Liquidity Risk Management Guideline – Divergence continues

Wholesale-funded banks with high shadow banking exposure under pressure.

The CBRC released today The Guideline on Liquidity Risks of Commercial Banks, matching the Basel III standards of liquidity management (e.g. LCR and NSFR) and introducing new measures. We view it as a continuation of financial deleveraging, as we expect this regulation to lower banks’ duration mismatch, cut off wholesale funding and reduce investment in shadow banking assets. As such we see a net positive over the longer run as it reduces systemic liquidity risks. However, near term, the banks that are wholesale-funded and shadow-banking-centric are likely subject to NIM pressure. Among the banks we cover, joint-stock banks are more affected while big banks should benefit.

What prompted regulators to issue such a regulation?

The leverage in China’s financial sector has increased notably in past years, characterized by rising duration mismatch and proliferation of shadow banking. Liquidity risks in the system trended up accordingly and only recently have started to moderate given the ongoing financial deleveraging campaign. To further contain liquidity risks, it is necessary to strengthen banks’ liquidity management, especially for joint-stock banks and smaller city/rural banks.

What are the regulatory changes?

The key change is that the regulators introduced three liquidity risk indicators: 1) Net Stable Funding Ratio (NSFR), which measures banks’ ability to support medium-to-long-term funding needs; 2) Liquidity Matching Ratio (LMR), which measures the degree of duration mismatch; and 3) High Quality Liquid Asset (HQLA) Adequacy Ratio, which is a simplified version of Liquidity Coverage Ratio (LCR) and is applied to banks with assets below Rmb200bn. Together with LCR and Liquidity Ratio introduced in the past, the CBRC has established a comprehensive liquidity risk monitoring system (Fig 3).

What are the implications for the entire financial system?

Judging by the details, China’s regulators are inclined to suppress interbank businesses with speculative purposes and to contain banks’ shadow banking exposure, while encouraging traditional loans/bond investments and the development of retail and SME banking. For example, the NSFR calculation assumes a much higher stability rate of 90-95% for retail deposits than 90-50% for corporate and interbank deposits. Also, for LMR the discounting rate for interbank deposits less than 3 months was only 0%, vs. 70% for deposits. This regulation is a follow-up to The Asset Management Guideline issued on 17 Nov 2017 (see our report), suggesting that the financial deleveraging campaign is not over yet. We expect China’s shadow banking to shrink with rising transparency while the growth of loan and bond market should stay resilient.

What are the implications for individual banks?

We believe the regulation should favor banks with stronger deposit franchises, higher CASA ratio, less duration mismatch and better asset quality. Indeed, our detailed calculation (Fig 4) shows that deposit-funded banks i.e. big-four banks, are delivering higher LCR, LMR and Liquidity Ratio than other banks. Among the banks we cover, CMB, CNCB and MSB were reporting LCR lower than regulatory requirement, and many JSBs were showing lower LMR. We expect these banks to be subject to NIM pressure in the near run, as they may be forced to switch to lower-yield assets and/or to lengthen liability duration.

Deutsche Bank AG/Hong Kong

Deutsche Bank does and seeks to do business with companies covered in its research reports. Thus, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of its research. Distributed on: 06/12/2017 21:06:55 GMT

*慧博资讯（http://www.hibor.com.cn）*
Liquidity Risk Management Guideline – Divergence continues between big and smaller banks

New liquidity risk regulation

We believe the funding side of China’s banking system weakened in recent years during 2006-2016 with rising reliance on wholesale funding, which has led to higher liquidity risks in the financial system. Interbank borrowing and borrowing from NBFIs (non-bank financial institutions) accounted for 17% of total liabilities of all banks as of end-2016, versus 8% in 2006 (Figure 1). Smaller banks were borrowing short-term funding in the interbank market to support aggressive asset expansion, which has led to rising duration mismatch and proliferation of shadow banking. With increasing volatility in interbank rates, there have been several risk incidents including the “liquidity crunch” in June 2013, and more recently, default cases from a couple of rural commercial banks in March 2017 as reported by media (Figure 2).

Regulators were not unaware of rising liquidity risks and they did issue a series of regulations. The CBRC released the initial version of liquidity risk management measures in 2014 March, requiring banks to fulfill 1) Liquidity Ratio and 2) Liquidity Coverage Ratio (LCR). To be specific, liquidity coverage ratio only applied to large and medium banks with assets over Rmb200bn, resulting in insufficient supervision/oversight on smaller banks. In September 2015, CBRC further amended the liquidity risk management rules by removing the 75% loan-to-deposit cap.

Revising liquidity risk management rules – 2017 version

The CBRC on 6 December 2017 released a new consultative document of liquidity risk management measures. In this new version, the regulator...
introduces three new liquidity risk measures: 1) Net Stable Funding Ratio (NSFR), 2) Liquidity Matching Ratio (LMR), and 3) High Quality Liquid Assets (HQLA) adequacy ratio. NSFR is part of a Basel III requirement, which only applies to banks with assets larger than Rmb200bn, while the HQLA adequacy ratio (a simplified LCR) applies to smaller banks (assets less than Rmb200bn). The new rules strengthen liquidity risk management for both large and small banks, and set a phase-in period to smooth new regulation impact. The revised rules will be effective from March 2018. We summarize the new liquidity risk measures in the table below.

