

**Irrational Exuberance**

**A Case Study of Investor Sentiments Driving**

**Market Euphoria**

**By**

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partial fulfilment of the requirements for the Masters in Management.**

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**College of Business & Law**

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## **Student Declaration Form**

I, Mary Guiney, do declare that this research is my original work and has never been presented to any institution or University for the award of Degree or Diploma. In addition I have endeavoured to reference correctly all literature and sources used in this work. Due acknowledgement has been given in the bibliography and references to all sources be they printed, electronic or personal.

Signed \_\_\_\_\_

Date \_\_\_\_\_



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This study is dedicated to Michael Guiney.

## **Abstract**

*The central thesis of this study is that our financial system does not behave according to the laws of the Efficient Market Hypothesis, as laid down by the conventional wisdom of today's prevailing economic theory. Instead financial markets are inherently unstable and habitually prone to boom-bust cycles. In this way, they require Central Bank intervention to help overcome these traumas, however to date there is no effective policy which can be used to combat periods of excitement and despair. This may seem surprising, given the fact that financial euphoria dates back to the seventeenth century, thus assuring us that policies have been tried and tested, yet none of them are capable of solving credit cycles permanently. This can only suggest that there is a much stronger force within the financial structure that is repelling 'ethical' policy implementation.*

*This study utilises qualitative analysis in an attempt to explore investors' sentiments surrounding the stock market. The aim is to examine their strategies and goals within the market thus defining how their psyche leads to aggregate mood behaviours within the market. This study is very topical as it focuses on investors attitudes towards a bearish stock market and these findings can be compared to their optimistic attitudes before the financial crisis prevailed. These psychological forces are self-reinforcing and predispose investors to judgemental biases. This prevents investors from forming objective measures of value in the market.*

*The findings are significant as they suggest that investor psychology does in fact play a dominant role in boom-bust periods. Economic theories which have been developed fail to consider real world scenarios and are thus no longer legitimate as a model for financial collapse. It can no longer be proposed that a shift in the economy is solely the result of an underlying economic factor. Psychological quirks are inherent in even quiescent market conditions; yet it is only when the economic bubble bursts that these habits are examined.*

# Chapter 1

## Introduction

### **1. Introduction**

Our entire financial world has made a collective claim about the future. Over the last decade economic policies have been overlooked as the developed world transformed themselves into “masters” of the economy. The prevailing financial crisis has finally brought these matters to a head, with macroeconomic policies being closely examined and scrutinised as the players responsible for the bursting of the economy. While Governments, Central Banks and authorities are debating policy procedures to hopefully solve the credit crisis, another powerful force is sitting happily in the middle of the markets unwilling to move or change for anyone; a force that is inherent in the financial markets, that will always return to taunt market participants. This force is investor psychology. People forget the importance of how investor sentiments drive euphoria, sentiments that are easily passed onto others and cause the economic system as a whole to develop a speculative culture that gives rise to escalated asset values. The focus of this study is to perform psychological analysis of individual investors, focusing on the aggregate behavioural patterns under circumstances of uncertainty, time and pressure which contribute highly to both historical precedents and the current crisis. This area of study was chosen as it is not only topical in nature, but to date there has been very limited research on the psychology of the crisis.

### **1.1 Background to the Research**

This research project was undertaken in Ireland during a global systemic crisis in 2009. While economic bubbles date as far back as the seventeenth century, there is still no widely accepted theory to explain their occurrence. Historical precedents can be used as a benchmark for assessing how the current crisis will unfold, however the nature of today’s depression is without precedent and can be largely blamed on the growing complexity of financial markets. While economic booms all experience periods of inflation, asset price escalation and unethical lending practices, the importance of mass psychology as a driver of these factors has been largely ignored. Psychological quirks are present in everyone and these have become evident in stock market participants, thus contradicting the fact that rationality exists in investment decision making on a consistent basis. It is these conflicting views and mindsets surrounding macroeconomic policy which represent the current state of affairs.

## 1.2 **Purpose of the Research**

This current economic crisis is the worst case in history and has caused a re-examination of why markets sometimes become overheated and come crashing down. The primary objective of this study is to examine why financial markets rest on an efficient market fallacy and why they also require Government intervention for growth. There is an endless list of theories and hypotheses, all drawing different conclusions, on the efficiency of markets and whether policy intervention is required. The aim of this study is to firstly clarify these differences and generate a new hypothesis which more intimately resembles the current financial markets. The second objective of the research is to explore the very infant concept of behavioural finance. This paradigm provides evidence of investor irrationality but there is very limited research on behavioural patterns associated with today's catastrophe. In this way research is conducted on investor moods and behaviours and how their mindsets have been altered over the past two years. This will draw another hypothesis as to why their behaviours have changed and how to deal with such behaviours in a rational way. Lastly emotional finance is a theme which has only emerged recently and it is therefore crucial to examine investor sentiments within the market. From this, we can draw conclusions as to why these sentiments exist. This will help explain further the underlying causes which drive financial euphoria.

## 1.3 **Structure of the Research**

The study is divided into six chapters as follows:

Chapter One outlines the rationale for this study, the purpose of the research and the layout of the project overall.

Chapter Two reviews the relevant literature that relates to the main concepts being explored in this research. These concepts will form the basis of the analysis later in the study.

Chapter Three introduces the research methods that were employed for the purpose of this study. These methodologies include both qualitative and quantitative research including semi-structured interviews and self-completion questionnaires.

Chapter Four presents the research findings of the study based on the semi-structured interviews carried out in the field.

Chapter Five involves an analysis of the findings according to the theory and concepts discussed in the literature review.

Chapter Six offers recommendations and conclusions to the study, including some personal reflections.

#### 1.4 **Conclusion**

It is not easy in understanding how investment psychology can shape the overall market structure. These concepts have been narrowly analysed by researchers, as it proves much simpler to analyse the market based on mathematical equations, where a set of variables are entered into models resulting in a cause-and-effect world. This is exactly what a linear thinker wants in order to avoid the confusion of a world marked by chaos, emotions and irrationality. The aim of this study is to help clarify these controversies and lay a framework for explaining why mass psychology can lead to large-scale market volatility.

# Chapter 2

## Literature Review

### 2. Introduction

This chapter aims to explore the different economic policies which have been implemented over time in order to combat a rapid decline in the economy. Firstly the efficient market theory is referred to as it has long been used as a benchmark for assessing capital markets, however this hypothesis is both flawed and generally outdated. Policies which were used post Great Depression are referred to in detail as it is from these episodes that acclaimed economists such as Minsky and Keynes have developed theories. These theories will be discussed in light of theories developed by Friedman who had opposing views of how to effectively achieve an efficient market economy. These theories are historical but most certainly not outdated. Current policy implementation is highly reflective of these concepts and hopes to implement a policy that is most effective. The second part of this chapter will explore behavioural finance which aims to shed light on investor irrationality in the hope of disproving more traditional economic ideas. This will discuss how individuals may view their own actions to be rational, while others could see it as irrational. It is these opposing aggregate behaviours which lead to large deviations in the market which cannot be tolerated. The final section explores investor sentiments and how their aggregate moods can change rapidly, depending on the economic outlook at the time.

### 2.1 Traditional Finance

#### 2.1.1 The Efficient Market Hypothesis

Traditional finance, derived from neo-classical economic theory, assumes that investors are rational and competent. The efficient market theory has long been used as an explanation for financial instability, where behaviour is rational, but market imperfections occur. Advocates of the efficient market hypothesis state that it is impossible to beat the market as prices already incorporate and reflect all relevant information; thus anytime an investor buys or sells securities they are engaging in a game of chance, not skill. In his literature, Malkiel (2003) states that markets are far more efficient and far less predictable than some recent academic literature would have us believe. The efficient market hypothesis is associated with the idea of a “random walk”. The logic behind this is that if the flow of information is unimpeded and

information is immediately reflected in stock prices, then tomorrow's price change will reflect only tomorrow's news and will be independent of price changes today. As news is by definition unpredictable, then so too are markets<sup>1</sup>.

