

Leveraging the Leverage Ratio

Basel III, Leverage and the Hedge Fund-Prime Broker Relationship through 2014 and Beyond

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Executive Summary

The financial services industry has reached an inflection point of important structural change with significant implications for prime brokers and hedge funds alike. This change has not been introduced in isolation: in an effort to avoid the possibility of a repeat of the financial crisis of 2008, global regulators and lawmakers have embarked on the most substantial regulatory overhaul of the financial industry since the Great Depression. The regulatory drive has focused on reducing systemic risk in the banking industry, in particular centering on a more rigorous approach to asset and liability management and a meaningful reduction in leverage. These changes, which are still running their course, have already contributed to a dramatic strengthening of bank balance sheets globally. At the same time, the financial industry as a whole has yet to feel the full impact of these regulatory changes as final rules and the related impacts of implementation are still evolving in many cases. Without question, these regulatory measures have, and will continue to have, a significant impact on banks and force changes in the way trading and prime brokerage desks are operated.

Although these measures impact the banking community directly, their repercussions will be felt throughout the network of market and counterparty relationships which make up the global financial system. Hedge funds need to consider these critical drivers of change affecting their prime brokers in order to better understand how to adapt to the evolving business environment.

This paper seeks to provide an overview of the key drivers of change, explore their potential impact on bank behavior and pose questions for hedge fund managers to consider as they evaluate their prime broker relationships going forward.

Regulatory Reform in the Financing Markets

Since the financial crisis, global regulators have grappled with devising mechanisms to reduce the systemic risk posed not only by the banking system, but also by the so-called shadow banking community. A combination of regulators including the SEC, Federal Reserve, Basel Committee on Banking Supervision (BCBS), Financial Standards Board (FSB), Prudential Regulatory Authority (PRA) and the European Commission have all put forward regulatory solutions.

Key among the regulations affecting the financing markets are the Basel III rules initially introduced in December 2010 by the BCBS. The stated objective of the Basel III reforms is to improve the banking sector's ability to absorb shocks arising from financial and economic stress, with the aim of reducing the risk of contagion from the financial sector into the real economy. At the same time, regulators have expressed their concern regarding the susceptibility of the short-term wholesale funding markets to 'fire-sale' risk.¹

This paper will examine the Basel III reforms, regulatory changes impacting traditional sources of short term capital, and the impact of these reforms on the prime brokerage funding model and ultimately hedge fund financing. It is important to understand that although the reforms will change the way banks operate, those changes indirectly impact the traditional hedge fund financing model which has relied, almost exclusively, on their prime broker's ability to finance their portfolios as financial intermediary. With that in mind, structural challenges to the prime brokerage financing model are, in effect, structural challenges to the hedge fund financing model.

Impact of Basel III Regulations on Prime Brokers

The BCBS sought to address perceived weaknesses in the market in three ways which will drive changes in the prime brokerage funding model:

1. *Increasing bank capitalization* - Increasing capital requirements will force banks to carefully consider how much and to which businesses and clients they allocate capital.
2. *Reducing bank liquidity risk* - The new liquidity metrics, Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR), will increase the duration of prime brokers' financing, which will reduce rollover risk but will increase cost.
3. *Constraining bank leverage* - The proposed leverage ratio will also serve to reduce available balance sheet and off-balance sheet commitments for client business. The increasing scarcity of balance sheet will likely increase its cost.

It should be noted that these reforms may not be implemented consistently by the individual national regulators - some intend to adopt additional requirements over and above to gold plate the Basel III measures. This may lead to a further distortion of the competitive environment as the playing field may not be level for all providers.²

1. Jeremy C Stein, *The Fire-Sales Problem and Securities Financing Transactions*, Federal Bank of New York Workshop on Fire Sales as a Driver of Systemic Risk in Tri-party Repo and other Secured Funding Markets, October 4, 2013.

2. In July 2013, the U.S. regulator proposed that eight of the largest globally systemically important banks (G-SIBs) in the U.S. hold additional supplementary buffers. This would have the effect of increasing the minimum ratio to 6% for bank operating subsidiaries and 5% for bank holding companies. More recently, the Swiss regulator indicated that they would prefer to see even higher leverage ratios than the amounts proposed by the U.S.

