Regulating the Shadow Banking System

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Term Sheet: Narrow Funding Banks

In this term sheet we *sketch* the outlines of the structure and operation of Narrow Funding Banks (NFBs).

Assets: Each NFB is restricted to invest in a portfolio of high quality (investment grade), plain vanilla securitized bonds and financial institution debt with limits on quality, maturity and diversification.

Liabilities: NF Banks will issue top rated CP, MTN and public bonds in the global markets. They can also use repo financing.

Capital: Narrow Banks will issue only one type of capital. Due to the limitations on permissible activities the NFBs' return on equity will be lower than traditional banks so the form of capital will have debt-like features during good times, whilst being pure equity in times of stress, as explained below.

Risk Management: NF Banks will have a clearly circumscribed mandate. There will be no revenue generated from interest rate, FX or trading risks. They are to be transparent, purely spread-banking institutions.

Management: Narrow Banks will be operated by managers and a Board of Directors. They may chose to delegate day-to-day management to regulated, independent, third party investment managers, who will be contracted to manage all the activities of each entity. This structure simplifies governance, and each manager can be replaced if they fail to manage to the requisite standard. This also ensures that managers are paid on a contractual basis that is subordinated to senior lenders, ranks pari passu with capital providers and is largely based on long term performance. Consequently, operating costs are expected to be significantly less than traditional banks.

Charter: Areas which will be defined in the charter are:

- Permitted leverage and capital adequacy calculation;
- Eligible asset types; portfolio composition and diversification restrictions by asset class and rating;
- Liability structure;
- Asset – liability maturity gap;
- Diversity of funding sources;
- Interest rate risk, tolerance and measurement;
- Foreign exchange risk, tolerance and measurement;
- Counterparty risk parameters;
- Technology infrastructure;
- Reporting frequency and type;

- Financial and operational audits;
- Operating banking arrangements (custody, cash management, IPA etc).

Regulation: NFBs will be chartered and will be supervised by the Federal Reserve Bank. Regulation will permit these entities access to the discount window.

Portfolio Composition Constraints: The goal is to achieve a minimum quality that averages to AA:

AAA	Minimum of 10%
AAA + AA	Minimum of 20%
AAA+AA+A	Minimum of 70%
AAA+AA+A+BBB	Minimum of 90%
Reserves	Maximum 10%

Assets held outside the limits are charged 100% capital. The "reserves" category refers to assets which have been downgraded below BBB-/Baa3.

Portfolio Concentration Limits:

AAA	15%
AA	10%
A	5%
BBB	3%
1%	Maximum 10%

Sector, Asset-Class, Concentration Limits

Capital: Capital is in the form of notes; it is issued with various scheduled maturity dates, but these are linked to the capital adequacy tests, so that capital can be extended and/or be extinguished if losses reach a pre-set level. Maturities of capital must result in compliance with all capital tests after each tranche of capital matures and these would be pre-approved by Bank regulators (this was done previously by the rating agencies). Returns are indexed to a market standard such as LIBOR and are paid as long as earnings are sufficient to achieve this level of distribution, as discussed below. If the company fails to meet the various tests then earnings are trapped within the company to rebuild the capital base. Non-payment of returns does not constitute an event of default for the company. This allows for a smooth transition to cure any breaches. This "self-healing" process is hardwired into the company's charter and is therefore the basis on which investors participate.

The interest to capital note holders is subordinated to other investors and acts as credit enhancement for more senior debt. The return on capital notes consists of two parts: (1) a fixed base coupon; and (2), a percentage share of the NFB's residual profits. Below, we discuss the different operating modes for an NFB. These cause the capital notes to function as debt instruments when times are good and function as pure equity instruments when the company is in stress.

No entity may own more than 15 percent of a NFB's capital.

Capital Requirements: Based on asset quality, asset maturity, portfolio diversification, and the asset-liability maturity gap. Basic capital charges are:

AAA	10% charge
AA	15% charge
A	20% charge
BBB	25% charge
BB	35% charge
Below B	100% charge

Required capital also depends on:

- The ***maturity function*** which starting at 10-year assets reduces required capital as the time to maturity shortens down to one year.
- The ***diversification function*** which starting at the maximum concentration limit for each rating reduces the capital charges by a very small amount as positions decrease to the concentration limit at each lower rating level.
- The ***asset liability maturity gap function*** gives a capital benefit as the gap is reduced and conversely charges capital for an increasing the gap. This reduces the incentive to issue longer term liabilities.

The capital calculation method, only sketched here, is intended to remove incentives to go down in rating quality, extend maturities, or hold maximum concentrations in the cheapest asset at each rating level and at each maturity. For the purposes of collateral creation, it creates the ability to issue longer term debt.

Theoretically, the maximum leverage would be 20 times, but only for a portfolio with 100% AAA assets all with a one year maturity. In reality leverage would likely be between 8 and 13 times. The leverage is specific to the rating of each asset, the maturity of each asset, the concentration of each asset relative to the asset concentration limits at each rating level and the size of the average portfolio asset liability maturity gap.

Operating Modes: A NFB will be covenanted to maintain certain minimum levels of capital based on quality, maturity, and diversification of its asset portfolio. If the specified level of capital is not maintained, then the NFB's operations will be restricted. The different modes of operation have been designed to be a kind of "living will" that provides a way to unwind the bank if need be. The three operating states specified in the "living will" are:

- **Normal Operations**; the company has sufficient capital and is in compliance with all non-capital tests (liquidity and market risks) and may conduct all permitted activities and add risk to the portfolio,
- **No Growth**; the company is in breach of one or more of the capital or non-capital tests and is limited to risk reducing activities, and
- **Natural Amortization**; the company is in breach of a more restrictive test that results in it being limited to risk reducing activities and all payments to capital (returns and

repayment of scheduled principal) including performance fees to the manager must be retained within the company.

Both No Growth and Natural Amortization are reversible operating states. That is, when the company re-complies with all applicable tests it automatically reverts to the Normal Mode and the capital notes automatically take on the features of a debt-like instrument again. This avoids the need to go into an uncontrolled, irreversible and economically costly wind-down. When the company is sufficiently healthy it can return to normal operations. The tests are structured so that they are quick to take effect when the situation is deteriorating but take more time to return to Normal Operations.

Liquidity test: Net Cash Outflows of 10 days must be covered by one backstop facilities form A1+/P-1 rated banks and liquidity-eligible (i.e., highly liquid) assets. The first 5 days must be covered by backstop facilities form A1+/P-1-rated banks. In other words, the discount window is only to be used in emergencies.

Market sensitivity tests: Interest rate risk and FX risk would be measured against small tiny limits.

Manager Tests: Manager must be independent of any bank and show the financial ability to cover six months of its operating expenses and maintained significantly positive net worth at all time. Regulators will monitor and verify operational abilities.