UBS

Market Impact of TLAC Requirements

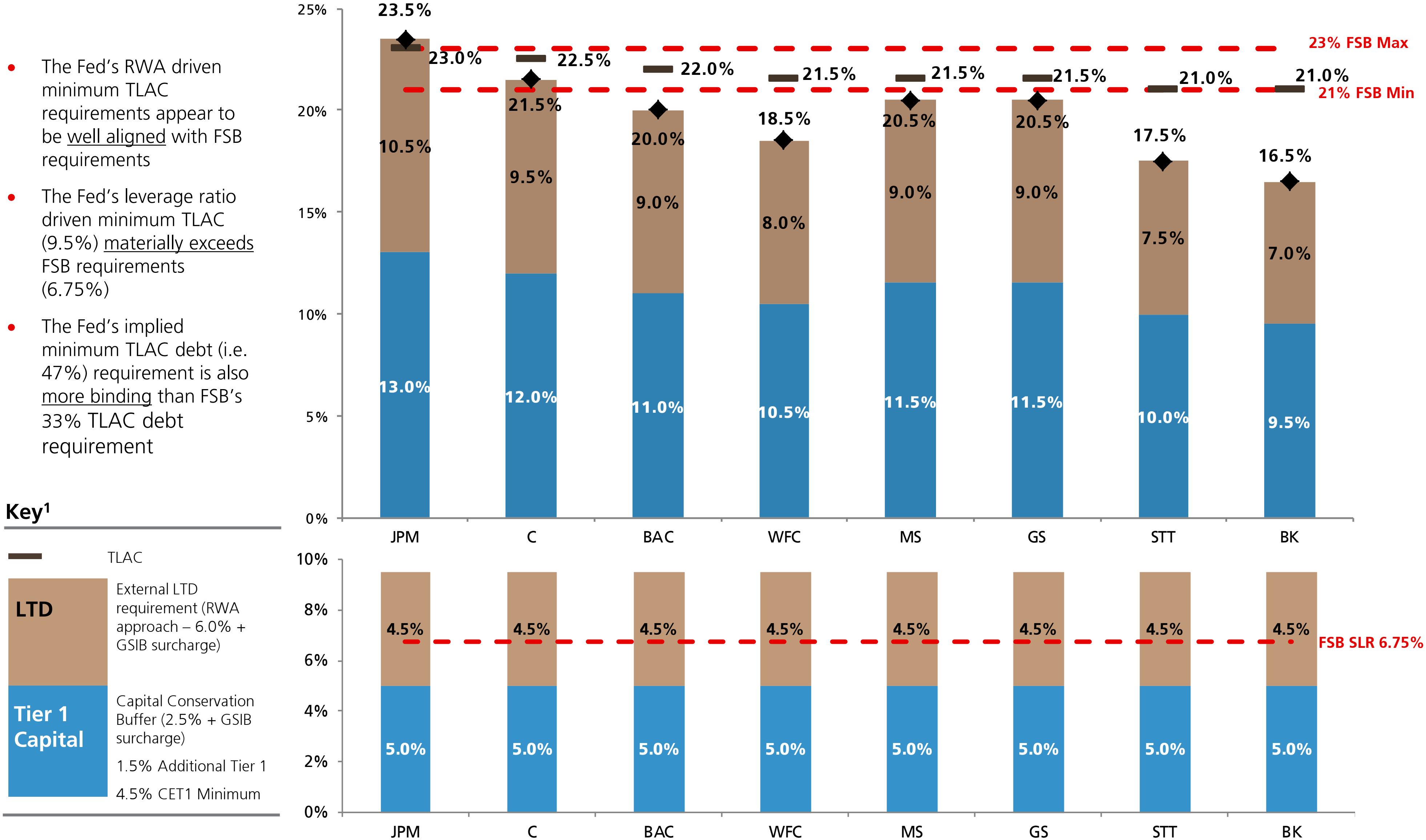
FIG DCM Bank Capital Solutions

December 17, 2015

RWA vs. SLR Driven TLAC Requirements

Fed's SLR driven TLAC requirement is more stringent than FSB TLAC framework

- The Fed's RWA driven minimum TLAC requirements appear to be well aligned with FSB requirements
- The Fed's leverage ratio driven minimum TLAC (9.5%) materially exceeds FSB requirements (6.75%)
- The Fed's implied minimum TLAC debt (i.e. 47%) requirement is also more binding than FSB's 33% TLAC debt requirement



UBS

1. GSIB surcharge applied to minimum LTD requirement and the capital conservation buffer is based on estimates disclosed with the GSIB capital surcharge final rule in July 2015.