The following sections will explore these elements of Basel III in more detail and examine the potential impact to banks and indirectly to their hedge fund clients.

Basel III: Capitalization

One of the key pillars of the Basel III framework was to rectify the perceived shortcoming in capital adequacy and lack of uniformity in the application of capital standards across jurisdictions. The Basel Committee mandated an increase in common equity Tier 1 capital from 2% to 7%, with further buffers added to bring target common equity Tier 1 capital ratios to ~10% for so-called Systemically Important Financial Institutions (SIFIs). Certain countries have adopted additional buffers to these new capital standards.

Banks are now in the process of reassessing their business lines in light of these new capital measures and have already focused on bolstering capital, cutting costs and reducing lower-yielding risk-weighted assets. In this rationalization process, banks may consider making strategic adjustments to their portfolio of businesses or divesting capital consumptive activities.

Banks have taken immediate action because as their capital buffers increase, in a flat to declining revenue environment, the return on capital falls. In the current environment, the return on equity for some banks appears to be below the long-term cost of capital (widely considered to be 10-12%).³ Over the medium-term, banks will need to find ways to meet acceptable ROE targets, or potentially risk alienating their investor base.

Therefore, hedge fund managers should expect banks to become more discerning in their allocation of equity to support new and existing business - redirecting resources away from businesses that are expected to earn low returns on equity.

Basel III: Liquidity Risk

One of the most significant issues to emerge during the financial crisis was the role of liquidity risk as a contributor to industry stress. When liquidity seized during the crisis, central banks globally increased their balance sheets to finance trillions of dollars of assets that banks were unable to fund in the wholesale markets. The sectoral repricing of bank credit risk triggered an increase in liquidity risk that was evident in the ballooning of Libor-OIS spreads in Q4 2008. Not all banks carried sufficient levels of liquidity to enable them to absorb the level of stress exhibited in the funding markets at this time. Also, an over reliance on short-term funding to support less liquid assets further compounded the liquidity challenges and indeed had catastrophic consequences for some financial institutions.

To avoid a repeat of the emergency central bank funded intervention and in order to withstand periods of extreme funding stress, the BCBS introduced the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR) with the objective of providing a framework for a more resilient liability structure.

3. The cost of equity for global banks: a CAPM perspective from 1990 to 2009, Michael R King, BIS Quarterly Review, September 2009.

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Liquidity Coverage Ratio (LCR)

The aim of the LCR is to impose on banks a more rigorous liquidity management regime to withstand a 30-day market stress event. It does this by measuring cash inflow and outflow over a 30-day period. By its very design LCR creates a net cash outflow, which should be covered by holding sufficient High Quality Liquid Assets (HQLA) that can readily be used to meet net cash requirements during stress periods. The LCR is calculated using the following formula:

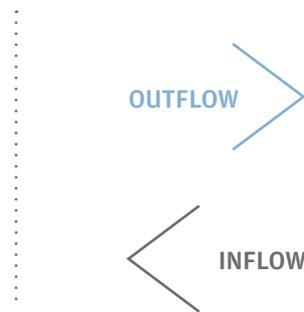
$$\frac{\text{Stock of High Quality Liquid Assets (HQLA)}}{\text{Net Cash Outflows over a 30-day time period}^4} > 100\%$$

The BCBS restricts the definition of HQLA to cash, central bank reserves, sovereign bonds, certain equities and a limited range of high-grade corporate bonds.⁵

Synopsis of PB Net Cash Outflows (NCO)

Customer Free Credits (100%)
Additional Commitments on
Term Agreements ("Dry Powder") (100%)
<30-day Collateralized Funding (100%)
Internalization (50%)

O/N Customer Debits (50%)
<30-day Term Customer Debits (50%)
Customer Reserve Deposits⁶ (100%)



NET CASH OUTFLOW

4. In the U.S. this will be measured as the peak outflow over a 30-day period.

5. Equity and corporate bonds satisfying various conditions may be included in HQLA as Level 2 assets with a prescribed haircut. Level 2 assets may not comprise more than 40% of total HQLA.

