Progress Report on the Role of Communication in the Collapse of Long-Term Capital Management

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Introduction

In light of the recent financial crisis, it has become more pertinent than ever to investigate the causes of economic disasters. Even if some may not realize it, everyone has, in some way, felt the strain of the recent financial crisis. With retirement funds shrinking and property values plummeting, no one can ignore the connected web that financial markets weave. Even a single event such as the collapse of a financial institution can place unbearable stress on every member of the economy. In 2008, Lehman Brothers was such a financial institution; ten years prior, Long-Term Capital Management, a colossal hedge fund, nearly single-handedly undermined the entire financial system.

Our study of Long-Term Capital Management, commonly referred to as LTCM, reveals the shortcomings and unanticipated events that the fund experienced. Much of LTCM’s misfortune stems from being disconnected to some extent from the marketplace. LTCM did not fully realize the effects other market players could have on their investment strategies. The firm did not fully recognize the importance of the human aspect of financial markets. While many academics and financial professionals have their theories as to why LTCM collapsed, one aspect that receives little to no attention is the role communication played in LTCM’s demise. In our analysis, we examine how LTCM communicated with other market participants, how individual investors communicated within the marketplace, and how the marketplace communicated with LTCM. We conclude that LTCM did not collapse solely because of “once-in-a-lifetime” occurrences but also because of an inaccurate perception of human interaction in the global marketplace.
Description of Long-Term Capital Management

Long-Term Capital Management was a hedge fund that was started in 1994 by the legendary bond trader John Meriwether of Salomon Brothers. As a hedge fund, LTCM was more flexible than other institutions because it was exempt from certain tax and regulatory restrictions. This mobility, along with the possibility of earning profits unobtainable at any other firm, allowed Meriwether to attract an all-star team of traders and academics to the firm. Among LTCM’s partners were two Nobel Laureates, Myron Scholes and Robert Merton, as well as David Mullins, the former vice-chairman of the Federal Reserve Board. The partners’ expertise in trading bonds allowed the fund to grow rapidly; in its first four years the firm accrued $1.25 trillion in assets and grew to the size of most investment banks (MacKenzie 2003, 354).

The firm’s exceptional trading strategies, which were rooted in complex mathematical models and expert market judgment, attracted over a billion dollars of initial investments at inception. LTCM’s largest trading strategy involved convergence trades, which profit from relative mis-pricing of assets. For example, LTCM would buy a relatively cheap asset, and when the market corrected for the price discrepancy the firm would make a small profit once the cheap asset appreciated to its true value. These trades were successful and relatively low risk, although the profit earned was only a small percent return on the initial investment. LTCM’s reputation allowed them to borrow money at very favorable terms and invest it into their trades. This concept, called leverage, allowed the firm to put large sums of money into trades and turn a small percentage gain into astronomical profits, on the order of 45% annually for the first three years (MacKenzie 2003, 355). To get an idea how levered the firm was, LTCM had borrowed over $124.5 billion against $4.72 billion of its own capital, which meant it had borrowed $25 for every dollar of its own.

As LTCM grew, the size of its trades became large enough to compete with large banks, which typically dwarf hedge funds. Due to LTCM’s large trading volumes, banks were eager to get in on the action and support LTCM’s favorable lending terms in order to earn loan fees. As the fund developed, it began exploring other markets, harnessing even more leverage, and increasing its risk exposure in order to sustain its high returns. By 1998, LTCM had entered into trades involving corporate mergers and complex stock derivatives, areas outside of its expertise. Based on their financial models, which used historical data to forecast asset values, LTCM’s partners believed that the risks of their positions had highly negative correlations; that is, the risks largely offset one another (MacKenzie 2006, 211-242). These calculations led them to believe that the volatility, or standard deviation of their portfolio’s expected return, was much smaller than it actually was. This meant that LTCM was underestimating the level of risk in their portfolio.
While LTCM was increasing their risk appetite, two extreme events occurred that shook the global economy. First, Thailand initiated the Asian Financial Crisis of 1997 when it unexpectedly allowed its exchange rate to move freely. The implication of this was a large drop in the demand for commodities, among which was oil. Russia, an oil exporting nation, suffered from the decreased sale of oil. Resulting losses were so costly that Russia defaulted on its debt obligations in August 1998. Together these events caused investors to reverse their risk seeking appetites and seek safer investments. Long-Term Capital Management could not easily adjust its portfolio while their asset values were plummeting. As we can see in Figure 1 above, LTCM’s performance severely declined following the market’s reaction to these two events. Nonetheless, LTCM felt that if they maintained their positions they could rebound and attain the profits they originally sought. However, the marketplace proved too turbulent, and in 1998 the firm was forced to seek a bailout to stay afloat.

