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A positive economics view of short selling

Abstract

One of the most hotly contested investment practices during the global financial crisis (GFC) was short selling, with the strategy receiving attention approaching histrionic proportions from corporate executives, investors, media, regulators and politicians alike. This paper examines the practice of short selling through the lens of positive economics, examining the largely normative debate surrounding this unorthodox market behavior and its role in society. In exploring the economics of short selling, the authors examine a number of arguments from both the long and short side of the market and consider whether the central arguments levelled against the strategy are specific to short sellers or whether these issues relate to all market participants. We posit that short sellers assist in making markets less opaque, with these traders fulfilling an important price discovery role.

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Introduction

"... short selling is beneficial to the makets not only in the technical aspects of proving liquidity or a hedge against long positions, but also as an important bulwark against hyperbole, irrational exuberance, and corporate fraud."

James Chanos, President of Kynikos Associates
U.S. Securities and Exchange Commission
Roundtable on Hedge Funds (May 15, 2003)

The collapse of the U.S. sub-prime mortgage market in 2007 was one of the key triggers for the global financial crisis (GFC) – a form of financial tsunami – the impact of which is still being felt around the world today. The continued strain on the global financial architecture during the 'great recession' saw the demise of long standing investment houses such as Bear Stearns (March, 2008) and Lehman Brothers (September, 2008). During the darkest days of this period of falling stock markets and corporate collapse, many company executives and government agencies attributed much of the blame for falling share prices to market participants known as 'short sellers'. The weekend of September 13-14, 2008 marked an inflection point in the short selling debate as the collapse of Lehman Brothers saw a worldwide government response to save their nations' banking system by attempting to stabilize the equity value of the banking sector. In an effort to protect these financial institutions from a sharply declining value in their equity base, the world witnessed the announcements of multiple short selling bans across numerous jurisdictions. So what is the modus operandi of a short seller? Speculative short sellers are market participants who expect asset prices to decline and to potentially profit from this expectation. Short sellers express their negative sentiment by constructing a speculative short position in their market of choice and, as such, 'success' is the result of falling asset prices. Traditionally, investors go long (attempting to profit through a strategy of buy low/sell high), whereas short sellers go short (attempting to profit through a strategy of sell high/buy low). Media commentators, corporate executives, politicians and government regulators have, at times, employed rhetoric that has approached histrionic levels to demonize these market participants by running the normative argument that short sellers profit from the misery of others (that is, the current shareholder or market participants with long positions)[1]. It is against this backdrop that this paper aims to contribute to the short selling debate through a consideration of the economic considerations of this unorthodox market practice. To achieve these objectives, we take a 'positive economics' approach to the short selling debate, finding that a number of the key arguments levelled at short selling can also apply to those holding long positions. We posit that short sellers assist in making markets less opaque, with these traders fulfilling an important price discovery role. We commence the paper by examining the 'anatomy' of a short sale transaction.

1. The anatomy of a short sale

To understand the economics of the short selling debate, it is important to consider the mechanics of short selling and the difference between the two types of short selling, namely, covered short selling and naked short selling. To construct a short sale, there are two parts to a short sale transaction, namely, the repurchase agreement and the sale of the shares.

1.1. Repurchase agreement. Perhaps the key point of differentiation between the traditional long-only (buy low/sell high) investor and the short seller is that, in

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[1] By way of example, see "Sheared by the Shorts: How Short Sellers Fleece Investors", accessed on February, 2, 2012, http://www.huffingtonpost.com/ellen-brown/short-sellers-investors_b_985701.html.

opening the trade with a short (sell high/buy low), the investor does not own the securities (say, a stock) in which the trade is occurring. The short seller commences the transaction by seeking a counterparty that owns the stock and engages in a stock lending transaction known as a stock repurchase agreement (repo). Under this fully collateralized transaction, the short seller receives the stock from the original shareholder and, in return, the short seller transfers cash to the original owner of the shares of the amount equal to the market value of the shares. In the repo, the short seller bears an additional cost for borrowing the stock which is paid to the original owner of the shares. The short seller earns the overnight cash rate less a margin on the cash lent to the original shareholder. The margin reflects the additional cost to the short seller for borrowing the stock, which is effectively paid as a stock lending fee to the original shareholder. The difference between the market 11 a.m. overnight rate and the repo rate reflects the stock lending margin which is driven by the demand and supply for every share and this margin varies over time.

