THE GLOBAL FINANCIAL CRISIS: BIBLICAL PERSPECTIVES ON CORPORATE FINANCE

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ABSTRACT

The global financial crisis that started with the U.S. subprime market meltdown is the most severe since the Great Depression, but it shares much commonality with historic cycles of market manias, panics and crashes. An exposition of the key dimensions of the crisis, such as excess liquidity, leverage, and risk-taking, draws attention to the interplay of unique policy, institutional, and market factors in an evolving global economy. These factors also underlie prevailing attitudes of policymakers, investors, and market institutions that are likely to effect future market upheavals. Expanding on insights from the Scripture, in particular lessons from the experiences of the Old Testament personalities of Joseph and Daniel as well as Biblical teachings on indebtedness and risk-bearing, elements of a framework of Biblical perspectives on market fragilities are discussed. Stewardship principles for the Christ follower, whether in the role of policymaker, corporate manager, or investor, are suggested.

INTRODUCTION

This paper offers an interpretation of the recent global financial crisis and purports to cast certain key contributing factors in the light of Scriptural truths. By engaging spiritual principles derived from Biblical accounts and teachings, it advances the thesis that Biblical insights may usefully guide human actions that provide effective responses to such crises and the underpinning fragilities. From government officials to business leaders to ordinary investors, these actions represent morally acceptable behaviors that encompass trust, prudence, and concern for the greater good. For the believer these actions also manifest a willing submission to the principles of Christian stewardship and a testimony to the timeless wisdom of the Scriptures.

Apart from its global reach and modern institutional settings, the contemporary global financial crisis "has many features with great resonance from financial history" (Bordo, 2009, p. 39). In their comprehensive survey, Kindleberger and Aliber (2005) drew a common thread among historical financial crises by observing:

> *The cycle of manias and panics results from the pro-cyclical changes in the supply of credit; the credit supply increases relatively rapidly in good times, and then when economic growth slackens, the rate of growth of credit has often declined sharply. A mania involves increases in the price of real estate or stocks or a currency or a commodity in the present and near-future that are not consistent with the prices of the same real estate or stocks in the distant future...During the economic expansions investors become increasingly optimistic...while the lenders become less risk-averse. Rational exuberance morphs into irrational exuberance...There is a pervasive sense that it is 'time to get on the train before it leaves the station' and the*

> *exceptionally profitable opportunities disappear. Asset prices increase further. An increasingly large share of the purchases of these assets is undertaken in anticipation of short term capital gains and an exceptionally large share of these purchases is financed with credit. [italics added] (Kindleberger & Aliber, 2005, p. 12)*

These observations point to three basic dimensions of a typical financial mania despite variances in historical and geographical contexts: excess liquidity (credit supply), excess leverage (credit share), and excess risk-taking (irrational exuberance). In many respects the recent financial crisis is a classic demonstration of these elements at work. The collapse of the U.S. subprime mortgage market in 2007, which ushered in more than two years of turmoil in financial markets around the world, was widely attributed to an asset bubble sustained by lax lending standards, expansive monetary policies that kept short term rates artificially low, and long running Federal housing programs that over-promoted homeownership by low income (thus less creditworthy) households (Calomiris, 2009; Schwartz, 2009; Taylor, 2009a; White, 2009; Zandi, 2008). The housing market boom, which preceded the mortgage market collapse, benefited importantly from a global liquidity (savings) glut funded by more than two decades of U.S. current account deficits. Cheap credit and low volatility in U.S. financial markets enticed both foreign and domestic investors to seek opportunities of superior returns, which fortuitously were afforded by financial innovations that purported to repackage risk into "safe" instruments through a process called securitization[1] (Corden, 2009; Trichet, 2009; Zandi, 2008, p. 11-12). In an environment of cheap credit, abundant liquidity chasing after short term yields was invariably levered up to amplify prospective returns. The result was the freezing of credit markets in the subsequent deleveraging spiral when the housing bubble burst (Dudley, 2009).

At the same time, debt-amplified liquidity lowered at-risk capital for yield-seeking investors and encouraged risk-seeking behavior. The market for speculative instruments such as subprime mortgage-backed securities (MBSs), credit default swaps (CDSs), collateralized debt obligations (CDOs), and re-securitizations of CDOs (CDO-squared) rapidly expanded (Jenkinson, Penalver, & Vause, 2008). The familiar setup of a perennial mania, panic, and crash cycle was complete, but with one important exception. Unlike historical mania cycles, this time the reach and depth of speculative activities were orders of magnitude greater as exotic financial instruments with opaque contents, now actively traded in an integrated global market, replaced assets bearing relatively transparent intrinsic values.

From a Biblical perspective, the march of historical events is but momentary unveilings of the eternal within God's sovereign, benevolent will. The tide in human affairs inevitably reflects a purposive display of God's intelligent, moral goal. In spite of the fact that the language and practice of Biblical times are far removed from

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modern day finance, the wisdom of the Scriptures would enlighten the moral understanding of market fragilities and renew a commitment of the faithful toward behavior that pleases God rather than men. More importantly, no matter what the degree of institutional reform and public moral persuasion, cycles of boom and bust will most definitely continue with human frailties seeding manias and panics. The steady focus on God's moral goal requires Christian participants in financial markets to act with spiritual discernment. Theologian Carl Henry (1955) properly framed the issues this way:

> *The disengagement of economic problems from the spiritual realm, the determination to find economic solutions while the religious problem is ignored or held in suspense, constitutes the prime crisis (p. 1244).*

This paper attempts to bring to light certain of these Biblical gems of wisdom. In the following sections, an overview of the causes and characteristics of each of the three "excesses" will be followed by a discussion of Scriptural principles that may serve as spiritual moorings in treacherous waters for all who seek God's moral purpose in turbulent times. God therefore affords Christians a unique opportunity to testify to the non-believing world as well as experience spiritual renewal for themselves if they are obedient through times of unsettling historic changes.

EXCESS LIQUIDITY

Excess liquidity refers to an abundance of financial (debt and equity) capital seeking opportunities of attractive returns in competitive financial markets. The root causes of this excess include government policies, global imbalance, and financialization.