6. 15c3-3 Customer Reserve

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From a prime brokerage perspective the net cash outflow is calculated as follows:

Outflows:

- *Customer free credits* - The rules assume that under stressed market conditions customers immediately withdraw 100% of their free credit balances due to counterparty credit concerns.
- *Term Agreements (“Dry Powder”)* - The rules assume that any term commitments are fully drawn.
- *<30-day Collateralized Funding* - The rules assume 100% loss of short-term collateralized funding due to unwillingness of counterparties to roll funding as it matures.⁷
- *Internalization* - One of the most notable rule changes is the significant reduction in internalization value that a Prime Broker can realize from customer activity. Internalization, or the ability to use the encumbered assets of one customer to cover the shorts of another customer, is reduced to 50% under the new rules. This will have ramifications for hedge fund strategies that have benefited from pricing that reflects the value of internalization to the prime broker.⁸ Prime brokers have already recognized this and have begun to assign a reserve against the reduction in the value of internalization. However, we believe it is unlikely that their reserves represent 50% of the value of this run-off.

7. Non-HQLA - 100%, HQLA - various percentages.

8. It is more efficient and less costly for the prime broker to use client's securities to cover another client's shorts than to borrow the securities from an agent lender.

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Inflows:

- *Overnight and <30-day Term Customer Debits* - The rules assume a 50% reduction in customer debits, on the basis that hedge funds would repay some or all of their financing and redirect it to another prime broker.
- *Customer Reserve Deposits* - Related to the 100% withdrawal of free credits, the prime broker would have a lower 15c3-3 reserve requirement for cash balances held at a U.S. contractual legal entity.

In addition to the impacts above, the LCR obliges the prime broker to adhere to a weighted average maturity benchmark of 30 days or greater. This represents a significant change in funding behavior since liabilities are extended and a larger portion of the overnight book will be financed using more than 30-day funding.

The combination of the inability to use customer credits held on the account, coupled with an increase in the amount and tenor of secured financing and loss of a portion of current internalization benefits will increase funding costs for prime brokers.

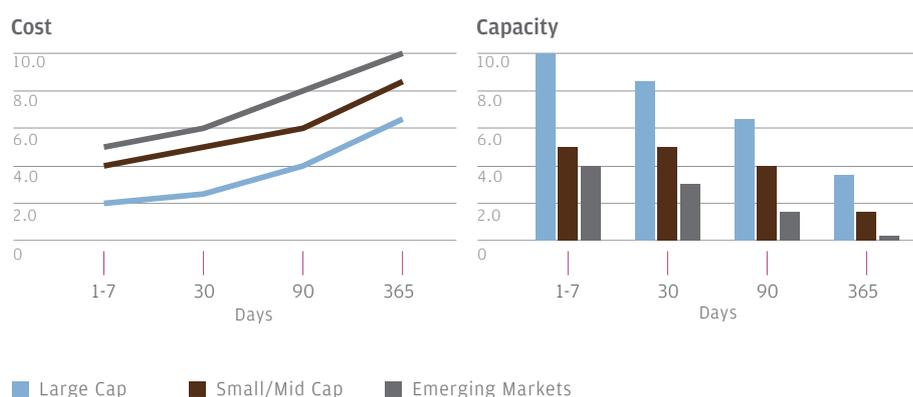
Additional drivers of increased funding costs arising from the adoption of the LCR:

Cost rises with maturity and declining asset quality as capacity shrinks - The term of secured funding has typically been relatively short, with much of the activity and liquidity concentrated in the O/N - 1 week maturity band. As shorter-term funding is extended past the 30-day LCR threshold, the investor base changes, capacity decreases and cost increases in a normal yield curve environment. This impact will be compounded by shadow banking and mutual fund regulatory changes that will be discussed later in this paper. See Graph 1 overleaf showing the relationship between cost and capacity of funding as maturity increases.

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Graph 1 - Cost and Capacity of Financing vs Maturity for Developed and Emerging Market Assets.⁹ Cost, denoted by lines, and capacity, denoted by vertical bars, are depicted using a relative scale.



Basis hedging costs increase - Banks generally seek to maintain a balance sheet with matching floating rate benchmarks for both assets and liabilities. For example, the cost of hedging the basis risk between the benchmarks of a three-month liability and an overnight asset is higher than for a shorter-dated liability and a similar overnight asset.