1.2. Sale of the stock. With the repo transaction completed, the short seller now holds the stock, which they sell at the prevailing market price via the respective stock exchange (sell to open). Between the transaction date on which the short occurred and some future date, the short seller must purchase this stock back from the market in order to deliver the asset back to the original shareholder at the maturity date of the repo agreement (buy to close). If stock prices rise during this time, then the short seller will suffer a financial loss (sell low/buy high). If the short seller is correct and the stock price falls, a financial profit is earned through short selling (sell high/buy low).

Within the mechanics of a short sale, there are two forms of transactions, namely, covered short selling and naked short selling. Covered short selling refers to the sale of the share with the full knowledge that the short seller can guarantee settlement of the stock because the short seller has completed the repo transaction. A covered short sale transaction signifies that the short seller has access to the shares thereby ensuring a successful delivery of the shares to the stock exchange on the settlement date.

Conversely, a 'naked short selling' transaction means that the short seller has sold the shares via the stock exchange on the transaction date without first securing the availability of the shares via the repo transaction. This means that the short seller cannot guarantee that they have access to the stock to deliver to the stock exchange on the settlement date of the transaction. As a result, there is a probability that the settlement of the share transaction at the stock exchange may fail if the naked short seller cannot borrow the stock via a repo.

2. Short selling: theory and evidence

To further understand the practice of short selling and its role in society, we review the theory of this strategy and the current evidence in the financial economics literature. One of the first issues relating to the practice of short selling relates to the motivation for opening the transaction with a sale of securities. A short selling transaction can be employed as a speculative position or it can be used as a hedging tool to offset an opposing exposure within any legal structure or entity (for instance, a farmer is long wheat and shorts (sells to open) wheat futures to hedge the future price of their harvest). Due to differing motivations to enter a short selling transaction, the practice is commonly employed in many markets around the world including shares, bonds, global foreign exchange, gold bullion, futures and options markets for both risk transfer (hedging) and speculation.

2.1. Theoretical foundations. The theory of short selling originated from Miller (1977) who argued that short sale constraints restrict the transmission of negative information to the market, thereby impairing price discovery. The argument follows that, due to information asymmetry, stock prices will transact at levels greater than fair value. Miller's (1977) contribution provides an important framework for this paper in that one of the economic functions of short sellers is to mitigate the issue of information symmetry, which lies at the heart of informationally competitive markets. Further contributions by Diamond and Verrecchia (1987) corroborate Miller's (1977) proposition that short sale restrictions increase both the magnitude of overpricing and the subsequent market correction when that negative information is finally transmitted into stock prices. Further, work by Hong and Stein (2003) suggests that negative information becomes present in a short sale constrained market after stock prices begin to decline, thereby resulting in market crashes.

2.2. Empirical evidence. The theory of short selling provides a framework to evaluate the behavior of short sellers and their role in capital markets. Some of the first empirical studies by Figlewski (1981) and Bris, Goetzmann and Zhu (2007) find that short sellers cause lower stock prices. The work of Bris et al. (2007) is particularly comprehensive. Using a sample of 46 equity markets, Bris et al. (2007) find some evidence that prices incorporate negative information faster in countries where short sales are allowed and practiced. They find strong evidence that in markets where short selling is either prohibited or not practiced, market returns display significantly less negative skewness. Albert, Smaby and Robison (1997) corroborate these findings, arguing that the downward impact of short sellers facilitated fairer share prices even during the bubble years of the NASDAQ dot-com boom in the 1990s. In the Australian setting, Aitken, Frino, McCorry and Swan (1998) show that the speed of negative information from short selling becomes embedded in the stock price within 15 minutes of the short sale transaction. These studies provide some evidence that short sellers transmit negative information into the capital markets, resulting in lower asset prices.