Government Policies

Expansionary monetary (i.e., loose money) and fiscal (i.e., deficit spending) policies intended to arrest economic downturns often have longer term effects that are less desirable.[2] A persistent willingness to pursue such policies compounds these effects by encouraging formation of investor expectations, making it harder to unwind ill-conceived decisions. Under former Federal Reserve chairman Greenspan, the Fed had been eager to pursue one-sided intervention policies which led investors into the erroneous belief that they were insured against downside risks. The idea is that investors came to expect

> *the Federal Reserve would take decisive action to prevent the market from failing but not to stop it rising; and believe that such intervention would be successful. So the Fed was apparently providing insurance against the possibility of a market crash (Miller, Weller & Zhang, 2002, p. 171).*

As a result, "monetary excesses were the main cause of the boom" and the ensuing "inevitable bust" (Taylor, 2009b, p. A19).

Since 2001, "expansionary fiscal policies created budget deficits that increased domestic spending for capital and imports" (Schwartz, 2007, p. 159). The deficits fueled a ballooning national debt, which rose from 57 percent of GDP in 2001 to over 70 percent in 2008 (Office of Management and Budget, 2009, p. 127), and sustained a persistent current account deficit that undergirded a global liquidity glut. More importantly for the housing crisis, the Federal government redoubled its long running efforts to promote homeownership by lower income households,[3] thus directly contributing to the growth of the subprime housing market (Zandi, 2009, p. 151).

Taken together, government policies frequently exhibit a bias toward solutions that are short term and popular for a particular constituency, but not necessarily long-term optimal for the public interest. This behavior is, in fact, well understood if politicians and bureaucrats seek to maximize self interest on the base of vote, power, or other forms of "political income." According to the theory of public choice, "these short term, inefficient policies and strategies are pursued due to their political attractiveness and are characterized as being detrimental to the aggregate economy in the long run" (Mercuro & Medema, 1998, p. 92).

Global Imbalance

Global imbalance refers to the accumulation of net surplus (savings minus investment) positions among a group of emerging economies (notably China, India, and oil exporting countries) against the net deficits of advanced economies, primarily the U.S. By 2007 the emerging economies had grown in their position as net creditors to the advanced economies, with their current account surplus reaching 1.5 percent of global GDP, versus a U.S. net deficit of about 1.3 percent of world GDP (Alberola & Serena, 2008, p. 315). This international "savings glut" had several important implications for the financial crisis. First, it reduced world real interest rates which in turn induced higher private sector spending and sustained the housing boom in the U.S. (Corden, 2009). Second, it allowed foreigners to amass large positions in U.S. securities, including agency asset-backed issues (Warnock, 2008; Panageas, 2008). This further boosted the liquidity in the securitization market. Third, it intensified the global competition for yields as bloated sovereign wealth funds (SWFs) became increasingly active in capital markets either as direct investors (e.g., acquiring interests in Citigroup and Blackstone) or through hedge funds and private equity firms (Goldberg, 2009).

Among the many structural factors behind the global savings glut, the U.S. current account deficit played a pivotal role. The U.S. has consistently run a deficit against foreign trading partners since 1992, when it was about 1 percent of GDP. Since 2000, it averaged about 5 percent per year and reached a record of 6 percent of GDP in 2007 (Bureau of Economic Analysis, 2009). A main contributing factor of the deficit was apparently declining national savings resulting from rising Federal budget deficits and diminishing private household savings. The rising stock market and the booming value of homes induced individuals to consume more of their incomes and save less, such that the household savings rate had all but disappeared by 2007 (Keener & Tuttle, 2007).

Institutional Investors and Financialization

An important factor in the surge in liquidity in U.S. capital markets has been the increasing prominence of institutional investors (pensions, endowments, mutual funds, etc.) and high net worth individuals who appear to have adopted a shorter investment horizon. These investors influence markets via third party asset managers (e.g., hedge funds and private equity firms) and as shareholders of non-financial corporations (NFCs) with the principal objective of seeking near term superior returns. To appease these investors some NCFs have shortened their planning horizons at the expense of longer term objectives and moved to a "portfolio view of the firm," where management is incented to deliver attractive share value gains by optimizing portfolios of strategic objectives (much like fund managers) through dynamic balancing of productive, market and financial goals. The ascendancy of "shareholder value" as a mode of governance and thus the increasing influence of shareholders on management to boost returns and to meet or exceed ever heightened market expectations of stock value is referred by some scholars as "financialization" (Argitis & Pitelis, 2008; Froud, Haslam, Johal, & Williams, 2000; Lazonick & O'Sullivan, 2000; Williams, 2000). The upshot of these developments is an increasingly short term focused capital market that is strikingly competitive yet pressured to yield attractive returns. The obvious answer is riskier investments, as what indeed transpired in the U.S. in the years leading up to the crisis.

Biblical Perspectives

The story of excess liquidity is a tale of ephemeral prosperity – a prosperity that is driven by the avid pursuit of immediate gains not supported by the true (long term) value of underlying assets. Whether it is government decision makers, consumers, or professional money managers, the obsession with "now" is incompatible with the creation of true prosperity in the long run. More importantly, the decoupling of gain from value creation violates a fundamental trust in stewardship, which is to serve the best interest of the owner or principal. Since God is the owner of all created things (Psalms 24:1; Haggai 2:8), Christians in particular would be well to avoid the trap of short-termism.

The actions of the patriarch Joseph when he was languishing in Egypt after being sold by his brothers as a slave offer some valuable insights into stewardship principles during cycles of boom and bust. Upon being appointed overseer of the country by Pharaoh and in anticipation of the God-revealed impending calamity in the wake of a period of exceeding prosperity, Joseph implemented a countercyclical plan that focused on creating long term wealth. He collected and stored up one-fifth of all the grains from the Egyptians during the period of abundance, and strategically used the grains as currency to acquire all of the nation's productive resources (land, cattle, and labor, as slaves) in the subsequent period of adversity. In the mean time the shortsighted Egyptians, who apparently failed to save up for the rainy days, begged for a government bailout (Genesis 41).

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The story reminds Christians what stewardship truly entails. First, a steward must be faithful (1 Corinthians 4:2) and serves the owner's best interests in the long haul. Throughout his sojourn in Egypt, Joseph acted to maximize the earthly interests of his human masters (Potiphar and Pharaoh) and the divine interest of his heavenly master (God). He pursued these without falling for short term gains: witness his resistance to the advance of Potiphar's wife (Genesis 39:8-9), his single minded pursuit of wealth for Pharaoh (Genesis 47:14, 20-26), and his kindness towards his brothers because of his understanding of God's divine purpose (Genesis 45:4-5). For Joseph the principal-agent problem, where agents exploit the principal for personal gain, is simply a non-issue. The long term interest of the principal should always be the goal of a faithful steward. Warped incentive structures were a common feature of the recent crisis. From the government enacting ill-conceived short term policy fixes, to investment managers feeding off option-like compensation schemes,[4] to executives presiding over poor track records being rewarded with exceptionally lucrative contracts (Bogle, 2009, p. 36-40), there is much to be said about conflicts between the behaviors of these market participants and the dictates of Christian stewardship.

