

# Five Factors in the Failure of MF Global

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On Sunday, March 30, 2011, MF Global, a company with a continuous 227-year history of commodities management and financial services worldwide, informed the Chicago Mercantile Exchange (CME) and the Commodity Futures Trading Commission (CFTC) that it discovered a “material shortfall” in its segregated customer accounts. The next trading day, Halloween of 2011, the company admitted that it had transferred close to a billion dollars of funds from its segregated accounts to cover liquidity shortfalls in its global operations. The parent holding company immediately filed for bankruptcy protection in the United States, and \$5.45 billion in customer accounts were frozen. This article documents the immediate repercussions of the financial failure and outlines the various finance and economics theories of market failure that are invoked by the MF Global mismanagement.

## HISTORY

MF Global was one of the world’s largest global financial derivatives brokers. Formerly known as Man Financial (MF) until a spin-off in 2007 to distinguish it from MF’s investment business, MF Global brokered customer futures accounts and invested its own equity on foreign exchange and commodities futures and U.S. government secu-

rities. Recently, its equity balance sheet held a large number of repurchase agreements, known as “repos.”

A repurchase agreement is a two-part transaction that includes a cash transaction and a forward contract. The cash transaction represents a loan from a repo buyer—which in this case included European banks—to the seller, MF Global, in exchange for collateral—in this case rights to various European bonds. MF Global did not actually own the bonds borrowed against, but rather purchased futures contracts on the bonds, with an expiration date that coincided with the maturity term of the loan. The pre-agreed repurchase price at that date is higher than the initial loan amount. The difference, called the repo rate, represents the effective interest rate on the loan.

Repos suffer from two risks. First, if the value of the collateralized securities rises, the repo purchaser may try to keep the collateral rather than conclude the repo contract. The greater risk, though, is when the collateralized security falls in value. In this case, MF Global had used bonds from some of Europe’s most indebted nations, especially Greece, as the collateral for these repos. Once these bonds incurred a significant risk of default, MF Global’s transaction partners required MF Global to produce additional collateral to secure the loans. This over-collateralization is equivalent to a margin call when the value of a financial security falls. Such a margin



call may force liquidation of assets in a bear market and result in significant losses for the repo issuer.

The banks that underwrite the repo loans can face cascading risks. The U.S. and Europe allow for rehypothecation, which is the reselling by the repo purchaser of its collateral, with the expectation that it too could cover its risk through another futures contract to expire on the loan maturity date. The net effect is a web of cascading repos that are nominally valued by an amount much higher than the original transaction. For instance, this churning of repos in the U.S. and Europe alone represents amounts totaling nearly \$15 trillion, which is equivalent to the size of the entire U.S. economy. Much of these amounts do not appear on the balance sheets of the various investment banks and hedge funds engaged in these practices because they are covered transactions and not cash. Hence, repos have gone largely unregulated and have created what Singh and Aitken [2010] have labeled the *shadow banking system*.

MF Global also served as an agent and brokerage for other more traditional customers' futures accounts. This line of business dated back to 1783, when the firm's founder, James Man, engaged in futures contracts on sugar, and, later, other commodities. By 2005, the Man Investment portion of MF grew to be a major hedge fund engaged in futures markets. Part of this growth was the result of the acquisition of Ray E. Friedman and Company (Refco), after its notorious collapse in 2005. With \$4 billion in customer accounts and a balance sheet of about \$75 billion, the company's collapse was one of the largest financial scandals in U.S. history. To avoid destabilization of the CME on which Refco traded, a scandal over Refco's desperate issuance of fake bonds was finessed by a forced auction of Refco's customer accounts. Man Group was the auction winner and was able to expand substantially their retail futures trade as a consequence of this regulatory unwinding of Refco.

After the renaming and spinoff from Man Group, MF Global emerged as a major futures market broker on the CME and its Chicago Board of Options Exchange (CBOE). The company was not without some scandal, however. One of its London traders substantially exceeded his allowed trading limit and forced MF Global to announce a resulting bad debt of \$141.5 million in 2008. MF Global was subsequently fined more than \$10 million by the CFTC and CME for that and an earlier transgression in natural gas trading. Two weeks later,

liquidity concerns caused MF Global shares to plunge, which precipitated the CME and the New York Mercantile Exchange (NYMEX) to come to the company's defense and assure investors and customers of MF Global that there were no liquidity problems with the company. Later that year, the CBOT CEO Bernard W. Dan became the CEO of MF Global with the mandate to improve risk management at his new firm. Seventeen months later, former Goldman Sachs CEO, U.S. senator, and New Jersey democratic governor Jon Corzine replaced him. Corzine had recently turned over his governorship in New Jersey to republican Chris Christie.