A further strand of work has examined whether short sellers exhibit investment manager skill in correctly selecting these overvalued stocks. Studies by Dechow, Hutton, Meulbroek and Sloan (2001) in the U.S. (supported subsequently by Takahashi (2010) in the Japanese setting) suggest that short sellers are indeed skilled at selecting companies that exhibit lower expected future returns. Connolly and Hutchinson (2012) examines short biased hedge funds finding evidence of significant alpha (risk-adjusted stock selection skill) exhibited by these short selling fund managers. These results are particularly important to the short selling debate, as Connolly and Hutchinson (2012) find that during the GFC dedicated short bias (DSB) hedge funds exhibited extremely strong results while many other hedge fund strategies suffered badly. Investigating DSB hedge fund performance 1994 through 2008, Connolly and Hutchinson (2012) report that (using both linear and non-liner estimation techniques) DSB hedge funds provided a significant source of diversification for equity market investors and produced statistically significant levels of alpha. These findings reported in these studies suggest that short sellers possess skill at detecting overvalued companies that exhibit a tendency for their stock price to decline, that is, they are successfully employing a sell high/buy low investment strategy.

The two major themes that emerge from these studies – short sellers cause stock prices to decline and they tend to exhibit skill in identifying overvalued companies – leads us to ask, do these short sellers employ their skills for good or evil? Put another way, do short sellers drive share prices from an overvalued price down to fair market value, or, do they push a stock from fair market value to below fair market value, thereby engaging in market manipulation? When any sort of trading activity (including both short selling) results in an under/overvalued share moving to fair value, then the allocative role of markets is enhanced. On the other hand, market participants that engage in market manipulation by artificially driving up/down stock prices beyond their fair value impair the efficiency of markets.

A number of studies have examined whether short sellers are guardians of informational efficiency or whether they are indeed market manipulators. The empirical work from Wooldridge and Dickinson (1994) finds that short sellers increase their short positions as stock prices rise, thereby enhancing market liquidity. More importantly, Wooldridge and Dickinson (1994) show that short sellers enhance market liquidity by unwinding their positions by purchasing back these shares as prices decline. This behavior was documented in the Australian setting by Data Explorers (2008) whereby short sellers were accused of market gouging in the case of ABC Learning Centres Ltd (ABC) during the period of 2007-2008. Data Explorers (2008) find from ABC transaction records that short sellers were net buyers in the market as the share price declined over the period in question. In another study, Curtis and Fargher (2008) demonstrate that short sellers do not magnify price declines, but rather, they align prices to their fair market valuation price. Curtis and Fargher (2008) report that, when stock returns are conditioned on fundamental value, there is no reliable evidence that the targets of short-sellers trade below respective fundamental values. Interestingly, Curtis and Fargher (2008) note that a significant proportion of short-sellers' positions are concentrated in stocks that appear overvalued relative to their fundamentals. While there is significant heterogeneity in the positions of short-sellers, including large positions in stocks with price declines, Curtis and Fargher (2008) find compelling evidence that a significant proportion of short positions following price declines appear to align prices with fundamentals rather than force prices below fundamental values. These studies seem to suggest that short sellers play an important informational role in capital markets, driving the prices of overvalued companies towards fair value. Ironically, it is market participants following the traditional approach (buy low/sell high) that have to actually sell to close a position, whereas short sellers (sell high/buy low) have to buy to close. So, when markets are falling precipitously, short sellers are providing liquidity by purchasing stock. We consider these ideas in the context of the GFC and move to consider the arguments for and against short selling.

3. Lessons from the 2008 short selling bans

If there was ever a time in financial history to examine the economics of short selling then the GFC is the 'case study par excellence'. The following quote from the SEC captures the sentiment in the United States immediately following the collapse of Lehman Brothers on the September 14, 2008 and the subsequent falls in stock prices around the globe: *"The Commission is committed to use every weapon in its arsenal to combat market manipulation that threatens investors and capital markets. The emergency order temporarily banning short selling of* *financial stocks will restore equilibrium to markets. This action, which would not be necessary in a well-functioning market, is temporary in nature and part of the comprehensive set of steps taken by the Federal Reserve, the Treasury, and the Congress"*, SEC (September 19, 2008).