Figure 3: Summary of liquidity risk measures - 2017 version

<table>
<thead>
<tr>
<th>Liquidity risk measures</th>
<th>Applicable banks</th>
<th>Calculation</th>
<th>Minimum requirement</th>
<th>Phase-in period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquidity coverage ratio (LCR)</td>
<td>Bank asset &gt;= Rmb200bn</td>
<td>High Quality Liquid Assets (HQLA) / net cash outflows in next 30 days</td>
<td>90% by 2017 and 100% by 2018</td>
<td>2017-2018</td>
</tr>
<tr>
<td>Net stable funding ratio (NSFR)</td>
<td>Bank asset &gt;= Rmb200bn</td>
<td>Stable funding available / stable funding needed</td>
<td>100%</td>
<td>NA</td>
</tr>
<tr>
<td>Liquidity ratio (LR)</td>
<td>All banks</td>
<td>Liquid assets / liquid liabilities</td>
<td>25%</td>
<td>NA</td>
</tr>
<tr>
<td>Liquidity matching ratio (LMR)</td>
<td>All banks</td>
<td>Weighted funding sources / weighted funding uses</td>
<td>90% by 2018 and 100% by 2019</td>
<td>2017-2019</td>
</tr>
<tr>
<td>High quality liquid assets (HQLA) adequacy ratio</td>
<td>Bank asset &lt; Rmb200bn</td>
<td>HQLA / short-term cash outflows</td>
<td>70% by June 2018 and 100% by end-2018</td>
<td>2017-2018</td>
</tr>
<tr>
<td>Loan to deposit rate (LDR)</td>
<td>All banks</td>
<td>Loans / deposits</td>
<td>75% cap removed in June 2015</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source: Deutsche Bank, CBRC

Apart from the above liquidity risk indicators, the new regulation also stipulates the new requirements below:

- **Detailed wholesale funding management**: Need to set concentration limits for different wholesale funding terms, i.e. below 1 month, 1-3 months, 3-6 months, 6-12 months and over 1 year.

- **Intraday liquidity risk management**: Need to measure expected fund inflows and outflows at different intraday times and consider the liquidity impact from unexpected incidents.

- **Peer group comparison**: Need to alert risk when wholesale funding growth/proportion or LDR is apparently higher than industry average or peer group.

- **Expanding monitoring measures**: Banks need to report to the CBRC immediately when any of the liquidity risk measures (six indicators now vs. only LCR and LDR in previous version) approaches or falls below the minimum requirement.

- **Including policy banks**: Policy banks, rural banks & financial institutions and foreign banks need to follow the rules.

### The implications on banks

We believe the regulation should favor banks with stronger deposit franchises, higher CASA ratio, less duration mismatch and better asset quality. Below is the summary table of listed banks’ three major liquidity indicators except the net stable funding ratio (NSFR). According to banks’
Chinese banks

1H17 financial statement, (1) all banks meet the LR requirement, (2) big banks are compliant with the LCR requirement, while smaller banks may face pressure in NIM to meet the LCR minimum requirement, (3) there’s still a grace period of around 1 year for banks to lift up their liquidity matching ratio to 90%; please note that the numbers below are our estimates and might be inaccurate.

**Figure 4: Summary table of regulatory requirement on banks’ liquidity status**

<table>
<thead>
<tr>
<th>Bank</th>
<th>Liquidity Coverage Ratio (LCR) ≥ 90% in 2017; ≥100% in 2018</th>
<th>Liquidity Ratio (LR) ≥ 25%</th>
<th>Liquidity Matching Ratio (LMR) ≥ 90% in 2018; ≥100% in 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICBC</td>
<td>123%</td>
<td>41%</td>
<td>79%</td>
</tr>
<tr>
<td>CCB</td>
<td>113%</td>
<td>43%</td>
<td>91%</td>
</tr>
<tr>
<td>ABC</td>
<td>131%</td>
<td>50%</td>
<td>80%</td>
</tr>
<tr>
<td>BOC</td>
<td>117%</td>
<td>50%</td>
<td>92%</td>
</tr>
<tr>
<td>BoCom</td>
<td>112%</td>
<td>55%</td>
<td>70%</td>
</tr>
<tr>
<td>CMB</td>
<td>83%</td>
<td>58%</td>
<td>64%</td>
</tr>
<tr>
<td>CNCB</td>
<td>84%</td>
<td>37%</td>
<td>95%</td>
</tr>
<tr>
<td>MSB</td>
<td>88%</td>
<td>43%</td>
<td>67%</td>
</tr>
<tr>
<td>SPDB</td>
<td>93%</td>
<td>55%</td>
<td>61%</td>
</tr>
<tr>
<td>INDB</td>
<td>93%</td>
<td>57%</td>
<td>47%</td>
</tr>
<tr>
<td>PAB</td>
<td>92%</td>
<td>52%</td>
<td>77%</td>
</tr>
<tr>
<td>BOBJ</td>
<td>97%</td>
<td>40%</td>
<td>63%</td>
</tr>
<tr>
<td>BONJ</td>
<td>113%</td>
<td>55%</td>
<td>76%</td>
</tr>
<tr>
<td>BOCQ</td>
<td>314%</td>
<td>80%</td>
<td>77%</td>
</tr>
<tr>
<td>Huishang</td>
<td>103%</td>
<td>31%</td>
<td>73%</td>
</tr>
</tbody>
</table>