Second, a steward seeks to maximize the real (vs. nominal) worth of the resources in trust. This means the steward would pursue outcomes that bring absolute returns as the long term potential (intrinsic) value of an investment is realized.[5] This is accomplished without compromising the safety of principal. For Joseph, the real value of his trust was maximized through the methodical acquisition of physical capital (land, livestock, and labor) and the institution of incentive production arrangements (Genesis 47:20-26). In the recent crisis, most excess liquidity found its way into short term speculative and transient profit ventures. What if this financial capital had instead been channeled into opportunities that reward growth of long term production possibilities? The delusion of value pursuant to the notion of financialization, where a capital market focus will put emphasis not on the "true value of economic fundamentals, but on how their value is perceived and assessed by markets" (Dembinski, 2009, p. 90), together with the seductive allure of speculative ventures constitute "a giant distraction from the business of investing" (Bogle, 2009, p. 54). The Biblical alternative emphasizes instead a priority on projects that would enhance an enterprise's long term competitiveness. Strategic investments in human capital, customer loyalty, supply chain relations, production capacity, operational efficiency, or new product innovation are what create long term value and drive the accumulation of wealth. For consumers lured by the glitter of a raging real estate market and the generous terms of teaser loans, Proverbs 24:27 offers a sound reminder that wealth accumulates from production, and comfort follows from a prudent attitude of work, preparation, and contentment. The short cut to possessions that one cannot afford is, witness the subprime fiasco, littered with ruin and destruction.

Third, a steward saves strategically for a better, albeit uncertain, future. Strategic investments requiring capital reserves are in greatest demand exactly when such resources are universally in short supply. Joseph saved while the good times lasted, but the Egyptians spent what they did not have in view of the shortage lurking in the background. Deficit spending becomes unnecessary when there are adequate reserves. In the final analysis, a scarcity problem of the real economy can only be solved by the creation of real supply, not by borrowing and shoving the problem to the future.[6] Disciplined saving is a sound Biblical principle for decision makers in the public and private sectors alike.

Fourth, a steward invests in relationships and builds equity as shrewd counsel and trusted executor for the principal. Joseph invested wisely in his relationship with God, Pharaoh, and Potiphar by being honest and submissive. He secured his position by building trust and credibility. In contrast, the notion of financialization rewards short term risk taking instead of long term value creation, an investment philosophy driven by turnovers instead of commitments and trust. Similarly, relationship building is hardly a priority of day traders, leveraged buyout artists or arbitrageurs who seek quick returns from the rapid turnover of portfolios. Even in government policies dealing with the macro economy, credibility is an important success factor but is often compromised in the haste to attain short term goals (Burdekin,1995). By slighting relationships that build from a deep understanding of the expectations, desires, values, and capability of stakeholders, speculators dwell on the emotions of markets instead of the economics that controls long term results. Joseph's example illustrates why building trust and credibility with stakeholders is a strategic investment that promises handsome payoffs particularly when challenging times are at hand.

Finally, if excess liquidity is a sign of prosperity, then Joseph's story tells us that it needs to be recognized as always a blessing from God. The prosperity of Joseph's time carries a unique divine purpose – to prepare the nation building of Israel. Toward this goal the nations, along with Jacob's family, were saved because Joseph understood God's purpose in it all. In Jesus' parable of the rich fool (Luke 12:16-21), prosperity is mistaken by the fool to be something earned by self-interested human labor. Thinking the wealth is his to lose, he seeks gratification in self glory and financial independence. This misunderstanding is, literally, a fatal mistake. For Christians the global financial crisis serves as a reminder that God is the sovereign owner of all and prosperity is a privilege, not a right. As in Joseph's case, the Scripture often attaches to prosperity the obligation of delivering or helping others in need (Proverbs 19:17; 1 John 3:17), such that a "fairness" in the balance of wealth is to be preserved (2 Corinthians 8:13-15). For the Christian manager-steward, success could mean an opportunity to reassess financial commitments to lower level employees, to reliable vendors going through temporary hardship, or to charitable causes that advance the moral purpose of the enterprise. As Henry (1955) observed, "Throughout the Bible the good life is represented as divinely rewarded" and "the Bible places the whole subject of profit in a moral and spiritual context; it legitimizes the principle of reward, but bounds it with a stern sense of justice and ethical obligation" (p. 1247).

EXCESS LEVERAGE

Financial leverage refers to the use of debt (and/or financial instruments with built in debt-like effect) with the intention of amplifying the potential return of an investment. Since potential returns can be positive or negative, the amplification effect in essence increases the volatility of expected returns. The recent financial crisis is marked by an excessive degree of indebtedness in the U.S. In the housing sector, total debt as a percent of GDP rose from about 70 percent to 100 percent during 2000-2007, and one in four of all U.S. residential mortgages had a loan-to-value ratio of more than 100 percent (Hall, 2008). In the financial sector, total debt surged from 83 percent to 116 percent of GDP during the same period (Ferri, 2008, p. 211). Many securities firms saw their leverage ratio rocketed to 33 to 1 instead of the pre-crisis average of 12 to 1, meaning that a mere 3 percent decline in asset values would wipe out the firm's capital (Blinder, 2009).

Both supply and demand factors played a role in the surge in leverage. In the housing sector, sustained rises in housing prices began to fuel a speculation frenzy. This surge in demand was met with a willingness of lenders to lower lending standards on account of plentiful liquidity, regulatory mandates, and the ease of transferring credit risks to external investors using securitization (Schwartz, 2009). In the financial sector, leverage is the essence of financial institutions which borrow short and lend long. While undoubtedly a main source of profit, leverage also necessarily elevates the liquidity risk of financial institutions. In 2007, the Financial Accounting Standards Board (FASB) changed the rules and determined that banks needed to list assets on their balance sheets at a value equivalent to their worth on the open market instead of simply at their face value ("marking-to-market"). It is common practice that banks manage their balance sheets actively in response to changes in anticipated risks and asset prices. As asset price increases, banks actively managing their balance sheet and leverage ratio will seek out asset expansion opportunities, including lowering lending standards and thus sowing the seed for sub primes. When asset values plummet unexpectedly and the fire sale of assets prove costly, banks would suddenly be saddled with excessive leverage (Greenlaw, Hatzius, Kashyap, & Shin, 2009).