However, within three months of this strongly worded statement, the SEC's view of the decision to impose the ban had changed radically. In an interview with Reuters on December 31, 2008, the outgoing SEC Chairman Christopher Cox reflected on the decisions made in the midst of the GFC, making the following comments: *"The SEC's Office of Economic Analysis was still evaluating data from the temporary ban, and that preliminary findings point to several unintended market consequences and side effects. While the actual effects of this temporary action will not be fully understood for many more months, if not years... knowing what we know now, I believe on balance the Commission would not do it again"*, Christopher Cox, SEC Chairman, Phone Interview with Reuters (December 31, 2008).

Furthermore, one month later, the newly appointed SEC Commissioner Kathleen Casey made the following statement in relation to the short selling ban in September 2008: *"While the effects of the ban, as well as the previous emergency orders, are still being formally studied, we know, based on the review of the SEC's Office of Economic Analysis, as well as studies and feedback from both academics and market participants, that the short selling ban created significant disruptions and distortions in markets and across the business activities of a wide spectrum of financial market participants. At the time, undertaking such action required us to balance several important considerations. We had real fears about the downside of such a ban. While extraordinary market conditions and great pressure led us to impose these temporary measures, we sought to carefully balance concerns about potentially abusive short selling against the likelihood of increased volatility, diminished liquidity, and inhibited price discovery. We also know that emergency actions by their very nature can add a further element of uncertainty to an already sensitive market environment and that such uncertainty may actually contribute to market instability"*, Kathleen L. Casey, SEC Commissioner (January 14, 2009).

To be fair to those involved invoking short selling bans, it would not be the first time in history when an action motivated by good intentions had unintended consequences. However, one would think that the short selling bans invoked in 2008 may be closely followed by court litigations and legal prosecution by regulators against the short sellers who were engaging in the spreading of false rumours and the perpetrators of market manipulation. At the time of writing this paper, the SEC and the Australian Securities and Investments Commission (ASIC) has yet to take to trial or prosecute any individual or organization for opportunistic bear raids or market manipulation during the period of the 2008 GFC[1].

The emerging body of literature post the GFC by Boehmer, Jones and Zhang (2008), Autore, Billingsley and Kovacs (2011) and Battalio and Schultz (2011) finds that the 2008 short selling ban resulted in large negative liquidity impacts in the markets in which they were enforced. The work of Battalio and Schultz (2011) makes a key contribution to the debate. Battalio and Schultz (2011) examine how the September 2008 short sale restrictions and the accompanying confusion and regulatory uncertainty impacted equity option markets, finding that the short sale ban was associated with dramatically increased bid-ask spreads for options on banned stocks. Moreover, Battalio and Schultz (2011) report that synthetic share prices for banned stocks became significantly lower than actual share prices during the ban. These studies suggest that the bans resulted in larger price declines in the stocks when the short selling bans were eventually lifted. Moreover, the research provides evidence that bid-ask spreads widened considerably for stocks protected by the short selling ban which created large liquidity shocks when transacting in and out of these specific stocks. Put simply, when the short selling bans were lifted, the stocks protected by the short selling ban suffered the largest price declines due to the illiquidity shock caused by the ban itself. In the Australian setting, the work of Hamson, Wanzare, Smith and Garners (2008) report evidence that the short selling ban on the ASX resulted in a decrease in liquidity, higher intra-day volatility and higher idiosyncratic volatility. More recently, Saffi and Sigurdsson (2011) has examined a sample of stocks from 31 countries from 2005 to 2008 finding that that short selling bans do not achieve the policy objective of stabilizing stock prices and thereby reduce market efficiency.

4. Positive and normative views of short selling

To this point, we have examined the short selling debate from theoretical and empirical perspectives. We use this as a foundation to motivate our central concern regarding the major controversies surrounding short selling. In exploring the economic dimensions of short selling, we examine a number of ar-

[1] For instance, in January 2012, Goldman Sachs Group Inc. and Bank of America Corp. persuaded a State Judge (California) to dismiss Overstock.com Inc. (OSTK)'s lawsuit alleging they manipulated short sales of the online retailer's stock from 2005 to 2007, see: http://mobile.bloomberg.com/news/2012-01-11/goldman-sachs-wins-dismissal-of-overstock-s-short-sale-suit-1.

guments from both the long (buy low/sell high) and short (sell high/buy low) side of the market and consider whether the central arguments levelled against the strategy are specific to short sellers or whether these issues relate to all market participants.

