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Global Banking

The Future of Prime Brokerage

Applying the Lessons of the Financial Crisis

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The Future of Prime Brokerage

Applying the Lessons of the Financial Crisis

"A good scare is worth more to a man than good advice." — *Edgar Watson Howe*
"That which does not kill us makes us stronger." — *Friedrich Nietzsche*

Article at a Glance

The recent financial crisis exposed structural vulnerabilities at many banks and broker-dealers.[1] Several of these firms failed or nearly folded as a result. Prime brokerage was at the center of the turmoil, as firms discovered that loans to customers and the use of their cash were hard-wired to firms' own balance sheets and stock performance. Reaction to the crisis has already redistributed market share considerably: established firms have lost ground to well-positioned newcomers now that clients, seeking to separate the custody of their assets from the banks that lend them cash and stock, are distributing business among a wider group of lenders and service providers.

Prime brokerage has a dual nature. It not only provides products and services directly to clients, but also supplies financing skills that any bank needs for its own purposes. As a client-facing business, there is a great deal at stake: a 10-12% market share can generate between $1 and $2 billion in revenue, which suggests room for eight to ten significant players. Banks themselves couold also save by restructuring funding, risk management, operations, and technology.

The future success of the bank rests on fundamental change: redefining its prime brokerage operation from a standalone product to **the center of client service and secured funding** across the bank. To remain competitive, a firm should be able to aggregate the activity of its customers across all of the firm's products. More critically, the firm must have a robust funding mechanism for the collateral on its balance sheet. Lessons taken from the financial crisis will ensure that a firm's internal structure can withstand future adverse market conditions and continuing demands from regulators, clients, and competitors.

Part 1: Learning from the Past

Five specific events of the financial crisis contain valuable lessons for banks:

- The self-liquidation of Amaranth Advisors at the end of 2006 was the canary in the coal mine, exposing the difficulty of managing complex customer activity in multiple markets and asset classes, expressed through listed products and OTC contracts in multiple legal entities. Firms had an inadequate picture of aggregate client activity and were uncertain of their contractual rights across the different products. This confusion slowed the movement of cash, creating cracks in the client-broker relationship. Losses at banks were averted solely because of the high degree of liquidity in Amaranth's portfolio. The crucial question that would haunt banks in the coming months was: what if Amaranth's remaining positions could not have been sold to raise cash?

- Several hedge funds, most notably those of Bear Stearns Asset Management, began to default on payments in 2007. Unable to raise cash from increasingly illiquid investments, both investors and banks lost money. The defaults drew attention to financing transactions in which the banks did not have sufficient collateral to cover loans they had extended. It is noteworthy that these trades were not governed by margin policy in prime

1 For the balance of this article, "bank" or "firm" refers to any bank, bank holding company, or broker-dealer operating in the global capital markets.

brokerage, but were executed as repurchase agreements in fixed income, in some cases with no haircut or initial margin. Collateralized lending was practiced inconsistently by different divisions of the same firm, some ignoring collateral altogether and venturing into credit extension.

- The collapse and sale of the remainder of Bear Stearns in early 2008 highlighted a different liquidity problem: a case in which customer cash held in prime brokerage accounts ("free credits") significantly exceeded the firm's own cash position. Because of this imbalance, Bear Stearns was essentially undermined by its own clients as hedge funds withdrew their cash. Once the customer cash was gone, the firm could not replace it fast enough from secured or unsecured sources of its own. Bear Stearns' predicament forced the prime brokerage industry to confront some hard truths: because firms had developed a dependency on customer cash and securities in the management of their own balance sheets, sources of cash and their stability were not fully understood even by corporate treasuries.

- The bankruptcy of Lehman Brothers in September of 2008 exposed the widespread practice of financing an illiquid balance sheet in a decentralized manner with short-term liabilities. Under the assumption that the world was awash in liquidity and ready cash, many firms had neither the systems to manage daily cash balances nor contingencies in the event that short-term funding sources became scarce. The problems of Lehman and its investors were compounded by intra-company transfers and cash trapped in various legal entities.

- The Madoff scandal that broke the following December was in some ways the last straw for asset owners. Already concerned about the health of the banking system and the idiosyncratic risk of fund selection, they lost confidence in the industry's infrastructure and controls. Banks now contend with demand for greater asset protection and transparency of information.

In reaction to these events, banks reduced lending to hedge funds and began to question their commitment to prime brokerage; however, a more thoughtful response is reorganizing rather than retrenching. In evaluating its organization, a bank should ideally be able to answer "yes" to the following four questions:

- Can the firm aggregate customer activity across all products, not only for client reporting, but also to measure risk exposures?

- Does the firm have consistent risk management, trading policies, and controls for all products that essentially finance client investments?

- Does the firm centralize the secured funding of its balance sheet, with direct linkage to corporate treasury?

- Does the firm have consolidated margin and supporting documentation to protect all of its legal entities?

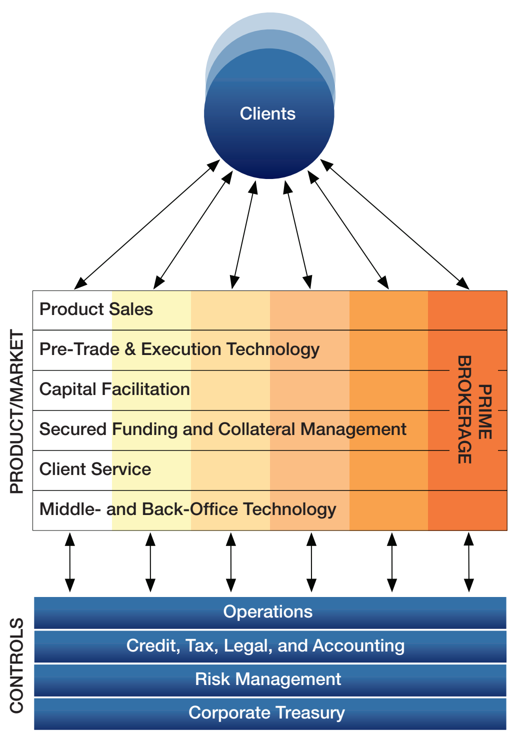
In the right organization, prime brokerage can satisfy all these requirements. The first step is to reposition the expertise of prime brokerage in the bank's global markets organization. The second step is to use this new organization to gain greater control of funding requirements. The results will improve client satisfaction, operating leverage, risk controls, and the cost of capital.