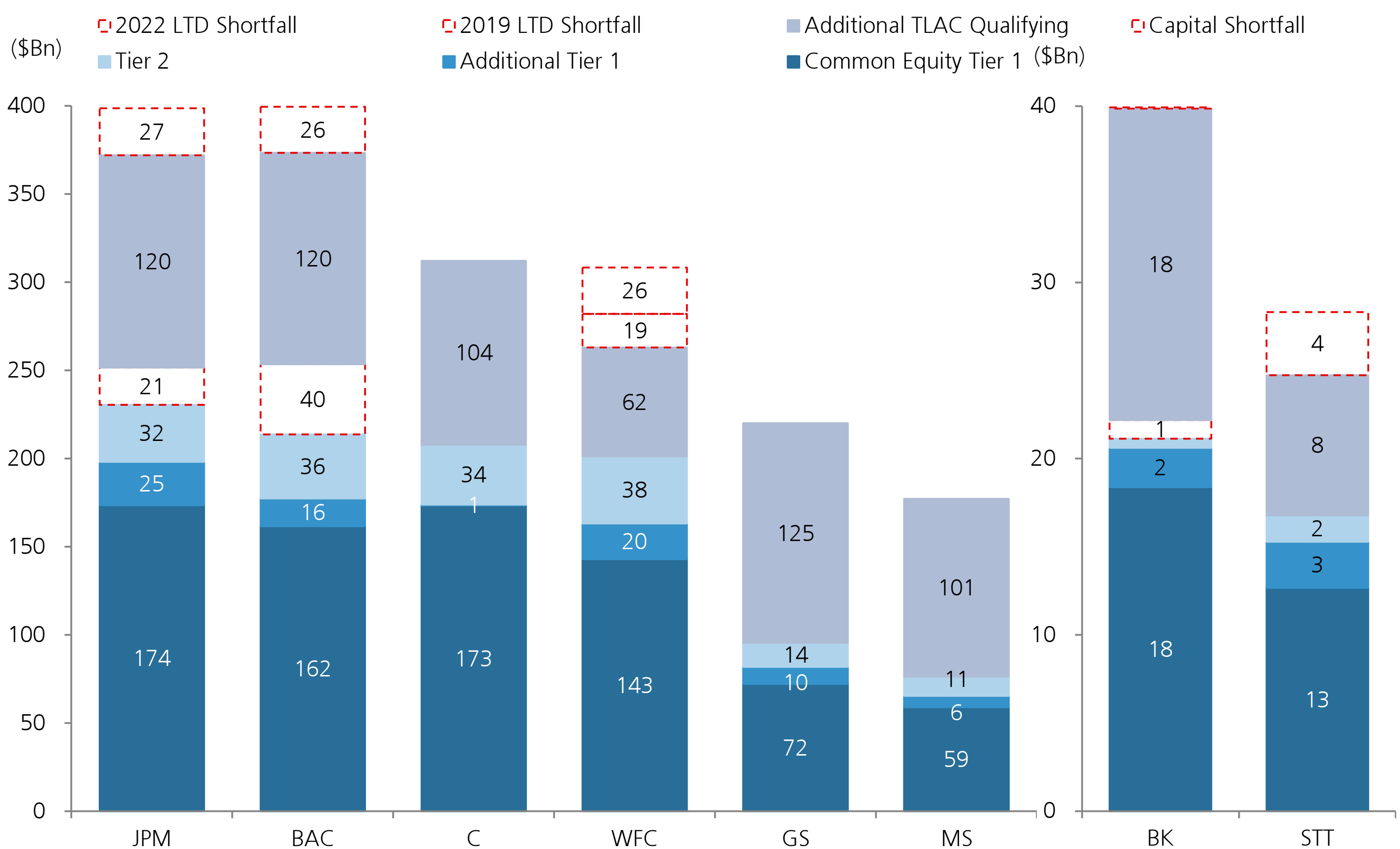
U.S. G-SIBs Appear to be Well Positioned

Proposed rule is fairly benign relative to market expectations

We estimate that the US G-SIBs will need $164bn of additional TLAC, $62bn of which is capital shortfall and $102bn of which is due to LTD shortfall

Some of the LTD shortfall can be met by refinancing bank level debt with Holdco leading to ~40bn incremental supply

Capital & TLAC Shortfall Need



	JPM	BAC	C	WFC	GS	MS	BK	STT
Avg. Annual Sr. Issuance	**$21.5**	**$29.0**	**$20.4**	**$18.5**	**$24.2**	**$19.5**	**$4.7**	**$3.3**
2022 LTD Need as Multiple	*1.3x*	*0.9x*	*n/a*	*2.4x*	*n/a*	*n/a*	*n/a*	*1.2x*
Sr. Bank Debt Out	**$52.4**	**$11.5**	**$4.8**	**$18.3**	**n/a**	**n/a**	**n/a**	**n/a**
% of 2022 LTD Need	*52%*	*226%*	*n/a*	*245%*	*n/a*	*n/a*	*n/a*	*n/a*

UBS

Source: Bloomberg, SNL, Company Filings as of 6/30/15; debt outstanding as of 10/2/15.