Malkiel (2003) analyses the Market Crash of 1987 and argues that underlying economic events, such as the increase in yields on long-term Treasury bonds increased investor risk perceptions and thus correlated with the movement in stock prices. In his opinion, these factors "rationally" changed investors' perceptions about the valuation of stocks<sup>2</sup>. Another stock market bubble which has long been cited as clear evidence of the irrationality of markets is the internet bubble of the late 1990s. Malkiel sympathises with Robert Shiller's (2000) review on *Irrational Exuberance* and he believes to some extent that market values for internet stocks and related high-tech companies seemed inconsistent with rational valuation. Yet he reiterates the view that even if all market participants rationally price common stocks as the present value of all future cash flows expected, it is still possible for excessive valuations to develop<sup>3</sup>. Malkiel agrees that the stock market temporarily failed to efficiently allocate equity capital during these periods, but he stresses the point that "euphoric bubbles" are the exception rather than the rule.

### **2.1.2 The "Standard" Deviation Approach**

Ignoring market volatilities, the standard theory of financial markets assumes that investors are 'homogenous' and they use all available information,  $I_t$  identically in forming unbiased expectations  $\{E[d_{t+k} | I_t]\}$  about future dividends at times  $t+k$ . It can be assumed in this way that prices will settle at:

$$p_t = \beta E[(p_{t+1} | I_t) + E[d_{t+1} | I_t)] \quad (1)$$

where  $E[p_{t+1} | I_t]$  is the investors' shared expectation of tomorrow's price.

This tells us that the share of today's stock is worth tomorrow's price plus dividends, discounted by the factor  $\beta = 1 / (1 + r)$ , which reflects that a dollar tomorrow is worth  $\beta$  dollars today if invested overnight. In other words, today's stock price  $p_t$ , is arbitrated to a

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<sup>1</sup> Malkiel, B. G. (2003), "The Efficient Market Hypothesis and its Critics", *Journal of Economic Perspectives*, Vol. 17, No. 1, Winter 2003, pg. 59

<sup>2</sup> Malkiel, B. G. (2003), "The Efficient Market Hypothesis and its Critics", *Journal of Economic Perspectives*, Vol. 17, No. 1, Winter 2003, pg. 73

<sup>3</sup> *ibid*, pg. 75

value that reflects its fundamental value, given the shared beliefs derived from the information  $I_t^4$ .

However, today's price is still not fully determined; it depends upon investor's expectations of tomorrow's price  $E[p_{t+1} | I_t]$ . Rational investors take mathematical expectations across the above arbitrage equation as it will pay out tomorrow, as follows:

$$E[p_{t+1} | I_t] = \beta (E[p_{t+2} | I_t] + E[d_{t+2} | I_t]) \quad (2)$$

By continuously substituting future price expectations backward into the 1<sup>st</sup> equation, then all price expectations can be eliminated and the current price settled at:

$$p_t = \sum_{k=1}^{\infty} \beta^k E[d_{t+k} | I_t] \quad (3)$$

The deduced belief, that the stocks' price is the discounted summation of these values, is unbiased and therefore constitutes a rational expectation equilibrium. Such beliefs will certainly fluctuate daily as information,  $I_t$ , changes causing prices to move randomly<sup>5</sup>.

### **2.1.3 The Inductive Approach**

Investors are heterogeneous to each other when they assume that expectations of future dividends are in fact not identical. Information can be based on past prices, past dividends, trading volumes and other indicators which in turn results in different assumptions of future values. As such, there is no objective means for one investor to know other investors' expectations.

Assuming individual expectations  $E_i[d_{t+1} | I_t]$  and  $E_i[p_{t+1} | I_t]$  (now indexed for investor  $i = 1, 2, \dots, N$ ) the same argument as before yields the arbitrage equation:

$$p_t = \beta \sum_{i=1}^N 1/N (E_i[p_{t+1} | I_t] + E_i[d_{t+1} | I_t]) \quad (1')$$

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<sup>4</sup> Arthur, B. (1995), "Complexity in Economic and Financial Markets", *Journal Complexity*, Vol.1, No. 1, April 1995, pg. 5

<sup>5</sup> Arthur, B. (1995), "Complexity in Economic and Financial Markets", *Journal Complexity*, Vol.1, No. 1, April 1995, pg. 6

This also contains expectations of tomorrow's price, but in order to get agent  $i$  to form this expectation, he must either act subjectively, or alternatively try to deduce it by applying the pricing equation (1 $\phi$ ) to period  $t+1$ :

$$E_i[p_{t+1}|I_t] = \beta E_i \left[ \sum_j 1/N \left( E_j[p_{t+2}|I_t] + E_j[d_{t+2}|I_t] \right) \right] \quad (2')$$

This calls for agent  $i$ 's expectations of everyone's expectations of the dividend and price at time  $t+2$ . Substituting for this price expectation in turn yields:

$$E_i[p_{t+1}|I_t] = \beta E_i \left[ \sum_j 1/N \left( E_j[p_{t+2}|I_t] + \beta E_j \left[ \sum_k 1/N \left( E_k[p_{t+3}|I_t] + E_k[d_{t+3}|I_t] \right) \right] \right) \right] \quad (4)$$

This leads agent  $i$  into taking into account his predictions of others' expectations of their competitors' expectations of future dividends and prices<sup>6</sup>. Keynes famously remarked upon this, when he pointed out that valuing stocks called for taking into account "what average opinion expects the average opinion to be"<sup>7</sup>. There is no objective means by which others dividend expectations can be known, and repeated subjective expectations widens uncertainty in the future. Thus whichever way he processes market information is influenced by the way he believes others may process the same information. If he believes that others are predicting that the price will increase, he will revise his expectations to anticipate upward-moving prices, thereby validating such beliefs. These forces of hope, fear and anxiety are self-reinforcing and have severe consequences in the real financial world. Thus even perfectly rational investors are prone to judgemental biases which hinder their ability to implement a perfectly deductive rational approach. It is these methods of information processing and judgements under uncertainty which make illogical and irrational decisions transparent.

Asset managers, banks and regulators can all use these distributions to deduce the probability of losses. This resulted in the development of the options industry, which slices and dices these distributions and sells the different parts to different investors. A conservative investor may buy insurance against the bottom portion of the return distribution, thus protecting their portfolio against losses; while an aggressive, more optimistic investor may sell that portion of

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<sup>6</sup> Arthur, B. (1995), "Complexity in Economic and Financial Markets", *Journal Complexity*, Vol.1, No. 1, April 1995, pg. 8

<sup>7</sup> Keynes, J. M. (2006), "The General Theory of Employment Interest and Money", Atlantic Publishers & Distributors, pg. 140

the distribution. These concepts will be further discussed in the analysis of the research findings in Chapter 5.

## **2.2 Financial Instability Hypothesis**

### **2.2.1 Opponents of Efficient Markets**

Markets remain stable for the goods and services industries where equilibrium is reached and the laws of supply and demand are in perfect harmony. However, opponents of this theory state that stability does not hold for asset, credit and capital markets; once these markets are disturbed they undergo repeated expansions and contractions that have no limit and no stable equilibrium. Investors base their expectations on past prices and other indicators to formalise a trend which they find predictable in the market. Credit expansion, price driven demand and mark-to-market accounting, all have the power to push markets away from equilibrium causing financial markets to behave in ways which are inconsistent with the theory of efficient markets. These variables undermine their ability to provide investors with objective external measures of value.

