Meeting Between Staff of the Federal Reserve Board and The Goldman Sachs Group, Inc.
April 30, 2018

Participants: Anna Lee Hewko, Peter Clifford, Kevin Littler, Christopher Powell, Dafina Stewart, Adam Cohen, and Josh Strazanac (Federal Reserve Board)

Elizabeth Hammack, Rajashree Datta, Kyle Russ, and Tiffany Eng (Goldman Sachs)

Summary: Staff of the Federal Reserve Board met with representatives of The Goldman Sachs Group, Inc. (Goldman Sachs) to discuss the notice of proposed rulemaking to establish the Net Stable Funding Ratio in the United States. Specifically, Goldman Sachs representatives discussed portions of the proposed rule concerning public disclosure, required stable funding factors assigned to certain assets, required stable funding for potential valuation changes to a derivatives portfolio, variation margin, trade date receivables, brokered sweep deposits, brokered certificates of deposit, exchange-traded funds, and consolidation rules for calculating a covered company's net stable funding ratio. Goldman Sachs representatives also discussed the purpose of the proposed rule and differences between the proposed rule and versions of the Net Stable Funding Ratio that have been proposed in other jurisdictions.

Attachment

Net Stable Funding Ratio

April 2018

Pillars of Liquidity and Funding Risk Management

- We believe there are two primary principles for sound liquidity and funding liquidity risk management
  - Holding adequate excess liquidity to cover outflows during a stressed period, and
  - Maintaining appropriate asset-liability management

Excess Liquidity

- **Objective:** To hold material excess cash/cash equivalents on hand to survive a liquidity crisis

- Our most important liquidity policy is to prefund estimated potential cash outflows in a liquidity crisis with cash and unencumbered, highly-liquid government securities that would be readily convertible to cash in a matter of days
- We use our internal liquidity model to capture and quantify the firm's liquidity risks, both contractual and contingent, resulting from a severe one-month stress
- The LCR similarly seeks to capture this short-term, severe stress

Asset Liability Management

- **Objective:** Maintain conservative asset and liability management to ensure stability of financing, even when funding markets experience persistent stress

- Focus on liquidity profile of assets to determine appropriate funding strategy
- Assess overall characteristics of liabilities book, including maturity concentration, term, diversification and overfunding, for appropriateness

Stable Funding Rule

- We share the broad policy objective of ensuring that liquidity risk management standards promote greater systematic stability, and we regard conservative liquidity risk management as integral to the successful operation of our businesses
- We support the concept of firms maintaining structurally stable funding profiles. However, it is unclear that the current NSFR achieves that goal

Principle	Consideration
I. We recommend certain re-calibrations to better reflect actual funding risk	■ The proposal requires firms to consider assets and liabilities separately, and then has divergent treatment for products on asset and liability side – Less than 6 month repo funding from financials or central banks (0% ASF), vs. reverse repos less than 6 month from the same counterparties (10%-50% RSF) ■ Risk factors for equity securities do not reflect their actual liquidity profiles
II. Harmonizing the US rule with international standards and the EU NSFR, particularly in areas that would more appropriately reflect funding risk, would avoid unnecessarily disadvantaging US banks	■ The EU tailored aspects of the NSFR : – Recognized funding value of level 1 securities variation margin – Treatment of Level 1 inventory (0% RSF in EU proposal v. 5% U.S. NPR) – Treatment of trade date receivable fails (0% RSF in EU proposal v. 100% U.S. NPR) – Treatment of gross derivatives liability
III. Liquidity regulations should thoughtfully evaluate any pro-cyclical risks	■ We remain concerned that granular disclosure of a firm's NSFR could increase the very types of risks to systemic stability that the NSFR is designed to mitigate

NSFR

International harmonization would avoid disadvantaging U.S. firms

- The US proposal diverges from the Basel standard and EU proposal
- We believe that consistent application of the NSFR standard, particularly in areas that more appropriately reflect funding risk, would avoid unnecessarily disadvantaging U.S. banks

Issue	US NPR	Basel Standard	EU Proposal
20% gross derivative liability add-on	20%	5 – 20%	5%
Derivatives netting	Relies on SLR netting principles (ignores funding value of securities VM)	Relies on SLR netting principles (ignores funding value of securities VM)	Recognizes funding value of high quality securities variation margin
Liquidity management (RSF)			
– **Short-term reverse repos (Level 1)**	10%	10%	5%
– **Short-term reverse repos (non-Level 1)**	15%	15%	10%
Failed Securities Settlement	100%	0%	0%
Public disclosure	Quarterly spot disclosures	Quarterly spot disclosures	Not yet proposed
Equity markets	50 – 100% equities funding requirement regardless of purpose	50 – 100% equities funding requirement, but recognizes interlinked transactions	50-100% equities requirement for equity hedges