For securities firms, high leverage is simply a result of yield seeking behavior in a competitive market with too much liquidity. As one exasperated fund manager lamented, "the amount of leverage available is just so strong, very scary, but very strong. Leverage is available in record amounts. We're all going to struggle for returns" (as cited in Calvey, 2006). In an environment where there is insufficient regulatory oversight and borrower behavior is difficult to monitor, increased leverage encourages risk-seeking behavior on the part of the borrower. This risk, commonly known as a moral hazard, results from the borrower not having enough "skin in the game" (Mishkin, 2007, p. 195-6). In other words, taking risky positions with large potential payoffs amounts to the equivalent of "heads I win; tails you lose." Thus, in spite of the opacity of the underlying value of credit derivative products such as CDOs, they offered strong appeal to highly leveraged asset managers. Similarly, in spite of the inherent instability of the cost of adjustable rate mortgages (ARMs), less creditworthy home buyers found low or no equity (down payment) loans alluring as they can walk away from the home if and when they go under water.[7] Leverage thus increases risk both by its direct impact on the volatility of investment returns and the effect it has on the nature of the investment itself.

Further complicating the leverage picture is the widespread term mismatch between the debt incurred and the asset that was to be financed. Mortgages are long lived assets but adjustable rate loans as well as the credit facilities underlying the financing of mortgage-backed securitized pools are short term in nature. As a result borrowers need to refinance (rollover) their debt periodically and their ability to do so is very much dependent on lenders' risk perception at the time of the renewal. As uncertainty over the U.S. housing market emerged in 2007, credit markets quickly froze and the global economy was plunged into turmoil. This came as banks, many overly leveraged themselves and unsure about the value of their own balance sheet and thus lending capacity, were leery of extending credit to highly leveraged borrowers (i.e., broker-dealers, securities firms, hedge funds). The retraction of credit forced some investors to fail and the housing bubble to further deflate. This deleveraging process is painful because non-bank financial companies had to shed assets quickly, reinforcing a downward spiral in asset prices and the uncertainty over collateral value and lending capacity (Dudley, 2009). The entire securitization market simply evaporated in a matter of weeks.

Biblical Perspectives

Both Scripture and Jewish traditions allow the practice of lending and borrowing,[8] although there is clear prohibition against interest-bearing loans among Jews, particularly if the debtor is poor (Exodus 22:25; Leviticus 25:35-37; Deuteronomy 23:20). The restriction against usury may be justified as a form of social insurance in economies with no alternative credit markets (Glaeser & Scheinkman, 1998), but perhaps more plausibly as a means to redress income inequality (Schein, 2003) or to preserve the economic vibrancy of a largely subsistence economy (Lippman, 2008). In Biblical times savings rarely served as sources of productive capital; therefore their lending was primarily meant to smooth out consumption cycles. Since interest takes a bite out of the debtor's financial worth and his/her lifetime consumption, it is not looked at kindly "in a covenant society which comprised one social unit and in which each individual was his 'brother's keeper'" (Schein, 2003, p. 792).

If the prohibition of interest is primarily to redress the inequality issue, then any form of financial transaction that has the potential of enriching one party at the expense of another would be equally unacceptable. Capital gains ensuing from speculative activities or simply changing market conditions would belong to the same category (Lippman, 2008). Apart from moral objections to lending activities, the Bible clearly warns against the danger of enslavement from indebtedness and financial ruin under insolvency (Proverbs 22:7, 26-27; Psalms 37:21). To minimize such dangers the Bible teaches the virtue of budgeting (a prudent financial and contingency plan)(Proverbs 6:6-8, 24:3-4; Luke 14:28-30) and the discipline to determine an ability to repay before contracting debt (Proverbs 3:27-28; Psalms 37:21; Ecclesiastes 5:5).

In the modern economy lending activities serve a legitimate and important function in channeling the efficient allocation of capital. By directing capital to where productive opportunities promise innovations and growth of aggregate output, lending helps to expand future societal consumption possibilities. For the consumer, lending helps to accelerate the consumption time frame and stimulate aggregate demand. However, as discussed above, excess leverage raises serious questions about the economic efficiency of credit markets. This is because such activities breed risk-seeking behavior and inflate asset bubbles where capital competes for the speculative, instead of intrinsic value of investment opportunities.

Biblical teachings provide many insights into the excessive use of debt in financial transactions. First, as mentioned before, excess leverage leads to moral hazards, where the borrower engages in risky activities that could harm the lender and pose threats to the broader market when practiced on a massive scale. An exegesis of the Biblical restriction on usury (and by extension, capital gains) would suggest that any financial transaction characterized by exploitative self-interest is anathema to God (Ezekiel 22:12). According to St. Thomas Aquinas, commutative (i.e., preserving of a fair share) justice is violated when a party to the contract seeks to profit "by imposing a risk on someone who is not compensated for bearing it because of ignorance or necessity" (Gordley, 1998, p. 12). These considerations suggest that from a Biblical perspective the use of excessive debt in financial transactions is likely to raise specific moral issues. For Christians, speculative and corporate buyout activities using lots of leverage must answer to the concern whether the motive of such ventures is exploitative in nature. At a minimum, stakeholders have the right to be fully informed of the intent and risks of such transactions. The debtor also must assume a moral obligation to protect the interests of all stakeholders while pursuing a profit objective.

Second, the Biblical admonition against insolvency (Psalms 37:21, 22:26-27; Ecclesiastes 5:5) highlights the critical need for discipline in formulating and executing prudent budgets and plans. Financial leverage binds cash flows and heightens the risk of financial distress. By nature financial firms assume a lot of leverage. Since they are also exposed to other risks (e.g., credit, interest rate, and operational), planning with deep foresight is essential for safeguarding financial soundness in volatile markets. Corporate managers who guide these firms should be especially sensitive to ventures or investments with opaque risk profiles. A sensible strategy is to eschew excessive leverage and insure a level of capital adequacy as the first line of defense against the volatility of asset values. As the recent financial crisis demonstrated, even assets that were thought to be off the book have unexpectedly come back on, to the dismay of many bankers (Dudley, 2009). Overconfidence and pride may cause managers to abandon prudent judgment and follow competitors to unsound strategic transactions ("herding"), only to find out later that it is a foolhardy, costly move. When it comes to untried methods and products, particularly if the stakes are high and the pressure is intense, patience is the trustworthy ally, not pride (Ecclesiastes 7:8).