Match funding of longer-term assets - Term commitments, including unfunded commitments, with a maturity of greater than 30 days must be match funded. Managers should consider dry powder arrangements as the prime brokerage equivalent of an undrawn bank facility and should expect these arrangements to be priced accordingly.

As for determining when these changes will find their way into pricing increases, the timetable and scale of implementation continues to evolve, but it is clear that banks are already preparing their glide paths towards compliance. For instance, on October 24, 2013, the Federal Reserve released a new proposal for LCR recommending a shorter implementation timeline and also making the outflow terms slightly more onerous for U.S. banks which now must be 80% LCR compliant by 2015 and fully compliant by 2017. There would appear to be a willingness amongst banks to implement these measures sooner rather than later in order to position themselves as compliant and benefit from any competitive advantage arising from a perception of superior credit quality.

9. J.P. Morgan estimates.

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Net Stable Funding Ratio (NSFR)

The NSFR is the second liquidity metric introduced under Basel III. The intention of the NSFR is to identify the requirement for a minimum amount of stable funding over a one-year time horizon, based on liquidity risk factors assigned to assets, off-balance sheet liquidity exposures and contingent funding obligations. The NSFR is calculated using the following formula:

$$\frac{\text{Available amount of stable funding (ASF)}}{\text{Required amount of stable funding (RSF)}} > 100\%$$

ASF is calculated by first assigning the carrying value of an institution's Tier 1 and 2 capital and wholesale liabilities (ex-other financial institutions) to various categories and multiplying this by an ASF factor. For example, secured and unsecured liabilities with effective remaining maturities of one year or greater will have an ASF factor of 100%, meaning that the full notional value of the borrowing is included as 'stable funding.' The total ASF is the sum of these weighted amounts.

RSF is calculated as the sum of the value of assets and off-balance sheet assets that require funding by the institution multiplied by a specific RSF factor. Assets that are deemed readily financeable have a lower RSF factor and hence require less stable funding. For instance, unencumbered securities with a maturity of less than one year have an RSF factor of 0%, indicating they do not require 'long-term' financing. Conversely, an equity security in trading inventory would have an RSF factor of 50%.

NSFR will require banks to hold long-term debt or equity capital against hard-to-finance assets.

This would have a meaningful impact on prime broker financing because allocating a larger proportion of the cost of long-term debt to equity financing will increase funding costs significantly. Hedge funds with less liquid strategies that require funding of assets that do not qualify as HQLA will likely be most impacted. Implementation of NSFR is not scheduled until January 1, 2018. As a result of the extended NSFR implementation timetable, the market has focused on the more immediate LCR to date. We expect that the market's attention will shortly switch to the financing implications of the NSFR.

Basel III: Leverage

The BCBS first introduced a leverage ratio in 2010 to serve as a back-stop for risk-based capital ratios. The intention was to create a secondary metric that was simple and transparent by which regulators could assess appropriate balance sheet size. The objectives were to 1) avoid differing methods of calculating risk-weighted assets used by banks, and 2) create a level playing field globally.

However, in June 2013 the BCBS published a consultation paper introducing a revised leverage ratio.¹⁰ The final standard was released in January 2014 in which several amendments were made in response to the industry consultation process. This final version responded to some of the industry's key concerns in particular surrounding 1) the recognition of netting of secured financing transactions (SFT), and 2) cash variation margin used to reduce economic exposure.

Similar to the original leverage ratio the proposed ratio is calculated using the following formula:

$$\frac{\text{Tier 1 Capital}}{\text{Total Exposure}} \geq 3\%$$

In the calculation, Total Exposure is the exposure value of all assets both on- and off-balance sheet and can be simply defined as follows:



A more comprehensive definition is included in Appendix 2.

10. Basel Committee on Banking Supervision, Revised Basel III leverage ratio framework and disclosure requirements, June 2013.

11. PFE - Potential Future Exposure.

12. The January 2014 paper allows this measure to exclude cash collateral which may be offset against variation margin, under certain circumstances.

13. Less eligible notional offsets to written credit derivatives and add-on deductions for written credit derivatives. Notional value is reduced by any negative change in fair value (January 2014 paper).

14. The January 2014 paper allows this measure to be adjusted by cash payable and receivable in SFT from the same counterparty under certain circumstances.