Source: Deutsche Bank estimates, CBRC
Note: (1) BoCom, MSB and BONJ’s LCR data were from their 2016 financial statement, (2) CRCB and BOCQ’s LMR were from 2016 financial statement; (3) Green means 10ppt higher than minimum requirement; yellow means compliant but the gap is less than 10%; red means noncompliant.

**Liquidity Coverage Ratio (LCR)**

Based on 1H17 data, most big banks are compliant with the LCR minimum requirement, among which big four banks are 13-21% ahead of the 100% floor in 2018. On the flip side, some major JSBs are +5/-5 ppts close to the 90% LCR floor in 2017, implying they will need to shift long-term assets to shorter duration. Notably, CMB (83%), China CITIC Bank (84%) and Minsheng (88%) were delivering lower than 90% LCR. This is likely to bring further pressure on NIM. Flow-wise, big banks’ LCR saw high-single-digit percentage point hoh declines, which we believe was due mainly to their aggressive investment in long-term asset by taking advantage of the market rate hike year-to-date. As of now, with notably higher LCR, big banks enjoy the possibility of lowering the LCR so as to boost NIM and earnings.
Liquidity Ratio (LR)

As the minimum requirement of 25% liquidity has been adopted by commercial banks for years, all listed banks under our coverage are compliant with CBRC’s liquidity ratio requirement. As of 1H17, BOCQ reported the highest liquidity ratio of 80% followed by some joint stock banks.

Liquidity Matching Ratio (LMR)

Liquidity matching ratio (LMR) is the newly added requirement by CBRC in its consultative draft; the purpose of this ratio is mainly to evaluate commercial banks’ asset/liability duration allocation structure, aiming at leading commercial banks to allocate more long-term/high-liquidity asset and liability. On the flip side, CBRC seems to discourage development in interbank bank business, on-B/S shadow banking (receivable investment), according to the weighting composition of liquidity matching ratio formula. However, we believe that it might not be an accurate measure to put bond investment and shadow banking in the same category with 100% weighting. In our view, the
weighting of high-liquidity bond investment (i.e. treasury bond, municipal bond, etc.) is highly likely to be further revised down going forward.

Based on the formula disclosed by CBRC, we calculate that listed banks’ liquidity matching ratios are generally at 60%-92%. The minimum requirement of this ratio is set at 90%/100% by end-2018/2019. Big banks look more compliant with the new requirement while smaller banks will be further depressed on either shortening asset duration or lengthening the term of liability; either way will lead to further pressure on smaller banks’ NIM.

### Figure 8: Banks’ liquidity matching ratio as of 1H17

<table>
<thead>
<tr>
<th>Bank</th>
<th>1H17</th>
<th>90% in 2018</th>
<th>100% in 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNCB</td>
<td>95</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>BOC</td>
<td>90</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>ICBC</td>
<td>88</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>CMB</td>
<td>86</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>ABC</td>
<td>84</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>NSF</td>
<td>80</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>CMBJ</td>
<td>79</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>INDB</td>
<td>79</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>SPDB</td>
<td>79</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>BoCom</td>
<td>77</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>CRCB</td>
<td>77</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>Huishang</td>
<td>76</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>BoCQ</td>
<td>70</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>PAB</td>
<td>70</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>BoNJ</td>
<td>70</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>CEB</td>
<td>70</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>BONJ</td>
<td>67</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>BONB</td>
<td>66</td>
<td>77</td>
<td>66</td>
</tr>
<tr>
<td>INDB</td>
<td>47</td>
<td>77</td>
<td>66</td>
</tr>
</tbody>
</table>

Source: Deutsche Bank estimates, company data, CBRC

### Net Stable Funding Ratio (NSFR)

NSFR is a liquidity risk measure in the Basel III framework in addition to LCR. NSFR only applies to banks with assets over Rmb200bn and they need to achieve a minimum 100% NSFR from March 2018. CBRC does not provide a phase-in period for this measure this time, as 1) the regulator started to require banks to quantify the NSFR impact (and LCR as well) since 2010, and 2) PBOC already included NSFR in the MPA framework at the beginning of 2016. NSFR is calculated as stable funding available divided by stable funding needed where:

- **Available stable funding mainly includes** 1) 100% of capital and longer than 1 year capital tools, 2) 90%-95% of demand deposit and shorter than 1-year time deposit from retail and SMEs, 3) 50% of shorter than 1-year deposit from corporate customers and 6-months to 1-year wholesale funding, and 4) 0% of other funding.