Derivatives

Funding requirement for derivatives can be aligned across jurisdictions

- Under the proposed NSFR rules, 20% RSF of gross derivatives payables is required
- **Basel Committee updated the NSFR standard in 2017:** 20% RSF on gross derivatives payables can be lowered at national discretion to a floor of 5%

	Approach	Considerations
US NPR	**20% of Gross Payables**	▪ Not risk sensitive ▪ Not proportionate to market contingent liquidity risk
Basel	**National discretion with floor of 5%**	
EBA	**Approach in 2016 proposal:** **20% for Margined and 10% for Unmargined**	▪ EU Parliament discussions include 5% option

Proposal: Assign RSF of 5% to gross derivative payables to maintain international consistency and avoid possible market fragmentation that could result from adopting different rules in different jurisdictions.

Derivatives

High quality securities collateral has funding value that should be recognized

- Under the NPR, a firm can reduce its derivatives asset value after accounting for variation margin that meets conditions of the U.S. Supplemental Leverage Ratio (SLR) rule
  - Cash variation margin that meets SLR conditions can reduce bank's derivative asset value, and is therefore assigned an RSF of 0%
  - However, **securities VM cannot reduce the bank's derivative asset value**. NPR is therefore assigning a 100% RSF factor to even high-quality UST securities VM, ignoring any funding value
- While the agencies have cited that operational frictions may exist in monetizing securities, we recommend that the current treatment be amended because:
  - Ignores funding value of rehypothecatable securities, which can generate funding through a variety of means including sale and repo
  - Is inconsistent in NSFR framework, which assigns a 5% RSF to UST held unencumbered
  - Is inconsistent with LCR final rule, which assigns a 0% haircut to Level 1 HQLA
- A firm's funding requirement on a derivatives receivable can vary significantly depending on the type of collateral received and collateral management strategy used
- **Proposal:** Allow Level 1 securities VM received to reduce a bank's derivative asset value with appropriate haircuts in line with those of unencumbered assets held on the balance sheet, when a bank has the contractual and operational ability to rehypothecate the collateral

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Derivative NPV	\$1.0bn	\$1.0bn	\$1.0bn	\$1.0bn
Collateral[1]	\$1.0bn USD cash	\$1.0bn USD cash	\$1.0bn UST	\$1.0bn UST
Use of Collateral Received	Invest in \$1.0bn UST	Reverse in \$1.0bn UST	Hold UST	Repo UST for Cash with a financial counterparty for <6 months
Implied RSF	**5%**	**10%**	**100%**	**100%**
Balance Sheet Treatment	■ Derivative Receivable on B/S: \$0 ■ UST Firm Inventory on B/S: \$1.0bn	■ Derivative Receivable on B/S: \$0 ■ Reverse Repurchase Agreement (with a financial counterparty) on B/S: \$1.0bn	■ Derivative Receivable on B/S: \$1.0bn ■ Unencumbered USTs off B/S: \$1.0bn	■ Derivative Receivable on B/S: \$1.0bn ■ Cash on B/S: \$1.0bn ■ Repurchase agreement on B/S: \$1.0bn

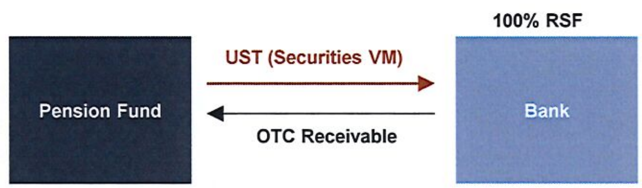
USTs given no funding value under Leverage Ratio netting in Scenarios 3 & 4

[1] Examples ignore collateral haircuts.

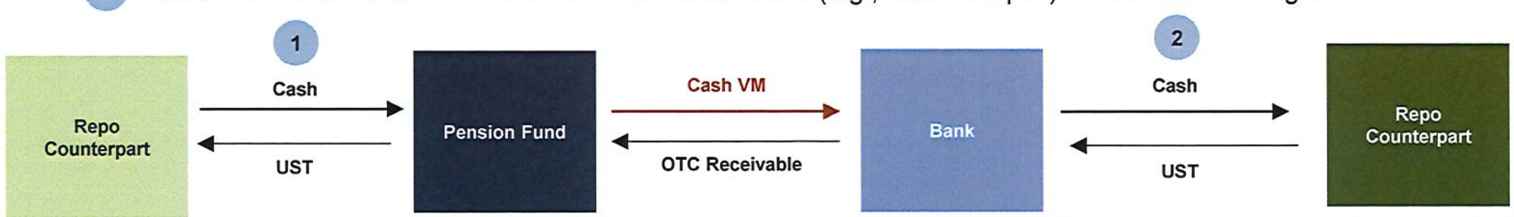
Derivatives

Unintended consequences and increased interconnectedness

- NPR could incentivize increased interconnectivity among market participants and gross up firm's balance sheets
- Certain end users (such as pension funds) currently post securities collateral as variation margin on derivative contracts with banks. For example, they use USTs that deliver an investment return on the pension fund portfolio



