May 11, 2016

Managing Liquidity and Funding Risk: Best Practices in Today’s Environment

Mark Smith
Global Head
Liquidity Management Services
mark.b.smith@citi.com

Ron Chakravarti
Global Head
Treasury Advisory Group
ron.chakravarti@citi.com
Key Risks for Treasury in Today’s Environment

1. Divergent Prospects for Real Economy
   - Divergent Macro-Economic Growth
   - Unconventional Monetary Policy Japan/EU
   - China Growth Concerns
   - Oil & Commodity Price Volatility

2. Fluid Global Risk Outlook
   - Geopolitical Risk Crimea, Syria, South China Sea
   - Political Risk U.S. Elections UK Referendum
   - Terrorism Migration Issues
   - Cyber Threats Increasing Sophistication

3. Increased Regulatory Scrutiny
   - BEPS, IRS 385
   - Evolving Bank Strategies
   - Impact on Corporate Trading Model
   - Cash, Funding Needs Not Fungible Across Markets

4. Evolving Global Financial System Dynamics
   - Basel III
   - Capital Controls
   - Negative Yields
   - Divergence in Interest Rate Yield Curves

5. High Investor Expectations
   - Pressure on Return on Invested Capital
   - Narrow Focus on Top-Line Growth
   - Deterioration in Balance Sheet
   - Increased Investor Activism
What is “Best Practice”?  

Best-in-Class Practices  

Treasury policies are in place for all areas of responsibility  

Centralized policies  

Centralized Risk Management  

Global or Regional Concentration of Cash  

>95% visibility to daily cash balances and investments  

Emerging Trends  

Top 3 Current Themes  

1. Ability to manage non-traditional business risks  
2. Broad uptake towards investment in technology  
3. Extend centralization constructs  

While there may be some emerging trends in Treasury “Best practice”, the overarching is to reallocate human resources working towards a 80-20 principle…  

Future Treasury Enablers  

Technology  

e.g. Single ERP instance, TMS  

People  

Risk Management  

Source: Citi Treasury Diagnostics  

Degree of Formalized Assessment of Liquidity / Funding Risk  

Degree of Centralization in Risk Management  

Use of a Treasury Management System
Citi Treasury Diagnostics

Among the key sources for this analysis are insights gleaned from our global treasury benchmarking platform for clients, Citi Treasury Diagnostics. Recent updates include an expanded FX Risk Management module.

Built on Six Aspects of Treasury Operations

- Policy and Governance
- Liquidity Management
- Risk Management
- Working Capital Management
- Subsidiary Funding and Repatriation
- Systems and Technology

Identify Where You Stand Relative to Peers—Learn What Counts as Best in Class

Benchmarks

Performance

Process Area

<table>
<thead>
<tr>
<th>My Score</th>
<th>Against Peer Group</th>
<th>Against Universe</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Risk Management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My Score</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>Peer Group</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>Universe</td>
<td>1.0</td>
<td></td>
</tr>
</tbody>
</table>

My Relative Performance

<table>
<thead>
<tr>
<th>Process Area</th>
<th>Against Peer Group</th>
<th>Against Universe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquidity/funding risk</td>
<td>Worse</td>
<td>Worse</td>
</tr>
<tr>
<td>Interest rate risk</td>
<td>Worse</td>
<td>Worse</td>
</tr>
<tr>
<td>Foreign Exchange (Transactional)</td>
<td>Better</td>
<td>Better</td>
</tr>
</tbody>
</table>

Winner, Celent Model Bank Award

Monarch Innovation Awards Winner, Innovative Product

Silver Winner, Solution of the Year, Treasury and Risk Alexander Hamilton Awards
Best in Class companies have **centralized**, well **documented** Treasury policies or procedures that covers the major **financial risks**. However, **execution** is evenly split between “Central” and “Local”…

**Source:** Citi Treasury Diagnostics; data through 1/7/2016
Centralization of Liquidity Management

Best in Class companies leverage systems technology and bank connectivity to maximize cash visibility, extend cash pooling and improve cash forecasting...

Note: Cash flow forecasting statistics represent activities for day-to-day treasury cash management (i.e., “direct” cash forecast)
Source: Citi Treasury Diagnostics; data through 1/7/2016
Centralization of Risk Management

Best in Class companies leverage on centralization constructs (SSCs, Netting Centers, IHB etc.) to centralize financial risks as well as to achieve the 80-20 efficiency level...

Source: Citi Treasury Diagnostics; data through 1/7/2016
Since 2010, exposure quantification has seen a significant shift from a notional measurement to now including a sensitivity-based analysis as well.
Emerging Markets: Corporate Hedging Behavior

87% of respondents reported having exposures to EM currencies...

Managing EMs differently than G-10 currency risks...

87% of respondents with exposures to currencies outside the G-10 currencies

Managing EMs differently than G-10 currency risks...

Despite EM volatility, 75% of the clients surveyed do not differentiate between EM and G10 or only hedge EM selectively or not at all...

- Hedging costs / negative forward points: 53%
- Lack of liquidity: 47%
- Meeting local regulatory approvals and requirements: 32%
- Settlement risk: 16%
- Limited hedging instrument selection: 15%
- Basis risk between the onshore and offshore NDF (Non-Deliverable Forward) markets: 15%
- All of the above: 11%
- Other: 8%

Source: Citi Treasury Diagnostics; data through 1/7/2016
Technology in Support of Liquidity and Risk Management

Best in Class companies have an integrated technology topography supporting the liquidity and risk management processes...
Conclusion

Key Risks for Treasury in Today’s Environment

1. Divergent Prospects for Real Economy
2. Fluid Global Risk Outlook
3. Increased Regulatory Scrutiny
4. Evolving Global Financial System Dynamics
5. High Investor Expectations

What it means to Corporate Treasury?