15. The January 2014 paper adds credit conversion factors of 20% and 50% for facilities of <1-year and >1-year respectively.

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The June revision had a significant effect on the industry because it was seen to be extremely conservative as it disallowed either 1) offsetting secured financing transactions (SFT) or 2) derivative cash collateral in this calculation and 3) included the notional value of written credit derivatives. This had the effect of significantly increasing the size of the denominator (Total Exposure) in the leverage ratio formula. This approach specifically disregarded the current practice of GAAP and legal netting¹⁶ that underpins much of the repo activity in the U.S.

These amendments would have had several significant implications for banks' activities, in many cases creating perverse business incentives and inconsistencies with other prudential regulatory measures. Somewhat counterintuitively, the proposal in some instances would have encouraged behavior which potentially added risk to various aspects of the bank's business. For instance, the proposal would have discouraged banks from holding low-yielding, high-quality assets, an important systemic risk mitigant, in preference for riskier assets which would produce a higher relative return of capital.

These perverse incentives were highlighted in the industry response to the Proposed Framework released on September 20, 2013.¹⁷ Most notably, the industry response to the Proposed Framework expressed concern that the proposal results in inflating the denominator (Exposure Measure) to such an extent that it becomes the **binding capital constraint for more than half of the banks surveyed** in the response.¹⁸

The implication being that the combination of these perverse incentives could have had damaging ramifications for the effective operation of the broader financial system. Finally, the study suggested that compliance with the revised leverage ratio would require the banks surveyed to either raise \$108 billion of additional capital or shed \$3.6 trillion of assets.

16. U.S. GAAP allows netting for cash collateral posted and received against derivative exposure (FIN 39), as well as netting of securities borrowed/lent transactions in prescribed circumstances when executed with the same counterparty (FIN 41). The proposed Basel calculations do not follow this precedent, and require the balance sheet to be grossed up for these amounts.

17. Comments in Response to the Consultative Document on the Revised Basel III Leverage Ratio Framework and Disclosure Requirements, September 20, 2013, GFMA et al.

18. Basel III leverage ratio survey/Basel III leverage ratio project team, September 20 2013, commissioned by GFMA/The Clearing House. The study showed that the leverage ratio becomes the binding capital ratio for over 54% of institutions for a leverage ratio of 3% and rises to 90% for a leverage ratio of 5%.

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On January 12, 2014, the BCBS released its final standard in response to the industry consultation. The BCBS responded positively to the concerns voiced by market participants and the new measures incorporated important changes, including:

1. Securities Financing Transactions (SFT) - cash payable and receivable netting has been reinstated to the extent that netting is allowed with the same counterparty where specific conditions are met.¹⁹
2. Cash variation margin - the cash variation margin associated with derivative exposures may be used to reduce the leverage ratio's exposure measure, provided certain specific conditions are met.²⁰
3. Commitments - certain commitments will now be weighted using a Credit Conversion Factor (CCF), in some cases reducing the incremental balance sheet impact.²¹ Previously, all commitments were weighted at 100%.

These changes may also add further complexity to established industry practices. For instance, although cash variation may be used to offset mark-to-market exposure of a derivative the cash must be in the same currency as the derivative. Industry practice is to settle on the basis of 'single net collateral flows' where exposure across a portfolio of derivatives is netted down and one payment is made for the net variation margin. This means that in order to comply, both banks and their clients may need to separate the collateral flows by currency.

Finally, it is worth noting that the regulatory impetus towards central clearing of OTC derivatives is also increasing the pressure on the availability of bank balance sheets. For instance, local regulators are beginning to mandate that the CCPs have access to alternative liquidity sources. This is intended to enable them to withstand the default of a clearing member. In the event of such a default, the exchange would be required to pay out all of the defaulting member's claims. The availability of a liquidity facility would enable the CCP to pay the claims immediately and subsequently realize the value of the collateral that it holds. It is likely that these liquidity lines will be provided by the clearing members. This will act as a further drag on banks' balance sheets and liquidity.

19. Transactions have same explicit final settlement date. Set off is legally enforceable. Counterparties settle on a net basis simultaneously.

20. Trades are not centrally cleared, variation margin is calculated and exchanged daily, variation margin is received in the same currency as the settlement of the derivative contract and variation margin is sufficient to extinguish the full MTM exposure.