4.1. Short sellers profit when others suffer. Irvine (2002) argues that profits are ill-gotten when they involve the misery of others. This argument is refined for the short selling setting by Angel and McCabe (2009), who posit that the profits from short sellers come from the financial suffering of other investors. We explore this idea through a hypothetical transaction. Assume that short sellers push a stock price (Stock A) down from an overvalued price of say \$100 per share to the fair value of \$90 per share. The loss of \$10 per share is from the perspective of the *current* (long) shareholder. Let's now examine the economics of the same transaction from the viewpoint of a *prospective* shareholder interested in becoming a shareholder of this company. Assume that you are a value-investor and you favor Stock A, however, you also believe that \$100 stock price is too expensive; therefore, you will not allocate your investment capital to become an owner of this stock until the price of Stock A falls from the current price of \$100 to your appraised fair-value of \$90. As a value-investor, you will not purchase Stock A as you believe that it is too expensive and you will keep your investment capital in cash earning the risk-free rate of return. In a short selling constrained world, the beneficiary here is the noise trader who is still happy to own the \$100 share and is uninformed that the stock is actually overpriced. In this hypothetical transaction, the losers are the informed investors (that is, the short seller and the value investor) who suffer from a misallocation of capital and investment skills that cannot be deployed to correct the mispricing of Stock A. Conversely, the beneficiary is the current investor who has claim to these ill-gotten profits.

In the months preceding the GFC, the Australian corporate environment saw publicly listed firms operate with highly leveraged capital structures. Firms that were viewed to hold too much debt on their balance sheet saw short sellers enter the market and short these shares as they believed that the equity of these companies was overvalued given the market and the economic outlook for 2008 and beyond. The passage of time has demonstrated that these short sellers accurately identified the overvalued nature of the equity in these highly leveraged publicly listed firms. This negative information from short sellers was transmitted to the market, which was then incorporated into the decisions of all market participants.

It is not surprising that many Boards and corporate executives of publicly listed companies hold a natural dislike for short sellers. A share that is being short sold sends a market signal that short sellers are bearish regarding the prospects of that company and that the current market price is, in the opinion of the short seller, above fair market value (in fact, so far above market value that, if correct, the trade would more than compensate the short seller for transaction costs, the costs of becoming informed and the risk borne). However, whilst acknowledging the adversarial nature of the relationship between corporate executives and short sellers, it is important to note that poor corporate management decisions due to excessive risk taking and highly leveraged balance sheets are not made by short sellers. The short seller is taking a position based on their view of the efficacy of the decisions of corporate executives given the current market value of the company. The corollary to this is that share prices of many, many publicly listed companies declined during 2008; however, many well-managed companies were never given attention by short sellers. The Australian firms that were most associated with significant short selling activity included ABC and Allco Finance Group. Interestingly, these firms were highly leveraged and are subject to various legal proceedings relating to their corporate governance since 2008[1].

A number of points need to be emphasized in terms of a positive economic view of short selling and whether these market participants truly profit from the misery of others. The work of Curtis and Fargher (2008) and Wooldridge and Dickinson (1994) finds that short sellers, on aggregate, increase their short positions as stock prices rise and they close their short positions by purchasing back their shares as prices decline. The demonisation of short sellers by some corporate executives is in stark contrast to the actual behavior of short sellers during periods of market decline. In fact, the empirical evidence suggests that short sellers are on the buy side of the market during periods of falling stock prices – therefore, the selling pressure is coming from those who were long to open and are selling to close (or, the case where the traditional buy low/sell high strategy goes awry).

Perhaps the challenge in this debate centers on the issue of whether falling stock prices are a bad outcome. Short sellers provide an opposing view to the positive long-term expectation inherent in stock market returns. This optimism comes from studies such as Dimson, Marsh and Staunton (2002), Mehra and Prescott (1985) and Siegel (1992) who demonstrate that an equity risk premium can be garnered

[1] For instance, a discussion of the class actions following the collapse of both ABC Learning Pty Ltd is available at http://www.abc.net.au/news/2011-01-24/legal-action-against-abc-learning-begins/1915896; and Allco Finance Group at http://www.theaustralian.com.au/business/breaking-news/angry-investors-in-allco-action/story-e6frg90f-1111117955371.