1. We estimate that 10% TLAC / Leverage Exposure is binding for JPM relative to 16% RWA and for BNY & STT relative to 16 & 18% RWA

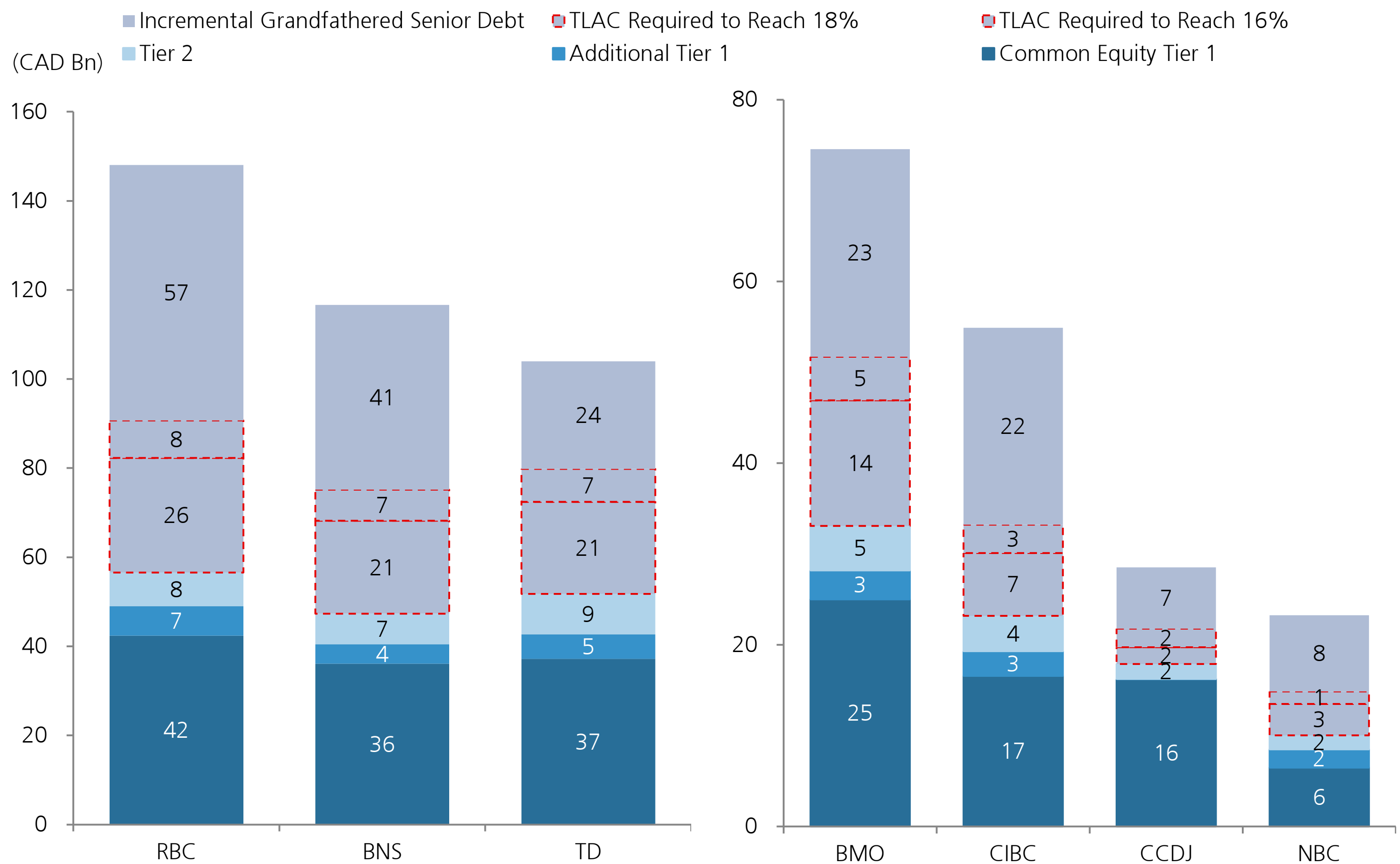
The Canadian D-SIBs Have Excess Wholesale Funding

Canadian D-SIBs have excess wholesale funding and regularly access the unsecured funding market globally

Given their regular access to the capital markets and upcoming maturity profile, the Canadian banks would be able to meet TLAC needs through refinancing

However, the grandfathering of the outstanding senior unsecured has made the situation more complicated

Capital Structure & TLAC Need at 16 / 18% RWAs (6.00 / 6.75% SLR)[1]



	RBC	BNS	TD	BMO	CIBC	CCDJ	NBC
Avg. Annual Sr. Issuance	**$18.3**	**$10.8**	**$8.7**	**$6.0**	**$24.5**	**$3.9**	**$2.0**
18% TLAC Need as Multiple	*1.1x*	*2.6x*	*3.2x*	*3.2x*	*0.4X*	*1.0x*	*2.0x*

Source: Bloomberg, SNL, Company Filings as of 7/31/15; debt outstanding as of 10/23/15.
1. We do not anticipate a 6.75% leverage requirement to be binding for any Canadian bank

