



Illuminating Possibilities.

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April 29, 2015

Advanced Treasury Structures

Current Themes and Strategies

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Pre-Meeting Survey: What You Said You Were Interested In

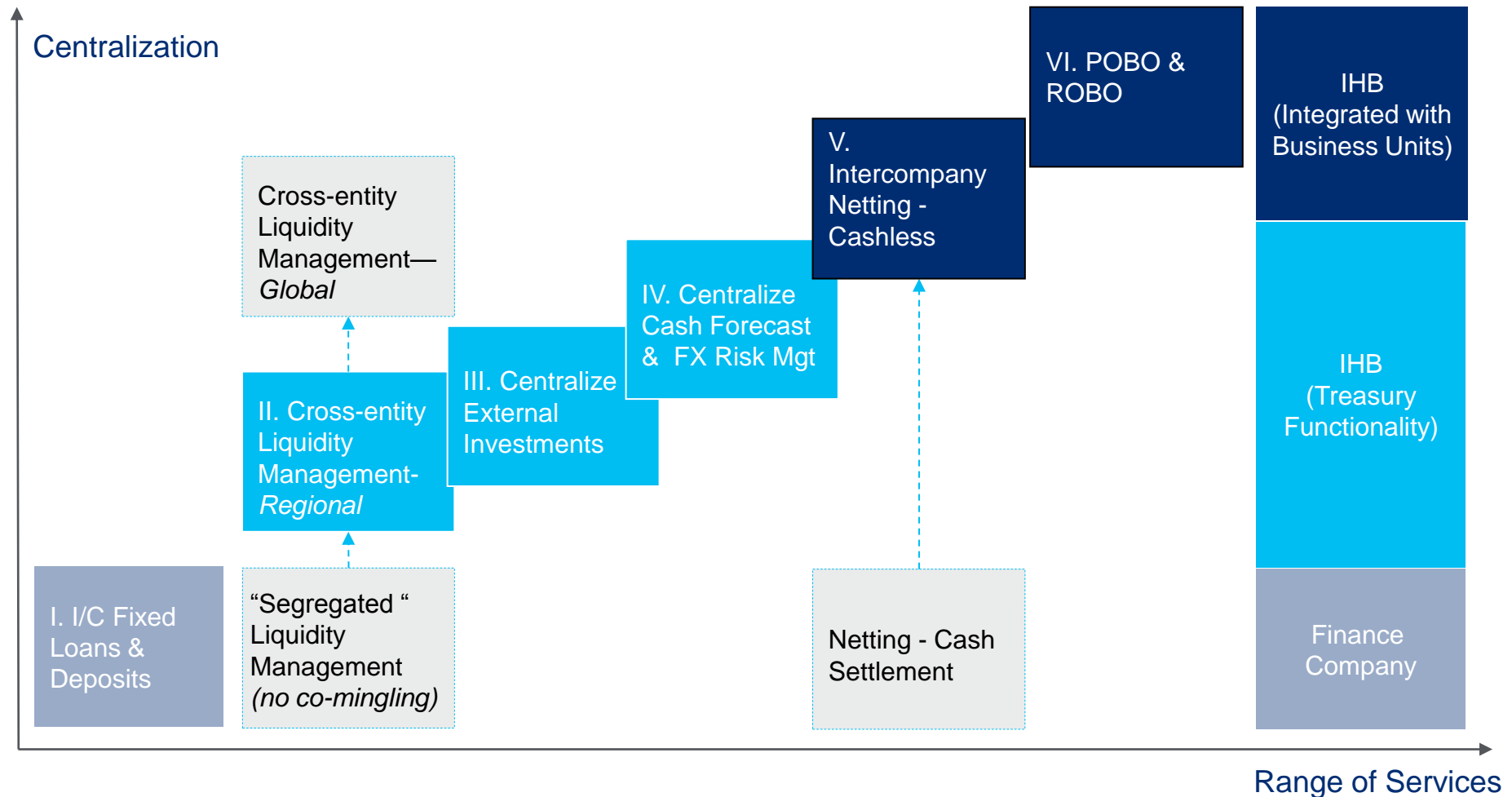


1. Advanced Treasury Structures

What are companies doing? Where Next?

In House Bank (IHB): Evolution

Evolution usually driven by desire to create process efficiency, optimize Treasury resources and obtain positive cost/benefit outcomes through increased centralization.



Key Functions Of IHB

The IHB intermediates cash, foreign exchange, and funding transactions between subsidiaries and external banks. Once in place, the infrastructure also facilitates centrally managing and responding to changes in markets, regulation, corporate transformation/M&A, etc.

Liquidity Management

- IHB becomes global pool header to centralize cash, short term funding of subsidiaries, and net investing

FX Management

- Adoption of POBO/ROBO further reduces fragmentation of liquidity, saves FX spreads, improves forecasting
- Subsidiaries execute FX trades (convertible currency pairs) with IHB - which nets positions - materially reducing external trades
- Centralized portfolio of exposures at IHB can be better managed and hedged

Subsidiary Funding

- Sub capital structure optimized by repatriating more retained earnings to HoldCo, with IHB providing long term debt funding, within country thin cap limits for tax deductibility

Cash Concentration

Investments

Cash Forecasting

POBO/ROBO

Netting

Risk Management

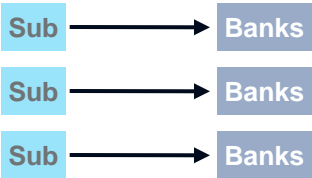
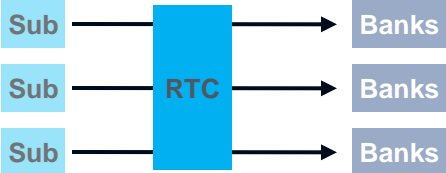
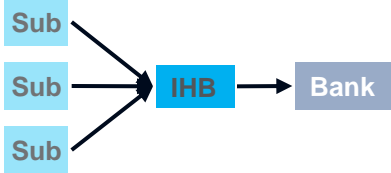
Hedging

Short term
(Working Capital)

Long term
(Capital Structure)

Path To Centralized Risk Management

MNCs adopt best in class practices typically by centralizing their global risk management in a phased manner. Again, the IHB can play a key role.