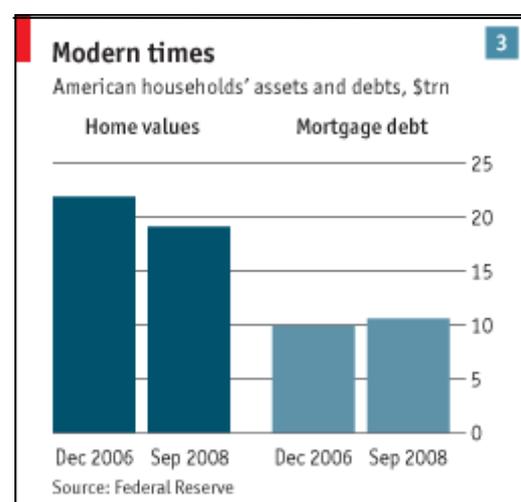
The efficient market theory can tolerate small temporary deviations between an assets price and its true value, provided investors can prevent the deviation from persisting for too long and becoming too large. Thus, investors ‘should’ sell when assets become overvalued and buy when they are undervalued; however, the irrational investor defence prevents them from doing so. Thus to disprove the efficient market theory it is necessary to prove that investors behave irrationally. In a speech by Jean-Claude Trichet, president of the European Central Bank, he stated that occasionally, behavioural patterns are observed which are perfectly compatible with rationality from an individual investor’s perspective, but can still lead to large deviations of asset prices from their fundamental value. It is therefore fundamentally difficult to identify bubbles with certainty<sup>8</sup>. These concepts will be discussed further under the topic of behavioural finance in Section 2.4.

### **2.2.2 Policy Implementation in the 1930s**

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<sup>8</sup> Trichet, J. C. (2005), “Asset Price Bubbles and Monetary Policy”, Mas Lecture, Monetary Authority of Singapore, 8<sup>th</sup> June 2005.

The efficient market hypothesis is contradicted by two economists, Irving Fischer and J.M Keynes, who explained the Great Depression of the 1930s in a new light. Irving Fischer published his theory, “The debt-deflation of Great Depressions” in 1933, arguing that the depression was caused due to an overhand of debt accumulated in the boom in the 1920s<sup>9</sup>. He suggested that once an economy began to contract, the real burden of the previously accumulated debt began to grow, which in turn generated a further depressing force. Fischer was adamant that deflation increased the burden of debt and that it was always economically possible to prevent such a depression, simply by reflating the price level up to the average level at which outstanding debts were contacted.



(Chart taken from <http://www.economist.com/> - How Deflation increased the burden of debt)

Keynes further advocated in his book, “The general theory of employment interest and money” in 1935 how aggressive fiscal policies must be implemented to resolve a depression<sup>10</sup>. He observed that during the depression economies were moving away from the optimal equilibrium state and thus developed a theory which rejected market efficiency. Keynes’ theory stated that when an economy is trapped in depression, the Government should increase spending without increasing tax, thereby engaging in deficit spending. These policies were tried in the 1930s and found to work.

Keynes famously used the term *Animal Spirits* to capture the idea that aggregate economic activity might be driven by waves of optimism and pessimism. He said that:

“Most, probably, of our decisions to do something positive, the full consequences of which will be drawn out over many days to come, can only be taken as the result of animal spirits –

<sup>9</sup> Fischer, I. (1933), “The debt-deflation theory of Great Depressions”, *Econometrica*, pg. 341, 1933.

<sup>10</sup> Obama, B. (2009), “Out of Keynes’s Shadow”, *The Economist*, Feb 12<sup>th</sup> 2009.

a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities”<sup>11</sup>.

In this, Keynes is saying that business cycles are driven by animal spirits of investors and as a consequence they are not the result of an optimal allocation of resources. Minsky had a similar view, where he developed the financial instability hypothesis which states that destabilising forces within the financial structure may build upon themselves becoming strong enough to push markets away from equilibrium. Both Keynes and Minsky view markets as non-self-optimising and as a result, Government intervention through countercyclical stabilisation policies is required.

### **2.2.3 Minsky’s Model**

In Kindleberger’s book “*Manias, Panics and Crashes*” (2005), he refers to a model developed by Hyman Minsky used to interpret financial crises in many market economies. Minsky argues that the events that lead to a crisis start with a ‘displacement’, some underlying shock to the macroeconomic system, which if pervasive enough alters the economic outlook of individuals<sup>12</sup>. People become optimistic about future investments and expected returns which in most instances results in financial liberalisation causing lenders to be less risk averse. The nature of the shock varies from one speculative boom to another; the roaring twenties in the US saw the introduction of automobiles, radios and agricultural machinery followed by a stock market crash in 1929. The shock in Asia in the 1990s was the implosion of the asset price bubble in Japan and the appreciation of the Yen. Minsky believes that the pro-cyclical increases in the supply of credit in good times and the decline in supply in less buoyant time’s leads to fragility in the financial system. Nevertheless credit supply continues to accelerate until the system reaches a period known as ‘euphoria’<sup>13</sup>. Once prices have reached extraordinary highs, buyers become sceptical and soon a trend reversal occurs where everyone rushes to sell at the same time. This leads to an uneasy period of financial distress and consequently asset prices collapse<sup>14</sup>.

While economic bubbles may all experience a rise in lending, overvaluation and rise in prices, there is currently no widely accepted theory to explain their occurrence. Nowadays, the quantitative measurement of financial risk is all pervasive throughout our banking, asset

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<sup>11</sup> Keynes, J. M. (1936), “The General Theory of Employment, Interest and Money”, McMillan London, pg. 161-162

<sup>12</sup> Kindleberger, C. P. (2005), “Manias, Panics and Crashes: A History of Financial Crisis”, 5<sup>th</sup> Edition, pg. 25

<sup>13</sup> Kindleberger, C. P. (2005), “Manias, Panics and Crashes: A History of Financial Crisis”, 5<sup>th</sup> Edition, pg. 29

<sup>14</sup> *ibid*, pg. 31

management and regulatory systems. These risk management systems are based on the premise of market efficiency, and the idea that we are able to determine reliable probability distributions for future asset price returns. However the reality of self-reinforcing processes within financial markets renders these distributions reliable only in quiescent market conditions. As Northern Rock and Bear Sterns have demonstrated, the risk distributions predicted by these systems frequently underestimates real world scenarios.

#### **2.2.4 Policy Interference**

As these economists set out to prove an alternative school of thought, another group set out in the opposite direction determined to rescue the idea of market efficiency. This group believes that boom-bust cycles and non-normal return distributions are not due to an inherent failure of markets but are the result of interference by Governments and Central Banks. Milton Friedman accepted the view that the stock market crash of 1929 was caused by speculative investors pursuing the Keynesian “animal spirits” explanation<sup>15</sup>, however he also argues that the Federal Reserve acting as a ‘lender of last resort’ distorts the financial structure and that markets should be left free of manipulation guided only by the market forces for supply and demand.

Ron Paul agreed with his view and introduced legislation aiming to abolish the US Federal Reserve. The Feds have a tendency to flood the economy with money, leading to a misallocation of resources creating an artificial boom followed by recession<sup>16</sup>. Both he and Friedman view Government bureaucracy as a potential for misguided policy actions causing destabilising boom-bust cycles. Paul’s objective was to return to the gold standard, which he saw as the monetary system that was in operation before 1971. Rockwell (2007) discusses how Governments abolished the gold standard, as they regarded this monetary system as inflexible and deemed it poor for economic growth. However, when the market becomes too flexible, Governments and banks are encouraged to make riskier loans, as they rely on Central Banks to provide an additional source of finance<sup>17</sup>.