Meaningful Uncertainty Remains in Europe

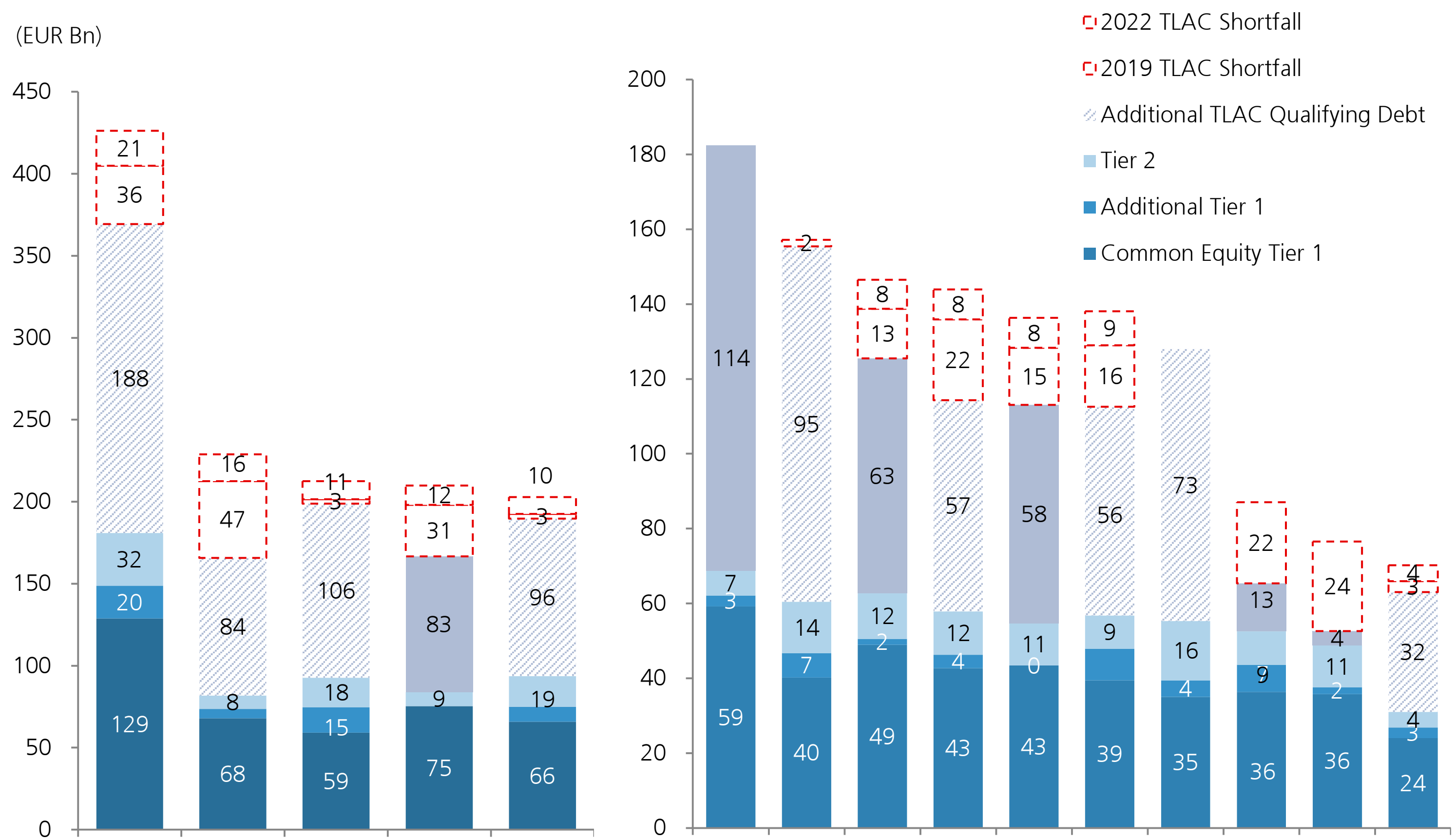
For the European banks included in our analysis below, we estimate a total TLAC need at 18% of RWAS to be about €344.5bn

The criteria by which debt will qualify for TLAC in Europe will vary from jurisdiction to jurisdiction

For example, Deutsche Bank appears to have ample senior unsecured and is in a regime that already has a clear solution

CS & UBS, on the other hand, will need to issue HoldCo debt to meet the newly announced 10% leverage requirement for Swiss TLAC

Capital Structure & TLAC Need at 16 / 18% RWAs (6.00 / 6.75% SLR)[1]



	HSBC	BNP	BARC	SAN	CA	DB	RBS	BPCE	UNI	BBVA	SG	STAN	CS	UBS	NDA
Avg. Annual Sr. Issuance	€ 12.2	€ 13.6	€ 7.5	€ 8.4	€ 8.4	€ 16.3	€ 2.6	€ 13.9	€ 10.0	€ 1.5	€ 10.0	€ 3.0	€ 8.3	€ 2.6	€ 16.7
Shortfall to 18% RWAs	€ *56.9*	€ 63.1	€ 14.0	€ 43.0	€ 13.1	-	€ 1.8	€ 21.0	€ 29.6	€ 23.2	€ 25.6	-	€ 22	€ 24	€ 7.2