Part 2: An Organizational Response

First, a bit of history. Traditionally, banks grew by adding products and entering markets gradually over time. The resulting organizations are a collection of independent, vertical silos that have specialized product expertise but contain redundant operating platforms. The individual product platforms are costly to maintain, and the fragmentation of data makes it difficult to assemble an aggregate view of client activity and to measure risk across products.

Exhibit 1 depicts a product-centric organization in which each product silo manages its own client interactions and funding, resulting in multiple points of contact for clients and control groups alike.

Exhibit 1: **Product-Centric Organization**



Prime brokerage may have developed as a silo as well, with specialized expertise in both financing securities and posttrade functions. However, driven by client demands, prime brokers have had to break through to other product silos to develop solutions for the many products found in hedge fund portfolios. As a result, prime brokerage offers the foundation for improvements to any bank's global markets organization.

Rethinking Prime Brokerage

Prime brokerage is difficult to define, which explains its varied implementation from one bank to the next. Before the crisis, banks generally thought of prime brokerage as an operational service and missed significant risks associated with lending to clients. By limiting prime brokerage to equity or cash products, they allowed inconsistent lending practices to develop in fixed income and derivatives. By defining prime brokerage as a profit center, they ended up with relatively poor service levels for "non-PB" clients.

Prime brokerage differs from other products because it is not purely transactional. Clients think of prime brokerage as a *facility* rather than a *trade* and are dependent on operational support and portfolio financing from their prime brokers over long periods of time. Because this relationship is profitable for the bank, clients expect high-quality service and resources such as research and corporate access. The success of the model is that trading revenues from products served by prime brokerage increase by virtue of the operational ease and financing that clients enjoy.[2]

Banks can extend the success of the prime brokerage model by deploying its service and financing capabilities throughout the firm and by grouping client products according to the financing expertise required to manage them.

2 Equity trading revenues (cash and derivatives) from clients with a prime brokerage relationship exceed revenues from clients without a prime brokerage relationship by a factor of 2-4. (Source: McKinsey & Company)

Corralling Financing Products

The first stage of rethinking prime brokerage is to focus on what it does for *clients*. By its narrowest definition, prime brokerage lends cash to clients through margin accounts. By its broadest definition, prime brokerage provides financing to client portfolios. Accepting the broader definition should prompt a bank to round up all products with similar risks to address control issues highlighted by the financing crisis. Breaking down silos to bring financing products together allows banks to solve problems for clients under common guidelines.

Lending cash to clients in exchange for collateral appears in many products across global markets. Collectively, these *financing products* include fixed income repurchase agreements ("repos"), margin loans, linear derivatives,[3] and the borrowing of securities. In contrast with credit-based (unsecured) lending, collateralized (secured) lending includes the ability to recover the loan by selling securities if the client does not pay. These securities may be held by the bank as collateral, owned outright as the hedge, or borrowed; but in all cases they can be liquidated to protect the firm. Clients may prefer one product over another due to its favorable regulatory, tax, or accounting treatment. Successful prime brokers allow clients to borrow using their choice of product with a consistent experience.

Whether to combine these products under common management is a key strategic decision. As an internal matter, doing so crosses traditional organizational boundaries and encompasses a considerable amount of revenue and balance sheet allocation. Not doing so risks duplication of resources and inconsistencies in pricing, trading policies, collateral management, documentation, operations and technology.

Extending Prime Brokerage Utilities

The second stage of redefining prime brokerage is to focus on what it does for *the firm*. The two primary functions are *client service* and *secured funding*, both of which are fundamental to the bank's operations. Banks need operating leverage to sustain growth, and the best way to streamline is to identify common utilities that can be shared horizontally across the organization. Prime brokerage has the expertise to manage both these utilities as explained below.

Client Service

Client service covers a range of post-trade processes, including confirmations and reconciliations, corporate action elections, wire instructions, securities deliveries, margin collections, and circulation of reports. Although a certain amount of product-specific knowledge is required, these functions are common to all product silos.

Prime brokerage was built to perform these middle office activities. As hedge funds became more sophisticated and their product utilization increased, they began to demand a single point of contact for post-trade service. Whether proactively or in response to this demand, prime brokers became the focus for questions and data delivery between banks and hedge funds. To this day, prime brokers struggle with product silos, scraping information from disparate systems to assemble a view of their clients' portfolios.

Limiting prime brokerage to a specific client segment or specific products fails to harness its potential as the client service center for all of the bank's trading products. What's good for the client is also good for the firm: prime brokerage can maintain a complete picture of each client's trading activity and portfolio held at the bank, while also providing a focal point for the bank's control groups.

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3 "Linear" or "delta-one" derivatives are those that directly reflect changes in the value of the reference security, without optionality. They include total return swaps, put-call combinations at the same strike price, zero-strike calls, warrants, forwards, and futures.

Secured Funding

Transacting with clients, especially market-making and financing, brings securities onto the bank's balance sheet. Clients use their securities to borrow cash, and the bank also needs to do the same or be left consuming unsecured funding sources. Just as financing products are used to lend money to clients, they can be used in reverse to raise cash for the firm. Collateralized lending to clients therefore requires the same expertise as secured funding for the firm itself and should be managed as one unit. Profit is maximized when the bank is able to finance one client with another, earning revenue on both transactions and better return on its balance sheet.