#### **2.2.5 The Prototypical Crisis**

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<sup>15</sup> Pongracic, I. (2007), “The Great Depression According to Milton Friedman”, Vol. 57, Issue 7, September 2007

<sup>16</sup> Nystrom, M. (2007), “Paul Introduces H.R. 2755: To Abolish the Federal Reserve”, *Daily Paul*, June 18<sup>th</sup> 2007

<sup>17</sup> Rockwell, L. H. (2007), “Paul Introduces H.R. 2755: To Abolish the Federal Reserve: Why Gold?” *Daily Paul*, June 18<sup>th</sup> 2007

Reinhart and Rogoff (2008) recently spoke about the aftermath of financial crises and how historical precedents share similar characteristics with the current crisis we are facing today. A prototypical crisis involves a sharp decline in asset markets, followed by a collapse in both output and employment and a large increase in the value of Government debt<sup>18</sup>. These were heavily prevalent in the biggest banking crises in history namely Norway (1987), Finland (1991), Sweden (1991) and Japan (1992) and also the Asian Crisis of 1997. What Reinhart and Rogoff are trying to reveal is how relevant these historical benchmarks are for assessing the current credit crisis. Authorities as we can see have implemented more flexible monetary policies which perhaps have accelerated business cycles but consequently encouraged financial contagion<sup>19</sup>. Asset prices today have taken a tumble in line with historical precedents, which provide a benchmark for how today's crisis will continue to unfold; however, one major limitation is the global nature of today's crisis which may unknowingly take twice or three times longer to recover. The reason behind the systemic nature of today's meltdown may be explained by the growing complexity and psychological input in financial markets.

## **2.3 Policymakers**

### **2.3.1 Termination of the Gold Standard**

Once the fiat paper reserve took over from the gold standard, inflation continued to rise, thereby leading to an exponential decline in the value of money<sup>20</sup>, meaning that riskier investment decisions need to be made in an attempt to grow ones savings fast enough to avoid the ravages of inflation. Keynes once said:

“Lenin was certainly right, there is no more positive or subtle or surer means of destroying the existing basis of society than to debauch the currency...By a continuing process of inflation governments can confiscate, secretly and unobserved, an important part of the wealth of the citizens.”<sup>21</sup>.

In 1971, the US and by extension the world terminated the last connection to a gold standard. Unproductive borrowing was a characteristic of this policy as society began to consume beyond their means. The current levels of debt are completely without precedent and we are

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<sup>18</sup> Reinhart, C. M & Rogoff, K. S (2008), “The Aftermath of Financial Crises, Harvard University”, *NBER*, December 19<sup>th</sup> 2008, pg. 2

<sup>19</sup> *ibid*, pg. 10

<sup>20</sup> Bordo, M. D. (2007), “The History of Monetary Policy”, *National Bureau of Economic Research*, February 2007

<sup>21</sup> Keynes, J. M. (2007), “The Economic Consequences of the Peace”, pg. 57

experiencing the largest credit bubble in history. The current total credit market debt stands at 342% of total GDP. This is a similar story to the 1930s where an easy credit policy of the Central Banks resulted in the roaring twenties, followed by a credit bubble and eleven years of economic hardship.

In 1966 Alan Greenspan wrote an article called Gold and Economic Freedom. He wrote that:

“Gold, having both artistic and functional uses and being relatively scarce, has significant advantages over all other media of exchange... a logical extension of the creation of a medium of exchange is the development of a banking system and credit instruments which act as a substitute for, but are convertible into, gold... Thus, under the gold standard, a free banking system stands as the protector of an economy's stability and balanced growth... Deficit spending is simply a scheme for the confiscation of wealth.”<sup>22</sup>

What Greenspan is stating here is that the gold standard enforces a more stringent policy by restricting financing for further investment, thus the Government cannot manipulate the supply for its own purposes.

### **2.3.2 Central Banks**

The role of the Central Bank is to measure economic activity and adjust policy accordingly, i.e. when credit expansion becomes excessive and self-reinforcing stringent policies should be implemented to reverse this expansion. There has been a widespread failure of policymakers and Governments to coordinate the supply of credit during boom-bust cycles. While Keynes advocated a theory of inflation as a way of getting out of a recession, modern authorities are using it as a way to avoid recession. Authorities are instead following an asymmetric governor system, where the response to credit expansion is both weak and delayed, while the response to credit contraction is rigorous and early<sup>23</sup>. While Keynes and Minsky may be right in saying that the financial system is unstable and requires management, Friedman may also be correct in worrying about the policy mistakes made by Central Banks.

The most predominant view today is more of a confused one drawing from both earlier schools of thought. In general it is believed that markets are efficient but they require intervention from Central Banks, yet it is poorly understood what role Central Banks play. Both the Federal Reserve and ECB have very different viewpoints with regard to credit creation. The most spectacular departure from the Gold Standard occurred in Germany in the

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<sup>22</sup> Greenspan, A. (1966), “Gold and Economic Freedom”, *The Objectivist Newsletter*, 1966

<sup>23</sup> Noyer, C. (2009), “Central Banks in the Financial Crisis”, Speech by Mr Christian Noyer, Governor of the Bank of France, 3<sup>rd</sup> July 2009, BIS Review, pg. 1

1920s when the Government attempted to repay debt from the war by printing more money. The result was bankruptcy, hyperinflation and economic collapse. These traumas increased German sensitivity to inflation risks and had a strong influence in shaping ECB monetary policy; they believe that credit growth can become both excessive and disastrous. In the US, they are still traumatised by the episodes of deflation in the 1930s and thus the Federal Governments implemented policies to reverse credit contraction or asset price deflation. In a recent speech by Barack Obama he suggests how policies that are being implemented today resemble the work of Fischer.<sup>24</sup> As Peter Hooper recently explained, “The two Central Banks are reacting to relatively similar economic and financial circumstances as if they are from different planets”<sup>25</sup>. These conflicting objectives, incoherent theories and confused policies represent the current state of the art of central banking and macroeconomic policy.

In a speech by the Federal Chairman Alan Greenspan in 1996, he commented on the assets market and how contractual arrangements about the future payments of goods have become so complex that it is near impossible to determine when asset prices have escalated beyond true value. As the economy evolved, the financial market evolved in a manner that would ensure economic growth and fertility. However, Greenspan notes that the simplistic transactions in real time have been overshadowed by concerns about future prices and more importantly prices of claims on future goods, such as equities and real estate. He famously stated; “How do we know when irrational exuberance has unduly escalated asset values, which then become subject to unexpected and prolonged contractions as they have in Japan over the past decade?”<sup>26</sup> It is very difficult to know, due to the growing complexity of the financial world.

### **2.3.3 Governments**

During an economic slowdown, the Government is expected to boost activity through fiscal measures by cutting taxes, while the Central Bank is expected to cut interest rates to encourage spending through borrowing. A review in the Irish times by Keena (2008) , points out how low interest rates prevailed in the eurozone during the Irish property boom and how these policies could have been counteracted by a tighter fiscal policy imposing taxes to

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<sup>24</sup> Obama, B. (2009), “Out of Keynes’s Shadow”, *The Economist*, Feb 12<sup>th</sup> 2009.

<sup>25</sup> WSJ, “Real Time Economics: ECB and Fed: Worlds Apart?”, *Wall Street Journal*, July 3<sup>rd</sup> 2008

<sup>26</sup> Greenspan, A. (1996), “Irrational Exuberance” Speech, Washington D. C., December 5<sup>th</sup>, 1996

increase the cost of mortgages<sup>27</sup>. In other words, the Irish Government were encouraging too much spending during a period of heightened euphoria. It can only be viewed that Bertie Ahern wanted to be the master who oversaw the greatest transformation in Irish history. Revenue was rolling in from everywhere and this was surely the sad fact that blinded Government officials as to what was going to happen. Ahern, McCreevy and Cowen, the main players in fuelling the property bubble came forward recently and blamed the international crisis for the current predicament the nation finds itself in today. Mary Harney stated that “the lower taxes brought unprecedented employment and prosperity to the nation”. While tax cuts were granted in the 1990s, the Governor of the Central Bank, Maurice O’Connell was informing lenders that routine inspections had revealed unethical practices by commercial banks in assessing the size of loans<sup>28</sup>. In 2006, John Hurley issued a warning on the size of mortgage loans saying that if they continued, financial institutions would be at a huge risk<sup>29</sup>. However these few voices were not heard among the crowd, as they were ridiculed and violently opposed.

