY Asia ex Developed Market Asia (Japan, Australia and New Zealand)**

**3.1. - 3.4.**

Issuance data are sourced from Dealogic according to the criteria outlined in Section 1. Outstanding data are sourced from Bloomberg according to the criteria outlined in Section 1.

**4. All Asia**

**4.1. – 4.9.**

Issuance data are sourced from Dealogic according to the criteria outlined in Section 1. Outstanding data are sourced from Bloomberg according to the criteria outlined in Section 1.

**5. Domestic CNY**

**Issuance**

Bond transactions for CNY are sourced from Dealogic and are defined as all issued debt denominated in renminbi (CNY) and in the domestic debt markets. CNY-denominated deals issued in the euro, foreign, or international markets are excluded. There are no restrictions on deal type and will include supranationals, medium-term notes, money market notes, securitisations, and commercial paper debt. Due to the lower restrictions in CNY issuance, CNY-denominated deals outside of Section 5 and 6 are a subset of the deals contained in Section 5 and 6.

**Outstanding**

Bond transactions for CNY are sourced from Bloomberg and are defined as debt denominated in CNY and issued in the domestic or domestic MTN markets. CNY-denominated deals issued in the euro, foreign, or international debt markets are excluded. Deals include corporate high grade bonds, high yield bonds, medium-term notes, money market and commercial paper debt. The combination of CNH and CNY debt exclude a small minority of dual-currency deals that are non-domestic, non-dim sum debt.

All outstandings are denoted in USD equivalent based on exchange rates as of quarter-end.

## 5.1. – 5.8.

Issuance data are sourced from Dealogic in accordance to the criteria specified in Section 5. Outstanding data are sourced from Bloomberg in accordance to the criteria specified in Section 5.

## 6. CNH

### Issuance

Bond transactions for CNH are sourced from Dealogic and are defined as all debt denominated in renminbi (CNY) issued and in the euro, foreign, or international debt markets. CNY-denominated deals issued in the domestic market are excluded. There are no restrictions on deal type and will include supranationals, medium-term notes, money market notes, securitisations, and commercial paper debt. Due to the lower restrictions in CNH issuance, CNH-denominated deals outside of Section 5 and 6 are a subset of the deals contained in Section 5 and 6.

All issuance are denoted in USD equivalents based on exchange rates as of the issue date of the bond.

### Outstanding

Bond transactions for CNH are sourced from Bloomberg and are defined as debt denominated in CNY and issued in the euro, foreign, or international debt markets. CNY-denominated deals issued in the domestic market are excluded. Deals include corporate high grade bonds, high yield bonds, medium-term notes, money market, securitisations, and commercial paper debt. The combination of CNH and CNY debt exclude a small minority of dual-currency deals that are non-domestic, non-dim sum debt.

All outstandings are denoted in USD equivalent based on exchange rates as of quarter-end.

## 6.1. – 6.8.

Issuance data are sourced from Dealogic in accordance to the criteria specified in Section 4. Outstanding data are sourced from Bloomberg in accordance to the criteria specified in Section 6.

## 7. Spreads, Credit Quality & Total Return

### 7.1. – 7.2. Global Corporate Spreads

High grade and high yield US and European corporate spreads are sourced from Bank of America-Merrill Lynch (BAML) indices. Spreads are over government debt.

US high grade spreads are sourced from BAML's US Corporate Index (COA0) and tracks the performance of US dollar denominated investment grade corporate debt publicly issued in the US domestic market. Qualifying securities must have an investment grade rating (based on an average of Moody's, S&P and Fitch), at last 18 months to final maturity at the time of issuance, at least one year remaining term to final maturity as of the rebalancing date, a fixed coupon schedule and a minimum amount outstanding of USD 250 million. Original issue zero coupon bonds, 144a securities (with and without registration rights), and pay-in-kind securities (including toggle notes) are included in the index. Fixed-to-floating rate securities are included provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. Contingent capital securities, including those with automatic principal write-down provisions, are included in the index provided they do not have an automatic common equity conversion, unless the conversion is activated by a regulatory authority in which case they are included. Other hybrid capital securities, such as those that potentially convert into preference shares, those with both cumulative and non-cumulative coupon deferral provisions, and those with alternative coupon satisfaction mechanisms, are also included in the index. Securities issued or marketed primarily to retail investors, equity-linked securities, securities in legal default, hybrid securitized

corporates, Eurodollar bonds (USD securities not issued in the US domestic market), taxable and tax-exempt US municipal securities and DRD eligible securities are excluded from the index.

European high grade spreads are sourced from BAML's Euro Corporate Index (ER00) and tracks the performance of EUR denominated investment grade corporate debt publicly issued in the Eurobond or Euro member domestic markets. Qualifying securities must have an investment grade rating (based on an average of Moody's, S&P and Fitch), at last 18 months to final maturity at the time of issuance, at least one year remaining term to final maturity as of the rebalancing date, a fixed coupon schedule and a minimum amount outstanding of EUR 250 million. Original issue zero coupon bonds and pay-in-kind securities, including toggle notes, are included in the index. Callable perpetual securities qualify provided they are at least one year from the first call date. Fixed-to-floating securities also qualify provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. Contingent capital securities are included in the index provided they do not have an automatic common equity conversion feature; these securities with triggers activated by a regulatory authority, including conversions into equity, qualify for inclusion. Also qualifying for inclusion are contingent capital securities with principal write-down triggers. Hybrid capital securities qualify for the index, including those potentially converting into preference shares, those with both cumulative and non-cumulative coupon deferral provisions, and those with alternative coupon satisfaction mechanisms. Euro legacy currency, equity-linked and securities in legal default are excluded from the Index. Securities issued or marketed primarily to retail investments do not qualify for inclusion in the index.