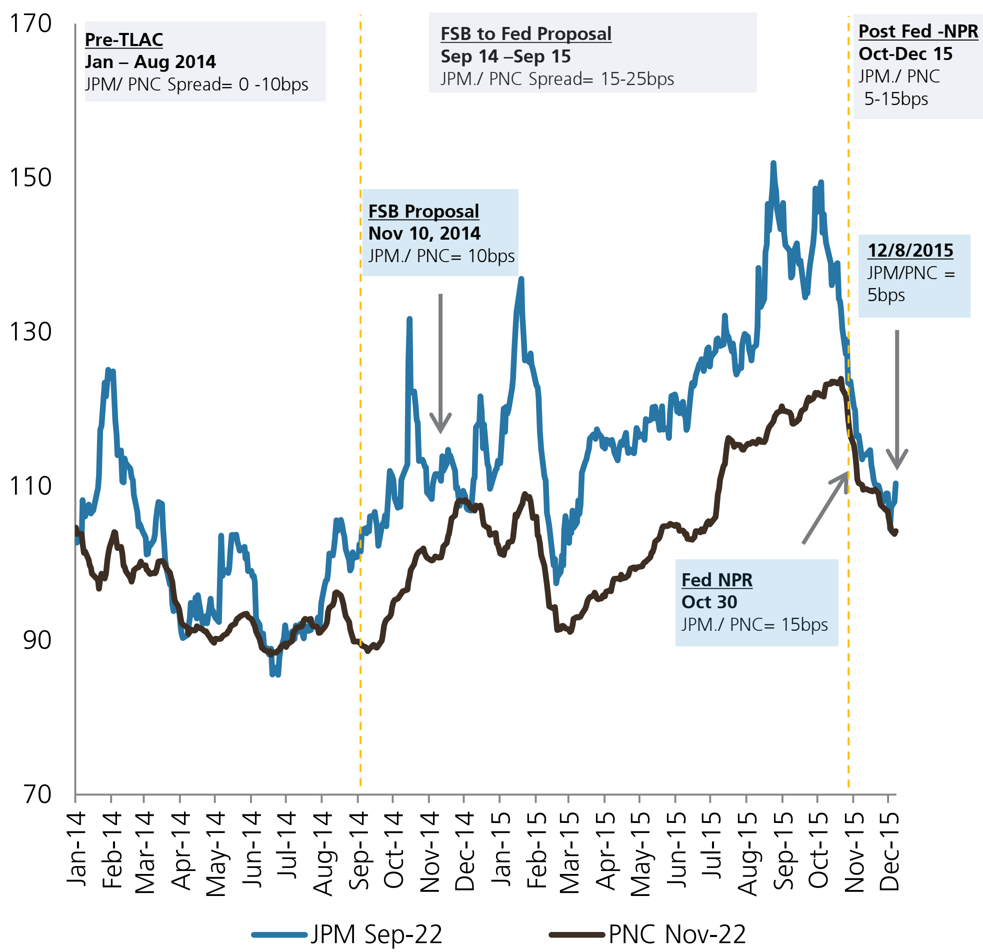
Source: Bloomberg, SNL, Company Filings as of 6/30/15; debt outstanding as of 10/23/15.

1. We estimate that the 6.75% leverage requirement is binding vs. 18% for BARC, and the 10% requirement is binding vs. both 16 and 18% for CS and UBS.
2. Hatch pattern represents senior debt of banks / in jurisdictions where the treatment is uncertain.