21. Commitments with an original maturity up to one year will receive a CCF of 20% and of over one year 50% compared to 100% previously.

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Therefore, it is not unreasonable to expect that industry-wide there will be less availability of balance sheet for hedge fund clients. Clients who may be particularly at risk are those whose strategies are significant consumers of balance sheet such as highly levered, directional portfolios with little or no internalization value.

Timing and Implementation of the Basel III Measures

While the full implementation of the Basel III regulations is not due until 2018, banks will be reporting the new ratios to regulators from 2015. In addition, bank investors and market counterparties will be keen to understand clearly the glide path that banks are following for the adoption of the Basel measures. As a result, banks will be under immediate pressure to conform to the new standards and have already begun to report on how they are positioned for compliance.²² See Appendix 1 for a summary of the Basel III timetable.

22. Ernst & Young, Global banking and capital markets sector – Key themes from 1Q13 earnings calls June 2013, p24-25.

Other Regulatory Challenges to the Prime Brokerage Funding Model

Looking beyond Basel for measures that directly impact the prime brokerage financing model, another constituency likely to be impacted by further regulation is the money market mutual fund industry – a critical source of short-term liquidity to the wholesale financial markets. Regulators are concerned about the systemic risk introduced through the interconnected funding and rehypothecation relationships in the “shadow banking” arena between hedge funds, prime brokers, repo counterparties and money market investors. Repo markets are one of the primary sources of secured funding for prime brokers. The traditional investor base for tri-party repo financing is the \$2.6 trillion U.S. money market mutual fund industry (so-called 2a-7 funds). These stable NAV funds provide a deposit-like instrument to their investors that is redeemable at short notice and at par. As such, they can be, in periods of stress, susceptible to investor runs²³ which would force them to sell assets if the credit quality of those assets deteriorates. This in turn, can create downward pressure on prices and lead to a tightening of collateral terms of other borrowers in the market. The size, homogeneity, regulatory regime and risk aversion of the industry creates what has been termed fire-sale risk.²⁴

Regulators envisage that a possible solution to this problem may be a combination of regulatory tools including the Basel III measures, as well as capital surcharges, liquidity regulation and universal margin requirements, thus capturing the source of capital together with financing intermediaries.²⁵

The net effect of the combination of LCR with the new money market fund regulations²⁶ has been a significant driver for banks to finance for longer term and these investors to make shorter-term investments. These incompatible objectives are likely to result in a reduction in repo exposure of U.S. money market mutual funds to the banking community. SIFMA data indicates that 2a-7 funds’ exposure to banks has fallen 29% from \$634 billion in November 2012 to \$451 billion in June 2013.

Hedge fund managers should be aware of this supply and demand imbalance and the potential implications for increased costs. As traditional 2a-7 funds’ participation shrinks, in order to attract different liquidity providers into the market, it may be necessary to offer improved yield returns further increasing funding costs.

23. Financial Stability Board, *Strengthening Oversight and Regulation of Shadow Banking, An Overview of Policy Recommendations*, August 29, 2013.

24. Jeremy C. Stein, *The Fire-Sales Problem and Securities Financing Transactions*, Federal Reserve Bank of New York Workshop on Fire Sales as a Driver of Systemic Risk in Tri-party Repo and other Secured Funding Markets, October 4, 2013.

25. *Ibid.*

26. Amendments to Rule 2a-7 of The Investment Company Act, January 2010.

Potential Implications for Hedge Fund Managers

Armed with an awareness of the impact of regulation on their prime brokers, what steps can a hedge fund take to prepare themselves for the evolving paradigm of financing relationships going forward?

The financial crisis confronted hedge fund managers with the reality of counterparty risk. Managers reacted to this in several ways, the most immediate being the shift to multi-prime arrangements that would provide back-up solutions should one of their counterparties undergo a significant deterioration in credit quality. As a further incentive, this diversification was available at little to no cost, prompting many funds to add several providers.

However, as the effects of the Basel III measures are increasingly felt, balance sheet becomes an additional item that managers will need to consider in the range of services they require to manage their businesses.