## **2.4 Behavioural Finance**

### **2.4.1 Bounded Rationality**

Behavioural Finance is associated with cognitive psychology and suggests that people have cognitive limitations allowing them to act rationally to only a limited extent. This paradigm explores the psychological analysis of individual investors as market participants and is concerned with human behavioural patterns regarding decision-making under circumstances of uncertainty, time and pressure. Although it is a young discipline, it has emerged as a field of research that attempts to consolidate psychological and economic insights, thus highlighting its growing importance.

Herbert A. Simon (1995) developed the concept of ‘bounded rationality’ which states that decision-makers are intendedly rational; that is they are goal-orientated and adaptive, but our human cognitive capacities are limited in a way that rules out optimising behaviour<sup>30</sup>. Dow (2008) supports this by saying that the informational and compounding demands and the

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<sup>27</sup> Keena, C. (2008), “Irish property bubble was Governments’ fault”, Article from the *Irish times*, October 17<sup>th</sup> 2008

<sup>28</sup> Hennigan, M. (2009), “Celtic Tiger Aftermath: Guilty Irish Politicians remain in denial and clover while ignoring their victims”, *Finfacts*, July 6<sup>th</sup> 2009

<sup>29</sup> Central Bank Warning on House Prices, Wednesday 8<sup>th</sup> November 2006, RTE,

<http://www.rte.ie/news/2006/1108/housing.html>

<sup>30</sup> Jones, B., D. (1999), “Bounded Rationality”, *Annual Reviews of Political Science*, 2:297-321.

complete mapping out of preferences over all possible choices, including all contingencies, are beyond human capabilities<sup>31</sup>. Simon thus proposed that individuals behave as ‘satisficers’ rather than optimisers. If markets become volatile and competitive, there is a strong incentive to look for the objectively best action; however the reality in financial industries is that a ‘satisfactory’ outcome is the norm<sup>32</sup>. These actions result in a deviation from rational behaviour, as it challenges the view that individuals are permanently optimising when given full information.

#### **2.4.2 Heuristics and the Framing of Choices**

Gigerenzer (2005) believes that decision-making is based primarily on biological evolved heuristics, and gut feelings rather than calculative rationality<sup>33</sup>. Heuristic principles reduce the complex tasks of assessing probabilities and predicting values to simpler judgments<sup>34</sup>. These heuristics are therefore quite useful for simplicity by making decisions fast and with little information. Beyerle (2008) believes that market participants rely on these heuristics as they are constantly in a rush to make decisions fast, but regretfully they lead to systematic errors. They enable the investor to make simpler judgments, while avoiding weighing up all possible outcomes. He also refers to the framing of choices in analysing the reactions of market participants to market changes; the exact same decision problem can be represented differently thus leading to differences in behaviour. It is common that these changes are interoperated not by reason but by mass thinking which has a stronger influence on the investor<sup>35</sup>. Investors may be limited under the constraints of time, pressure and uncertainty in the market, therefore altering the way in which they individually process information. Dow (2008) discusses how we employ these heuristics to guide decision-making. Useful strategies are developed in finance, but as they cascade down through expert levels to households, they often become exploited and lose their fundamental concept. Thus, as the heuristic degenerates, speculative buying builds strength and the seeds of instability are sown<sup>36</sup>.

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<sup>31</sup> Dow, S. (2008), “The Psychology of Financial Markets: Keynes, Minsky and Emotional Finance”, Department of Economics, October 2008, pg. 5

<sup>32</sup> Kirchgässner, G. (2004), “The Weak Rationality Principle in Economics”, Department of Economics, No. 2004 – 13, December 2004, pg. 10

<sup>33</sup> Hutchinson, J. M. C and Gigerenzer, G. (2005), “Simple heuristics and rules of thumb: Where psychologists and behavioural biologists might meet”, *Science Direct*, Vol, 69, pg. 97–124

<sup>34</sup> Tversky, A. and Kahneman, D. (1974), “Judgement under uncertainty: Heuristics and Biases”, *Jstor*, Vol. 185, No. 4157, September 27<sup>th</sup> 1974, pg. 1124

<sup>35</sup> Beyerle, T. (2008), “Changes of Mood 2008: How Behavioural Finance Finds its way into the Real Estate Market”, DEGI Research, January 2008, pg. 2

<sup>36</sup> Dow, S. (2008), “The Psychology of Financial Markets: Keynes, Minsky and Emotional Finance”, Department of Economics, October 2008, pg. 5

Both of these branches are supported by investor sentiments; that is the mood of market participants about future expectations in the markets. Sentiments are influenced by information about markets, from the media, or financial analysts which alters an investor's mood and perception. This information is processed and interpreted differently among individuals, thereby leading to opposing market views. Within sentiment analysis, attempts are being made to measure and interpret the emotions and moods behind price movements<sup>37</sup>. This cannot be used as a tool alone to predict specific trends, but is a fair indicator of excessive price movements within the market. This aspect will be considered further under the new paradigm of emotional finance.

### **2.4.3 Neuroeconomics: Irrationality of Decision Making**

An interesting article by Jerry Adler (2004) highlights controversies within the traditional economic framework by showing that individuals fail to apply rational calculations in decision-making. Behavioural economics investigates regions of the brain which are responsible for interfering with the pure, rational expression of self-interest. The fMRI machine enables researchers in the field of neuroeconomics to investigate the interplay of fear, anger, greed and altruism that are activated each time we think about money<sup>38</sup>.

Limitations to the standard economic model of rationality are effectively illustrated by empirical findings from the simple game known as the "Ultimatum Game". Subject A is given \$10 where he can choose to give any amount of this to subject B, who can either accept or reject the offer. If B rejects the offer, neither individual will get any money. However if he accepts the offer, he will get a minimum of \$1 which is better than none<sup>39</sup>. The fMRI machine shows that if A offered only \$1 or \$2, this stimulates activity in the other subjects' brain's insular cortex, a relatively primitive region associated with emotions of anger and disgust. This region competes with the more highly evolved prefrontal cortex, the locus of rational impulse. The more activity observed in the insular cortex, the more likely the individual was to reject the offer<sup>40</sup>. This model links into "Game Theory" where individuals will try to predict how the other player is going to react. Subject A may make an offer closer to equilibrium (\$3) in the hope that B will accept but at the same time maximising his returns.

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<sup>37</sup> Beyerle, T. (2008), "Changes of Mood 2008: How Behavioural Finance Finds its way into the Real Estate Market", DEGI Research, January 2008, pg. 3

<sup>38</sup> Adler, J. (2004), "Mind Reading: The new science of decision making. It's not as rational as you think", *Newsweek*, Jul 5<sup>th</sup>

<sup>39</sup> Sanfey, A. G., et. al. (2003), "The Neural Basis of Economic Decision-Making in the Ultimatum Game", *Science Magazine*, Vol. 300, 13<sup>th</sup> June 2003, pg. 1755

<sup>40</sup> Sanfey, A. G., et. al. (2003), "The Neural Basis of Economic Decision-Making in the Ultimatum Game", *Science Magazine*, Vol. 300, 13<sup>th</sup> June 2003, pg. 1756

This simple concept is inherent in the financial world where investors predict future price movements through the collective assumption of how others will react.

#### **2.4.4 Money Illusion**

In his book *“Predictably Irrational”*, Ariely (2009) uses a series of simple experiments to demonstrate the fickleness of individuals and how their intelligence can easily become clouded when operating in markets. He discusses how we are all predisposed to visionary illusions where we cannot actually “see” what is in front of us. Therefore the likelihood that we are predisposed to other (mental) illusions is even higher<sup>41</sup>.