Spread Moves in U.S. Bank Senior

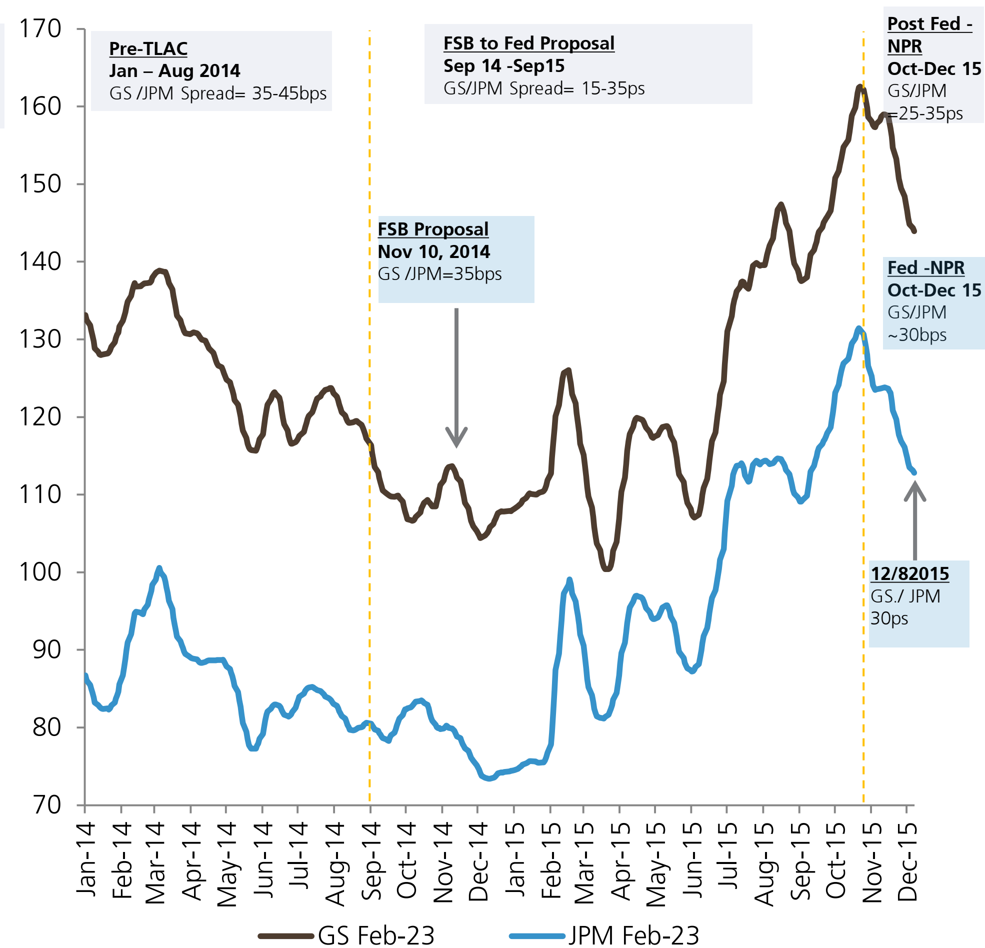
We observed a modest 5 to 15 bps of relative widen in US Senior Holdco Spreads

US$ domestic market (Spread to Treasury)



Source: Bloomberg

Euro market (Spread to € Swap)