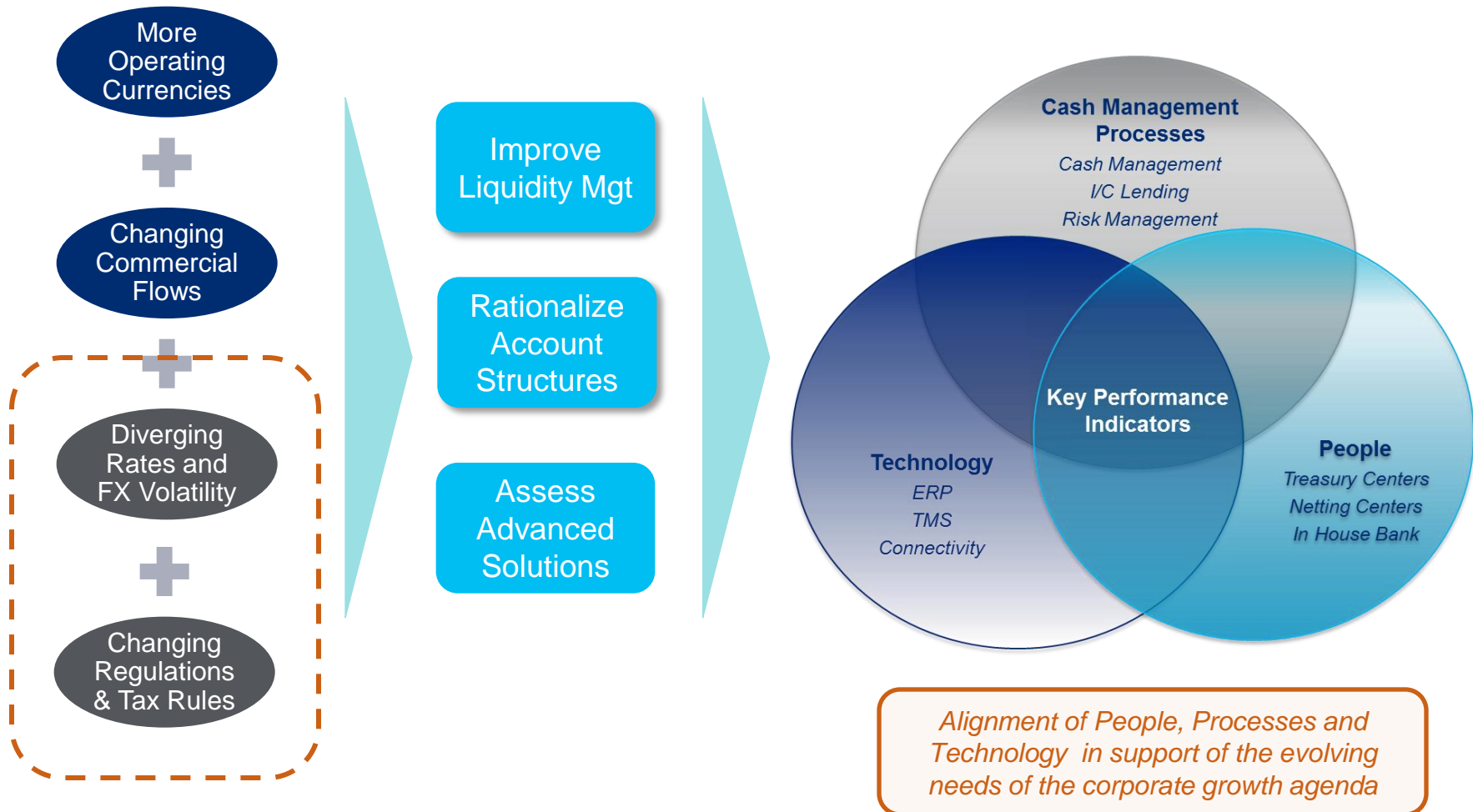
	Decentralized	Partially Centralized	Centralized
Risk Creation			
Operating Cash Flow	Subs, Parent	Management of subs exposures moves to regional hubs such as RTC	IHB or Re-invoicing Center (RIC) Global Treasury Center (GTC)
Financial Assets & Liabilities	Subs, Parent	Primarily Subs, Parent (or regional IHB)	Global IHB/RIC and GTC
Risk Identification	Manual Sources: Subs Types: Booked	Partial Automation Sources: Subs, ERP systems, RTC Types: Booked, Anticipated up to 1 year	Further centralized automation, solutions such as POBO Sources: ERP systems, GTC TMS Types: Booked, Anticipated
Risk Management	Mostly decentralized to Subs. Some trades done by Treasury centrally	Each RTC executes on behalf of Subs. Regional FX positions managed on portfolio basis	All Subs execute FX trades with In-House Bank, which executes net exposures with external banks
Likely Effects	Inconsistent risk management Poor oversight of exposures and liquidity, ineffective processes	Good regional risk oversight and cost synergies However, potential incorrect perception of risk management efficiencies e.g., netting, credit and execution costs	Maximizes global cost and risk mitigation efficiency Benefits in FX, funding, credit, counterparty risk and free cash flow global oversight

2. Liquidity Management

What is disrupting the status quo?