over the long-term, that is, the 'triumph' of the buy low/sell high strategy for long-term investors. In contrast, short sellers advocate a more sceptical view of stocks as they provide the market with an opposing opinion over the short to medium term. Influential industry practitioners such as Warren Buffet (2006) believe that short sellers serve an important function in forensic accounting in weeding out firms that engage in fraudulent and unscrupulous corporate activity. In 2008, publicly listed financial stocks such as Bear Stearns were under pressure as short sellers revealed unscrupulous corporate activity that was deemed to regard the firm as overvalued[1]. A number of corporate executives of U.S. investment banks during this period demonized short sellers as these corporate managers believed that their companies were operating efficiently with high standards of financial management and corporate governance[2]. Financial history informs us that the information signal from short sellers in 2008 was more accurate than the media releases of 'comfort' (including Lehman declaring a dividend to equity holders five days before filing for Chapter 11) being released by these firms into the market[3]. As we wind the clock forward to 2012, many of these same firms are in the mire of litigation or have entered bankruptcy.

4.2. Short selling encourages unethical behavior. The work of Angel and McCabe (2009) makes the argument that short selling incentivises unethical behavior whereby short sale positions are constructed and then negative smear campaigns of misinformation to 'short and distort' the asset price down are instigated in order to gouge profits from the declining asset price. Whilst this perspective is important in terms of the short selling debate, the empirical studies published to date do not support this assertion, and the paucity of successfully prosecuted litigation suggests that short sellers do not engage in this type of unscrupulous practice in general.

However, we acknowledge Angel and McCabe's (2009) point that it would be naïve to imagine that no individual short seller has attempted to pursue this form of market manipulation. If we assume for a moment that this unethical behavior exists, then we need to ask ourselves whether this form of market manipulation is unique to short selling. Again, we find that the central tenets of Angel and McCabe's (2009) argument can be made against the buy low/sell high strategy, with fraudsters engaged in 'pump and dump' strategies of long stock positions. Pump and dump behavior is a well known U.S. stock fraud perpetrated in 'boiler room' organisations who operate in the Over-the-Counter Bulletin Board (OTCBB) and Pink Sheet markets. Bollen and Christie (2009) study these micro capitalization firms who cannot afford the costs to list on a typical U.S. stock exchange, who raise capital through these over-the-counter markets where price discovery, market efficiency and liquidity is provided on a 'best endeavors' basis. A pump and dump scheme involves artificially inflating stock prices of these micro capitalization firms through false and misleading positive information which allows early holders of the stock to sell the shares to the misinformed market[4]. Eventually, the market absorbs the true information and the overinflated stock price collapses to a lower equilibrium price.

It is our conjecture that the incentives for market manipulation by short sellers are equally valid for those following a buy low/sell high strategy, as we have witnessed with pump and dump activities that artificially drive stock prices upwards. It follows that bear market conditions enhance profitability for sell high/buy low; as bull markets are beneficial for the buy low/sell high strategy. Given the equal and opposite drivers of profitability of the two strategies, short selling may encourage unethical behavior in the same way that the potential exists for unethical behavior of market participants who endeavor to overinflate stock prices. Given the symmetry of the argument, it is our conjecture that short sellers have the identical incentives for unethical behavior as market participants who hold long positions.

4.3. Short selling speculators are just plain bad. It appears that society's understanding of the role of speculation has been diluted over recent decades. In periods of strong global economic growth, we seem to conveniently ignore the genuine role of specula-

[1] Two former Bear Stearns hedge fund managers (whose funds held securities backed by risky home loans) recently settled a civil lawsuit brought by regulators (SEC v. Cioffi, in the U.S. District Court for the Eastern District of New York, 08-2457), see http://www.reuters.com/article/2012/02/13/us-bearstearns-fundmanagers-idUSTRE81C1EI20120213.

[2] In prepared Congressional testimony, former Lehman Brothers Holdings CEO Dick Fuld wrote, *"The naked shorts and rumor mongers succeeded in bringing down Bear Stearns. And I believe that unsubstantiated rumours in the marketplace caused significant harm to Lehman Brothers"* see: http://blogs.wsj.com/deals/2008/10/07/dick-fulds-vendetta-against-short-sellers-and-goldman-sachs/tab/article/.