- **Needed stable funding mainly includes** 1) 100% of longer than 1-year encumbered assets and loans overdue beyond 90 days, 2) 65%-85% of unencumbered performing loans with residual maturity longer than 1 year, 3) 50% of unencumbered lowered credit rating assets and loans shorter than 1 year; 4) 5% for off-balance sheet commitment and 5) 0%-15% for other safer and short-term assets.

Unfortunately, due mainly to lack of sufficient disclosure, we are unable to calculate NSFR for individual banks. According to NSFR’s definition, banks with lower retail CASA and higher long-term high risk weight credit assets may report lower NSFR. Reading from the two charts below, we believe INDB, SPDB, BoCom and BOBJ may be under pressure to fulfill the NSFR requirement.
Figure 10: High retail CASA proportion leads to more available stable funding under NSFR definition

Figure 11: Banks with higher long-term high risk credit assets and lower retail CASA may report lower NSFR

Source: Deutsche Bank estimates, company data

Note: We apply 65% ratio to total on-balance sheet non-standardized credit asset to estimate the longer term part for individual banks
Valuation of Chinese banks

We value Chinese banks using a three-stage Gordon Growth Model (PV= (ROE-g)/(COE-g)), with target prices based on 2017E book values.

Our valuations of the Chinese banks under our coverage assume a near-term (2016-18E) ROE of 11.5-16.9%, a medium-term (2019-21E) ROE of 10.5-14.0% and a terminal ROE of 8.0-12.0%, with a COE of 11.5-14.0%. In Figure 12, we highlight our valuation comparison of the listed banks.

In our estimates, H-share/A-share listed Chinese banks are trading at 2017E P/B of 0.80x/0.98x and 2017E P/E of 5.96x/7.29x.

Figure 12: Chinese banks’ valuation summary

<table>
<thead>
<tr>
<th>Ticker</th>
<th>Rating</th>
<th>TP</th>
<th>Price</th>
<th>Upside (%)</th>
<th>Mkt. Cap (US$mn)</th>
<th>TP/PE 16A</th>
<th>TP/PE 17E</th>
<th>TP/PE 18E</th>
<th>P/E 16A</th>
<th>P/E 17E</th>
<th>P/E 18E</th>
<th>Div. Yield (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCQC-H</td>
<td>Buy</td>
<td>37.7</td>
<td>6.0</td>
<td>0.9</td>
<td>7.7</td>
<td>0.97</td>
<td>0.93</td>
<td>0.91</td>
<td>0.9</td>
<td>0.88</td>
<td>0.89</td>
<td>1.11</td>
</tr>
<tr>
<td>CCB-H</td>
<td>Buy</td>
<td>7.81</td>
<td>1.4</td>
<td>0.87</td>
<td>0.88</td>
<td>0.76</td>
<td>0.82</td>
<td>0.86</td>
<td>0.76</td>
<td>0.74</td>
<td>0.74</td>
<td>1.21</td>
</tr>
<tr>
<td>ABC-H</td>
<td>Buy</td>
<td>3.34</td>
<td>3.58</td>
<td>0.95</td>
<td>0.95</td>
<td>0.58</td>
<td>0.56</td>
<td>0.60</td>
<td>0.58</td>
<td>0.56</td>
<td>0.56</td>
<td>0.82</td>
</tr>
<tr>
<td>BOCC</td>
<td>Buy</td>
<td>3.56</td>
<td>0.6</td>
<td>0.86</td>
<td>0.66</td>
<td>0.66</td>
<td>0.66</td>
<td>0.66</td>
<td>0.66</td>
<td>0.66</td>
<td>0.66</td>
<td>0.66</td>
</tr>
<tr>
<td>BOCCM</td>
<td>Buy</td>
<td>3.04</td>
<td>0.57</td>
<td>0.99</td>
<td>0.99</td>
<td>0.58</td>
<td>0.58</td>
<td>0.58</td>
<td>0.58</td>
<td>0.58</td>
<td>0.58</td>
<td>0.58</td>
</tr>
<tr>
<td>CRCB</td>
<td>Buy</td>
<td>0.54</td>
<td>0.65</td>
<td>1.30</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
</tr>
<tr>
<td>Huliang</td>
<td>Buy</td>
<td>0.54</td>
<td>0.65</td>
<td>1.30</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
</tr>
<tr>
<td>BOCQ</td>
<td>Buy</td>
<td>0.54</td>
<td>0.65</td>
<td>1.30</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
<td>0.63</td>
</tr>
</tbody>
</table>

Note: Closing price of Dec 6, 2017

Source: Deutsche Bank estimates, Bloomberg Finance LP; Note: market cap is sum of A and H shares; data as of 6 Dec 2017

Risks for Chinese banks

Key sector risks for Chinese banks

- **Disorderly deleveraging**: the government could place disorderly deleveraging requirements on certain industries, which might unexpectedly lead to a bank run and squeeze banks’ wholesale funding.

- **Over-tightening in real estate and infrastructure**: If both industries saw unfavourable credit conditions, the overall banking system may have little chance to avoid asset quality deterioration.

