

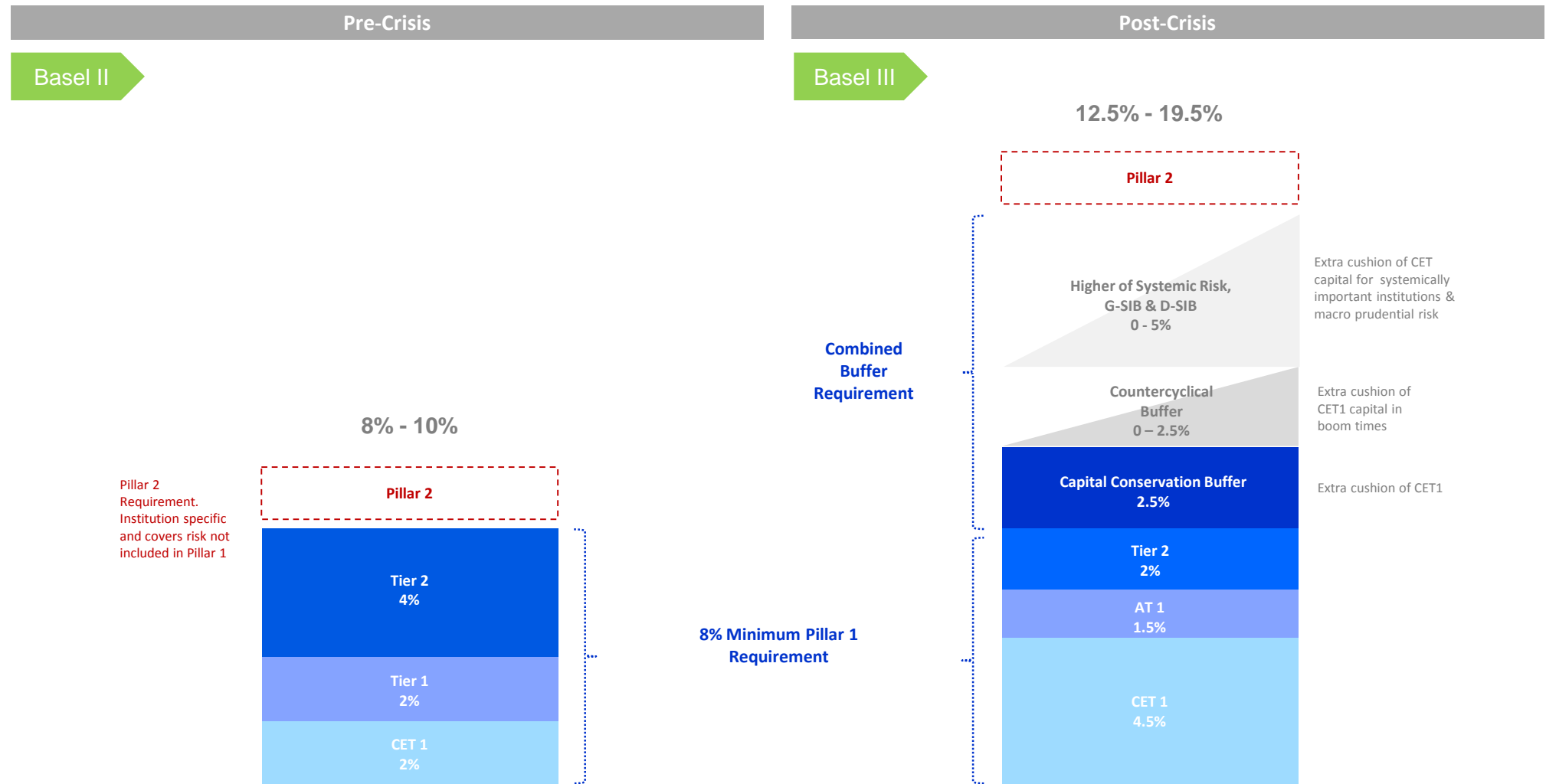
Public

Banks: Cost of Capital and Funding and Impact on Business Models

April 2017

Evolution of Capital Requirements Post-Crisis | Higher Levels Required

Risk-based capital requirements increased significantly post-crisis



Source: Bloomberg, Mizuho DCM

Evolution of Funding Requirements Post-Crisis | New Metrics Introduced

Non-risk based liquidity metrics were also introduced

Liquidity Metric	Formula	Impact on banks
Net Stable Funding Ratio (NSFR) Quality/quantity of long-term funding to match the relevant types of assets	$\frac{\text{Available amount of stable funding}}{\text{Required amount of stable funding}} \geq 100\%$	<ul style="list-style-type: none">• Longer term funding (more expensive) to be issued
Liquidity Coverage Ratio (LCR) Stock of liquid assets must cover a (modelled) 30-day stressed cash outflow period	$\frac{\text{Stock of High Quality Liquid Assets (HQLA)}}{\text{Total net cash outflows over the next 30 calendar days (stressed)}} \geq 100\%$	<ul style="list-style-type: none">• Higher quantity and better quality of liquid assets required• Expensive to fund in current low rates/negative yield scenario

Development of Bank Credit Spreads | Increase in Cost of Funding and Capital

Senior credit spread movements (bps)



Subordinated credit spread movements (bps)



Source: Bloomberg, Mizuho DCM
As of 19 April 2017

Bank Headwinds

- 1 **Cost of funding and capital** has increased substantially following the **Global Financial Crisis** from 2007 – 2008
- 2 **Longer term funding** required due to new liquidity metrics
- 3 **Higher quality of liquid assets** required primarily Government bonds
- 4 **Quantity of capital** has increased significantly
- 5 Banks typically targeting a **low double-digit Return-on-Equity**

How are banks
dealing with these
headwinds?