Just as prime brokerage manages financing products for clients, it can apply those skills as a utility for the benefit of each product silo. Aggregating client activity provides better visibility for control groups like corporate credit, compiling the firm's funding requirements provides better visibility for corporate treasury.

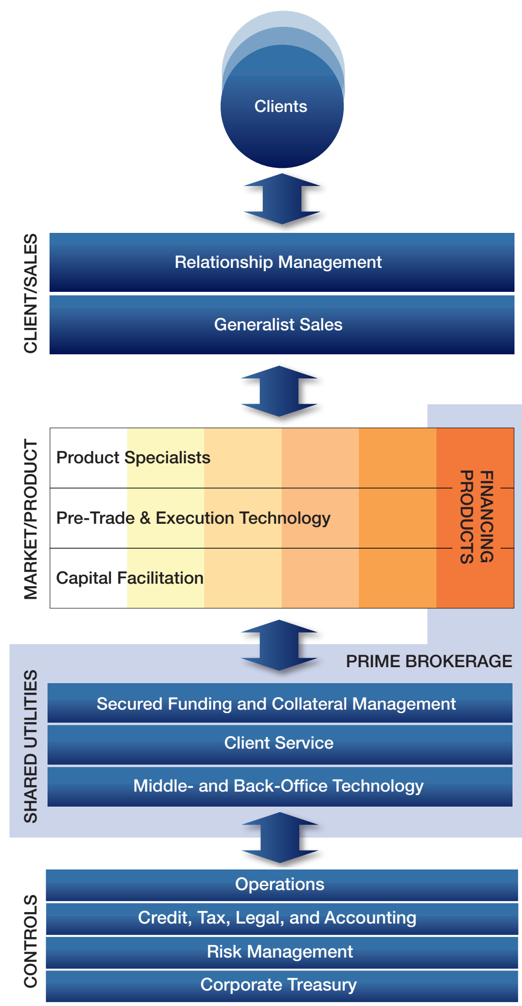
Now that prime brokerage has been redefined in its three components (financing products for clients, multi-product client service, and a secured funding utility for the bank's balance sheet), it can be placed in context with the rest of the bank's global markets organization.

Defining the New Organization

Backed by prime brokerage utilities, each legacy product silo can be reduced to its core expertise in structuring, execution, and capital facilitation. In exchange, each product area receives variable cost allocations, economies of scale, efficient funding, and a high standard of service for clients.

Exhibit 2 shows the new, layered organization with smaller, specialized product verticals that tap into both a client-oriented distribution network and a set of utilities. The shaded area shows how the redefined prime brokerage business includes financing products for clients as well as the utilities that perform balance sheet management, client service, and posttrade processing for all products. The role of prime brokerage is made clear by placing all secured financing for the firm and its clients in one part of the organization, with transparency for the bank's control groups (risk management, treasury, credit, legal, and operations).

Exhibit 2: **New Global Markets Organization**



Making Strategic Connections

A fully integrated prime broker can create incremental revenues throughout a bank's broader global markets businesses, especially in the following areas:

Trading and Underwriting

Prime brokerage can provide an accurate cost of carry (long or short) for each individual security in the liquid markets. A precise measure of funding costs leads to better market making: traders may be incentivized to own valuable collateral with lower costs of carry and charged higher rates for bringing less useful general collateral onto the balance sheet.

Derivative Products

For all derivatives, prime brokerage can provide pricing for the balance sheet consumed by hedging positions (deltas), in addition to post-trade client service. Certain linear derivatives (i.e. total return swaps) are used for investment as well as financing, so prime brokerage must manage them in a coordinated fashion with the broader derivative products business for distribution to clients.[4] Despite the dual nature of total return swaps, banks should have a single, global platform and risk management approach for all transactions.

Execution Services

Certain investment strategies are dependent upon one-stop shopping in support of electronic trade execution, clearing, settlement, custody, and financing in physical or synthetic (derivative) form. Statistical arbitrage and other high-frequency trading techniques typically require straight-through processing from one bank. An entire segment of hedge funds and market makers may align only with executing/prime brokers that can offer this bundle.

Clearing

Clearing of listed futures and options is operational in nature but can generate incremental revenue when offered to market makers in conjunction with financing and execution technology.

Wealth Management (Private Client)

A firm's wealth management business can provide a captive pool of securities, even when operated at arm's length. These securities may be obtained via rehypothecation[5] or through negotiation with the asset owner. Exclusive access to stock loan supply is a significant competitive advantage for prime brokers serving hedge fund clients, and the additional stock loan income offered to private clients can differentiate that business as well.

Asset Management

Cash management products such as money market funds can be used by prime brokerage customers to invest cash balances, thereby generating fee income for the bank's asset management business.