Treasury Priority: Optimizing Liquidity Management

Evolving commercial and market realities are making legacy liquidity management practices sub-optimal.



Diverging (And Negative) Interest Rates

Treasury Considerations of NIRP*

FX

- **Revaluation losses** – On foreign currency assets and liabilities
- **Intercompany Loans** – Cash flow deltas arising from differences in spot rates on hedge rollovers

Tax

- **Arms Length Principles** – Need to ensure alignment with transfer pricing guidelines on intercompany loans and pooling benefit

Operational & Organizational

- **Treasury KPIs & Budgets** – pressure on returns, “use it or lose it”
- **Technology** – need to ensure treasury technology capable of dealing negative rates
- **Organizational** – internal hurdles when subsidiaries receive negative rates for intercompany deposits
- **Counterparty Management** – process challenges of investing with more local providers

Today

3-6
months

Longer-
term

Cash Management Processes

- Improve cash positioning accuracy
- Reassess daily investment & funding positions: e.g. funding outflows
- Swap out where implied rates attractive
- Reset cash pool interco rates

Tsy Centralization Profile

- Improve cash flow forecasting
- Optimize banking structures: “centralize management of cash, but hold multi-domestic”
- Reassess economics of working capital financing to avoid excess cash

Corporate Finance Initiatives

- Reevaluate business commercial terms, invoicing currencies
- Reassess interco lending programs and hedge policies
- Review policies for earnings repatriation, local debt raising vs. interco funding

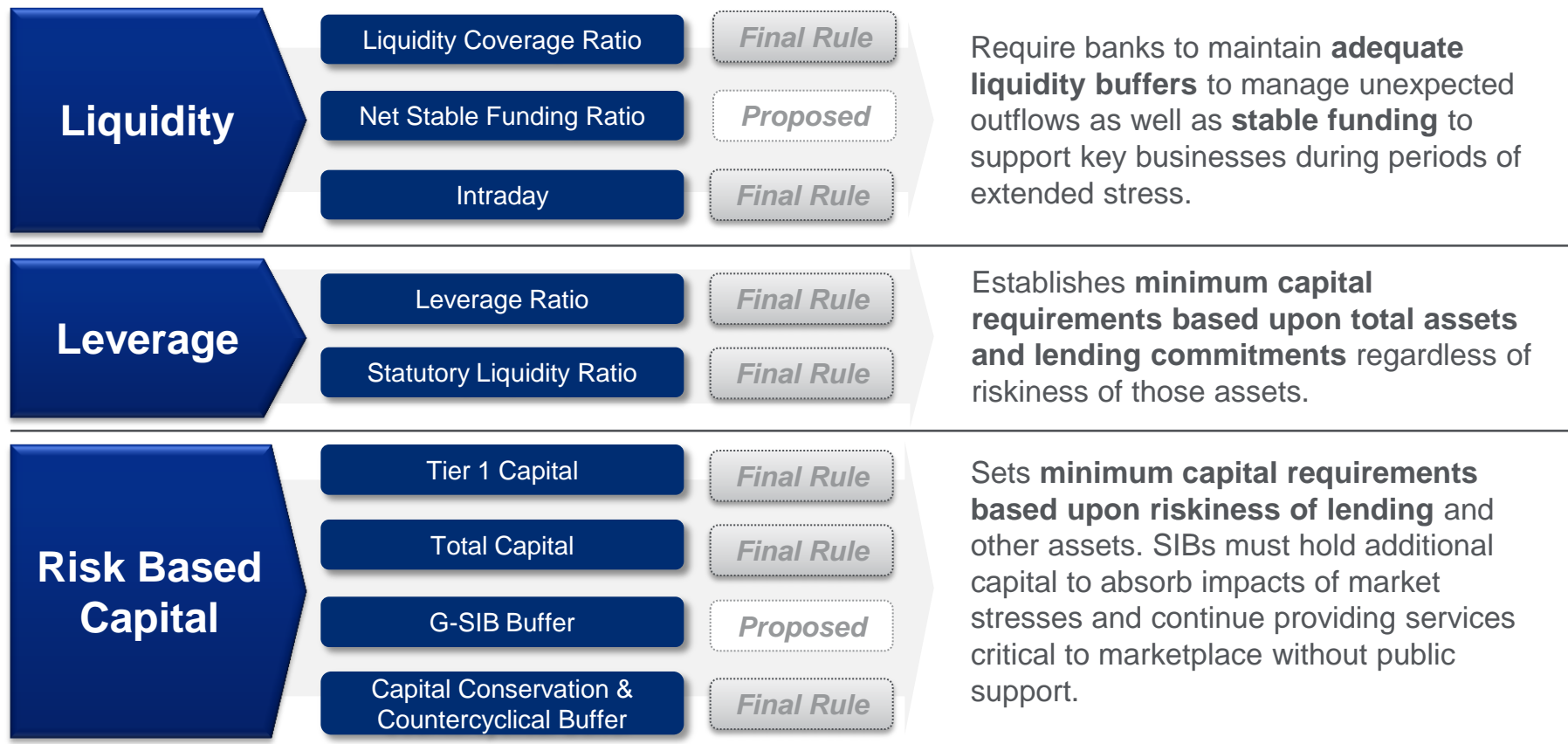
Maintaining consistency with liquidity objectives

Balancing control, counterparty, and yield considerations

Integrating broader enterprise perspectives

*NIRP: Negative Interest Rate Policy

Regulatory Environment Reshaping Bank Balance Sheets



With capital and funding models evolving, banks are reevaluating business activities.