Increased Focus on an Efficient Allocation of Capital...

Risk-Adjusted Return on Capital (RAROC)

Risk-Adjusted Return divided by the
Risk-Adjusted Capital needed to generate that return

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$$RAROC = \frac{\text{revenue} - \text{expenses} - \text{expected loss}}{\text{Regulatory or Economic Capital}}$$

RAROC in practice – Example EUR1million loan to Single A corporate borrower

	Loan		
	1,000,000.00		
Interest Income	2.5%	25,000	Loan * 2.5%
- Cost of Liquidity	0.50%	5,000	Loan * 0.50%
- Operating Expenses	1.25%	12,500	Loan * 1.25%
- Cost of Risk (Expected Losses)	0.0375%	375	[Probability of Default * Loss Given Default] * Loan = [0.15% * 0.25%] * Loan
Risk Adjusted Return	0.7125%	7,125	Loan * 0.7125%
÷ Capital Required		30,000	Loan * Risk-weight (25%) * CET1 Target (12%)
RAROC (%)		23.75	Risk Adjusted Return / Capital Required
RAROC Target (%)		≥ 12	

Source: Mizuho DCM

And Changes to their Business Models

Strategy	Banks	Summary
<p>Cost reduction and technology upgrades</p>		<ul style="list-style-type: none"> Arguably the main focus of management in recent years A number of banks have publicly committed to certain cost reduction targets over a 3-5yr horizon Investments in technology to achieve future cost savings
<p>Balance Sheet Reduction / Exiting capital intensive businesses (e.g. investment banking)</p>		<ul style="list-style-type: none"> A number of global investment banks have reduced their geographic footprint and also reduced scale of investment banking operations Focus has moved to traditional strengths – UBS, CS to wealth management; Barclays to UK retail for example, where there are higher returns Deleveraging – Balance sheet / RWA reduction
<p>Others</p>		<p>Exploring new markets</p> <ul style="list-style-type: none"> Prolonged weak macro conditions in domestic markets has led Japanese banks to increase operations in international locations <p>Changing organisational structure</p> <ul style="list-style-type: none"> Nordea modified its subsidiaries to branches; primarily to generate cost savings

Source: Mizuho DCM

Higher Regulatory Requirements in the Pipeline

Theme	Description	Impact
TLAC / MREL	<ul style="list-style-type: none"> ▪ Big banks (GSIBs, DSIBs, and others) will need to maintain a stock of debt which can absorb losses in a resolution ▪ Aimed at preventing future taxpayer funded bailouts ▪ Instead, certain creditors would be 'bailed-in' 	<ul style="list-style-type: none"> ▪ NIM impact → New style bail-in-able debt costs more than vanilla unsecured debt ▪ In some cases banks will need to fundamentally change funding mix from cheaper secured funding to more expensive bail-in-able debt which again impacts NIM ▪ Potential increased costs from resolution planning, removing impediments to resolution (such as setting up of Holding Companies)
IFRS 9	<ul style="list-style-type: none"> ▪ Aimed at improving the way banks treat provisioning requirements for loans ▪ Will move from an incurred-loss approach to expected loss approach ▪ In certain cases, the expected loss will have to be estimated over the life of the loan 	<ul style="list-style-type: none"> ▪ Potential increase in capital requirements as day-1 CET1 ratio would reduce → however, recent proposed amendments to CRR suggest a transition period for CET1 impact ▪ Increase in volatility of provisioning for banks

Source: Mizuho DCM

Higher Regulatory Requirements in the Pipeline

Theme	Description	Impact
Basel IV	<ul style="list-style-type: none"> Sweeping changes to the way banks calculate RWAs for credit market and operational risk Aimed at reducing variability in RWAs for the same types of assets across different banks Potentially done via (i) setting of capital floors, (ii) introducing floors to certain internal model parameters, (iii) prohibiting use of internal models for certain exposures Significant pushback to these regulations; final package uncertain currently 	<ul style="list-style-type: none"> Potential increase in capital requirements → could be significant especially for banks which have low RWA-densities Potential increase in TLAC/MREL requirements → these requirements will also be based on RWA-bases, similar to capital requirements Costs would likely be passed on to customers via increased capital/funding charges

Eg of Basel IV impact on Credit RWAs from introduction of capital floor based on new Standardised Approach

IRB Exposure Class	CRDIV 2016		Full Impact (100%)			75% Output Floor		
	RWA Density	Basel IV Pro Forma 2016	RWA Density	Δ	Basel IV Pro Forma 2016	RWA Density	Δ	
Institutions	13,456	20,393	24%	52%	15,295	18%	14%	
Corporates	175,870	364,830	37%	107%	273,622	54%	56%	
Retail	26,791	72,362	30%	170%	54,272	57%	103%	
Retail Mortgage	45,510	247,937	9%	445%	185,953	20%	309%	
Total IRB Credit Risk	261,627	705,522		170%	529,141		102%	
CET1 Capital	39,244	39,244			39,244			
Total RWA	261,627	705,522			529,141			
RWA Density	20.1%	54.3%			40.7%			
CET1 ratio	15.0%	5.6%			7.4%			
Impact on CET1 ratio (%)		-9.4%			-7.6%			

1 Corporates: Risk weighted according to external ratings equivalent of 20% (AAA to AA-) to 150% (Defaulted)

2 Retail: Risk weighted at 75% with defaulted exposures risk weighted at 150%

3 Retail Mortgage: Owner Occupied Risk weighted at 25%-75% based on LTV, Buy-to-let risk weighted at 70%-120% based on LTV

1 Significant impact on CET1 ratio from introduction of Basel IV – in this example the CET1 ratio reduces from 15% to 7.4% at an output floor of 75%

Source: Mizuho DCM

Q&A

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