Evolving into Prime Services

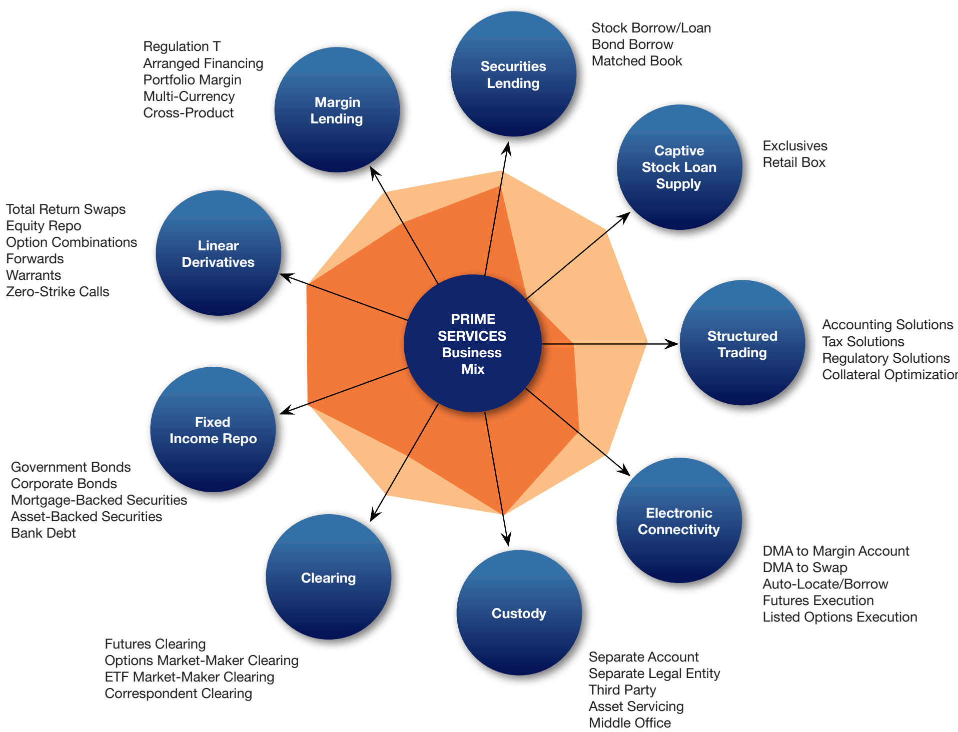
An organization that relies on prime brokerage for its funding skills will ultimately connect it to all of the firm's processes. Through these connections, prime brokerage aggregates all sources and uses of collateral for the bank and its customers. Collateral funding activity eventually evolves from a utility to a proactive trading activity as prime brokerage seeks even more collateral to monetize, taking on additional supply and anticipating demand.

4 Investment products are used to express a directional view on the market, in contrast with financing products, which are used to borrow cash or securities, thereby obtaining leverage. For equity derivatives, the natural division of risk falls among financing (total return swaps), volatility (options and variance swaps) and correlation (correlation swaps).

5 Rehypothecation: a pledge of securities received to secure a loan made to a customer to secure yet another loan from the marketplace. In this way, banks are able to source cash used to make loans by redeploying the securities pledged in customer margin accounts rather than relying on unsecured funding from corporate treasury.

A better name for the comprehensive set of secured funding and collateral management activities shown in *Exhibit 3* is "prime services." Each activity generates revenue, but, by intensifying the deployment and monetization of collateral, also increases the profitability of connected product areas. A bank can use *Exhibit 3* as a tool to measure the scope of its prime services offering and test its revenue potential against the broadest business mix. The "spider web" or "radar" chart in Exhibit 3 represents the extent of any one bank's activity in each of the areas, from 0-100%. In the example, the bank may have a full-featured repo and derivatives capability with limited structured trading capability and no captive stock loan supply.

Exhibit 3: **Prime Services Business Mix**



Prime services is the operational backbone of the bank's global markets trading business and the nerve center through which all collateral is monetized to generate revenue and fund the bank's balance sheet. With the new organization in place, the next step is for the bank to optimize its overall approach to funding.

Part 3: A New Funding Model

A new approach to funding requires context. A significant outcome of the financial crisis was the consolidation of broker-dealer activity within traditional banks and bank holding companies. Historically, broker-dealers did not have access to funding from central banks. As a result they relied on secured markets to fund their balance sheets and on collateral for lending to clients. In the most high-profile examples, when secured markets closed and their creditworthiness declined, Lehman Brothers and Bear Stearns became insolvent.

In contrast, traditional banks enjoyed inexpensive, unsecured funding and relied on credit analysis for lending to clients. These institutions were hurt by declines in their own credit ratings as unsecured funding sources became thinner and much more expensive, threatening the profitability of many of a bank's businesses if not the bank itself.

The distinction between banks and broker-dealers has largely disappeared; however, the cultural differences remain. Funding for banks must now be assembled from both secured and unsecured sources if banks are to operate global trading businesses. Armed with secured and unsecured funding capability, a bank can decide when it wants to lend as a principal (raising cash from their own capital and unsecured sources), and when it wants to lend as an intermediary (raising cash from secured capital markets). An important lesson from the financing crisis is to remain in control of this decision and not be forced from the former into the latter by market events.

The new organization streamlines the points at which securities and cash are moved among the capital markets, the bank, and its clients. *Exhibit 4* shows three points at which the bank interacts with external capital markets: The first facilitates risk transfer by buying (or selling) securities and paying (or receiving) cash in return; the second facilitates the settlement of the first set of transactions by lending cash (or securities), resulting in the receipt of securities (or cash) on a temporary basis; the third borrows cash on an unsecured basis, thereby defining the capital structure of the bank itself.

The bank deals with its clients at three different points as well: the first facilitates the purchase or sale of securities as agent or principal; the second lends cash for leverage or securities for short sale purposes; the third works with the client's custodian to segregate fully-paid securities or rehypothecate securities pledged as collateral.

As a rule, secured funding supports daily client trading activity, while unsecured funding activity is performed by corporate treasury to manage the capital structure and business continuity of the bank as a whole. With the exception of regulatory or other capital requirements, liquid markets trading businesses should strive to be "self-funding" – i.e., able to raise necessary cash from the repo, securities lending, and swap markets without accessing the firm's credit lines. Secured sources should be exhausted first, with unsecured sources tapped as a last resort and with the knowledge of the bank's control groups. Prime services can manage the collective secured funding needs of the trading businesses and coordinate with corporate treasury for any residual, unsecured funding needs.[6]