Even for operating services (which appear intrinsically attractive) nuances matter...

...as banks have to assess balances based on regulatory value: how much of deposit is operating.

Client deposits with *high regulatory value* will become viewed as providing return needed for credit extension

"Final Rule" and "Proposed" based on rulings by the US Federal Reserve Board. A full progress report on the global implementation of the Basel III regulatory framework can be found at <http://www.bis.org/>

Integrating Major EMs into Global Treasury Structures: China

Backdrop

- Politically marching to own tune, hard to predict outcomes
- Economy in state of transition, with moderating growth
- Concerns about soundness of financial system
- Currency movements widening
- RMB Internationalization reforms continue, but multi-faceted and complex

Treasury Considerations



Potential Actions

Integrating into global liquidity structures to alleviate trapped cash or funding needs

Changing invoicing currencies to create natural hedges or support growth

Centralizing FX risk into RTC/IHB to aggregate and net positions

... But in consideration of the longer term: **“Crossing the river by feeling the stones”**

Other Developments: Impacts On Corporate Structures

Evolving regulations and penalties/opportunity costs for non-compliance will drive changes and require technology and organizational alignment.

Global Tax

- OECD/BEPS refocuses MNC attention on substance, establishment, transparency and deductibility
- Specific amendments to transfer pricing guidelines



- Reviewing and modifying trading models and intercompany pricing processes to comply and optimize within new and evolving boundaries
- Impacting ICLs, Netting, SSCs, etc. with increased levels, frequency and consistency of reporting

US Tax

- FATCA deadlines for specific countries throughout 2015
- Local legislation and guidance will lead to variations in the date and format for reporting



- Updating ongoing legal entity, products and services, payments and payee analyses so that withholding and reporting requirements are clear
- Reporting policies, procedures, governance structures, and systems need to keep pace

Other Reform

- SEC 2a-7 Money Fund Regulation & EU Money Fund regulation



- Evaluating investment policies in consideration of expected reform to allow for optimized portfolio
- Segmenting cash portfolio to allocate cash “buckets” within policy for risk weighted returns

3. Risk Management

Where are the opportunities to add value in this volatile market?

Corporate Risk Management Trends (Citi Treasury Diagnostics)

Observations

- *Continued Centralization of Treasury risk management*
- *Consensus on risks created by strong dollar cycle. Limited action taken*
- *EM Risk Management: bifurcated approach from G10 in both policy and execution*
- *In some cases, subsidiary financing and risk mitigation remain outside scope of central Treasury decision making*
- *Exposure quantification evolution: from traditional notional risk measurement to sensitivity-based analysis.*
- *Heavy preference for layered hedging programs. Limited hedging beyond 6 months*
- *Focus on internal market risk visibility architecture*

Implications

- Resource optimization, counterparty risk, hedging costs, exposure quantification
- Move to review existing hedging programs
- Unexpected jump risk in both earnings and key financial ratios
- Earnings volatility, thin cap, tax, credit rating, re-capitalization
- Required high degree of risk understanding across both financial and operational parts of the business
- Limited effectiveness in reducing volatility and economic risk.
- Accounting based and economic earnings volatility. Higher operational and transactional costs.

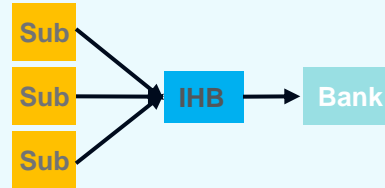
Path To Effective Risk Management



Centrally manage All exposure

(Commercial cash flows and financial assets & liabilities) and hedges are tracked in Treasury Management System

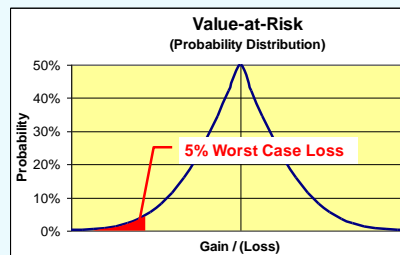
Consolidate transaction FX flow to portfolio exp level



Segment Risk

- Instrument (e.g. forward, swap)
- Type (sales, purchasing, and various internal txn types)
- Financial exposure (e.g. bank cash or loans in non-functional currency)

Determine Value at Risk at Portfolio Level



Outcomes

- Linking FX risk and flow identification architecture to a rules-based cost effective risk management program
- Risk management objectives will be best met if each is properly understood, executed and monitored

Understanding The Big Picture: Benchmark Your Portfolio...

In this example for a USD functional company holistically managing risk with a 12 month horizon. The currencies with the best hedging cost to risk reduction ratio are SEK and EUR (earning carry) & GBP (paying carry).