Seven months after Corzine assumed the CEO office, on October 25, 2011, MF Global reported a quarterly loss of \$191.6 million from European bond trades gone sour. Moody's Investors Service and Fitch Ratings lowered their ratings of MF Global to junk, and Corzine began to look for a deep-pocketed suitor and warned the CME and CFTC that liquidation was becoming unavoidable. By November of 2011, former FBI director Louis J. Freeh, the bankruptcy trustee appointed by U.S. Bankruptcy Court Judge Martin Glenn, halted trading of MF Global shares. Investigations on the losses began, especially regarding the comingling of customer futures accounts in the last few days the company was unwinding. At the time bankruptcy was filed in Manhattan, the company listed assets of \$41 billion and debt of \$39.7 billion. However, some of these assets were amounts owed by European banks, some of which were also in financial difficulty because of their same exposure to European sovereign debt.

## THE ECONOMIC ISSUES

The failure of MF Global brings a number of theories about market failure into focus. I will now discuss these theories as they apply to both the MF Global unwinding and the future health of financial markets, especially derivatives markets.

## PRINCIPAL AGENT

The credit crisis of 2007 and 2008 and the ensuing global financial meltdown it precipitated brought attention to a number of financial irresponsibilities. It became clear that the cascading and churning of derivatives instruments and the inadequate reflection

of these transactions on corporate balance sheets had been an unfortunate Achilles heel of the global derivatives deregulation initiated almost a decade earlier through the Commodity Futures Modernization Act of 2000.

The ex-post wisdom of this deregulation aside, for shareholders, the firewall to prevent extraordinary risk taking is the corporate board of directors and the professional staff that keep them informed. The chief executive officer, the chief risk officer, and the chief financial officer are the three most essential individuals to keep the directors of the board informed and the shareholders' equity interests preserved.

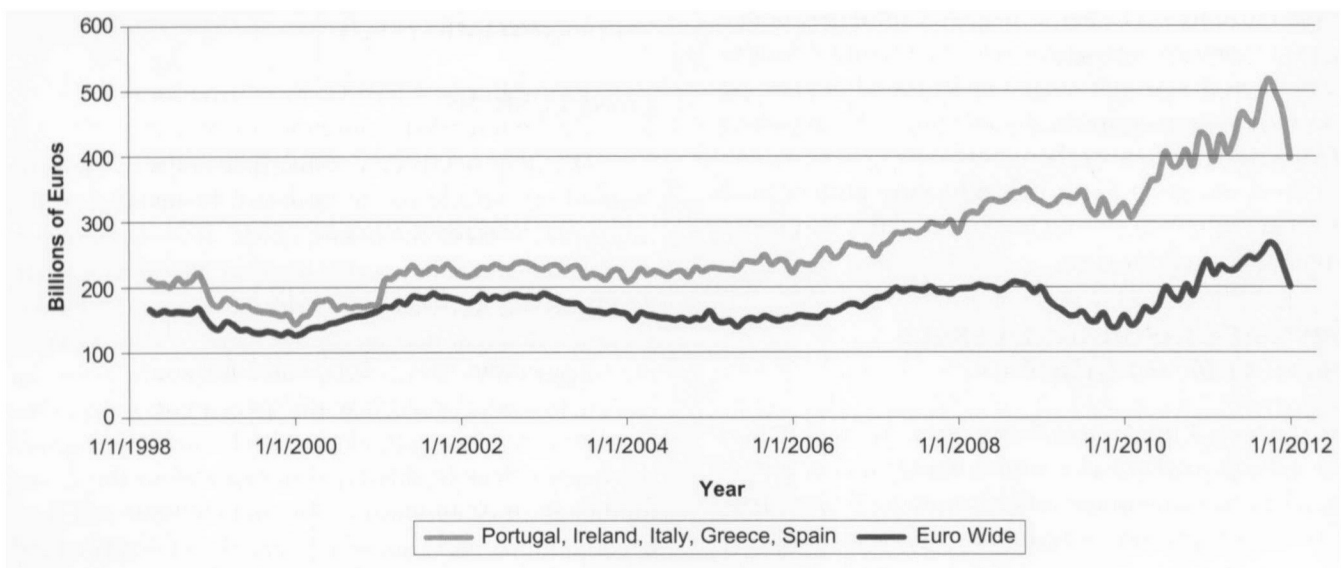
By 2010, the board of directors of MF Global was increasingly confronting growing risk management concerns about their risk management team because of the firm's bets on European sovereign debt. Following the Credit Crunch of 2007–2008 and the financial aversion to credit default swaps, transactions in euros—especially risky repos from Portugal, Ireland, Italy, Greece, and Spain (PIIGS)—accelerated rapidly (see Exhibit 1). A reshuffling of the executive risk management team created a greater emphasis of transparency and information flows between the executive and board levels, but this change did not result in a sufficiently ambitious unwinding of the company's European sovereign debt risk.