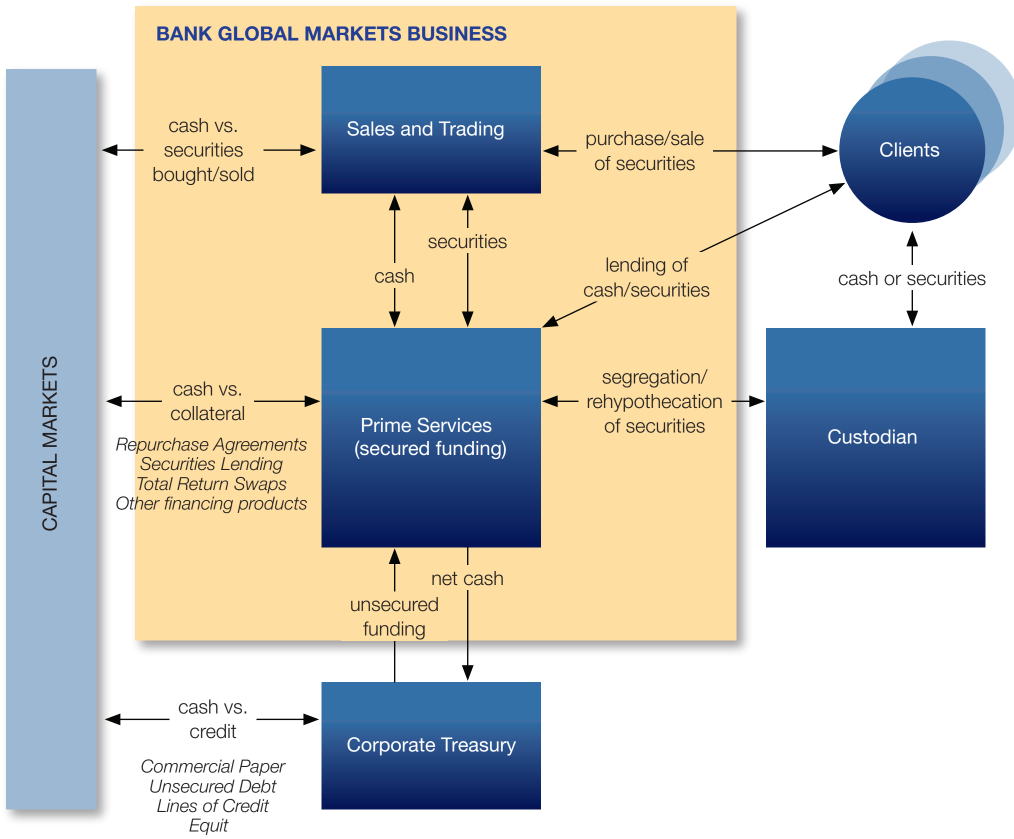
Centralizing all secured funding activity for the firm and its clients gives the bank many ways to optimize its balance sheet. A larger collateral pool affords more price discovery and potential for internalization.[7] Depending on its balance sheet objectives, the bank may elect to internalize positions or source collateral externally from custodians in order to receive additional "hot" stock loan allocations.[8] With funding controlled in this manner, the bank may also elect to increase or decrease client activity in financing products to scale the balance sheet with minimal impact on profitability, since the fixed costs of post-trade processing are shared across the firm.

6 Trading in illiquid securities and credit extension businesses should interface directly with corporate treasury, because such trading can only be funded from unsecured sources.

7 "Internalization" of collateral occurs when the bank has offsetting borrowers and lenders of the same security internally, eliminating any need to source the collateral externally. Internalization of longs and shorts is similar to the internalization of buys and sells in the flow trading businesses.

8 The practice of custodians or agent lenders allocating valuable (also referred to as "hard-to-borrow," "warm," "hot," or "super hot") securities as a function of general collateral (also referred to as "cold" or "easy" securities) is known as "ratio lending."

Exhibit 4: **Bank Funding Model**



Managing Funding Risks

The financing crisis highlighted significant risks that were not properly anticipated. Market participants have now seen what happens when legal contracts are inconsistent, when loans thought to be secured are really unsecured, and when assets and funding sources are not matched to term. The consolidation of financing transactions within prime brokerage gives the bank a focal point for implementing new policies and controls.

Inconsistent Documentation

Financing transactions between the bank and its clients are governed by a variety of legal documents. Asymmetry in contractual terms may leave the bank unable to take action to protect itself, or prevent it from accessing certain accounts, or unintentionally cause a trade to terminate. Cross-default provisions, covenants, representations, warranties, notice periods, cure periods, and default and termination events must be aligned for each of the bank's products.

Illiquid Collateral or Inadequate Margin

Collateral must be sufficient to recover the loan if the client defaults and the collateral is sold. If the bank can neither sell nor continue to finance the collateral, the liquidity of the bank itself is challenged. As seen from the middle of 2007 to the end of 2008, firms that struggled had insufficient risk haircuts on increasingly illiquid collateral. Many not only failed recover the cash they had lent, but also strained their balance sheets carrying the collateral.

Credit extension is easily masked in a secured transaction if the collateral securities are illiquid. Secured funding should be limited to marketable securities with margin haircuts that are a function of their liquidity and price volatility. A good rule of thumb is that a prime broker should only finance securities for which the firm makes a market. For transactions in most liquid securities, this practice allows the bank to function as an intermediary to the capital markets rather than as the lender of last resort.

Prime services should be responsible for enforcing policies on all financing products, setting the spreads for long or short carry on the bank's balance sheet, margin haircuts, collateral, and dividend percentages. Placing responsibility and accountability in prime services eliminates inconsistencies in risk management across prime brokerage, fixed income repo and derivatives.[9]

Term Mismatch

One of the gravest bank errors exposed by the financial crisis was the funding of long-term assets with short-term financing. When the presumption of continuous access to funding proved false, firms were forced to bring assets onto their respective balance sheets. The best example is the failure of asset-backed commercial paper conduits that caused collateralized debt obligations (CDOs) to appear on the balance sheets of the world's largest banks. The banks' subsequent inability to sell the CDOs resulted in massive write-downs, with the ongoing funding provided by government bailouts.

Term Margin Agreements[10] in prime brokerage provide another case in point. Initially intended to keep a prime broker from putting a hedge fund out of business by denying it leverage, these agreements took on an entirely different complexion when the banks themselves had problems. If the agreement is not properly crafted, the bank may find itself obligated to lend money to a client with no source of funding of its own. Banks may want to negotiate pricing that reflects the cost of fully hedging the obligation.