Finally, the Biblical reference to subservience (Deuteronomy 28:44; Proverbs 22:7; 1 Corinthians 7:23) in debtor-creditor relations highlights the fact that financial freedom can be easily compromised by both the load and the uncertainty of debt obligations. Excess leverage magnifies both dimensions of such encumbrance. Greater leverage means greater incremental cost of borrowing due to higher default risk premiums. To save cost debtors then often choose to finance long lived assets with cheaper, short term credits, thus exposing them to renewal (rollover) rate risk. Subprime borrowers with little equity especially live at the mercy of interest rate vicissitudes. They walk right into the subservience trap on day one but choose to gamble on the outcome of a situation which they believe, often erroneously, they could walk away from with little to lose. A Christian practitioner in the mortgage trades has the moral obligation to advise against such contractual obligations if the consumer is judged to be at high risk of default. Just as Jesus asks, "What good will it be for a man if he gains the whole world, yet forfeits his soul?" (Matthew 16:26), we may ask "have the underwriters of subprime mortgages lost their souls?" Surely as Christians our action for profit making must carry an ultimate obligation to the spiritual and moral dignity of man as created in the image of God. Helping a susceptible homeowner to avoid the trap of subservience is a moral duty of the Christ follower who is blessed with the insight of financial transactions.

EXCESS RISK-TAKING

Excessive leveraging spurs risk-taking behavior, and the most prevalent manifestation of such behavior is speculation. The confluence of factors such as abundant liquidity and cheap credit, declining risk premia across a wide spectrum of asset classes, the moral hazard of option-like compensation of asset managers, and the rapid growth of derivative markets engendered a system-wide explosion in speculative activities in capital markets prior to the crisis (Trichet, 2009). As an example of the dramatic upsurge in speculation,

> *by the beginning of 2008, the value of these derivatives of the S&P 500 Index–these futures and options–totaled $29 trillion, more than double the $13 trillion market value of the S&P 500 Index itself. That expectations market, then, would be at least double the value of the total market, even if the high turnover activity in the S&P 500 Index stocks themselves were not dominated, as it is, by speculative trading (Bogle, 2009, p. 57).*

Speculative activities undermine the task of risk management because "increased interdependence in speculative markets made safe investments volatile" (Widmer & Coffin, 2009, p. 30). Hedge funds, which experienced phenomenal growth globally since 2000 and managed an estimated $2.5 trillion of assets by 2008 (Ineichen, 2008, p. 16), offered a case in point. In spite of the risk balanced connotation of the hedge fund label, these active asset managers often practice aggressive, directional bets with substantial sums of capital and excessive leverage, thereby magnifying price effects, a key source of systemic risk (Spatt, 2009). Another example is the upsurge of Credit Default Swaps (CDS) trading, where the outstanding value of CDS contracts reached more than five times the outstanding principal of global corporate bonds by the end of 2007, versus only 85 percent in 2004 (Jenkinson et al., 2008, p. 331). CDSs effectively represent credit insurance or credit guarantees that enable investors in debt instruments to shift some of their credit risk exposure to other parties. The sizable gap between the aggregate value of contracts and the underlying securities, however, signified that a disproportional amount of these contracts did not involve an insurable interest in the debt. In other words they were merely tools for gambling on the fate of an unrelated party. This drastically compounded the liquidity risk faced by the unrelated party even while it attempted to manage its own credit risk exposure.

While speculative behavior added to market volatility and uncertainty, it was the extinguishment of faith that surprisingly magnified the systemic and global nature of the subsequent fallout. As economist and Nobel laureate Paul Krugman (2008) observed, the financial meltdown was "more than a subprime crisis; indeed, it's more than a housing crisis. It's a crisis of faith" (p. A23). Etymologically, the word "credit" is rooted in the Latin "credere", or "trust." It is understandable, therefore, that faith, or trust, is tightly coupled with a stable financial system. However, recent technological innovations and market integration have allowed the rise of a complex web of innovative financial products and contractual arrangements to supplant the traditional object of trust – the human counter party. Faith is now increasingly rooted in a system that supports the simultaneous betting on directional price movements and the dispersion of risk across a vast pool of market participants (e.g., in securitization).

Interestingly the irony of this displacement of trust lies in the fact that this risk-diffusing system is built largely on ignorance. The complexity and lack of known performance history of the innovations, the segregation between credit holders and investors, and the non-transparency of counterparties behind the expansive web of risk exchange contracts (Coval, Jurek & Stafford, 2009; Jenkinson et al., 2008; Lipsky, 2009; Schwartz, 2009) made a mockery of trust. A single point failure in this complex web of linkages therefore poses unknown exposure to all parties. This in fact underscored the swift and dramatic loss of investor confidence and evaporation of liquidity in global financial markets in the recent crisis (Blount 2009; Pengelly, 2009).

BIBLICAL PERSPECTIVES

The Bible contains a surprisingly rich number of references to risk-taking, typically in connection with a hope or expectation of returns driven by a trust in God's faithfulness. Indeed the stories of faith in the Scriptures are largely stories celebrating the rewards of risk bearing.[9] These examples echo a recurrent Biblical theme that God invites a risk-taking attitude and rewards it in the long run (Gregersen, 2003). An excellent illustration of how this trust works into our lives is provided by Daniel, the Jewish captive in Babylon who rose to a stellar political career covering seventy years of Babylonian and Persian rule (Daniel 1-10). Throughout his life Daniel's triumphs over trials and conquests over doubts were grounded in his steadfast trust in God. It is noteworthy, however, that his trust was built on an acute awareness of the predictability and dependability of the Sovereign, an awareness sharpened unmistakably by the acts of constant interaction and fellowship with the Almighty.[10]

Daniel's example gives important insights into trust and risk taking. First, Biblical trust, as illustrated by Daniel, rests with the Creator of the universe who has proven Himself to be trustworthy over the entire history of humankind. In contrast, market trust rests with counterparties and innovations that are vulnerable to human and institutional fragilities. God's Word, and the constantly abiding wisdom that comes from its exposition and interpretation, must be the foundation of trust for all Christian market participants through cycles of boom and bust, stability and upheaval. God will reward the faithful with an inward peace if they abide by His precepts (Psalms 119:165).