Clearly, the approach failed. The board of directors, as agents, failed to represent the interests of their principals, the shareholders. Part of this may have been because the directors themselves had come directly from other investment banks or from the regulatory agencies charged with regulating the company. There was arguably a serious gap between the actions of the agents and the interests of the principals the agents on the board of directors were charged with protecting.

## CO-OPTED REGULATION

The overlap between the directorship and management of the firm and the regulatory bodies and firewalls may not seem particularly problematic on Wall Street, where such overlap is not unusual, but it is highly suspect on Main Street, where such co-opting of regulatory bodies would be most unusual. In previous circumstances of inappropriate behavior by MF Global agents, the exchanges of CME and NYMEX came to MF Global's defense because they understood that market trust depends on such assurances. However, such a regulatory approach—and the many subsequent examples in the financial industry where companies too big to fail are protected—creates a murky regulatory regime that casts a pall on the principle of regulation and has a chilling effect on the entire financial industry.

**EXHIBIT 1**  
Accelerated Eurowide and PIIGS Repos



## MORAL HAZARD

Related to the problems associated with potentially co-opted regulatory bodies such as the CFTC and the U.S. Securities Exchange Commission (SEC) is the moral hazard problem bailouts and forced marriages create. In the capitalist limited liability corporation system, the shareholders reap the rewards and suffer the losses of the firms they own. Since the global financial meltdown, the losses from MF Global—and from previous derivatives trading liquidity problems by American International Group—are absorbed by shareholders, public funds often invested to prevent the unwinding of companies too big to fail, and markets that must absorb and price the higher risk that their practices engendered. A moral hazard problem results when companies can keep the profits of their risky behavior and have their losses indemnified by others. Such moral hazard increases the likelihood of suboptimally high levels of risk.

## MARKET FOR LEMONS

The CME and CFTC quickly responded to the MF Global crisis because they understood that a complete failure of the company would not only leave many investors poorer, but would also depreciate the faith of customers in legitimate brokerage companies. While some protections for retail financial customers exist, there are few protections for many of the myriad financial accounts and instruments commonly employed today by farmers, mutual funds, pensioners, and even more sophisticated personal investors. The belief that MF Global may not be unique in their dangerous practices causes individuals to flee markets that would otherwise be useful in insuring commodity transactions or diversifying risk. Akerlof's [1970] seminal theory explains how such a phenomenon may force out good firms that diligently protect their customers' interests, while leaving just the lemons to compete for their business.

## DOWNSIDE INSURANCE VERSUS SYMMETRIC VARIANCE

There is a fundamental difference in the function of an options market and a futures market on the supply side. The original suppliers of commodities futures contracts are farmers and commodities producers that view

the market as an insurance market and efficient capital market. Farmers can sell their crops on a futures market that gives them access to capital in planting season and instills confidence that they can plan around a commodity price at harvest time.

Some of these farmers may be speculators too. However, the primary historical goal of futures markets is not to reduce financial volatility but rather to insure that the farmer will receive the price upon which the farm budget was based. This planning function, essential for modern farming, was the reason for the CBOT's creation. In fact, trading on options instruments was, for a long time, illegal in the CBOT's home state of Illinois, as options trading was once seen as speculative gambling rather than a legitimate tool for prudent farming.

With the development of options trading and the CBOE in Chicago in the early 1970s, however, the central purpose of derivatives trading shifted from insurance to speculation. There is certainly an important need for a market that can allow for the pricing of volatility so investors with different appetites for volatility can trade to improve the quality of their financial portfolios. Options instruments are designed to do this. The Black-Scholes equation shows us that increased volatility raises both the value of a call and a put contract. Prices rise on both sides, with increased volatility. The CME, CBOE, and CFTC now devote considerable regulatory energy to options and other financial derivatives and relatively less energy to the protection of farmers and producers that was once their central role. In fact, following the MF Global bankruptcy filing, the farmers were among the largest victims of the freezing of customer accounts.