Credit Deterioration

Transactions that explicitly rely on a bank's credit should provide for widening credit spreads as well as rising rates. They should also provide for extreme situations in which funding is no longer available.

Protection of Legal Entities

As a hub of client activity, prime brokerage can assure adequate collateral is collected for each of the firm's product areas and legal entities. When the client's portfolio value does not support all of its borrowing, a margin call results. For the firm to function in this way requires centralization of loan value and margin calculations supported by consistent policies. It is essential that when a client fails, prime services orchestrates the liquidation of the client's portfolio to maximize its value across multiple products, asset classes, and currencies.

Tracking Sources and Uses of Cash

A bank should be able to monitor its cash position continuously. When the bank's balance sheet is managed centrally, its sources and uses of cash can be clearly understood, whether linked to specific transactions or

9 Hedge fund failures in late 2007 occurred most infamously in the repo market, where margin haircuts were as low as zero, by convention, for corporate bonds with credit protection. sheets of the world's largest banks. The banks' subsequent inability to sell the CDOs resulted in massive write-downs, with the ongoing funding provided by government bailouts.

10 Term Margin Agreements are contracts between hedge funds and prime brokers that keep financing amounts fixed until a set time following notice of termination from the bank. Term facilities may range from 30 to 180 days or longer. So-called "dry powder" agreements take this a step further, by allowing the hedge fund to increase the amount of its financing during the remaining term.

client accounts. While client money may be an attractive source of funding, it cannot be considered reliable, as clients can withdraw their funds at will.

Centralization of the bank's secured funding activity allows its control groups to readily monitor the implicit and explicit risks in client transactions. The proposed organization should also permit the bank to supervise financing conduits and counterparties and ensure that individual product trading desks cannot make use of improperly structured financing facilities. Through centralized management, the bank can gain insight into its daily cash requirements with full knowledge of the stability of sources.

Part 4: Preparing for the Future

The repositioning of prime services prepares a bank for many challenges, including higher transaction volumes, uncertain liquidity, pressure on operating margins, changing client needs, heightened competition, and the inevitable step-up in regulation. The following principles should guide decision making under all such conditions.

- **Banks that solve for the most complex client behavior will be able to serve all clients.** Hedge funds exhibit the most complex behavior by trading in multiple asset classes and currencies, in cash as well as derivatives, often with leverage. Solutions that accommodate hedge fund clients can be applied to all (less complex) client segments, thereby protecting the firm from future changes in client investment style or product mix. Best-of-breed firms have a flexible and scalable operating platform that can handle any need.

- **A bank that offers more than one product must aggregate by client.** Prime brokers must combine trades done at home with trades "given up" from other executing brokers; however, few firms do an adequate job of consolidating activity with clients across their own product areas. While clients may require specialized execution by product, they require a single point of contact for post-trade client service as well as consolidated funding and margin requirements.

- **Clients will require asset protection from a custodian in conjunction with secured funding from broker-dealers.** Greater segregation of client assets means that banks must be able to trade collateral more effectively with other dealers as well as with client custodians in order to raise cash.

- **Banks need better control of ongoing funding requirements and sources.** Transparency of information between trading desks and corporate treasury is critical, and the matching of term facilities to assets requires more discipline than banks demonstrated during the crisis.

- **Operating leverage is critical.** Operations and technology should be shared rather than duplicated by product or region in order to cope with increased volumes, tighter spreads, and lower commissions. Redundant systems are costly and inefficient.

- **Client satisfaction results from operational efficiency.** Increased revenues are a multiplier on reductions in marginal costs, as satisfied clients are attracted to and come to rely on straight-through processing, faster and more accurate reporting, and ease of connectivity.

The proposed reorganization of prime services addresses each of these principles, but it remains to be seen whether the duration and severity of the financial crisis will change the practices of regulators and market participants. Without the catalyst of regulation or another crisis, banks must have the courage and vision to create a robust organization and to invest in the operating platforms that will serve them in good times and bad.

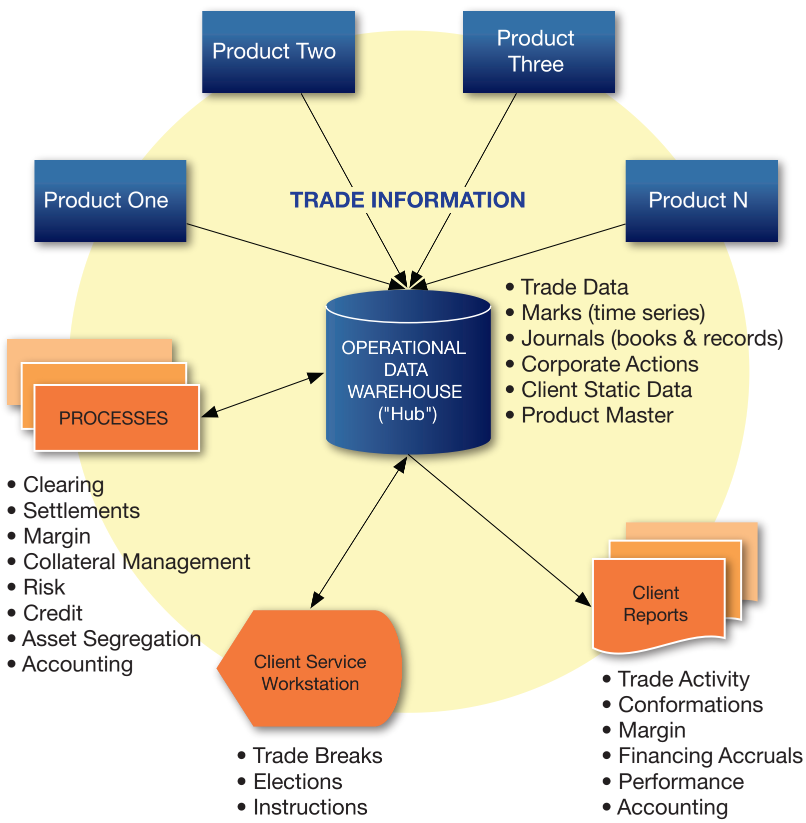
Renovating Operating Platforms

Poor technology and disjointed operations can tarnish the reputation of a franchise. For banks to compete in the face of increasing transaction volumes and product utilization by clients, prime services must be supported by consistent client data that is separate and distinct from the firm's own trading books. Solid data can also facilitate faster trade reconciliation and reporting.