Currency	Exposures USD Equiv.	Individual 12M VaR - USD @ 95% C.L.	Component 12M VaR - USD @ 95% C.L.	Contribution to Risk	Marginal 12M VaR - USD @ 95% C.L.	Hedging (Costs) / Benefits Using Forwards USD Equiv	Earning Carry	Paying Carry	Individual Volatilities
							Marginal VaR Impact per USD1 earned	Marginal VaR Impact per USD1 spent	
GBP	10,000,000	1,607,811	1,461,900	10.7%	-1,443,472	-16,204	-16	-89	9.8%
EUR	10,000,000	1,738,326	1,050,114	7.7%	-973,924	59,202	-6	-10	10.6%
JPY	10,000,000	1,787,962	508,490	3.7%	-396,796	66,256	-8	-2	10.9%
CHF	10,000,000	2,111,002	1,459,151	10.7%	-1,363,729	174,322	-24	-1	12.8%
SEK	10,000,000	2,052,065	1,325,709	9.7%	-1,226,215	50,581	-11	-1	12.5%
BRL	10,000,000	2,269,257	1,433,010	10.5%	-1,306,497	-1,074,656			13.8%
KRW	10,000,000	1,673,673	1,082,779	8.0%	-1,017,915	-100,547			10.2%
RUB	10,000,000	5,621,883	4,332,424	31.8%	-3,664,410	-1,734,758			34.2%
TWD	10,000,000	854,752	614,194	4.5%	-600,602	52,303			5.2%
CNY	10,000,000	658,700	337,970	2.5%	-325,929	-380,203			4.0%
TOTAL	100,000,000	20,375,431	13,605,741	100%		-2,903,704			

	USD Equivalent
Sum of Individual VaRs	20,375,431
Total Portfolio VaR	13,605,741
Diversification Benefit	-6,769,690
Diversification Benefit (%)	-33%
Portfolio Volatility	8.3%

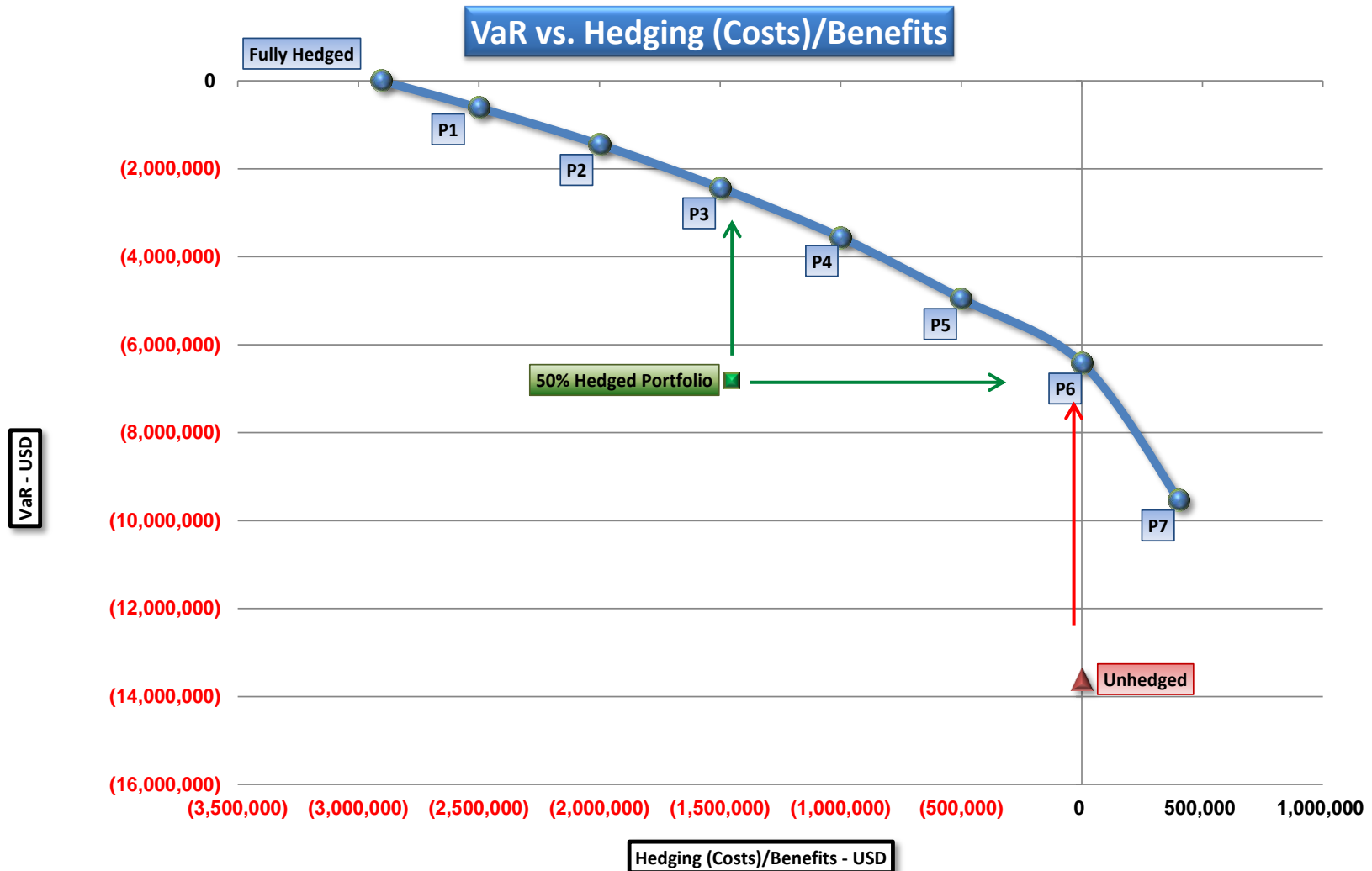
Assumptions: 12-month implied vols and 1-year historical correlations

Findings & Implications:

- Although they constitute half of the portfolio, the EM exposures contribute more than half (57.3%) of the risk.
- Hedging SEK and EUR is clearly economical. In addition to earning carry, for every USD1 earned in hedging benefits the portfolio VaR is reduced by USD 24 and USD 16 respectively. It pays to hedge!
- Although GBP incurs a cost of hedging, doing so is effective – portfolio VaR is reduced by USD 89 for every USD 1 spent on carry.