**Preliminary Analysis**

Many have cited the Asian Financial Crisis of 1997 and the subsequent Russian Debt default of 1998 as two extreme events that, in tandem, brought down Long-Term Capital Management.
However, these events are only the catalysts that sparked LTCM’s demise. Despite having a highly touted staff that included two Nobel Laureates, LTCM neglected to fully recognize the human aspects of financial markets when making investment decisions. Long-Term Capital Management did not entirely anticipate that the advantages they gained from their sophisticated financial models could be eroded by individual investors actively sharing information and avoiding unnecessary risk.

Such active sharing of information is commonplace on Wall Street. In such a competitive atmosphere, it is human nature to use all connections possible to collect any and all information that might give an investor an edge. John Meriwether, the founder of LTCM, understood this. Meriwether heavily relied on personal relationships to get the best borrowing rates and to transact at the best prices (MacKenzie 2003, 372). Without these excellent rates and prices, LTCM would not have been able to profit from the investment strategies it pursued. Ironically, it was this active sharing of information that also led to LTCM’s demise.

On Wall Street, information moves very quickly, and LTCM neglected to recognize the detrimental effects such active communication could have on their strategies. From desk to desk and firm to firm, ideas move rapidly. In a few short years, LTCM’s successful strategies were known and implemented by other firms across Wall Street (MacKenzie 2003, 372). Unbeknownst to LTCM, market participants were imitating their actions. Eventually, all of Wall Street was placing very similar or sometimes even identical bets in the marketplace. One of LTCM’s biggest flaws was that the firm did not recognize the potential consequences of having so many other traders using their strategies.

The most direct consequence of having all of Wall Street shadowing LTCM’s investments was that the strategies that were once hugely successful for LTCM stopped working. As MacKenzie (2003) points out, the effects of investors imitating LTCM’s strategies were real and measurable (373). The marketplace changed as a result of so many investors acting in unison and making similar investment decisions. Macroeconomic trends that were once predictable changed in unforeseen ways (Mackenzie 2003, 373). Asset prices began moving in unexpected directions. As investors attempted to copy LTCM’s strategies, the demand for specific assets increased. This drove asset prices up in ways unanticipated by many investors, causing LTCM and other investors holding similar positions to lose money. LTCM did not understand why their strategies stopped working and remained convinced that the macroeconomic trends would eventually correct themselves (Perold 1999a, 3). The firm’s inability to understand why their strategies continued to fail underscores the firm’s disconnection with the rest of the marketplace.

Instead of trying to understand why their strategies were failing, LTCM attempted to compensate for these shortcomings by making riskier investments. Former Federal Reserve Chairman Alan Greenspan (1998) emphasizes that LTCM errantly decided to make riskier investments in an effort to make up for declining profits (1046-1050). The firm moved from trading bonds to trading equities. In doing so, LTCM went from trading lower rewarding but less risky assets to potentially more rewarding but more risky assets. This increased the overall level of risk in
LTCM’s portfolio. By increasing risk to compensate for lost profits, Long-Term Capital Management left itself overly exposed to unanticipated market behavior.