The ideal platform for prime services is a multicurrency, multi-product system capable of storing trade data provided by each product area. A client oriented operational data warehouse serves many processes and provides a single source for reporting and client service inquiries (see *Exhibit 5*).

Banks operating on disparate, single currency and/or single product platforms and technologies face a significant investment to rationalize these data sources. Prime services business can generate the incremental revenues to fund such a project over several years.

Exhibit 5: **Operational Data Warehouse**



Meeting Client Needs

The needs of institutional clients continue to change in response to the financial crisis. Prime services can accelerate the bank's ability to respond in the following ten areas.

Asset Protection

The crisis has shown us that the funding of a firm's own balance sheet requires expert collateral trading. At the same time, the crisis has sharpened client demand for protection of assets. In addition to the segregation of fully paid long positions, customers now also require segregation of excess collateral.[11] Even when arranging a custodial solution for clients, prime brokers themselves must be able to trade with the custodian, rather than be the custodian, in order to maximize the bank's access to collateral and funding.

Separately Managed Accounts

Hedge funds are still appropriate investments for pensions, endowments, and sovereign wealth funds; however, these institutions are likely to require more transparency than a fund-of-funds can provide. Instead of investing in limited partnership units of the underlying funds, asset owners may prefer to appoint the hedge fund as advisor to a separately managed account held by a prime broker or custodian, thereby allowing the asset owner to oversee individual investments. Accommodating this requirement increases the operational burden on the prime broker but may lead to bigger balances.

Middle Office Solutions

Historically, banks benefited when clients developed dependency on the prime broker's operational support. The push to distribute business among multiple prime brokers creates a need for middle office solutions that may come from third parties or be internalized by the client. These middle office functions include aggregation of data into consolidated position reporting, risk analytics, performance measurement, and fund accounting.

Cash Management

Hedge funds continue to require management of uninvested cash. These credit balances have historically been a source of profit to prime brokers, who either earned an investment spread or used the cash as an attractive source of funding. Client cash was withdrawn from prime brokers during the credit crisis and is unlikely to return except in small amounts. Banks must offer bankruptcy-remote investment solutions in order to retain revenues and find alternative sources of funding for their own operations.

Single Point of Service

As previously noted, clients demand specialized coverage for investment products and a single point of contact for post-trade operations. The organizational model presented here solves for both requirements.

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11 Collateral in financing transactions is designed to insulate the lender from a default by the borrower and to make up the difference between the market value of the asset and its loan value in the secured (repo and swap) funding markets. In general, the credit amount is higher than the funding amount; therefore, "excess" collateral is the amount over and above the amount needed to cover a funding haircut. For example, if a dealer can fund common equity at 98 cents on the dollar, there is a $0.02 funding shortfall. If the dealer takes $0.15 in collateral from its client, there is an "excess" of $0.13 to cover client default. The borrower effectively gets $0.85 of financing but may require the $0.15 collateral to be held by a custodian, while granting the dealer the right to rehypothecate only $0.02. It is important to note that broker-dealers historically relied on excess collateral as a source of cash for operations. This source may be severely curtailed in the future.

Consolidated Margin Call
Hedge funds recognize that the sum and diversity of their activity should create greater loan value for their respective portfolios. Positions taken in cash or derivative form in various asset classes may reduce overall risk in the portfolio, and clients expect to receive corresponding relief from margin requirements. In addition, the value of the client's portfolio may be sufficient to support new positions without the transfer of additional cash or securities. For operational ease and financial efficiency, clients prefer a single margin call as opposed to separate calculations by individual product desks, and the multiple collateral calls and wire transfers that would otherwise result.

Ancillary Services
Beyond the core lending products and consolidated client service, prime brokers offer additional services, including capital introductions, talent introductions, and business consulting, sometimes referred to as "start-up" services. While it is conventional to provide these services to a bank's best customers at no additional charge, prime brokers often lead with these services in the hope of securing new mandates. As spreads come under pressure, firms will need to determine whether they can cut back these services without losing prospective or existing clients. The market may tolerate à la carte pricing for these services; however, for capital introductions in particular it may be easier to charge as a regulatory matter by moving the service into banking or capital markets, where resulting underwriting risks are better managed.

Payment for Resources
Firms must be prepared to offer products and services in one area even if most of the revenue is captured in another. Historically, financing has been disproportionately profitable for hedge funds in general, leading to fierce competition among prime brokers and increased significance of the prime services business to the bank. Customers seek to pay for multiple products and services in a bundle, effectively negotiating a lower cost for a relationship that is still profitable overall. The complexity here is internal for the bank, as the sum of all revenue and expenses must be allocated to various business units that would otherwise charge separately. The ability to accommodate this type of pricing may expand the client base to include high frequency trading clients, and it may retain clients who pay disproportionately in one product area.

Term Funding
Hedge funds will seek to finance less-liquid assets with term repo or term margin agreements. With their yield curve as well as balance sheet implications, such facilities are likely to become much more expensive and banks will need to manage the expectations of hedge funds accustomed to cheap, overnight funding.

Illiquid Finance
Gone but not forgotten, requests to finance illiquid positions will undoubtedly return as hedge funds increase leverage and reach for returns. In the past, customers used liquid balances to reward prime brokers willing to finance illiquid positions, such as bank debt and real estate. Limited or non-recourse loans against illiquid collateral are equivalent to credit extension, which lies outside the purview of prime services; however, in the broader context of portfolio construction, a lien on illiquid collateral can be risk reducing for the prime broker, provided that the liquid portion of the portfolio is adequate to fund the loan and cover the risk in liquidation.