Managers should understand in detail the holistic value of their relationship with the prime broker's organization, considering all elements of wallet allocation - long and short financing - along with the non-capital/balance sheet consumptive services such as custody and fund administration as well as execution. **This may necessitate a review of service providers resulting in a concentration of the total wallet amongst a smaller group of banks that provide the full service suite of investor services.**

We identify five broad areas for managers to consider:

I. The value of your portfolio to your prime broker

Managers should develop a transparent dialogue with their prime brokers in order to understand the value that their business represents and the metrics prime brokers use to evaluate this business. Managers should recognize that different assets may vary in their value to different prime brokers. This may arise because they represent a more natural fit in the prime broker's business mix - for instance, certain prime brokers may be better positioned to internalize certain asset types. Given the developing scarcity of high-quality collateral, fully-paid assets are likely to have a higher value to certain financing counterparties. To do this, managers should consider the following questions:

- Does the business you transact with your prime broker consume significant balance sheet?
- How does the prime broker determine the value of the business relationship?
- What metrics are considered most important - return on equity, return on assets, return on leveraged assets, broader franchise revenues?
- How can the value of the levered assets in your portfolio be optimized?
- How can the value of the fully paid assets in your portfolio be maximized?

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II. Understand the total value of your business

In addition to the value of your portfolio in the context of trading and financing, managers need to calculate the total value of the services they purchase and then view these holistically. Managers can then consider how this is allocated to include the requirement to secure adequate balance sheet capacity from their prime broker. Considerations should include:

- What is the value of your total wallet and how is that broken down between the different components of your business? This may include, for example, custody, fund administration, execution, financing and stock/borrow loan.
- A combination of regulatory change and a search for new distribution channels may require managers to use additional service providers, such as custodians for '40 Act, UCITS and 'Europe post-AIFMD' funds - which of your counterparties are able to provide this full service offering?
- A review of the pre-crisis approach to prime brokerage diversification (available at 'no-cost') in light of the new Basel III standards.

III. Evaluate the impact of the new funding paradigm on your strategy

Managers should review their own investment strategy and consider how the developments outlined in this paper will impact the portfolio.

- Managers will need to assess the financing approach that their investment strategy requires. Understanding (a) the types of assets that require financing, and (b) the need that the investment strategy has for term financing. How does the portfolio break down in terms of liquid and less liquid assets?
- Consider how the pricing landscape will evolve if longer-term funding is required for less liquid assets.
- Managers and their investors should review the tenor of term financing commitments relative to the liquidity of their strategies and understand the cost differential of various maturities.

IV. Regulatory impact on your prime brokers

The BCBS have set out a timetable for the implementation of the Basel III requirements which will begin with a reporting phase that precedes full compliance.²⁷ Furthermore, this timetable may then be amended by national regulators.²⁸ Banks may therefore vary in the speed with which they implement the rules. The rules apply to all banks, but a variation in the implementation timetable will create a distorted picture of competitiveness over the short term. Consider the following questions:

- Which prime brokerage legal entity do you contract with and are there benefits to switching?
- What is your prime broker's funding model?
- When is your prime broker implementing the Basel III regulations?

V. Alternative funding sources

As the financing markets evolve it may be appropriate for hedge fund managers to consider developing internal treasury functions which would enable direct access to the funding markets:

- Review internal treasury activities and any enhancements required to effectively manage financing requirements.²⁹
- Assess financing relationships with prime brokers, repo counterparties and direct lenders to ensure adequate supply and diversification of liquidity.

27. See Appendix 1.

28. October 2013, Federal Reserve announced that it would seek implementation of LCR by January 2017, two years earlier than the BCBS timetable.

29. Hedge Funds Step into the Shadows, Financial Times, October 3, 2013.

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Next Steps

Armed with this information managers should be in a position to:

- Assess the value of their business.
- Identify the counterparties for whom their portfolio and range of activity is most valuable.
- Optimize the balance between the cost and benefits of diversification.

The net effect is likely to be to forge a stronger, more constructive and more mutually beneficial partnership between hedge fund managers and prime brokers. The regulatory changes are intended to lower the risk profile of financial institutions and increase resilience and stability in periods of market stress. While the transition may prove challenging in the shorter term, a more resilient banking and financial system will ultimately benefit hedge funds as counterparties will be better capitalized, with stronger balance sheets and will operate with more robust financing models than before the financial crisis.