## CONCLUSIONS

While the MF Global bankruptcy will take the courts years or perhaps decades to fully adjudicate, the immediate costs of the failure of MF Global's fiduciary responsibilities are impossible to avoid. While more than 2,000 people lost their jobs and more than \$1 billion remains unaccounted for at the time of this writing, the bigger costs lay in the greater degree of financial insecurity at a time when the global financial community could least afford it. The failure highlighted the many problems that perhaps began with the Commodity Futures Modernization Act of 2000 and have become much more apparent since the global financial

meltdown. The timing of this latest financial failure could not be worse. The Greek sovereign debt problem has cast a shadow on the sovereign debt of many similarly situated nations, and their interest costs have risen accordingly. Furthermore, the web of dealings from the cascading effect of the repos market has tied the fortunes of already weak European banks to the failed MF Global investment bank. Time will tell whether this latest financial calamity will create a response to the call by many critics to provide for commodity exchange oversight reform.

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Singh, M., and J. Aitken. "The (Sizable) Role of Rehypothecation in the Shadow Banking System." International Monetary Fund working paper, WP/10/172, Washington, DC, 2010.

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whole. They conclude that the industry has matured, and that, with maturation, comes some alpha dilution; yet, though the industry as a whole may no longer benefit from the tail winds it enjoyed for a long time, there remain a number of strategies and managers where material value added is available. This will place an increased premium on manager selection.

## **FUNDS OF HEDGE FUNDS: *A Comparative Analysis Before, During, and After the Housing Bubble*** 62

PANAGIOTIS SCHIZAS

This article characterizes the risk–return profile of a sample of five Funds of Hedge Fund indices from 1999 to 2011. It examines the FoHFs indices measure of performance for a sample of different periods: before, during, and after the sub-prime crisis. The results show substantial differences in the actual mean returns, the actual risk, and the Sharpe ratio. Furthermore, the attribution between the FoHFs indices and the single hedge funds has resulted to a declining beta over the last decade. Finally, it analyzes the performance of the proposed indices on different market variables, and finds a positive relation with the stock market before and after the crisis, and a negative relation with the volatility factor during the crisis of 2007 to 2009.

## **ETA® ANALYSIS OF PORTFOLIOS: *The Economy Matters*** 72

JAMES CHONG, WILLIAM P. JENNINGS,  
AND G. MICHAEL PHILLIPS

The authors introduce a macroeconomic factor model, the Eta model, and its various applications. The underlying message regarding the Eta model, be it for replication, wealth maximization, or wealth preservation, is that “the economy matters.” The core feature of the Eta model is its replication methodology, from which portfolios could be customized to fit the risk–reward preferences of investors with respect to the economy. They then evaluate the portfolios against the Dimensional Fund Advisors Core Equity 1 Portfolio, which adopts the methodology promoted by the Fama–French three–factor model.

## **A RELIANCE ON PREDATORY BEHAVIOR IN THE CONTEXT OF FINANCIAL NEGOTIATION AS SOON AS GIVEN A CHANCE? *A Three Group Cross-Sectional and Longitudinal Study on the Concept of Perceived Predation*** 85

OLIVIER MESLY, JEAN-PIERRE LÉVY MANGIN,  
AND FRANÇOIS-ÉRIC RACICOT

This article discusses the notion of perceived predation (the idea that a vis-à-vis wants us harm, by surprise) and reveals some of the key findings following a longitudinal study conducted with three different groups in 2011. The study shows that untrained people invited to negotiate financial transactions with another party naturally tend to adopt a strong stance, one that can be perceived as predatory, whereas those with training in negotiation adopt somewhat of a more conciliatory attitude. The important implication of such findings is that portfolio managers who attempt to maximize their client’s wealth in an unrestricted manner may well, consciously or not, turn against the very interests of those clients by using techniques that minimize perceived predation.

## **FIVE FACTORS IN THE FAILURE OF MF GLOBAL** 99

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The MF Global bankruptcy was the fifth largest financial failure in U.S. history and sent shock waves across the U.S. and European financial markets; the farming and commodities industries; and the regulatory regimes in Washington, Chicago, and New York. However, while approximately 2,800 direct finance jobs were lost and more than a billion dollars remains unaccounted for, the greater tragedy will be in the lasting effects this failure may have on the very functioning of futures markets. This article documents some of the relevant financial history of the failure and outlines the various market failure theories it invokes. These include the principal-agent problem, the issue of co-opted regulation, the market for lemons, and the divergence between downside commodity insurance and options pricing.