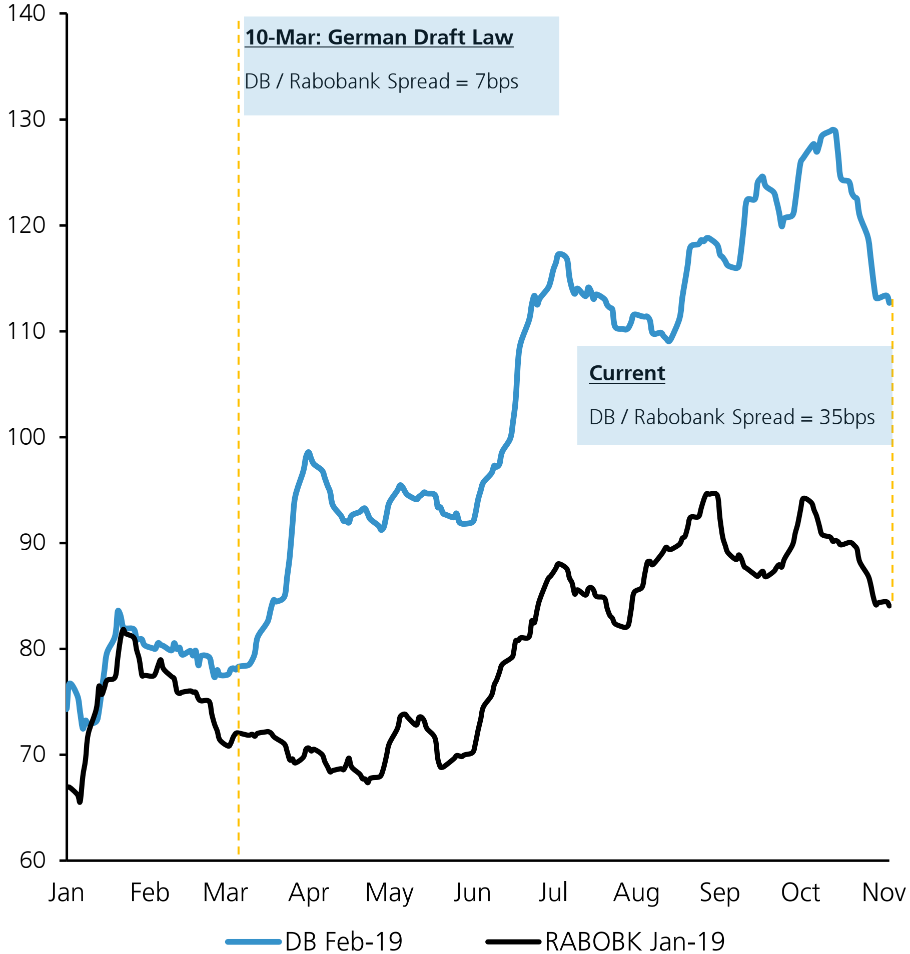
Source: Bloomberg

UBS

Spreads moves in German bank Senior

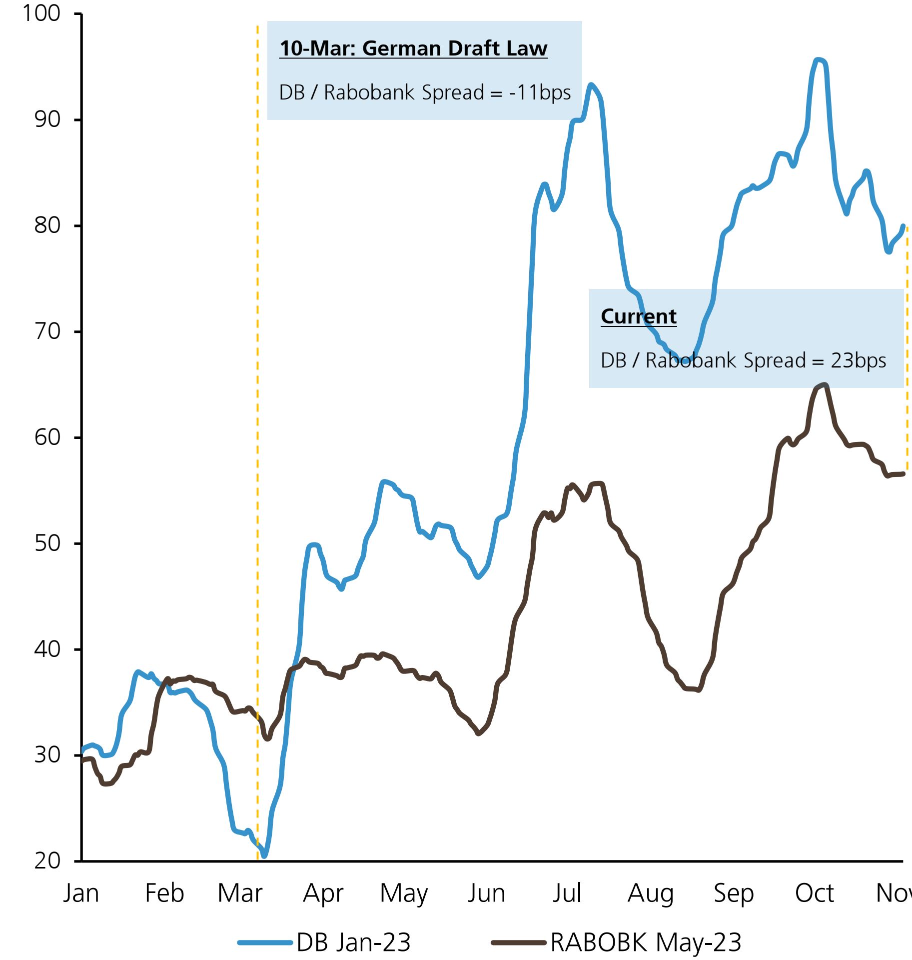
Confirmation of Bail-in risk has seen German senior spreads widen by 28 to 34bps on a relative basis

US$ domestic market (Spread to Treasury)



Source: Bloomberg

Euro market (Spread to € Swap)