- **Significant property price corrections**: NPL ratios usually surge following an over-correction in property market prices, according to historical experience. For example, Wenzhou’s NPL ratio surged by a significant margin.
4.3ppts to 4.7%, accompanying a 47% price correction in the city’s property market.

- **CPI picks up and the PBOC is forced to hike benchmark rates**: A potential benchmark rate hike in the near term will likely be more harmful to corporates (higher interest burden), which cannot be fully offset by a profitability recovery under better economic growth, considering that corporates’ leverage ratio remains at a higher level, in spite of the mild improvement recently.

- **Larger-than-expected DES size given potentially stronger government invention**: Without strict selection criteria on the viability of target companies, it could potentially ‘evergreen’ the debts of zombie companies, worsen capital allocation and raise investment risk for banks.

**Key upside risks for the sector:**

- **Removal of the softening of GDP targets**: In the long run, we believe this movement will likely be meaningfully positive to banks’ RoE/RoA, as most of the legacy NPLs are disposed within the near term (two to three years) and banks should have notably lighter credit cost burdens in the future.

- **More aggressive SOE reform to push forward privatization**: SOEs are likely to be more market-oriented, profitability might be better and asset quality will likely recover accordingly. As of now, we are seeing improving conditions at industrial SOEs, while non-industrial SOEs seem to still be struggling. We are closely tracking SOEs’ profitability and ROE.

- **Pick-up in private investment by further deregulation and favourable policies**: Private companies in general are more productive and efficient than SOEs. A leading indicator could be a pick-up in private companies’ debt growth, which is muted for now.

*The authors of this report wish to acknowledge the contribution made by Vivian Xu, an employee of Evalueserve, a third-party provider to Deutsche Bank of offshore research support services.*
Appendix 1

Important Disclosures

*Other information available upon request

Prices are current as of the end of the previous trading session unless otherwise indicated and are sourced from local exchanges via Reuters, Bloomberg and other vendors. Other information is sourced from Deutsche Bank, subject companies, and other sources. For disclosures pertaining to recommendations or estimates made on securities other than the primary subject of this research, please see the most recently published company report or visit our global disclosure look-up page on our website at http://gm.db.com/ger/disclosure/DisclosureDirectory.eqsr. Aside from within this report, important conflict disclosures can also be found at https://gm.db.com/equities under the “Disclosures Lookup” and “Legal” tabs. Investors are strongly encouraged to review this information before investing.

Analyst Certification

The views expressed in this report accurately reflect the personal views of the undersigned lead analyst about the subject issuers and the securities of those issuers. In addition, the undersigned lead analyst has not and will not receive any compensation for providing a specific recommendation or view in this report. Hans Fan

<table>
<thead>
<tr>
<th>Equity rating key</th>
<th>Equity rating dispersion and banking relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buy: Based on a current 12-month view of total share-holder return (TSR = percentage change in share price from current price to projected target price plus projected dividend yield), we recommend that investors buy the stock.</td>
<td></td>
</tr>
<tr>
<td>Sell: Based on a current 12-month view of total share-holder return, we recommend that investors sell the stock.</td>
<td></td>
</tr>
<tr>
<td>Hold: We take a neutral view on the stock 12-months out and, based on this time horizon, do not recommend either a Buy or Sell.</td>
<td></td>
</tr>
<tr>
<td>Newly issued research recommendations and target prices supersede previously published research.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Buy</th>
<th>Hold</th>
<th>Sell</th>
</tr>
</thead>
<tbody>
<tr>
<td>56%</td>
<td>33%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Asia-Pacific Universe

Companies Covered: Cos. w/ Banking Relationship
Additional Information

The information and opinions in this report were prepared by Deutsche Bank AG or one of its affiliates (collectively "Deutsche Bank"). Though the information herein is believed to be reliable and has been obtained from public sources believed to be reliable, Deutsche Bank makes no representation as to its accuracy or completeness. Hyperlinks to third-party websites in this report are provided for reader convenience only. Deutsche Bank neither endorses the content nor is responsible for the accuracy or security controls of those websites.

If you use the services of Deutsche Bank in connection with a purchase or sale of a security that is discussed in this report, or is included or discussed in another communication (oral or written) from a Deutsche Bank analyst, Deutsche Bank may act as principal for its own account or as agent for another person.

Deutsche Bank may consider this report in deciding to trade as principal. It may also engage in transactions, for its own account or with customers, in a manner inconsistent with the views taken in this research report. Others within Deutsche Bank, including strategists, sales staff and other analysts, may take views that are inconsistent with those taken in this research report. Deutsche Bank issues a variety of research products, including fundamental analysis, equity-linked analysis, quantitative analysis and trade ideas. Recommendations contained in one type of communication may differ from recommendations contained in others, whether as a result of differing time horizons, methodologies, perspectives or otherwise. Deutsche Bank and/or its affiliates may also be holding debt or equity securities of the issuers it writes on. Analysts are paid in part based on the profitability of Deutsche Bank AG and its affiliates, which includes investment banking, trading and principal trading revenues.