Second, whether someone or something can be trusted to perform according to expectation is a function of how well that someone or something is understood. To understand something requires competence and knowledge. Daniel's extraordinary tenure as a highly respected senior official in the royal courts of a captor empire testifies to his outstanding skills, knowledge and understanding (Daniel 5:12, 6:3). One could only wish that this were also true with the stakeholders (i.e., buyers, sellers, insurers, and credit raters) in structured finance transactions, many of whom were surprised by how little they knew about these instruments after the meltdown. The Daniel in all Christians should say ignorance is a sure path to ruin.

Third, organizations do not take risk; individuals do. To understand and trust an outside party means to understand and trust the people behind the organization. Daniel trusted and gained trust from people critical to his success (Daniel 1:9, 2:14, 4:9 6:18-23). The Christian investor needs to be an astute judge of character and a cautious believer in everyone with whom he/she is entrusting a business (let alone financial) relationship.

Just as Daniel must have learned from his daily walk with God that faith rests on testimonies, so the Christian investor builds trust by tirelessly seeking evidence of the business partner's integrity, sincerity, and a value system consistent with Christian ethical beliefs. As Proverbs teaches, "The simple believes every word, but the prudent considers well his steps" (14:15).

Lastly, the theme running through the whole book of Daniel is that the affairs of men are subject to God's decrees, and that He is able to accomplish His will despite the most enervated of human spiritual conditions (Archer, 1985, p. 8). Speculators are often risk-takers blinded to the guide of a moral compass. As famous speculator George Soros remarked,

> *I am sure that speculative activities have negative consequences but I never think about them and cannot afford to think about them. If I stopped doing some things because of moral scruples I would have to stop being a speculator (cited in de Satins, 1998, p. 20).*

During the recent crisis, speculators found willing co-conspirators in risk managers who showed "a willful blindness that goes along with greed" and "have become a little too comfortable in a good market" (Widmer & Coffin, 2009, p. 30). Instead of a passive acceptance of what fate may befall the ungodly, Daniel would boldly declare even in front of the most pagan authority that redemption is available through righteousness and the demonstration of unselfishness by showing mercy to the poor (Daniel 4:27). By his testimony, one of the most ruthless dictators in human history was restored (Daniel 4:34-37). It is by the spirit-enabled truthfulness and boldness to testify to the redemptive power of God in the darkest hours of the storm that the Christian can witness how God, again, has advanced His intelligent, moral goal through another chapter of human history.

CONCLUSION

The unprecedented financial maelstrom that tore apart the global economy in recent months is a valuable lesson in "excesses." The excesses of liquidity, leverage, and risk-taking, which underscored practically all historic economic crises induced by financial manias, were in horrific display in the latest upheaval. But while the world wrestled with the issues of blame, mandates and reforms, Christians need to discern God's will that awakens them once again to the fallacy of "human" solutions to what in essence are spiritual problems. As Henry (1955) properly concluded,

> *All schemes of economic recovery which isolate economic thought and behavior from the spiritual and moral world cannot secure human well being, because economic activity which is not in the service of God gravitates to the service of the demonic...Separate the economic sphere from the living God and His claims, and men will drift from one crisis to another under any economic formula (p. 1244).*

The good news is that human frailties can be mended by divine wisdom as contained in God's Word. The discerning and obedient Christian is uniquely equipped to prevail over cycles of financial prosperity and adversity. But the greater good will come if Christians can boldly witness to a disheartened and confused world that only faith in God can redeem humankind for a true, lasting peace and prosperity.

ENDNOTES

[1]Securitization is the process of pooling and repackaging loans into securities that are then sold to investors. The process begins when a lender (usually a bank or a finance company) creates a special-purpose entity (e.g., a corporation or a LLC) and transfers to it the ownership of a portfolio of loans. Ownership shares in the special-purpose entity can be sold to investors or, alternatively, the bank can retain ownership but issue securities that promise investors interest and principal payments after these are collected from borrowers. The portfolio of loans can also be repackaged and a set of claims with prioritized default structures (called "tranches" or Collateralized Debt Obligations (CDOs)) is issued. For further discussions see Ergungor (2003) and Coval, et al. (2009).

[2]These effects include inflationary pressure, reduced capital formation, retarded economic growth, and the formation of asset bubbles leading to financial crises (see, for example, Abel & Bernanke (2005, p. 589-91), Blanchard (2006, p. 563), Borio & Lowe (2004), European Central Bank (2005), Taylor (2009a), and White (2009)). This is not to suggest, however, that government policies are solely responsible for the recent financial crisis. Although there have been continuing debates on the extent to which government policies could have contributed to the recent crisis, it is safe to assume that the historic financial meltdown resulted from the unfortunate confluence of multiple institutional, technological, as well as policy factors.

[3]The policy initiative started with the 1973 Community Reinvestment Act (CRA), primarily using the two government sponsored enterprises (GSEs) Fannie Mae and Freddie Mac to purchase mortgage loans and engineer mortgage backed securities, called agency issues. It cumulated in the 2003 American Dream Downpayment Initiative (ADDI). See Jaffe & Quigley (2008) for further discussion.

[4]A typical compensation structure for hedge fund managers is the 2/20 formula. According to Goldberg (2009), "In the hedge fund world, 2 and 20 is a term that is widely known, widely used, and perhaps widely debated. It refers to the fee structure of the typical hedge fund: the investor annually pays the hedge fund manager 2 percent of his or her investment as a management fee, plus 20 percent of any profits the fund produces for the investor" (p. 53). The structure does not provide any incentive for the asset manager to avoid taking excessive risk since they are not financially penalized by losses. Even the stigma of poor results might be avoided since in a down market with all funds pursuing risky bets relative fund ranking may indeed be preserved.

[5]The concept of intrinsic (or fundamental) value is well established in finance theory. It refers to the risk-adjusted discounted value of the long term earnings power of an asset (Bodie, Kane, & Marcus, 2009, p. 589). Since the earnings ability of an asset in the long run is tied to its real productive capacity, the prospective returns of investing activities are derived from the ultimate realization of the asset's expected productivity. The emphasis on fundamental value has a long tradition in investment theory, where respected "value theory" advocates such as Benjamin Graham would go so far as to declare "an investment operation is one which, upon thorough analysis promises safety of principal and an adequate return. Operations not meeting these requirements are speculative" (Graham, 1973, p. 18). To Graham, the safety of principal and an adequate return are necessary results of seeking out undervalued assets with solid promises of long term incremental value.