Assess exposure to non-traditional business risks

Wide uptake towards investment in Technology

Extend centralization constructs

- Reassess Risk Policy and Measures
- Develop Risk Playbooks
- Tighten Risk Management Processes
- Improve Liquidity & Funding Risk Management
- Review Current State of Technology
- Budget for Technology Improvements
- Assess Current State of Centralization
- Determine next level of Centralization
- Finalize plans in partnership with Tax and Legal teams

10 Conclusions
IRS Circular 230 Disclosure: Citigroup Inc. and its affiliates do not provide tax or legal advice. Any discussion of tax matters in these materials (i) is not intended or written to be used, and cannot be used or relied upon, by you for the purpose of avoiding any tax penalties and (ii) may have been written in connection with the “promotion or marketing” of any transaction contemplated hereby (“Transaction”). Accordingly, you should seek advice based on your particular circumstances from an independent tax advisor.

In any instance where distribution of this communication is subject to the rules of the US Commodity Futures Trading Commission (“CFTC”), this communication constitutes an invitation to consider entering into a derivatives transaction under U.S. CFTC Regulations §§ 1.71 and 23.605, where applicable, but is not a binding offer to buy/sell any financial instrument.

Any terms set forth herein are intended for discussion purposes only and are subject to the final terms as set forth in separate definitive written agreements. This presentation is not a commitment to lend, syndicate a financing, underwrite or purchase securities, or commit capital nor does it obligate us to enter into such a commitment, nor are we acting as a fiduciary to you. By accepting this presentation, subject to applicable law or regulation, you agree to keep confidential the information contained herein and the existence of and proposed terms for any Transaction.

Prior to entering into any Transaction, you should determine, without reliance upon us or our affiliates, the economic risks and merits (and independently determine that you are able to assume these risks) as well as the legal, tax and accounting characterizations and consequences of any such Transaction. In this regard, by accepting this presentation, you acknowledge that (a) we are not in the business of providing (and you are not relying on us for) legal, tax or accounting advice, (b) there may be legal, tax or accounting risks associated with any Transaction, (c) you should receive (and rely on) separate and qualified legal, tax and accounting advice and (d) you should apprise senior management in your organization as to such legal, tax and accounting advice (and any risks associated with any Transaction) and our disclaimer as to these matters. By acceptance of these materials, you and we hereby agree that from the commencement of discussions with respect to any Transaction, and notwithstanding any other provision in this presentation, we hereby confirm that no participant in any Transaction shall be limited from disclosing the U.S. tax treatment or U.S. tax structure of such Transaction.

We are required to obtain, verify and record certain information that identifies each entity that enters into a formal business relationship with us. We will ask for your complete name, street address, and taxpayer ID number. We may also request corporate formation documents, or other forms of identification, to verify information provided.

Any prices or levels contained herein are preliminary and indicative only and do not represent bids or offers. These indications are provided solely for your information and consideration, are subject to change at any time without notice and are not intended as a solicitation with respect to the purchase or sale of any instrument. The information contained in this presentation may include results of analyses from a quantitative model which represent potential future events that may or may not be realized, and is not a complete analysis of every material fact representing any product. Any estimates included herein constitute our judgment as of the date hereof and are subject to change without any notice. We and/or our affiliates may make a market in these instruments for our customers and for our own account. Accordingly, we may have a position in any such instrument at any time.

Although this material may contain publicly available information about Citi corporate bond research, fixed income strategy or economic and market analysis, Citi policy (i) prohibits employees from offering, directly or indirectly, a favorable or negative research opinion or offering to change an opinion as consideration or inducement for the receipt of business or for compensation; and (ii) prohibits analysts from being compensated for specific recommendations or views contained in research reports. So as to reduce the potential for conflicts of interest, as well as to reduce any appearance of conflicts of interest, Citi has enacted policies and procedures designed to limit communications between its investment banking and research personnel to specifically prescribed circumstances.

© 2015 Citigroup Global Markets Inc. Member SIPC. All rights reserved. Citi and Citi and Arc Design are trademarks and service marks of Citigroup Inc. or its affiliates and are used and registered throughout the world.

© 2015 Citibank, N.A. All rights reserved. Citi and Citi and Arc Design are trademarks and service marks of Citigroup Inc. or its affiliates and are used and registered throughout the world.

Citi believes that sustainability is good business practice. We work closely with our clients, peer financial institutions, NGOs and other partners to finance solutions to climate change, develop industry standards, reduce our own environmental footprint, and engage with stakeholders to advance shared learning and solutions. Highlights of Citi's unique role in promoting sustainability include: (a) releasing in 2007 a Climate Change Position Statement, the first US financial institution to do so; (b) targeting $50 billion over 10 years to address global climate change: includes significant increases in investment and financing of renewable energy, clean technology, and other carbon-emission reduction activities; (c) committing to an absolute reduction in GHG emissions of all Citi owned and leased properties around the world by 10% by 2011; (d) purchasing more than 234,000 MWh of carbon neutral power for our operations over the last three years; (e) establishing in 2008 the Carbon Principles; a framework for banks and their U.S. power clients to evaluate and address carbon risks in the financing of electric power projects; (f) producing equity research related to climate issues that helps to inform investors on risks and opportunities associated with the issue; and (g) engaging with a broad range of stakeholders on the issue of climate change to help advance understanding and solutions.

Citi works with its clients in greenhouse gas intensive industries to evaluate emerging risks from climate change and, where appropriate, to mitigate those risks.

efficiency, renewable energy and mitigation