Opinions, estimates and projections constitute the current judgment of the author as of the date of this report. They do not necessarily reflect the opinions of Deutsche Bank and are subject to change without notice. Deutsche Bank provides liquidity for buyers and sellers of securities issued by the companies it covers. Deutsche Bank research analysts sometimes have shorter-term trade ideas that may be inconsistent with Deutsche Bank’s existing longer-term ratings. Trade ideas for equities can be found at the SOLAR link at http://qm.db.com. A SOLAR idea represents a high-conviction belief by an analyst that a stock will outperform or underperform the market and/or a specified sector over a time frame of no less than two weeks and no more than six months. In addition to SOLAR ideas, analysts may occasionally discuss with our clients, and with Deutsche Bank salespersons and traders, trading strategies or ideas that reference catalysts or events that may have a near-term or medium-term impact on the market price of the securities discussed in this report, which impact may be directionally counter to the analysts’ current 12-month view of total return or investment return as described herein. Deutsche Bank has no obligation to update, modify or amend this report or to otherwise notify a recipient thereof if an opinion, forecast or estimate changes or becomes inaccurate. Coverage and the frequency of changes in market conditions and in both general and company-specific economic prospects make it difficult to update research at defined intervals. Updates are at the sole discretion of the coverage analyst or of the Research Department Management, and the majority of reports are published at irregular intervals. This report is provided for informational purposes only and does not take into account the particular investment objectives, financial situations, or needs of individual clients. It is not an offer or a solicitation of an offer to buy or sell any financial instruments or to participate in any particular trading strategy. Target prices are inherently imprecise and a product of the analyst’s judgment. The financial instruments discussed in this report may not be suitable for all investors, and investors must make their own informed investment decisions. Prices and availability of financial instruments are subject to change without notice, and investment transactions can lead to losses as a result of price fluctuations and other factors. If a financial instrument is denominated in a currency other than an investor’s currency, a change in exchange rates may adversely affect the investment. Past performance is not necessarily indicative of future results. Performance calculations exclude transaction costs, unless otherwise indicated. Unless otherwise indicated, prices are current as of the end of the previous trading session and are sourced from local exchanges via Reuters, Bloomberg and other vendors. Data is also sourced from Deutsche Bank, subject companies, and other parties.

The Deutsche Bank Research Department is independent of other business divisions of the Bank. Details regarding organizational arrangements and information barriers we have established to prevent and avoid conflicts of interest with respect to our research are available on our website under Disclaimer, found on the Legal tab.
Macroeconomic fluctuations often account for most of the risks associated with exposures to instruments that promise to pay fixed or variable interest rates. For an investor who is long fixed-rate instruments (thus receiving these cash flows), increases in interest rates naturally lift the discount factors applied to the expected cash flows and thus cause a loss. The longer the maturity of a certain cash flow and the higher the move in the discount factor, the higher will be the loss. Upside surprises in inflation, fiscal funding needs, and FX depreciation rates are among the most common adverse macroeconomic shocks to receivers. But counterparty exposure, issuer creditworthiness, client segmentation, regulation (including changes in assets holding limits for different types of investors), changes in tax policies, currency convertibility (which may constrain currency conversion, repatriation of profits and/or liquidation of positions), and settlement issues related to local clearing houses are also important risk factors. The sensitivity of fixed-income instruments to macroeconomic shocks may be mitigated by indexing the contracted cash flows to inflation, to FX depreciation, or to specified interest rates – these are common in emerging markets. The index fixings may – by construction – lag or mis-measure the actual move in the underlying variables they are intended to track. The choice of the proper fixing (or metric) is particularly important in swaps markets, where floating coupon rates (i.e., coupons indexed to a typically short-dated interest rate reference index) are exchanged for fixed coupons. Funding in a currency that differs from the currency in which coupons are denominated carries FX risk. Options on swaps (swaptions) the risks typical to options in addition to the risks related to rates movements.

Derivative transactions involve numerous risks including market, counterparty default and illiquidity risk. The appropriateness of these products for use by investors depends on the investors’ own circumstances, including their tax position, their regulatory environment and the nature of their other assets and liabilities; as such, investors should take expert legal and financial advice before entering into any transaction similar to or inspired by the contents of this publication. The risk of loss in futures trading and options, foreign or domestic, can be substantial. As a result of the high degree of leverage obtainable in futures and options trading, losses may be incurred that are greater than the amount of funds initially deposited – up to theoretically unlimited losses. Trading in options involves risk and is not suitable for all investors. Prior to buying or selling an option, investors must review the “Characteristics and Risks of Standardized Options”, at http://www.optionsclearing.com/about/publications/character-risks.jsp. If you are unable to access the website, please contact your Deutsche Bank representative for a copy of this important document.

Participants in foreign exchange transactions may incur risks arising from several factors, including: (i) exchange rates can be volatile and are subject to large fluctuations; (ii) the value of currencies may be affected by numerous market factors, including world and national economic, political and regulatory events, events in equity and debt markets and changes in interest rates; and (iii) currencies may be subject to devaluation or government-imposed exchange controls, which could affect the value of the currency. Investors in securities such as ADRs, whose values are affected by the currency of an underlying security, effectively assume currency risk.