Stix (2009) discusses how the ventromedial prefrontal cortex (vmPFC) is responsible for what economists call ‘money illusion’. This illusion arises when individuals ignore crucial bits of information about inflation, and as a result they view an increase in income positively even when accompanied by an increase in inflation of the same amount, leaving real purchasing power unchanged<sup>42</sup>. Thus individuals engage in nominal, rather than real, evaluation.

In a recent study, Weber et. al. (2009) used functional magnetic resonance imaging (fMRI) to test the hypothesis of which parts of the brains reward evaluation circuitry, (including the vmPFC) exhibit money illusion. Results showed that an increase in income generated heightened activity within the vmPFC. The importance of these findings derives from the fact that the answer to many classic economic problems depends on whether money illusion exists<sup>43</sup>. Money illusion has been proposed as an explanation for the non-neutrality of money, which implies that central banks can affect production, investment and consumption through changes in monetary policy that have an impact on the inflation rate. Certain policies are therefore simpler to implement, as individuals may experience a nominal increase in income without realising that their real purchasing power has declined<sup>44</sup>. Money illusion is also a potential cause of property bubbles and deviations of stock prices from their fundamental values. Consumer prices increase during economic booms, as do interest rates but at a far less rapid rate, thus the overall real rate of interest declines. Lenders thus have ‘money illusion’ because they ignore the decline in the real rate of interest, borrowers on the other hand realise

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<sup>41</sup> Ariely, D. (2008), *“Predictably Irrational: The Hidden Forces That Shape Our Decisions”*, Harper Collins Publishers, 1<sup>st</sup> Edition

<sup>42</sup> Stix, G. (2009) *“The Science of Economic Bubbles and Busts”*, *Scientific American Magazine*, July 2009

<sup>43</sup> Weber, B., et. al., (2009), *“The medial prefrontal cortex exhibits money illusion”*, *Proceedings of the National Academy of Sciences*, Vol. 106, No. 13, pp. 5025 – 5028, March 31<sup>st</sup>, 2009

<sup>44</sup> WSJ, *“Real Time Economics: ECB and Fed: Worlds Apart?”*, *Wall Street Journal*, July 3<sup>rd</sup> 2008

that the real rate of interest has declined. Kindleberger (2005) assumes that the two groups of market participants systematically differ in their susceptibility to ‘money illusion’, which leads to further speculation in the market<sup>45</sup>.

#### **2.4.5 Housing Frenzies and Framing Effects**

Stix (2009) discusses how this sense of ‘money illusion’ can cause prospective house buyers to invest because of the misbegotten perception that house prices always rise<sup>46</sup>. Shiller (2008) stated that real estate cycles typically take years to correct and that house prices had risen 85% from 1997 to 2006, which was the biggest national housing boom in US history<sup>47</sup>. Investors assumed that house prices could never fall over a one year period, as they had never done so across the US as an average before. They also assumed that if they started to fall, that price drops would be both slow and manageable. However house prices have fallen 50% in some areas in the space of one year. As Shiller said himself, “*We have developed a speculative culture about housing that has never existed on a national basis before*”<sup>48</sup>.

A study carried out by Brunnermeier and Julliard (2006) on housing frenzies explain how mispricings in the housing market is largely explained by a move in inflation. People assume that a decrease in inflation corresponds to a decline in the real interest rate and they consequently underestimate the real cost of future mortgage payments<sup>49</sup>. The framing effect states that alternative representations (framing) of the same decision problem can lead to substantially different behaviour. Agents’ preferences depend to a large degree on whether the problem is phrased in real terms or nominal terms. If the problem is phrased in nominal terms, agents prefer the nominally less risky option to the alternative which is less risky in real terms. That is, they avoid nominal risk rather than real risk. If on the other hand the problem is stated in real terms, their preference ranking reverses<sup>50</sup>.

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<sup>45</sup> Kindleberger, C. P. (2005), “Manias, Panics and Crashes: A History of Financial Crisis”, 5<sup>th</sup> Edition, pg. 44

<sup>46</sup> Stix, G. (2009) “The Science of Economic Bubbles and Busts”, *Scientific American Magazine*, July 2009

<sup>47</sup> Friedlander, E. (2008), Yale’s Shiller: US Housing Slump May Exceed Great Depression, *The Wall Street Journal*, April 22<sup>nd</sup> 2008

<sup>48</sup> *ibid*

<sup>49</sup> Brunnermeier, M. K., and Julliard, C. (2008), “Money Illusion and Housing Frenzies”, *National Bureau of Economic Research*, Vol. 21 (1), pg. 135

<sup>50</sup> Brunnermeier, M. K., and Julliard, C. (2008), “Money Illusion and Housing Frenzies”, *National Bureau of Economic Research*, Vol. 21 (1), pg. 138

While individuals understand that inflation increases the price of goods they buy, they often overlook the fact that nominal wages and inflation can move proportionally over the long run. The majority of individuals do not expect their nominal income to rise while experiencing inflation over a number of years. They fail to realise that inflation increases the nominal profits of the firm, therefore increasing nominal wages, indirectly. On the other hand, under nominal fixed payments and fixed interest rate mortgages, inflation shifts the real burden of mortgage payments towards the earlier years of the financing contract<sup>51</sup>. This tilt effect has led to a reduction in the housing demand and consequently made funding constraints more binding.

This inattention to indirect effects can be related to two well known psychological judgment biases: mental accounting and cognitive dissonance. Thaler (1980) states that mental accounting is a close cousin of narrow framing and refers to the phenomenon that people keep track of gains and losses in different mental accounts. Investors are reluctant in nature to realise nominal losses, they have a tendency to strongly prefer avoiding losses than acquiring gains. By doing so, they overlook the links between them<sup>52</sup>. In this case, they ignore the fact that higher inflation affects the interest rate of mortgages and the labour income growth rate in a symmetric way. Cognitive dissonance and self attribution bias might be another reason why individuals do not realise that inflation increases future nominal income. They have a tendency to attribute increases in nominal income to their own professional achievements rather than to a higher inflation rate<sup>53</sup>.

#### **2.4.6 The Dangers of Media and Mass Thinking**

Media hype usually reflects a popular held belief that is the prevailing sentiment at the time whether it is factual or not. Investors have ready access to price movements, news and analyses which tempts them to “check in” on their bonds, assets or securities on a regular basis. Pring (1993) states that this heightens their emotional involvement; investors become ever more anxious when they hear that share prices are moving in their favour which encourages them to buy more<sup>54</sup>. An investors psyche feeds on the desire for news and price quotes. This involuntary submissiveness to momentary influences, distorts ones view of the fundamental market values, and reinforces biases which overshadow independent judgement.

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<sup>51</sup> *ibid*, pg. 140

<sup>52</sup> Thaler, R. (1980), “Toward a Positive Theory of Consumer Choice”, *Journal of Economic Behaviour and Organisation*, Vol. 1, Issue 1, pg. 45

<sup>53</sup> *ibid*, pg. 139

<sup>54</sup> Pring M. J. (1993), “Investment Psychology Explained”, *Classic Strategies to Beat the Markets*, pg. 51

This occasionally makes investors subject to the frenzy of the crowd, frequently doing the exact opposite of what was planned. The media attention surrounding financial markets also provides the perception of ‘the ease of entry’ into the investment world. This encourages inexperienced individuals to take risks by committing a large proportion of their net worth to the markets, something which they would be unwilling to do in the ‘real’ economy<sup>55</sup>.