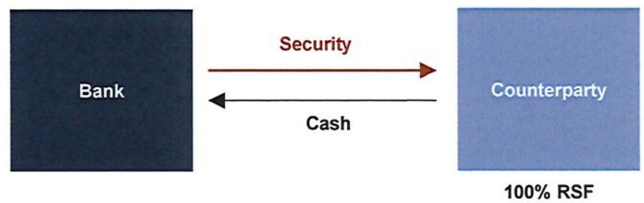
- Many end users are constrained in their ability to post cash variation margin and may be negatively impacted by the exclusion of high quality securities collateral, such as USTs
- These end users may have to hold higher cash buffers or rely on the repo market as new entrants to transform their assets into cash collateral, and take on substantial new liquidity positions
- Under the proposed NSFR:
  1. Counterparties with securities collateral would have to execute additional secured funding transactions to convert securities to eligible cash collateral
  2. Banks would then have to execute additional transactions (e.g., reverse repos) for collateral management



Fails

Majority of fails are resolved within 30 business days

- Under the proposed NSFR, **100% RSF is assigned to Trade Receivable Fails**. These trade date receivables from the sales of financial instruments, foreign currencies, or commodities are required to settle within the *lesser of the market standard settlement period for the relevant type of transaction, and five business days* from the date of the sale



- Primary causes for such settlement fails include the timing of payment, incorrect trade booking on either side, or operational processing delays
- Delivery of securities is only performed on receiving payment, so there is no real funding risk for the banks
- 100% RSF on fails is disproportionately higher compared to assets with similar short-term funding profiles.
- A Level 1 HQLA security, such as a US Treasury security, receives 5% RSF but would receive a 100% funding requirement in the case of a receivable failure
- Banks are incentivized to resolve fails quickly due to existing regulatory and capital charges.
- **Proposal:** Assign 0% RSF to trade date receivables that fail to settle within five business days after standard settlement date

Public Disclosure

- Under the proposed disclosure requirements, covered companies are required to disclose their NSFR on a spot basis at quarter-end
- NSFR, a novel and untested regulatory metric, should be appropriately "seasoned" before requiring any public disclosures
- **NSFR public disclosure introduces another market perception concern that could incentivize fire-sale scenarios, inadvertently precipitating systematic risks**
  - Failure to appreciate the context within which a banking organization may be experiencing temporary NSFR issues could transform an issue into a broader destabilizing event across the financial sector
  - Public disclosure could constrain a firm's ability to manage through relatively stressed market conditions as the firm may be managing to avoid dipping below NSFR requirements that could project weakness to counterparties, investors, and analysts.
- **Proposal:** Eliminate the public disclosure requirement, or in the alternative, delay the requirement for at least one year after the effective date of the rule and increase the time lag between quarter-end and the required publication date to avoid pro-cyclical impacts

Legal Entity Considerations

Regulatory restrictions on the transferability of funding should be recognized

- In calculating the firm's consolidated ratio, the NPR allows a consolidated company to include **"excess" ASF** from subsidiaries only "**to the extent the consolidated subsidiary may transfer assets to the top-tier [BANK], taking into account statutory, regulatory, contractual, or supervisory restrictions"**
- The preamble requires that a consolidated subsidiary's **excess ASF should not include intercompany transactions that are netted** on the consolidated firm's GAAP balance sheet
- There are two examples of interpretations for how to calculate excess ASF, which differ in how capital held at a consolidated subsidiary is treated
  - Not including the consolidated subsidiary's capital in the ASF calculation (example 2) effectively implies that the subsidiary would be able to operate without any regulatory capital and have no restrictions on returning regulatory capital to the parent company
  - In addition if regulatory capital were excluded from the calculation, it would directly conflict with the proposal's requirement to consider Regulation W, which is based on a subsidiary's capital stock, and its restrictions on the transferability of returning assets to the top-tier holding company

Example 1:
NSFR (recognizing regulatory capital restrictions)