If you would like to discuss any of these issues or questions raised please contact the Hedge Fund Consulting team or your usual J.P. Morgan Prime Brokerage and Financing contact.

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Appendix

Appendix 1 - Implementation Timeline for the Basel III Measures (all dates are as of January 1)³⁰

	2011	2012	2013	2014	2015	2016	2017	2018	As of Jan 1, 2019
Leverage ratio	Supervisory monitoring		Parallel run Jan 1, 2013 - Jan 1, 2017 Disclosure starts Jan 1, 2015					Migration to pillar 1	
Minimum common equity capital ratio			3.5%	4.0%	4.5%	4.5%	4.5%	4.5%	4.5%
Capital conservation buffer						0.625%	1.250%	1.875%	2.5%
Minimum common equity plus capital conservation buffer			3.5%	4.0%	4.5%	5.125%	5.750%	6.375%	7.0%
Phase-in of deductions from CET1 (including amounts exceeding the limit for DTAs, MSRs and financials)				20%	40%	60%	80%	100%	100%
Minimum Tier 1 capital			4.5%	5.5%	6.0%	6.0%	6.0%	6.0%	6.0%
Minimum total capital			8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Minimum total capital plus conservation buffer			8.0%	8.0%	8.0%	8.625%	9.25%	9.875%	10.5%
Capital instruments no longer qualify as non-core Tier 1 capital or Tier 2 capital			Phased out over 10-year horizon beginning 2013						
Liquidity Coverage Ratio (LCR) - minimum requirement³¹	Observation period begins		Publishing of LCR data		60%	70%	80%	90%	100%
Net Stable Funding Ratio (NSFR)	Observation period begins							Introduce minimum standard	

30. Source: Basel Committee on Banking Supervision, Bank of International Settlements.

31. U.S. Federal Reserve has mandated 80% compliance by 2015 and full compliance by 2017.

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Leveraging the Leverage Ratio:
Basel III, Leverage and the Hedge Fund-
Prime Broker Relationship through
2014 and Beyond

Appendix 2: The comparison of the Exposure Measure in the original versus revised Basel III's leverage ratio framework^{32,33}

Type	Basel leverage ratio framework (2010)	Basel leverage ratio framework (2014)
	Sum of:	Sum of:
Assets	On-balance sheet assets less amounts deducted from Tier 1 capital	On-balance sheet items (excluding derivatives and SFTs but excluding collateral) (asset amounts deducted in determining Basel III Tier 1 capital)
Derivatives exposure	PFE for derivatives contracts (net on-balance sheet derivative assets already reported above)	Replacement cost associated with all derivatives transactions (i.e. net of eligible cash variation margin) PFE associated with all derivatives transactions Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the operating accounting framework (Deductions of receivables assets for cash variation margin provided in derivatives transactions) (Exempted CCP leg of client-cleared trade exposures) Adjusted effective notional amount of written credit derivatives (Adjusted effective notional offsets and add-on deductions for written credit derivatives)
Securities Financing Transaction exposures	(Net on-balance sheet SFT assets already reported above)	Gross SFT assets (with no recognition of netting, after adjusting for sales accounting transactions) (netted amounts of cash payables and cash receivables of gross SFT assets) CCR exposure for SFT assets Agent transaction exposures
Other off-balance sheet exposures	100% of other off-balance sheet exposures (e.g. commitments including liquidity facilities, direct credit substitutes, acceptances, standby letters of credit, trade letters of credit, failed transactions and unsettled securities); 10% of unconditionally cancellable commitments	Off-balance sheet exposure at gross notional amount (adjustments for conversion to credit equivalent amounts)
Application	U.S. supplementary leverage ratio 3% for advanced approach banking organizations 5% for holding companies of G-SIBs 6% for bank subsidiaries of G-SIBs	Basel Leverage Ratio 3% for global banks

32. A. Roeber, Q&A About Leverage Ratios, J.P. Morgan Research August 19, 2013. Funding Markets, October 4, 2013.

Note: PFE = Potential Future Exposure, SFT = Secured Financing Transaction. Additional items indicated by shading.

33. BCBS, Basel III leverage ratio framework and disclosure requirements, January 2014.

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