[6]Imagine what would happen if Joseph did not save enough and issued tradable vouchers for grain (deficit spending by printing money). The shortage problem is not solved but the action does shift the problem to the future since the vouchers are store of value. The more vouchers are issued, the greater their nominal (but not real) value, and inflation ensues. In economics this can be understood as a fiscal shock resulting in a boost in aggregate demand when long run aggregate supply has declined. The end result is a rise in the price level with no real change in supply.

[7]In a strategic default, where a homeowner chooses to walk away from the mortgage when the value of the house is less than the outstanding amount of debt, the homeowner most likely would have to file for bankruptcy before the residual debt from the house can be eliminated. The terms of the note and the attitude of the mortgage lender will govern the outcome. The fact that borrowers have a high probability of facing financial ruin in high loan-to-value mortgage transactions makes predatory subprime lending practices especially condemnable. In the U.S., the percentage of loans on single family residences that was in the process of foreclosure rose dramatically, from 1.69 percent at the start of the crisis in the third quarter of 2007 to 4.47 percent by the third quarter of 2009, a historic high, with subprime foreclosure rates at least twice as high as those of prime loans (Mortgage Bankers Association, 2009).

[8]For Biblical references, see Exodus 22:14, 24, Leviticus 25:35-37, Deuteronomy 23:20-21, 2 King 4:7, Proverbs 28:8, Luke 19:23, Matthew 18:23-4. For a discussion of lending practices in traditional Jewish laws, see Lippman (2007, p.

113-17).

[9]Some notable examples include Noah's "foolhardy" plunge into maritime enterprising in the middle of a dry desert (Genesis 6), Abraham's self-imposed exile in search of an elusive "promised land" (Genesis 12) and sacrifice of only son Isaac at God's bidding (Genesis 22), Moses' volitional fall from royalty to unlikely commander of an unruly multitude wandering off to an uncertain destiny (Exodus 13-14), David's repeated sparing of King Saul's life at his own peril (1 Samuels 24, 26), and Elijah's spectacular contest of faith on Mount Carmel against the prophets of Baal and the menace of a wicked queen (1 Kings 18-19).

[11]The assertion that faith, in particular faith in the Creator God, is risk taking may warrant further explanation. Although believers trust in the fulfillment of God's promises, as humans we do not foreknow the exact outcome of God's deliverance or the manner in which God chooses to deliver. In fact God may and often does deliver in a rather unexpected way, even ways contrary to our wishes. That actual outcomes may deviate from expected outcomes is defined as risk. In this respect there is little difference between taking risk and faith. Furthermore, in spiritual risk taking believers pursue a course of action either out of obedience to God's commands or to avoid God's punishment. Thus these actions carry opportunity costs, much in the same way financial risk taking carries costs that must be justified by the expected gains.

[10]According to Scriptures, Daniel is undoubtedly a man of prayer. His praying discipline is inexorable and at times of trials and distress it redoubles as a conduit of assurance of God's faithfulness. This is seen in such occasions as when he needed mercy (Daniel 2:17-18), deliverance (Daniel 6:10), or the forgiveness of sins for those for whom he intercedes (Daniel 9:3-4)

REFERENCES

Abel, A., & Bernanke, B. (2005). Macroeconomics (5th ed.). Upper Saddle River, N.J.: Pearson Education, Inc.

Alberola, E., & Serena, J. (2008). Reserves, sovereign wealth funds and the resilience of global imbalances. Economic Notes by Banca Monte dei Paschi di Siena SpA, 37(3), 315-343.

Archer, G. (1985). Daniel. In Gaebelein, F. (Ed.), The Expositor's Bible Commentary, Vol. 7 (p. 3-157). Grand Rapids, MI: Zondervan.

Argitis, G., & Pitelis, C. (2008). Global finance and systemic instability. Contributions to Political Economy, 27, 1-11.

Blanchard, O. (2006). Macroeconomics (4th ed.). Upper Saddle River, N.J.: Pearson Education, Inc.

Blinder, A. (2009, February 5). Six errors on the path to the financial crisis. International Herald Tribune. Retrieved from http://www.nytimes.com/2009/01/25business/worldbusiness/25iht25view.19647733html?r=1&scp=9&sq=alan%20blinder&st=cse.

Blount, E. (2009). Liability dynamics: A new analytic framework for counter party risk management? The RMA Journal, 91(6), 26-29.

Bodie, Z., Kane, A. , & Marcus, A.J. (2009). Investments
(8th ed.). New York, N.Y.: McGraw Hill/Irwin.

Bogle, J. (2009). Enough. Hoboken, N.J.: John Wiley & Sons.

Bordo, M. (2009). The crisis of 2007: The same old story, only the players have changed. In Evanoff, D., Hoelscher, D., & Kaufman, G. (Eds.), Globalization and Systemic Risk (p. 39-50). Singapore: World Scientific Publishing Co.

Borio, C., & Lowe, P. (2004). Securing sustainable price stability: should credit come back from the wilderness? Bank of International Settlement Working Papers No. 157.

Burdekin, R. (1995). Confidence, Credibility, and Macroeconomic Policy: Past, Present, Future. Florence, KY: Routledge.

Bureau of Economic Analysis, U.S. Department of Commerce. (2009). U.S. International Transactions Accounts Data [Data file]. Available from http://www.bea.gov/international/index.htm#trade.

Calomiris, C. (2009). Financial innovation, regulation, and reform. Cato Journal, 29(1), 65-91.

Calvey, M. (2006, November 16). San Francisco financier Warren Hellman finds billions for private equity 'scary'. San Francisco Business Times. Retrieved from: http://sanfrancisco.bizjournals.com/sanfrancisco/stories/2006/11/13/daily47.html.

Corden, W. (2009). The world credit crisis: Understanding it, and what to do. The World Economy, 32(3), 385-400.

Coval, J., Jurek, J., & Stafford, E. (2009). The economics of structured finance. Journal of Economic Perspectives, 23(1), 3-25.

De Satins, A. (1998). Does finance have a soul? Review of Business, 19(4), 18-22.

Dembinski, P. (2009). Finance: Servant or Deceiver? Financialization at the Crossroads. Basingstoke, U.K.: Palgrave Macmillan.