The 1997 Asian Financial Crisis and the subsequent Russian Debt Default of 1998 were the unexpected catalysts that led to LTCM’s eventual collapse. Indeed, Malcolm Gladwell (2002) makes it clear that each was a “once-in-a-lifetime, rule-breaking event” (167-168). No one could have anticipated either event. While these two events were the catalysts of LTCM’s collapse, it was LTCM’s disconnection with the marketplace that prevented the firm from adapting to the changing economic climate. It’s true that Thailand began a currency crisis and Russia defaulted on its debt, but these actions themselves were not as big of a concern to LTCM as it may seem. According to the U.S. Department of the Treasury (1999), LTCM’s involvement in the markets for commodities and Russian debt were negligible (11). Therefore, the Russian default itself had a minimal effect on LTCM’s portfolio.

More detrimental to LTCM was the reaction of investors who held similar portfolios to the firm. Such investors began avoiding reducing risk by selling-off any unprofitable positions. LTCM’s strategies had stopped working and, thus, were discarded by investors all at once. As seen in the precipitous drop of LTCM’s performance in Figure 1, this rapid sell-off drove the value of LTCM’s assets through the floor, costing the firm over $4 billion in a few months (Lowenstein 2000, 143-218). LTCM did not recognize that their losses were a result of other investors’ decisions until it was too late. Had the firm been more aware of the human side of finance, they may have been able to close some of their positions before losing too much money.

**Methods and Tasks**

The Gold Team began this project with a crash course in financial terminology and a brief history of the late 1990s. We divided the suggested readings among group members, collaborated and summarized each text, and met repeatedly as a group to discuss the LTCM case study. By actively discussing the different aspects of LTCM as an organization, we began to form the main points of our analysis. The team then delegated tasks based on each individual’s strengths.

summaries for both of these articles. By using Google Docs and Gmail, our team was able to read and summarize the articles, keeping everyone on the same page as the analysis got under way.

Although many of the texts overlapped in content, each source provided a distinct perspective on LTCM. The idea of a common market portfolio can be traced back to MacKenzie’s, Greenspan’s, Perold’s, and Gladwell’s texts. MacKenzie’s excerpts illustrate how investors imitated LTCM’s strategies, which made LTCM’s profiteering from such strategies increasingly more difficult. Greenspan’s statement expands on this idea, arguing that as a reaction to the marketplace’s actions, LTCM increased leverage to keep profits high. Perold gives balance to the discussion, representing LTCM’s perspective. He illustrates the precarious situation LTCM was in. The hedge fund had to be very careful when making investment decisions so as not to tip-off imitating investors of its true intention. Haubrich recognizes LTCM’s difficult situation and points out that the Federal Reserve Bank of New York had alternatives other than letting LTCM fail. But, Gladwell reiterates MacKenzie’s point that the decline of LTCM resulted from the coordination of imitators and not just “once-in-a-lifetime” crises.

LTCM did not fully recognize the behavioral aspects of financial markets. Lowenstein’s text provided excellent insight into the personalities of the firm’s partners and their communication with various parties including their investors, the Federal Reserve, and their counterparties. It made clear the social nature of financial markets and how LTCM used social capital to its advantage. Finally, the Department of Treasury provides an objective perspective by discussing, almost in an academic sense, the flaws of LTCM’s financial structure and its relationships with counterparties. Even though each source focused on LTCM and its eventual collapse, the multiple perspectives gave our team a more complete picture and helped us form our major discussion points.

After meeting to discuss the summaries and to determine a plan of action, the team delegated tasks to each team member that played to his strength. Since Chris and Brandon have the most financial experience of all the team members, they kicked off the production of the progress report by creating an initial outline. They were able to isolate the most significant financial events that triggered the LTCM collapse and structure an outline that discusses the most informative topics that would benefit the class. From here, Joon used his ability to explain concepts in a very clear and direct manner to write a rough draft that captured the essence of what the team wanted to say. The two most detail-oriented team members, Ryan and David, then used the article summaries to add specific evidence and support to the claims made in the rough draft and further revise the progress report. Each of the team members made additional revisions to the paper and clarified the language to ensure the accuracy of the events described. The team discussed the progress report as a group and made numerous final revisions before submitting the report.
References