Todd (2005) talks about how the art of contrary thinking involves training your mind to reflect and to move in opposite directions to general public opinions<sup>56</sup>. The theory of contrary opinion was first propagated by Humphrey Neil, in 1980 who postulated the very simple idea that “*When everyone thinks alike, everyone is likely to be wrong*”. Todd uses this theory to discuss the trend of both bearish and bullish markets. A trend change is inevitable when virtually everyone has taken their position in the market, and there is no one left to push prices any further. This helps explain why crowds are usually wrong, because at this point a countertrend must occur in the opposite direction<sup>57</sup>. Thomas (2005) wrote an article on market psychology, explaining that the stock market is a reflection of mass thinking and is what drives human behaviour, thus causing markets to change. For example when mass psychology becomes negative it causes a huge rush in the selling of equities and assets which, by in large have very little to do with the fundamental value of the asset itself<sup>58</sup>. The theory of contrary opinion therefore requires us to go against our natural instincts, a very difficult art to learn, giving the extent of our psychological habits.

#### **2.4.7 Corporate Governance Behaviour**

In an article by Montier (2005), he demonstrates the fickleness of individuals who were subject to the Milgram experiment, where they were told to administer electric shocks to a ‘learner’ at the instruction of a ‘teacher’. The subjects were told that they were involved in a study on punishment effects on learning and memory. The results were outstanding; 100% of ordinary Americans were willing to send a shock of 135 volts to an individual they did not know, 80% were willing to go up to 285 volts, and 65% were willing to administer the full 450 volts<sup>59</sup>. Such results demonstrate our obedience to authority, which is extremely difficult to shake off. An application to this experiment showed that when those who were in authority

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<sup>55</sup> *ibid*, pg. 83

<sup>56</sup> Todd, S. (2005), “The Art of Contrary Thinking: You Need to know it to Trade Successfully”, *Ezine Articles*, 2005

<sup>57</sup> Pring M. J. (1993), “Investment Psychology Explained”, *Classic Strategies to Beat the Markets*, pg. 111

<sup>58</sup> Thomas, A. (2005), “Market Psychology”, *Ezine Articles*, 2005

<sup>59</sup> Montier, J. (2005), “Global Equity Strategy: Lessons from behavioural finance and for corporate governance”, 31<sup>st</sup> January 2005, pg. 6

had conflicting views to each other, the subject's willingness to shock others almost ceased entirely. From a corporate governance perspective, the importance of situational factors should lead us to be on our guard for situations and incentives that give rise to bad behaviour. In other words, truly independent authorities or directors will help '*induce greater rationality and more considered ethics in corporate governance*'<sup>60</sup>. A culture can easily surface, where it seems perfectly ethical, to so set up off balance sheet entities to hide transactions and to alter data slightly, in a world that is governed by stock options and derivatives. The experiment shows that 'good' individuals can easily lose their sense of morality, as was the case of Enron. Rightly so Kenneth Lay and Jeffrey Skilling are blamed for the billions of dollars they cost Enron, however one should not be ignorant of the fudging that 'good' people do in order to benefit slightly from cheating. It's much easier to fall into the trap of moral disengagement when everybody else is participating in the game.

## **2.5 Emotional Finance**

Taffler and Tuckett (2007) explore a new paradigm, emotional finance, which emphasises the key role of emotions as drivers of investor behaviour<sup>61</sup>. Many investors are aware that holding stocks can evoke ambivalent reactions; the danger of falling in love with a stock and holding on to it too long must be put beside the potential gain of 'letting it go' too soon. The majority of investors, deal with these conflicting feelings by making the painful ones unconscious<sup>62</sup>.

### **2.5.1 Emotional Vulnerabilities**

Melanie Klein, a leading psychoanalyst, describes the two oscillating mental states which are prevalent in the mind of an investor. In the depressive state, investors view themselves and others as being complex, with both attractive and unattractive characteristics; they rely on 'realistic' judgement. In the paranoid-schizoid state, investors avoid the pain of reality by splitting the good news from the bad. Under-reaction to bad news is one of the most robust characteristics of all market anomalies. In this state, investors fail to process all available information because they set up defence mechanisms against the emotional hurt of having to acknowledge the pain of loss. In this state, they feel empowered and become 'fantastic' judges of future values. Investments are based on uncertainty, which in turn creates anxiety in

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<sup>60</sup> *ibid*, pg. 9

<sup>61</sup> Taffler, R., and Tuckett, D. (2007), "Emotional Finance: Understanding what drives investors", *Professional Investor*, Autumn 2007, pg. 18

<sup>62</sup> *ibid*, pg. 19

the individual, and also a shift between the two mental states in which decisions are evaluated<sup>63</sup>.

An article in the Irish Independent, 2008 by David McWilliams, suggests that when humans are ‘sexually aroused’, they are capable of behaving irrationally and carrying out things they would never dream of doing in the calm, collected state of mind. This arousal he suggests is provoked as soon as money is committed to an asset. William James, an influential psychologist (1890) highlights that this causes their emotions not only to carry out an action unconsciously but provokes characteristic alterations in their attitude and visage<sup>64</sup>. For McWilliams, investors were consumed by financial fetishism causing them to take bigger risks and make outlandish calculations, to satisfy a lust for property and capital gains<sup>65</sup>. He recognises that boom-bust cycles go through an investor love affair, which is shortly followed by an aversion which sometimes borders on hatred towards the market.<sup>66</sup> Investors are capable of acknowledging their angst for greed but are incapable of preventing this, as they become possessed by a mania and get carried away by *herd instincts*.

#### **2.4.2 Fear, Greed and Over-Confidence**

People often face the fear of “missing the boat” and as a result they act on impulse by either selling or buying an asset, without reasoning behind their action. For example, if an investor originally anticipates an asset is going to increase in price and it does so steadily for a number of months before experiencing a slight decline in price; the investor may then be tempted to liquidate before prices fall any further. Pring (1993) suggests that the investor would be wrong in doing so, if his actions are the result of anxiety and a change in perception, rather than a change in the underlying economic environment<sup>67</sup>.

At the other extreme of our emotional make-up is greed. Too often investors get caught up with excitement and the excessive desire to accumulate wealth to fulfil a fantasy. Dotcom stocks of the late 1990’s were examples of ‘phantastic objects’, these refer to a mental representation of something which fulfils an individual’s deepest desires to have exactly what

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<sup>63</sup> Taffler, R., and Tuckett, D. (2007), “Emotional Finance: Understanding what drives investors”, *Professional Investor*, Autumn 2007, pg. 19

<sup>64</sup> James, W. (1890), “The Principles of Psychology”, Chapter 6

<sup>65</sup> McWilliams, D. (2008), “Why we’re falling out of love with ‘property porn’”, *Irish Independent*, April 16<sup>th</sup> 2008

<sup>66</sup> McWilliams, D. (2008), “Why we’re falling out of love with ‘property porn’”, *Irish Independent*, April 16<sup>th</sup> 2008

<sup>67</sup> Pring M. J. (1993), “Investment Psychology Explained”, *Classic Strategies to Beat the Markets*, pg. 31

they want<sup>68</sup>. Internet stocks caused market participants' sense of subjective reality to become clouded by a new set of principles, which provided a plausible explanation for a departure from reality into fantasy. All an advisor had to do was simply pitch any investment with a ".com" at the end of it, and investors leaped at the opportunity. Taibbis (2009) talks about how Goldman Sachs and other large Investment Banks made the likes of eToys.com public via IPOs only minutes after the websites were created. Garnered by much media attention, these were then sold to the public for megamillions<sup>69</sup>. Jeffrey Skilling, the former president of Enron Corporation noticed the soaring prices of internet stocks and he too decided to take Enron into cyberspace. Enron created a fantasy market for buying and selling bandwidth like a commodity<sup>70</sup>. Investors got greedy which fuelled further greed and internet stocks escalated heavily. Eventually reality set in and panic prevailed as the dotcom pricing bubble burst. At this point, the once loved unconscious 'phantastic object' is hated. Investors then feel persecuted rather than guilty or ashamed and, by projecting these feelings, blame others.