Dudley, W. (2009, April 18). The Federal Reserve's liquidity facilities. Speech delivered at the Vanderbilt University Conference on Financial Markets and Financial Policy Honoring Dewey Daane. Retrieved from http://www.bis.org/review/r090422c.pdf.

Ergungor, O. (2003, August 15). Securitization. Federal Reserve Bank of Cleveland, Economic Commentary. Retrieved from http://www.clevelandfed.org/research/commentary/2003/0815.pdf.

European Central Bank (2005, April). Asset price bubbles and monetary policy, Monthly Bulletin, 47-60.

Ferri, G. (2008). The context of the global financial crisis. Economic Notes by Banca Monte dei Paschi di Siena SpA, 37(3), 211-217.

Froud, J., Haslam, C., Johal, S., & Williams, K. (2000). Shareholder value and financialization: consultancy promises, management moves. Economy and Society, 29(1), 80-110.

Glaeser, E., & Scheinkman, J. (1998). Neither a borrower nor a lender be: An economic analysis of interest restrictions and usury laws. Journal of Law and Economics, 41(1), 1-36.

Goldberg, R. (2009). The Battle for Wall Street. Hoboken, N.J.: John Wiley & Sons.

Gordley, J. (1998). Good faith and profit maximization. Review of Business, 19(4), 11-17.

Graham, B. (1973). The Intelligent Investor (Revised ed.). New York, N.Y.: HarperCollins Publishers.

Greenlaw, D., Hatzius, J., Kashyap, A., & Shin, H. (2009). Mortgage market meltdown. Retrieved from http://faculty.chicagobooth.edu/anil.kashyap/research/MPFReport-final.pdf.

Gregersen, N. (2003). Risk and religion: Toward a theology of risk taking. Zygon, 38(2), 355-376.

Hall, K. (2008, November 23). Housing is bad enough, but wait – it will get worse. McClatchy Washington D.C. News Bureau. Retrieved from http://www.mcclatchydc.com/336/story/56241.html.

Henry, C. (1955). Christianity and the economic crisis. Vital Speeches of the Day, 21(15), 1243-1248. Retrieved from Military and Government Collection Database.

Ineichen, A. (2008). AIMA's Roadmap to Hedge Funds. Retrieved from http://www.aima.org/en/knowledge_centre/education/aimas-roadmap-to-hedge-funds.cfm.

Jaffe, D., & Quigley, J. (2008). Mortgage guarantee programs and the subprime crisis. California Management Review, 51(1), 117-143.

Jenkinson, N., Penalver, A., & Vause, N. (2008). Financial innovation: What have we learnt? Bank of England, Quarterly Bulletin, 48(3), 330-338.

Keener, G., & Tuttle, M. (2007). The U.S. current account: The impact of household wealth. Journal of Economics and Economic Education Research, 8(2), 21-31.

Kindleberger, C., & Aliber, R. (2005). Manias, Panics, and Crashes. Hoboken, N.J.: John Wiley & Sons.

Krugman, P. (2008, February 15). The crisis of faith: [Op-ed]. The New York Times, p. A23. Retrieved from http://www.nytimes.com/2008/02/15/opinion/15krugman.html.

Lazonick, W., & O'Sullivan, M. (2000). Maximizing shareholder value: a new ideology for corporate governance. Economy and Society, 29(1), 13-35.

Lippman, E. (2008). Biblical safeguards and traditions as potential guidance for the lending of monies. Journal of Business Ethics, 78(1-2), 108-120.

Lipsky, J. (2009). Through the looking glass: The links between financial globalization and systemic risk. In Evanoff, D., Hoelscher, D., & Kaufman, G. (Eds.), Globalization and Systemic Risk (p. 3-10). Singapore: World Scientific Publishing Co.

Mercuro, N., & Medema, S. (1998). Economics and the Law: From Posner to Post-Modernism. Princeton, N.J.: Princeton University Press.

Miller, M., Weller, P., & Zhang, L. (2002). Moral hazard and the U.S. stock market: Analyzing the 'Greenspan Put.' The Economic Journal, 112(478), 171-186.

Mishkin, F. (2007). The Economics of Money, Banking, and Financial Markets. Boston, MA.: Pearson Education.

Mortgage Bankers Association. (2009).
National Delinquency Survey: Historical Reports.

Office of Management and Budget. (2009). Budget of the United States Government, Fiscal Year 2009. Retrieved from http://whitehouse.gov/omb/budget/fy2009/pdf/hist.pdf.

Panageas, K. (2009, February). Decline and fall of securitization markets. Retrieved from http://www.igm-chicago.org/2009/03/02/finance-workshop-decline-and-fall-of-securitization-markets.

Pengelly, M. (2009). Rocked by counterparty risk. Risk, 21(11), 20-24.

Schein, A. (2003). Of Biblical interest, brotherhood and charity. International Journal of Social Economics, 30(7/8), 788-797.

Schwartz, A. (2007). The role of monetary policy in the face of crises. Cato Journal, 27(2), 157-163.

Schwartz, A. (2009). Origins of the financial market crisis of 2008. Cato Journal, 29(1), 19-23.

Spatt, C. (2009). Systemic risks in our global marketplace. In Evanoff, D., Hoelscher, D., & Kaufman, G. (Eds.), Globalization and Systemic Risk (p. 313-330). Singapore: World Scientific Publishing Co.

Taylor, J. (2009a). Getting Off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis. Stanford, CA.: Hoover Institution Press.

Taylor, J. (2009b, February 9). How government created the financial crisis. The Wall Street Journal, p. A19.

Trichet, J. (2009, April 18). The global dimension of the crisis. Speech delivered at the Foreign Correspondent's Club of Japan, Tokyo. Retrieved from http://www.bis.org/review/r090423a.pdf

Warnock, F. (2008). The impact of a disorderly resolution of global imbalances on global wealth. Economic Notes by Banca Monte dei Paschi di Siena SpA, 37(3), 345-379.

White, L.(2009). Federal Reserve policy and the housing bubble. Cato Journal, 29(1), 115-125.

Widmer, L., & Coffin, B.(2009). Recipe for disaster. Risk Management, 56(2), 26-28, 30-31.

Williams, K.(2000). From shareholder value to present-day capitalism. Economy and Society, 29(1), 1-12.

Zandi, M.(2009). Financial Shock: A 360o Look at the Subprime Mortgage Implosion and How to Avoid the Next Financial Crisis. Upper Saddle River, N.J.: FT Press.

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