Source: Bloomberg

Impact of NPR on Issuance Volume

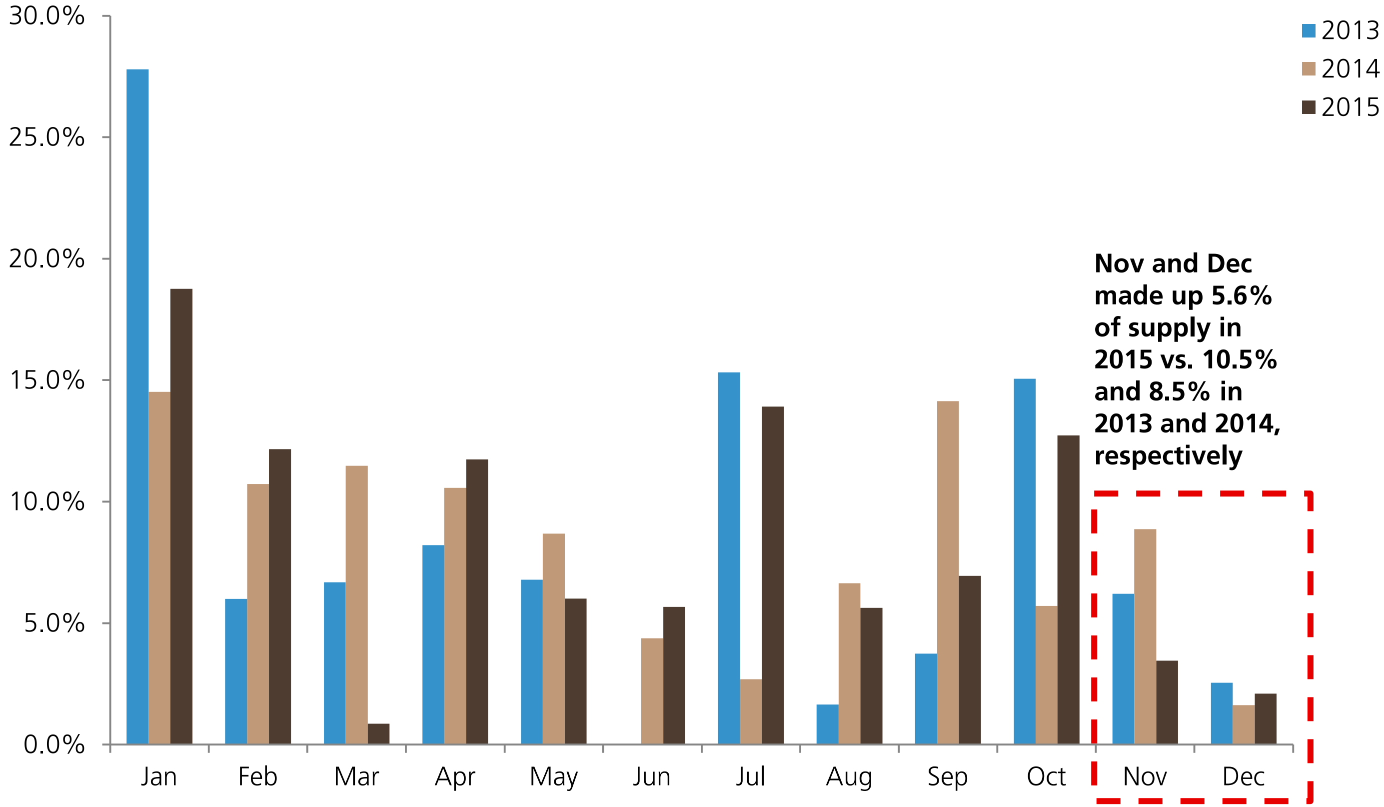
November and December GSIB Senior Holdco issuance has been impacted by the Fed's NPR

The Fed's NPR provided the market with clarity on the total amount of required TLAC and LTD

However, the qualification criteria (no cross-defaults, must be governed by U.S. law, etc.) have left issuers with meaningful questions on whether currently outstanding and interim-issued debt will qualify or be grandfathered

This has resulted in less supply from GSIBs since the NPR

Monthly Senior HoldCo Issuance 2013-2015



GSIB Senior HoldCo Issuance Since November 2015

Issue Date	Issuer	Ranking	Rating	Coupon (%)	Size ($mm)	Maturity Date
11/19/2015	BANK OF NY MELLON CORP	Senior HC	A1/A	2.450	800	11/27/2020
11/30/2015	WELLS FARGO & COMPANY	Senior HC	A2/A	2.550	2100	12/7/2020
11/30/2015	WELLS FARGO & COMPANY	Senior HC	A2/A	1.462	400	12/7/2020
12/1/2015	CITIGROUP INC	Senior HC	Baa1e/BBB+	2.050	1650	12/7/2018
12/1/2015	CITIGROUP INC	Senior HC	A3/BBB+	1.312	350	12/7/2018

UBS

This presentation has been prepared by UBS Securities LLC ("UBS") for the exclusive use of the party to whom UBS delivers this presentation (together with its subsidiaries and affiliates, the "Client") using information provided by the Client and other publicly available information. UBS has not independently verified the information contained herein, nor does UBS make any representation or warranty, either express or implied, as to the accuracy, completeness or reliability of the information contained in this presentation. Any estimates or projections as to events that may occur in the future (including projections of revenue, expense, net income and stock performance) are based upon the best judgment of UBS from the information provided by the Client and other publicly available information as of the date of this presentation. There is no guarantee that any of these estimates or projections will be achieved. Actual results will vary from the projections and such variations may be material. Nothing contained herein is, or shall be relied upon as, a promise or representation as to the past or future. UBS expressly disclaims any and all liability relating or resulting from the use of this presentation.

This presentation has been prepared solely for informational purposes and is not to be construed as a solicitation or an offer to buy or sell any securities or related financial instruments. The Client should not construe the contents of this presentation as legal, tax, accounting or investment advice or a recommendation. The Client should consult its own counsel, tax and financial advisors as to legal and related matters concerning any transaction described herein. This presentation does not purport to be all-inclusive or to contain all of the information that the Client may require. No investment, divestment or other financial decisions or actions should be based solely on the information in this presentation.

This presentation has been prepared on a confidential basis solely for the use and benefit of the Client; provided that the Client and any of its employees, representatives, or other agents may disclose to any and all persons, without limitation of any kind, the tax treatment and tax structure of the transaction and all materials of any kind (including opinions or other tax analyses) that are provided to the Client relating to such tax treatment and tax structure. Distribution of this presentation to any person other than the Client and those persons retained to advise the Client, who agree to maintain the confidentiality of this material and be bound by the limitations outlined herein, is unauthorized. This material must not be copied, reproduced, distributed or passed to others at any time without the prior written consent of UBS.

Contact information

www.ubs.com

UBS