Understanding the Competition
New competitive dynamics will redistribute prime brokerage market share. Even if it is unlikely to benefit from this redistribution by picking up market share and revenues, the bank must organize itself to retain its current client base.

Use of Multiple Prime Brokers

It has become a best practice for hedge funds to use between two and five prime brokers, depending on fund size. The main reasons include stock loan supply, opacity of positions, diversification of counterparty exposure, and payment for resources.

It remains to be seen whether hedge funds will use a larger set of prime brokers for daily executions, or whether they intend to draw on these additional banks only in the event of another crisis. While clients may prefer to deal with the largest banks in the global money centers, prime brokers will still compete for execution commissions. Key differentiators include the size of stock loan supply (favoring firms with captive retail), client service and technology (favoring established primes), and resources such as banking and investment advice, corporate access, and new issue calendar (favoring firms with corporate investment banking franchises).

New Market Entrants

The move to multiple primes and the unbundling of product and service offerings will create opportunities for new entrants, which include custodians and boutiques.

Custodians. Banks without execution capability have targeted hedge funds to capture the custodial duties of traditional prime brokers. Custodial accounts, fund administration, shareholder services, and middle office solutions allow traditional custodians and administrators to earn additional fees. It remains to be seen if traditional custodians become active in margin lending and deploying client assets as principals (as prime brokers do), rather than as agents.

Boutiques. Small, specialized prime brokers ("mini-primes") have taken advantage of client distrust of troubled, high-profile institutions. The various business models include research boutiques, investment banking boutiques, and market makers moving upstairs. Small firms without the benefit of a large deposit base or balance sheet can gain market share as payment for exclusive resources such as captive order flow or advice. Boutiques can also target small hedge funds neglected by big banks. Those that aggregate a sufficient number of clients provide a distribution opportunity for banks willing to lend them cash and stock.

Unbundling of Products and Services

Spread pressure will undoubtedly continue, particularly if ancillary services such as consulting or capital introductions are either unbundled and moved to third parties, internalized by the hedge fund, or discontinued by the prime broker.

Internal Buy-Side Funding Desks

Hedge funds of sufficient size may take on some of the financing functions formerly performed by their prime brokers. These functions include direct participation in the stock loan and repo markets, at a minimum directing which assets are to be used as collateral for raising cash. Hedge funds with such capability will enjoy incremental returns through collateral efficiency and will negotiate better pricing from their prime brokers.

Anticipating Regulation

The depth of the financial crisis and public outrage about industry practices mean regulation is inevitable. Reorganization of prime services will allow a bank to streamline its response to any rules affecting capital requirements, the operation and settlement of financial products, surveillance, and disclosure.

Capital Requirements

Risk-weightings for collateralized lending should be favorable to banks, provided that the border between prime services and unsecured lending activity (credit extension) is carefully policed by bank control groups. The capital adequacy rules under various banking regimes are still in development, so it is important for practitioners of secured financing to work with regulators to gain favorable treatment for fully hedged, fully collateralized transactions that have appropriate haircuts and documentation.

Clearing of OTC Derivatives

As a center of post-trade activity, prime services can coordinate the migration of OTC instruments onto central counterparties or clearing houses, drawing on experience with the clearing of listed instruments and the reconciliation of OTC transactions. As a center of secured funding for the bank, prime services can manage the consequences of moving products onto exchanges.[12]

Stock Loan

Securities lending is one of the few remaining OTC markets lacking transparency of pricing or standards of execution. It is likely that regulators and asset owners will push for best practices, including use of a clearing house and central counterparty. On the broker side of the equation, developments of this kind will favor larger banks that offset spread reduction with trade volume and internalization of orders.

Short Sale Rules

Regulations imposed against various aspects of short-selling will increase the operational burden on lending and executing brokers. Despite the intent to eliminate “naked” shorting,[13] legislation may increase bid/offer spreads or reduce certain types of trading activity. In the near term, such rules will cause prime brokers to incur additional technology expense for compliance. In the long run, better tracking of inventory and pre-borrow requirements will allow the bank to fund even more efficiently.

Tax Law

Following separate inquiries into equity financing transactions conducted by The United States Treasury, Internal Revenue Service, and Senate Permanent Subcommittee on Investigations, the Foreign Account Tax Compliance Act of 2009 (FATCA) became law as part of the Hiring Incentives to Restore Employment (HIRE) Act on March 18, 2010. The HIRE Act changes the withholding tax treatment of dividend-equivalent payments of some equity derivatives with U.S. reference securities made to foreign counterparties. While the HIRE Act will not become effective until 2012 for swaps that meet specific conditions, the proposed withholding tax will ultimately apply to equity swaps more broadly unless further clarification or revision is forthcoming.[14] Withholding tax will result in adjustments to client trading strategies and a shift in financing product utilization among prime brokers.

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12 In certain cases, the benefit of trading on exchange relative to over-the-counter is the ability to offset or “net” opposing positions for accounting purposes. A central funding desk can optimize this feature proactively.

13 “Naked” shorting relates to the sale of securities without first obtaining a borrow of the stock or the assurance of availability of such a borrow, generally resulting in failure to deliver at settlement.

14 See *Analyzing the Equity Swap Legislation and Tier I Audits*, Mike Gaffney, Tax Notes, June 28, 2010, p. 1453

Summary and Conclusions

Banks operating global trading businesses need to evolve prime brokerage into a prime services organization in order to maximize operating leverage and balance sheet efficiency. Prime services gives product-centric firms a way to eliminate redundancies and to benefit from economies of scale. The risk controls that accompany such an organization directly address the weaknesses that were exposed by the financial crisis, and the operational improvements will position banks to succeed in a future of increasing transaction volumes, margin compression, regulation, and competition.

About the Author

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