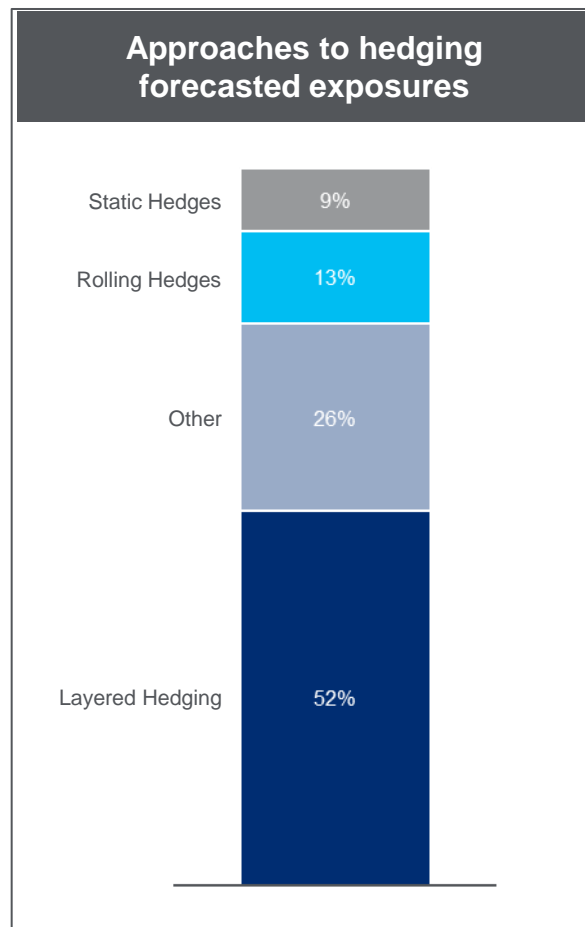
...Identify Cost/Benefit Of Alternatives On Efficient Frontier

For this 12M profile, we show the efficient frontier between VaR and Hedging (Costs)/Benefits compared to the unhedged portfolio and a 50% Hedged Portfolio (i.e. all exposures hedged 50%).

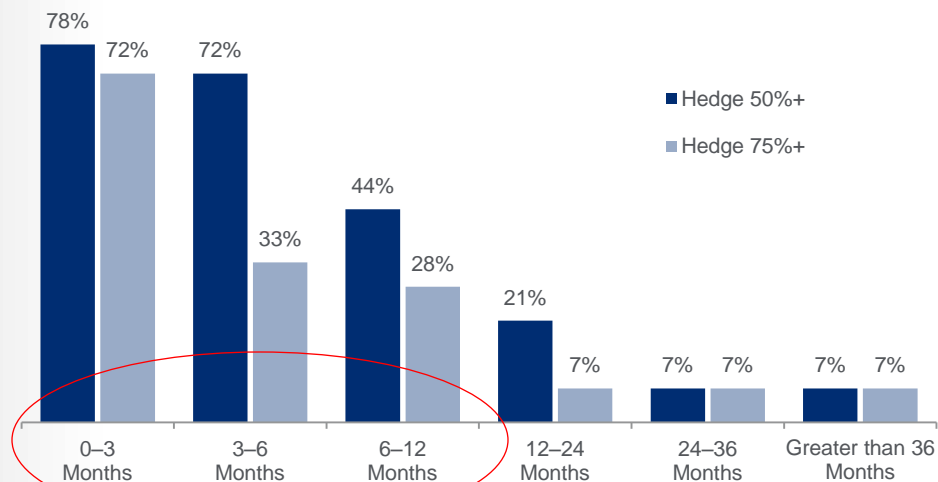


FX Transaction Risk Practices: Hedge Maturity Profiles

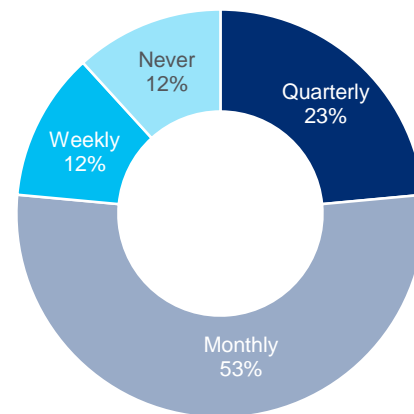
Layered hedging approach is the most common. However, the economic and risk reduction benefits expected have been limited due to short term hedging practices (1-6M). In G10, clients are now investigating the benefits of extending the hedging tenor past 1-year.



Proportion of forecasted exposures hedged ...