	Assets	RSF	Liabilities	ASF
Bank subsidiary	~~Loans (intercompany)~~	~~$10~~	Capital	$30
	Loans (external)	$100	Deposits (external)	$100
	Total	$100	Total	$130
			Excess ASF	$30
Firm	Total ASF			$330
	Trapped ASF			$30
	Total ASF - Trapped ASF			$300
	Total RSF			$300
	NSFR ((Total ASF - Trapped ASF) / Total RSF)			**100 %**

Example 2:
NSFR (ignoring regulatory capital restrictions)

	Assets	RSF	Liabilities	ASF
Bank subsidiary	~~Loans (intercompany)~~	~~$10~~	~~Capital~~	~~$30~~
	Loans (external)	$100	Deposits (external)	$100
	Total	$100	Total	$100
			Excess ASF	$0
Firm	Total ASF			$330
	Trapped ASF			$0
	Total ASF - Trapped ASF			$330
	Total RSF			$300
	NSFR ((Total ASF - Trapped ASF) / Total RSF)			**110 %**

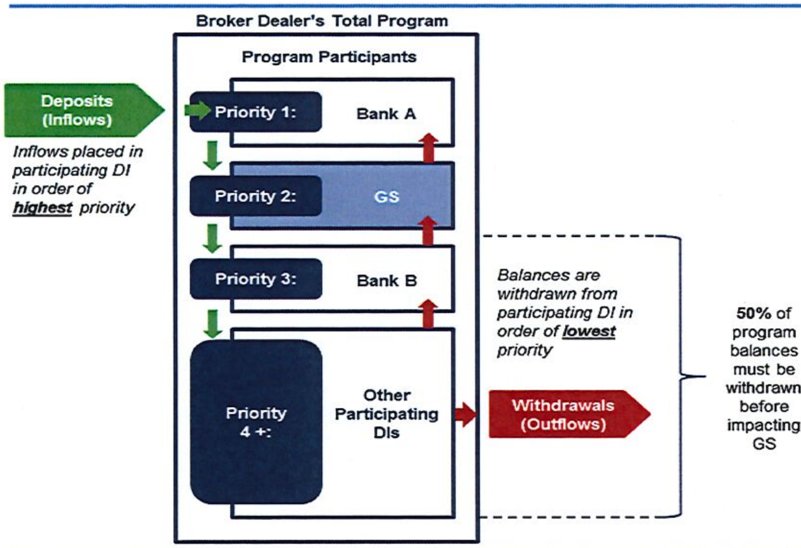
Proposal: Clarify in NSFR rule that regulatory capital restrictions on the transferability of excess ASF to the parent company should be recognized

Non-Affiliate Brokered Sweep Deposits

Funding value should recognize contractual priority

- Under the NPR, 90% ASF is given to fully-insured, affiliate brokered sweep deposits and 50% ASF to non-affiliated brokered sweep deposits (regardless of deposit insurance coverage)
- In certain cases, broker dealers provide contractual priority status to non-affiliated banks
- For example, a bank placed near the top of a broker dealer sweep program's priority list would realize outflows only after a certain percentage of the program's balances are withdrawn

Illustrative Example



Proposed requirements for non-affiliate deposit sweeps to qualify for 90% ASF

- Firm's balances that are prioritized ahead of other participating DIs in each broker's program by at least 50% of the total program size which would require a substantial outflow of deposits to occur before the firm realizes an outflow

Deposit Feature

- Firm can provide evidence that there would be at least 50% of balances prioritized below GS under each broker dealer's program
- Contractual specification evidencing firm's priority in the overall program of each broker dealer
- Contracts with sizable programs and long term in nature (>1 year)

- **Proposal:** Apply 90% ASF, regardless of affiliate status, to fully-insured deposits where a bank's structural priority results in the bank's balances being prioritized ahead of 50% of the total program size

Brokered Certificate of Deposits

Contractual maturities >1yr should have consistent funding value

- Under the NPR, a 90% risk factor is given to term retail deposits maturing greater than 1 year
  - This is inconsistent with the Basel rule that explicitly recognized 100% ASF for term deposits >1 year
  - Funding with contractual remaining maturity > 1 year should receive 100% ASF
- Term deposits have specific contractual features that are not susceptible to franchise or reputation risks

Proposed requirements for CDs to qualify for 100% ASF	Deposit Feature
■ Contractual Restrictions	■ Contractual specification that do not allow early withdraws prior to maturity (except for estate features) ■ Additionally, disclosure that document brokers may make a secondary market in the deposits but are not required to do. Thus depositors have no expectation that the Bank will redeem the deposit prior to contractual maturity date. This assumption is in line with assumptions around long debt term.
■ Historical Evidence	■ Bank must demonstrate that they do not allow a client to redeem term deposits prior to maturity (other than estate features), even during a period of stress