[3] Only five days prior to filing for Chapter 11 bankruptcy protection, Lehman Brothers Holdings (September 10, 2008) issued a media released with headlines such as *"Lehman brothers announces preliminary third quarter results and strategic restructuring: Comprehensive Set of Actions to Significantly Reduce Commercial Real Estate, Residential Mortgage and Other Less Liquid Asset Exposures", Chairman and Chief Executive Officer Richard S. Fuld, Jr. said, "The strategic initiatives we have announced today reflect our determination to fundamentally reposition Lehman Brothers by dramatically reducing balance sheet risk, reinforcing our focus on our client-facing businesses and returning the Firm to profitability"* and, perhaps most striking, the declaration of a (albeit reduced) dividend to equity holders *"Annual Dividend to be Reduced to $0.05 Per Share"*, a full copy of the media release is available at: http://www.ft.com/cms/e0b164a0-7f32-11dd-a3da-000077b07658.pdf.

[4] In 2011, the SEC charged a Santa Ana-based company and three executives with a $10 million boiler room fraud, see: http://www.sec.gov/litigation/litreleases/2011/lr21944.htm.

tors in markets. When a nation's economy falters due to excessive bank lending practices and/or poor fiscal policy, it is convenient (yet unproven) to blame 'speculators' for these sub-optimal financial market outcomes[1]. The ethical issue of short sellers requires us to review our understanding of speculation and its vital role in society. Economists including Adam Smith, John Maynard Keynes, Ludwig Von Mises and Leon Walras have all documented the critically important role of speculators in a well functioning market. Speculators take on risk which others are unwilling to bear. Risk is transferred from one party to the speculator in a market transaction. Speculation involves risk and therefore they are compensated with returns when their financial decisions are proven to be correct. The unfortunate news for speculators comes from the seminal work of Bachelier (1900) who stated: "*The mathematical expectation of the speculator is zero*", Bachelier (1900).

After many decades of empirical work, Black (1986) neatly summarized that there are both informed traders and noise (that is, uninformed) traders in the market. In the world of speculation, profits are earned by those with information and these profits are extracted from the uninformed noise traders. Studies such as Jacks (2007) shows that the introduction to a futures market leads to increased speculation which has been shown to reduce the levels of commodity price volatility. Other studies by Edwards (1988a) and Bessembinder and Sequin (1993) provides similar findings that demonstrate that stock returns were more volatile before the introduction of the stock index futures market. The same conclusions have been observed in bond market studies such as Bortz (1984) and Edwards (1988b). In short, empirical studies demonstrate that the introduction of speculators in markets leads to more efficient and stable markets than otherwise.

The ethical issue of short selling is whether those engaging in the practice genuinely serve markets and society in their role as speculators. When we consider both buy low/sell high and sell high/buy low strategies, we can again see that there is a symmetrical argument that can be made with long-based speculators as well as short sellers. The ethical issue for these strategies is that both sets of market participants fulfil their role by bearing risk that is transferred from hedgers and investors wishing to enter and exit the market at the prevailing market prices. For instance, a farmer who is producing wheat and wishes to have certainty of price in the future needs to sell to open, say, a futures contract. Moreover, the same principle applies from the long perspective (where the agent is short in the physical market and goes long in the synthetic to hedge the position – a carpet manufacturer agrees to deliver carpet at a future date and enters a long wool futures contract today to hedge price risk). Here we see that both of these hedging transactions need both buyers and sellers of contracts on the other side of the transaction to fulfil the risk transfer function and, in many cases, this is fulfilled by speculators.