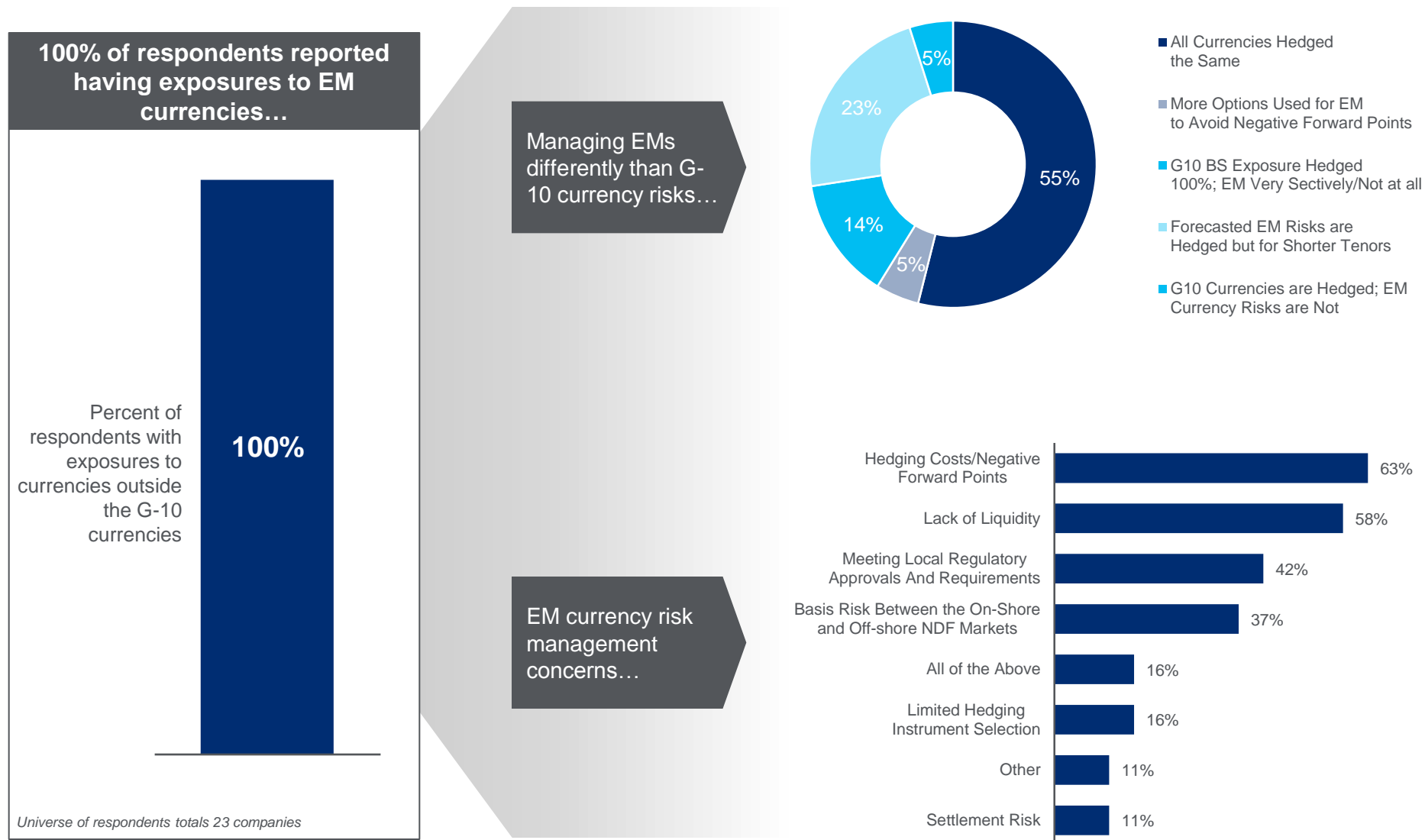
Frequency of hedge performance analysis...



Source: Citi Treasury Diagnostics

Emerging Markets: Changing Mindsets?

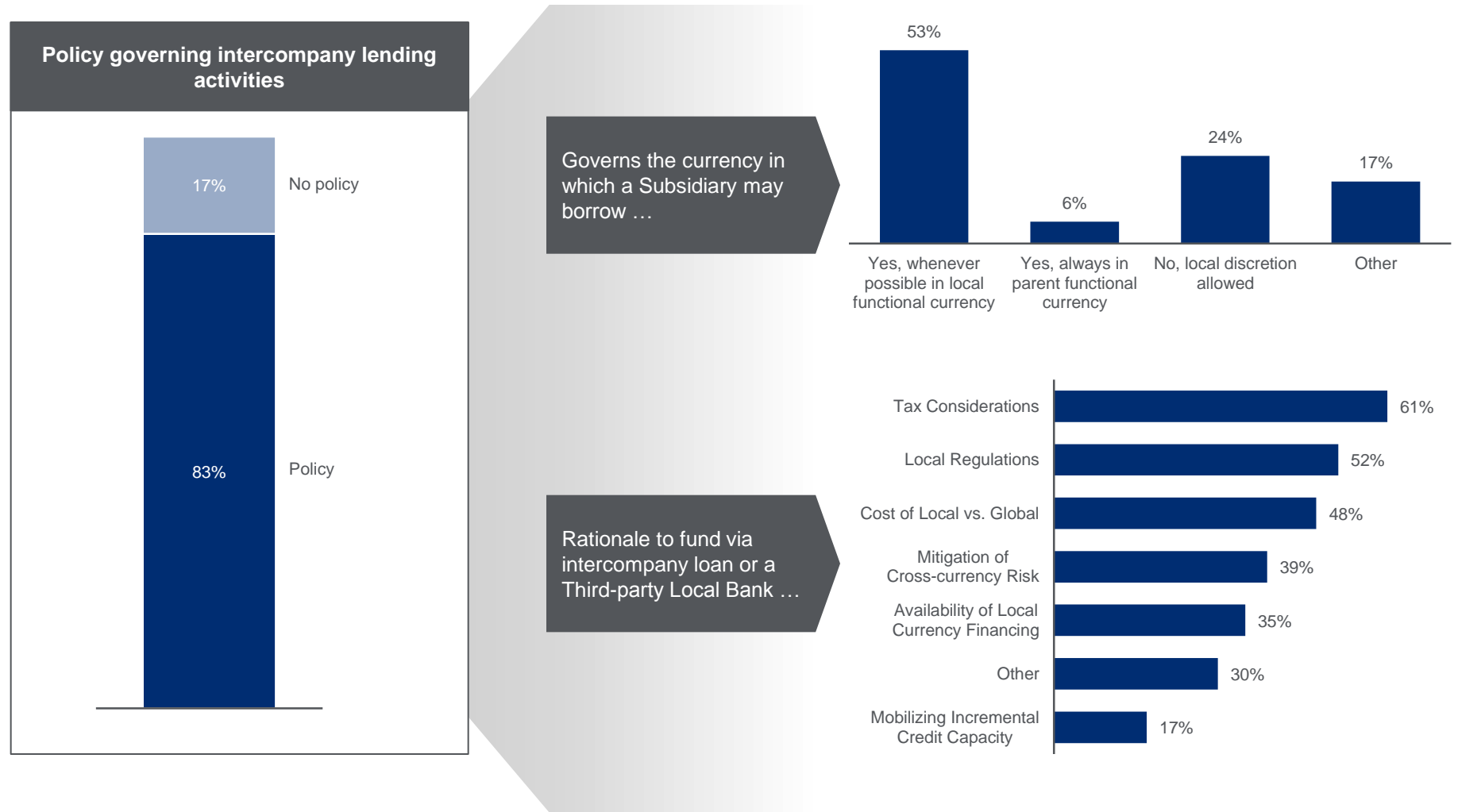
Early indications of a shift towards the bi-furcation of hedging practices between EM and G10 exposures. Hedging costs and lack of liquidity continue to be main concerns cited by senior management.