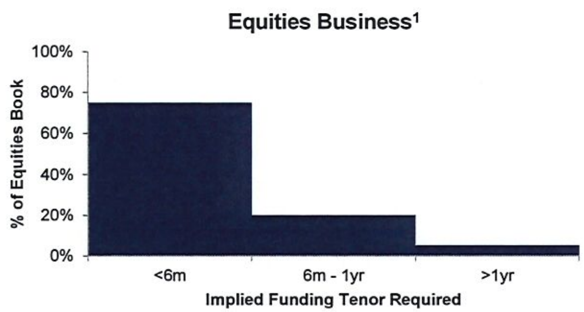
- **Proposal:** Deposits with > 1 year term should receive 100% ASF, consistent with Basel NSFR, subject to meeting the above two criteria

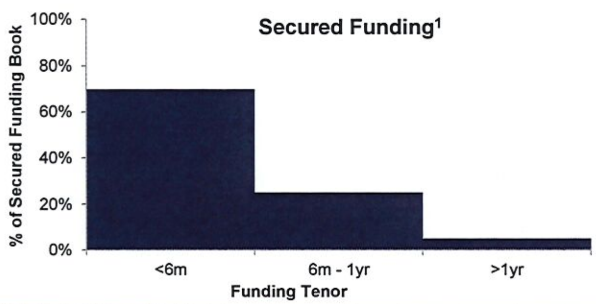
Asset Liability Management and NSFR
Inconsistent funding requirements

- A critical component of our liquidity risk management practice is to internally assess spot and forward funding requirements by funding tenor and type, and to conservatively fund our asset base
- The NSFR implies funding requirements well in excess of what is implied by market liquidity analyses. Below is a comparison for a sample equities business
- **Proposal:** Recalibrate RSF factors for equities based on actual market liquidity of the securities
  - Also reconsider LCR's HQLA criteria, such as the price drop test, for equities

Asset Liability Management

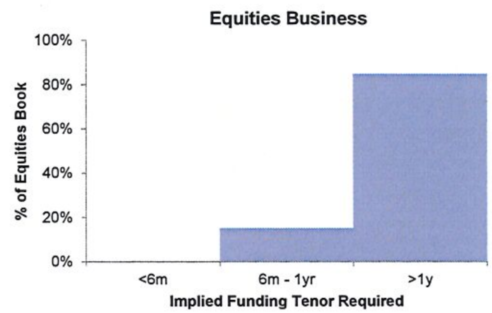
- Based on assessing the market liquidity of an equities business, below is the implied funding tenor required:





Net Stable Funding Ratio

- Under the proposed NSFR, inventory and derivatives require long-term stable funding:
  - Level 2B securities (R1K equities, corporate bonds): 50%
  - Non-HQLA Securities: 85%
  - IM Posted: 85%
  - Net Derivative Receivable: 100%
- The NSFR relies on LCR definitions of HQLA, which excludes any equity securities that have dropped by more than 40% over a 30 day period, with no limitation on the lookback period
  - This results in even highly liquid U.S. securities, including 3 of the most highly traded stocks of the NASDAQ such as Apple, being classified as non-HQLA. Under the NSFR, a firm is required to hold $85 dollars in long-term funding for every $100 of this equity



- **Proposal:** Reconsider treatment of client facilitation activity and segregated assets

[1] For illustrative purposes only

Treatment of equities

Funding requirements well in excess of market based inferences

- The proposed NSFR does not include ETFs as HQLA, even when the equities of the underlying index is HQLA eligible
  - In the final LCR rule, the agencies stated that the liquidity characteristics of ETFs are not identical to the liquidity characteristics of the underlying index or the individual components of the fund. Rather, ETFs have their own risk profiles, trading volumes, and market based characteristics separate from the underlying index
- SPY is the most liquid ETF in the US market, and it is the most heavily traded ETF and equity security in the world
  - The average daily volume of SPY trades ~15x more than MSFT and ~20x more than GOOG, two of the most liquid equities in the US over the past 5 years
  - The average daily volume profile of SPY is consistently on the order of ~$20-25Bn per day relative to underlying equities, whose volume profiles may vary due to idiosyncratic events
    - SPY has traded ~20% of total volume of S&P 500 stock basket consistently over past 5 years
    - ETFs represent ~27% of total market volume traded on exchange in US equities markets
- **Proposal:** Treat ETFs as the underlying index to the extent that the firm can demonstrate that the ETF exhibits comparable liquidity characteristics