US high yield spreads are sourced from BAML's US High Yield Index (H0A0) and tracks the performance of US dollar denominated below investment grade corporate debt publicly issued in the US domestic market. Qualifying securities must have a below investment grade rating (based on an average of Moody's, S&P and Fitch), at last 18 months to final maturity at the time of issuance, at least one year remaining term to final maturity as of the rebalancing date, a fixed coupon schedule and a minimum amount outstanding of \$100 million. In addition, qualifying securities must have risk exposure to countries that are members of the FX-G10, Western Europe or territories of the US and Western Europe. The FX-G10 includes all Euro members, the US, Japan, the UK, Canada, Australia, New Zealand, Switzerland, Norway and Sweden. Original issue zero coupon bonds, 144a securities (with and without registration rights), and pay-in-kind securities (including toggle notes) are included in the index. Callable perpetual securities are included provided they are at least one year from the first call date. Fixed-to-floating rate securities are included provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. Contingent capital securities, including those with automatic principal write-down provisions, are included in the index provided they do not have an automatic common equity conversion, unless the conversion is activated by a regulatory authority in which case they are included. Other hybrid capital securities, such as those that potentially convert into preference shares, those with both cumulative and non-cumulative coupon deferral provisions, and those with alternative coupon satisfaction mechanisms, are also included in the index. Securities issued or marketed primarily to retail investors, equity-linked securities, securities in legal default, hybrid securitized corporates, Eurodollar bonds (USD securities not issued in the US domestic market), taxable and tax-exempt US municipal securities and DRD eligible securities are excluded from the index.

European high yield spreads are sourced from BAML's Euro High Yield Index (HE00) and tracks the performance of EUR denominated below investment grade corporate debt publicly issued in the euro domestic or eurobond markets. Qualifying securities must have a below investment grade rating (based on an average of Moody's, S&P and Fitch), at least 18 months to final maturity at the time of issuance. In addition, qualifying securities must have at least one year remaining term to final maturity, a fixed coupon schedule and a minimum amount outstanding of EUR 100 million. Original issue zero coupon bonds, "Global"

securities (debt issued simultaneously in the Eurobond and euro domestic markets), 144a securities and pay-in-kind securities, including toggle notes, qualify for inclusion in the index. Callable perpetual securities qualify provided they are at least one year from the first call date. Fixed-to-floating securities also qualify provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. Contingent capital securities are included in the index provided they do not have an automatic common equity conversion feature; these securities with triggers activated by a regulatory authority, including conversions into equity, qualify for inclusion. Also qualifying for inclusion are contingent capital securities with principal write-down triggers. Hybrid capital securities qualify for the index, including those potentially converting into preference shares, those with both cumulative and non-cumulative coupon deferral provisions, and those with alternative coupon satisfaction mechanisms. Euro legacy currency, equity-linked and securities in legal default are excluded from the Index. Securities issued or marketed primarily to retail investments do not qualify for inclusion in the index.

Asian high grade and investment grade spreads are sourced from J.P. Morgan's Asia Credit Index (JACI) and tracks the performance of USD-denominated Asian debt in the Asian ex-Japan region. Qualifying countries are those Asian region excluding Japan, including: China, Hong Kong, Indonesia, India, South Korea, Sri Lanka, Mongolia, Macao, Malaysia, the Philippines, Pakistan, Singapore, Thailand, Taiwan and Vietnam. Minimum deal sizes are \$150 million and at least 12 months to final maturity at time of issuance. Fixed and floating rate instruments, and debt issued by sovereign, quasi-sovereign and corporate entities qualify for inclusion. Convertible bonds do not qualify for inclusion in the index.

### **7.3. China Interbank AAA Yield Curve**

The curve is comprised of yuan-denominated fixed-rate corporate bonds that are traded on the China Interbank exchange. The bonds are rated AAA by local rating agencies. The values for the points on the curve are contributed by China Government Securities Depository Trust & Clearing Co Ltd (CDC).

### **7.4. – 7.6. China CNH Yield Curves**

The securities underlying this curve are a subset of CNH data and sourced from Bloomberg; please see section 6 for more details regarding criteria. Ratings are determined by Bloomberg composite rating. Curves are fitted using Nelson-Siegel regression on mid-yield to maturity of underlying bonds.

### **7.7. – 7.8. Total Return (Quarter-End and YTD)**

Total return data are sourced from various global bond and equity, including, but not limited to: the Bank of America-Merrill Lynch, Standard & Poor's, J.P. Morgan, and MSCI,

### **7.9. – 7.11. Asian Issuer Rating Actions**

European issuer upgrades and downgrades are sourced from S&P. and are a combination of both emerging market, Japan, Australia, and New Zealand rating actions. Multiple upgrades or downgrades of a single issuer are counted separately. Rating actions are inclusive of both corporate (both credit, policy, or merger-related) as well as sovereign ratings.

Due to publication timing, these data set may run on a quarter lag.

### **7.12. Asian Issuer Defaults**

European issuer upgrades and downgrades are sourced from S&P and are a combination of both emerging market, Japan, Australia, and New Zealand defaults reported. Defaults are inclusive of both corporate (both credit, policy, or merger-related) as well as sovereign defaults.

## 9. Disclaimer

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