Source: Citi Treasury Diagnostics

Intercompany Lending: Does This Keep You Awake At Night ?

Frequency of local discretion and focus on tax suggests need for further alignment to better address potential risk management implications.



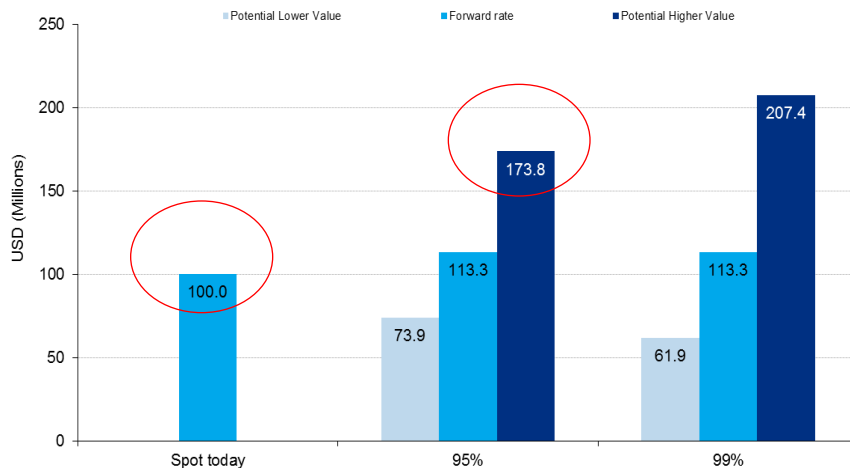
Where Can It Go Wrong? USD/RUB Risk Analysis – 1 Year

A USD functional company will be injecting USD 100mn for working capital purpose to its Russian subsidiary . These monies will be converted into RUB at the local subsidiary level.

- Value-at-Risk (VAR) analysis focuses on FX risk profile of intercompany loans totalling USD 100mn over 1 year, from USD to RUB.
- Quantified by applying current market rates and implied volatility in order to generate the Value-at-Risk in USD when converting to RUB.
- 1 in 20 chance that USD/RUB will be higher than 101.274 in 1 years time.

Implies loss of 73.8 mn USD at todays spot rates when compared to today's spot value of USD 100mn.

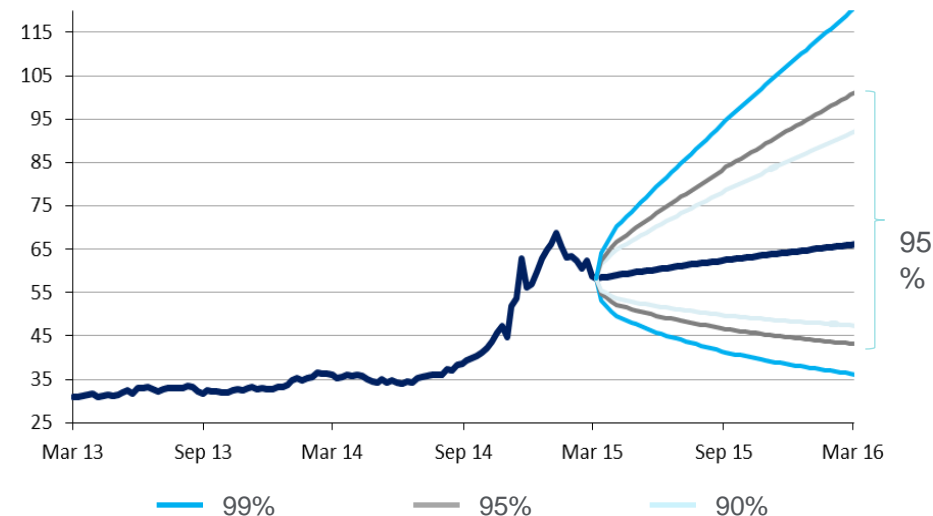
Potential Cost Profile in 1 Years Time



References: 30-03-2015

Spot	58.2834
Forward	66.0581
Volatility	26.0%
Tenor	1.00 years
Exposure	100 mio USD

USD/RUB Implied spot rates



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efficiency, renewable energy and mitigation