4.4. Naked short sellers are demons in suits. Some critics have argued that naked short sellers were to blame for the collapse of a number of financial institutions, including Lehman Brothers, and this was the catalyst for broader market losses through the GFC[2]. Recent research considering this period of extreme market dislocation has suggested that naked short selling appears to have little to no impact on the stock price of Lehman Brothers and other stocks allegedly affected. Fotak, Raman and Yadav (2011) investigate the claims of short selling manipulation of Lehman Brothers shares and others in U.S. markets and find no evidence that the price declines in 2008 were caused by naked shorting. Fotak et al. (2011) argue that despite recent regulatory and media concern that has focused heavily on the potentially manipulative distortion of market prices associated with naked short selling, shorting can also have beneficial effects for liquidity and pricing efficiency. Using a sample of the US financial institutions hardest hit by the GFC, Fotak et al. (2011) test for the impact of naked short-selling on market quality, finding that that naked shorting leads to significant reduction in positive pricing errors, the volatility of stock price returns, bid-ask spreads, and pricing error volatility. Fotak et al. (2011) also study the impact of the SEC ban on naked short selling of financial securities during July and August 2008, and find that the ban did not slow the price decline of those securities and had a negative impact on liquidity and pricing efficiency. The empirical findings of Fotak et al. (2011) lead the researchers to conclude that their results are in sharp contrast with the extremely negative pre-conceptions that appear to exist among media commentators and market regulators in relation to naked shortselling. Furthermore, the work of Boulton and Braga-Alves (2009) also finds no evidence that naked short sellers exacerbated downwards movements in stock prices. To date, no evidence has been marshalled to empirically support that naked short sellers engage in predatory behavior to destabilize stock prices.

[1] In 2010, the world's financial press ran with headlines such as *"Greek PM to urge Barack Obama to crack down on speculators"*. Greek officials have indicated that the Prime Minister Papandreou requested U.S. President Barack Obama to impose stricter regulations on hedge funds and currency traders, who they blame for aggravating their problems and making it harder for Greece to borrow money, see: http://www.guardian.co.uk/business/2010/mar/09/greek-pm-meet-barack-obama.

[2] See footnote 2, p. 37.

When asset prices fall, there is a human tendency to rationalize the cause of falling markets onto a macroeconomic/financial variable or to demonize a specific market participant. In the bear market of 2008, naked short sellers were blamed for the declining stock prices of heavily leveraged firms such as Lehman Brothers in the U.S. and ABC and Babcock and Brown in Australia[1]. However, the emerging empirical evidence suggests otherwise. In the end, the market dynamics of 2008 informs us that the marginal sellers of these shares were more willing to transact at lower prices and that the vast majority of these sellers were those following a traditional buy low/sell high strategy gone very much awry.

Conclusion

The practice of short selling remains a controversial and delicate topic for arbitrageurs, speculators, politicians, corporate executives and government agencies alike. In a bull market, there is no attention paid to short sellers as financial markets drive up the valuation of asset prices, making the sell high/buy low strategy unprofitable. However, the evidence to date demonstrates that at the point of bullish exuberance, short sellers employ their skills to seek out and identify overvalued companies. As rising markets eventually turn and investors experience falling asset prices, it becomes a corporate and political convenience to blame declining asset prices on short sellers. We conceded that the practice of short selling quickly turns into a heated normative debate when markets crash and blame is conveniently apportioned to the short seller in the market rather than to the excessive risk and mismanagement by corporate executives. Short sellers play a vital role as forensic accountants who seek to identify overvalued assets. It was the short sellers that detected the questionable accounting practices of Enron, WorldCom, HealthSouth and ABC long before the entire market and government regulators were aware of the corporate frauds and non-disclosure being committed[2]. The short seller ensures that markets are less opaque as they search to uncover accounting irregularities. As a result, short sellers make financial markets stronger and more efficient. As history has shown sometimes, just sometimes, we can engage in witch hunts without witches. Both buy low/sell high and sell high/buy low investment strategies are seeking to profit from either a bullish or bearish outlook and both motivations are needed for efficient and effective price discovery.

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[1] In a heated memo written to employees in 2008, John Mack, CEO of Morgan Stanley stated *"… what's happening out there? It's very clear to me – we're in the midst of a market controlled by fear and rumors, and short sellers are driving our stock down"*, see: http://www.time.com/time/business/article/0,8599,1842499,00.html.

[2] In testimony to the SEC five years prior to the GFC, James Chanos stated, *"… many of the major corporate frauds and bankruptcies of the past quarter century were first exposed by short sellers doing fundamental research: Enron, Tyco, Sunbeam, Boston Chicken, Baldwin United, MicroStrategies, Conseco, ZZZZBest and Crazy Eddie are a few examples of this phenomenon"*, see: http://www.sec.gov/spotlight/hedgefunds/hedge-chanos.htm.

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