Deutsche Bank is not acting as a financial adviser, consultant or fiduciary to you or any of your agents with respect to any information provided in this report. Deutsche Bank does not provide investment, legal, tax or accounting advice, and is not acting as an impartial adviser. Information contained herein is being provided on the basis that the recipient will make an independent assessment of the merits of any investment decision, and is not meant for retirement accounts or for any specific person or account type. The information we provide is directed only to persons we believe to be financially sophisticated, who are capable of evaluating investment risks independently, both in general and with regard to particular transactions and investment strategies, and who understand that Deutsche Bank has financial interests in the offering of its products and services. If this is not the case, or if you or your agent are an IRA or other retail investor receiving this directly from us, we ask that you inform us immediately.

Unless governing law provides otherwise, all transactions should be executed through the Deutsche Bank entity in the investor’s home jurisdiction. Aside from within this report, important risk and conflict disclosures can also be found at https://gm.db.com on each company’s research page and under the “Disclosures Lookup” and “Legal” tabs. Investors are strongly encouraged to review this information before investing.

United States: Approved and/or distributed by Deutsche Bank Securities Incorporated, a member of FINRA, NFA and SIPC. Analysts located outside of the United States are employed by non-US affiliates that are not subject to FINRA regulations, including those regarding contacts with issuer companies.

Germany: Approved and/or distributed by Deutsche Bank AG, a joint stock corporation with limited liability incorporated in the Federal Republic of Germany with its principal office in Frankfurt am Main. Deutsche Bank AG is authorized under
German Banking Law and is subject to supervision by the European Central Bank and by BaFin, Germany’s Financial Supervisory Authority.

**United Kingdom:** Approved and/or distributed by Deutsche Bank AG acting through its London Branch at Winchester House, 1 Great Winchester Street, London EC2N 2DB. Deutsche Bank AG in the United Kingdom is authorised by the Prudential Regulation Authority and is subject to limited regulation by the Prudential Regulation Authority and Financial Conduct Authority. Details about the extent of our authorisation and regulation are available on request.

**Hong Kong:** Distributed by Deutsche Bank AG, Hong Kong Branch or Deutsche Securities Asia Limited.

**India:** Prepared by Deutsche Equities India Private Limited (DEIPL) having CIN: U65990MH2002PTC137431 and registered office at 14th Floor, The Capital, C-70, G Block, Bandra Kurla Complex Mumbai (India) 400051. Tel: + 91 22 7180 4444. It is registered by the Securities and Exchange Board of India (SEBI) as a Stock broker bearing registration nos.: NSE (Capital Market Segment) - INB231196834, NSE (F&O Segment) INF231196834, NSE (Currency Derivatives Segment) INE231196834, BSE (Capital Market Segment) INB011196830; Merchant Banker bearing SEBI Registration no.: INM000010833 and Research Analyst bearing SEBI Registration no.: INH000001741. DEIPL may have received administrative warnings from the SEBI for breaches of Indian regulations. Deutsche Bank and/or its affiliate(s) may have debt holdings or positions in the subject company. With regard to information on associates, please refer to the “Shareholdings” section in the Annual Report at: https://www.db.com/ir/en/annual-reports.htm.

**Japan:** Approved and/or distributed by Deutsche Securities Inc.(DSI). Registration number - Registered as a financial instruments dealer by the Head of the Kanto Local Finance Bureau (Kinsho) No. 117. Member of associations: JSDA, Type II Financial Instruments Firms Association and The Financial Futures Association of Japan. Commissions and risks involved in stock transactions - for stock transactions, we charge stock commissions and consumption tax by multiplying the transaction amount by the commission rate agreed with each customer. Stock transactions can lead to losses as a result of share price fluctuations and other factors. Transactions in foreign stocks can lead to additional losses stemming from foreign exchange fluctuations. We may also charge commissions and fees for certain categories of investment advice, products and services. Recommended investment strategies, products and services carry the risk of losses to principal and other losses as a result of changes in market and/or economic trends, and/or fluctuations in market value. Before deciding on the purchase of financial products and/or services, customers should carefully read the relevant disclosures, prospectuses and other documentation. "Moody’s", "Standard & Poor’s", and "Fitch" mentioned in this report are not registered credit rating agencies in Japan unless Japan or "Nippon" is specifically designated in the name of the entity. Reports on Japanese listed companies not written by analysts of DSI are written by Deutsche Bank Group’s analysts with the coverage companies specified by DSI. Some of the foreign securities stated on this report are not disclosed according to the Financial Instruments and Exchange Law of Japan. Target prices set by Deutsche Bank’s equity analysts are based on a 12-month forecast period.

**Korea:** Distributed by Deutsche Securities Korea Co.

**South Africa:** Deutsche Bank AG Johannesburg is incorporated in the Federal Republic of Germany (Branch Register Number in South Africa: 1998/003298/10).

**Singapore:** This report is issued by Deutsche Bank AG, Singapore Branch or Deutsche Securities Asia Limited, Singapore Branch (One Raffles Quay #18-00 South Tower Singapore 048683, +65 6423 8001), which may be contacted in respect of any matters arising from, or in connection with, this report. Where this report is issued or promulgated by Deutsche Bank in Singapore to a person who is not an accredited investor, expert investor or institutional investor (as defined in the applicable Singapore laws and regulations), they accept legal responsibility to such person for its contents. Deutsche Securities Asia Limited, Taipei Branch may not execute transactions for clients in these securities/instruments. Information on securities/investments that trade in Taiwan is for your reference only. Readers should independently evaluate investment risks and are solely responsible for their investment decisions. Deutsche Bank research may not be distributed to the Taiwan public media or quoted or used by the Taiwan public media without written consent. Information on securities/instruments that do not trade in Taiwan is for informational purposes only and is not to be construed as a recommendation to trade in such securities/instruments. Deutsche Securities Asia Limited.
Qatar: Deutsche Bank AG in the Qatar Financial Centre (registered no. 00032) is regulated by the Qatar Financial Centre Regulatory Authority. Deutsche Bank AG - QFC Branch may undertake only the financial services activities that fall within the scope of its existing QFCRA license. Its principal place of business in the QFC: Qatar Financial Centre, Tower, West Bay, Level 5, PO Box 14928, Doha, Qatar. This information has been distributed by Deutsche Bank AG. Related financial products or services are only available only to Business Customers, as defined by the Qatar Financial Centre Regulatory Authority.

Russia: The information, interpretation and opinions submitted herein are not in the context of, and do not constitute, any appraisal or evaluation activity requiring a license in the Russian Federation.

Kingdom of Saudi Arabia: Deutsche Securities Saudi Arabia LLC Company (registered no. 07073-37) is regulated by the Capital Market Authority. Deutsche Securities Saudi Arabia may undertake only the financial services activities that fall within the scope of its existing CMA license. Its principal place of business in Saudi Arabia: King Fahad Road, Al Olaya District, P.O. Box 301809, Faisaliah Tower - 17th Floor, 11372 Riyadh, Saudi Arabia.

United Arab Emirates: Deutsche Bank AG in the Dubai International Financial Centre (registered no. 00045) is regulated by the Dubai Financial Services Authority. Deutsche Bank AG - DIFC Branch may undertake only the financial services activities that fall within the scope of its existing DFSA license. Its principal place of business in the DIFC: Dubai International Financial Centre, The Gate Village, Building 5, PO Box 504902, Dubai, U.A.E. This information has been distributed by Deutsche Bank AG. Related financial products or services are available only to Professional Clients, as defined by the Dubai Financial Services Authority.

Australia: Retail clients should obtain a copy of a Product Disclosure Statement (PDS) relating to any financial product referred to in this report and consider the PDS before making any decision about whether to acquire the product. Please refer to Australia-specific research disclosures and related information at https://australia.db.com/australia/content/research-information.html

Australia and New Zealand: This research is intended only for "wholesale clients" within the meaning of the Australian Corporations Act and New Zealand Financial Advisors Act, respectively.

Additional information relative to securities, other financial products or issuers discussed in this report is available upon request. This report may not be reproduced, distributed or published without Deutsche Bank’s prior written consent. Copyright © 2017 Deutsche Bank AG
David Folkerts-Landau
Group Chief Economist and Global Head of Research

Raj Hindocha
Global Chief Operating Officer Research

Michael Spencer
Head of APAC Research
Global Head of Economics

Steve Pollard
Head of Americas Research
Global Head of Equity Research

Anthony Klarman
Global Head of Debt Research

Paul Reynolds
Head of EMEA
Equity Research

Dave Clark
Head of APAC
Equity Research

Pam Finelli
Global Head of Equity Derivatives Research

Andreas Neubauer
Head of Research - Germany

Spyros Mesomeris
Global Head of Quantitative and QIS Research

International locations

Deutsche Bank AG
Deutsche Bank Place
Level 16
Corner of Hunter & Phillip Streets
Sydney, NSW 2000
Australia
Tel: (61) 2 8258 1234

Deutsche Bank AG
Mainzer Landstrasse 11-17
60329 Frankfurt am Main
Germany
Tel: (49) 69 910 00

Deutsche Bank AG
Filiale Hongkong
International Commerce Centre,
1 Austin Road West, Kowloon,
Hong Kong
Tel: (852) 2203 8888

Deutsche Securities Inc.
2-11-1 Nagatacho
Sanno Park Tower
Chiyoda-ku, Tokyo 100-6171
Japan
Tel: (81) 3 5156 6770

Deutsche Bank AG London
1 Great Winchester Street
London EC2N 2EQ
United Kingdom
Tel: (44) 20 7645 8000

Deutsche Bank Securities Inc.
60 Wall Street
New York, NY 10005
United States of America
Tel: (1) 212 250 2500

*德博资讯*是中国领先的投资研究大数据分享平台

点击进入 [http://www.hibor.com.cn]