As investors become confident they experience a feeling of well-being and invincibility which results in more risk taking and careless decision making. Pring believes that, it is extremely difficult to take countermeasures to keep ones feet on the ground, because as prices move in their favour, the solid anchor of caution gradually disappears<sup>71</sup>. However this get-rich-quick mentality makes it hard to maintain gains and keep to a strict investment plan over the long term. It took Enron 16 years to go from \$10 billion assets to \$65 billion assets; but only took them 24 days to go bankrupt<sup>72</sup>.

### **2.4.3 Measuring emotional impact through Astrology**

Snow (2007) in a rather interesting report on '*the current trends in astrological research*' discusses the tactics of an astrologer and self-taught technical market analyst who draws on many years of trading experience and relies on a technical aspect oscillator (TAO) to direct him in making wise investment decisions. He designed the TAO to scientifically measure and predict, the psychological impact of transiting planets on investor sentiment, and by extension, price movements in the marketplace<sup>73</sup>. When the technology is being used to time short-term market moves, the QuickTAO can be utilised, which tracks market movements on

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<sup>68</sup> Taffler, R., and Tuckett, D. (2007), "Emotional Finance: Understanding what drives investors", *Professional Investor*, Autumn 2007, pg. 20

<sup>69</sup> Taibbis, M. (2009) "The Great American Bubble Machine", *Rolling Stone Issue* 1082-83, July 2<sup>nd</sup> 2009

<sup>70</sup> Enron: The Smartest Guys in the Room, Oscar Nominated Documentary, 2006

<sup>71</sup> Pring M. J. (1993), "Investment Psychology Explained", *Classic Strategies to Beat the Markets*, pg. 36

<sup>72</sup> *ibid*

<sup>73</sup> Snow, E. (2007), "Finally: An Effective New Way to Test Astrology", *The Mountain Astrologer Magazine*, pg. 1-6

a monthly basis. TAO2 on the other hand tracks long term trends, and is arrived at by calculating the average between the monthly scores and a mathematical summation of these scores over an extended period of time. In this market-timing system, the short-term psychological shifts indicated by the quick TAO generate buy and sell signals. The trend indicated by the TAO2 scores, show how psychological factors are projected to impact market trends over the long haul; i.e., when TAO2 numbers are increasing people's outlook is optimistic, but when numbers are falling, fear and pessimism prevail<sup>74</sup>. This technology has emerged as a tool to test and predict behavioural extremes, an application needed in financial markets where mood swings fluctuate wildly between optimism and despair. Investor sentiment does not predict future market movements, but negative returns trigger a decline in sentiment, which increases market volatility. There are only a limited number of analysts or traders who rely on these advanced technologies in making market calls, however the severity of today's blow-up can only encourage investors to adopt such measures when analysing the market.

## **2.5 Conclusion**

This literature review has sought to track the changing theories and policies which have been implemented into the macroeconomic system overtime. It is extremely difficult to figure out a policy which would work most effectively in today's climate, due to the ever growing complexity of financial markets. However the aim of this literature was to cite the influence of psychology in the market; these small, yet outlandish quirks are what drive the market into both bearish and bullish trends. These forces within the market are epidemic and are easily transferred onto Governments, regulators and the general public. It is this mass psychology within the system as a whole, which has the most potent effect on the economic outlook. The next two chapters review the research methodologies which were employed in this study and present the findings gathered from the interviews. Chapter Five and Six will analyse these results, according to the literature, and help define a theory/concept which resembles the financial world more closely.

## Chapter 3

### Research Methodologies

#### **3. Introduction**

This chapter explores the methodology used for the purpose of this study. The study combined both qualitative and quantitative measures for conducting the research. The qualitative aspect dealt with subjective interpretations of central meanings and how these relate to the topic in question. Subjectivity, in part, is argued to be a process of critical reflection because meanings are analysed from the respondents' viewpoint. These subjective interpretations were tested against meanings presented in the previous chapter. Four interviews were carried out with Fund Managers and Directors in the Investment Banking sector and one interview with a Professor of psychology. Semi-structured interviews best suited this type of research as they allowed for direct comparisons between the respondents, whilst remaining flexible when appropriate. The quantitative approach comprised a simple questionnaire which was sent out to eighty recipients in the general public domain. This method provided a more valid analysis of the study by reducing the contaminating influence of biases and ensuring replication of the data. During the primary research process, it was important to start coding and beginning data-analysis as soon as the first piece of data was collected, as ideas and information could have been lost otherwise. Ethical issues such as the anonymity of respondents and their consent were very important while conducting this study.

#### **3.1 Research Methods**

According to the Stanford Encyclopaedia of Philosophy “epistemology is the study of knowledge and justified belief”<sup>75</sup>. This means that it is the study of what constitutes knowledge in a given area. There are two main schools of thought. The first is positivism, and broadly speaking it holds that the social world exists externally, and that its properties should be measured through objective methods<sup>76</sup>. Positivism involves both deductive and inductive approaches and treats research as a way of testing theories and of providing “material for the development of flaws”<sup>77</sup>. Bryman and Bell (2007) note that it is difficult to

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<sup>75</sup> “Epistemology”, Stanford Encyclopedia of Philosophy, <http://plato.stanford.edu/entries/epistemology/>

<sup>76</sup> Easterby-Smith, M. Thorpe, R. Lowe, A. (2002), “Management Research”, 2<sup>nd</sup> edition, Sage Publishing

<sup>77</sup> Bryman & Bell, (2007) “Business Research Methods”, Oxford University Press, pg. 16

pin positivism down “because it is used in a number of ways by many authors”<sup>78</sup>, but its central tenet, is that social activity can be explained by the study of scientific data that is objective and factual. This approach is hugely evident in quantitative research.

Interpretivism challenges the orthodoxy of positivism, and holds that there is more to the social world than can be explained from the perspective of the natural sciences. Interpretivism involves the study of the meaning given to peoples actions by the people themselves, and believes that the world is constructed and given meaning subjectively by people. The roots of this are in phenomenology, where philosophers began to deal only with objects as they were given in consciousness in the first person, and also in hermeneutics, whereby human words and interactions, were interpreted by trying to understand their meaning for a person who engages with them. This approach recognises that the researcher often drives the research and is particularly relevant to qualitative research.

Moving on from epistemology there is another philosophical area that is relevant to any research project. Ontology concerns itself with the nature of objects and social entities. It is the study of things and how they can be said to exist. Its two main positions are objectivism which asserts “that social phenomena confront us as external facts that are beyond our reach or influence”<sup>79</sup> and constructionism, “which asserts that social phenomena and their meanings are continually being accomplished by social actors”<sup>80</sup>. Objectivism holds that organisations are real entities that act on, and constrain their members and therefore have an objective reality outside our own experience. Constructionism on the other hand believes that organisations are constructed by social actors, and so are given meaning and existence through people.

The significance of these epistemological and ontological positions is that researchers often approach their research with predisposed assumptions about what they should be looking for, and how it should be researched. They also have an impact on the overall research strategy. Some employ a quantitative approach while others employ a qualitative one, the former being influenced by the positivist epistemology and objectivist ontology and the latter being influenced by the interpretivist epistemology and constructionist ontology. Of course many employ a mix of the two, and as Bryman and Bell note, “while it can be useful to contrast the two research strategies, it is necessary to be careful about hammering a wedge between

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<sup>78</sup> *ibid*

<sup>79</sup> Bryman and Bell, (2007) “Business Research Methods”, Oxford University Press, pg. 22

<sup>80</sup> *ibid*, pg. 22

them”<sup>81</sup>. Qualitative and quantitative data share much in common, with the great difference being that qualitative data provides contextualised meaning, usually for a small number of cases, while quantitative data provides standardised data across a large number of cases<sup>82</sup>.

The quantitative approach can be described as “entailing the collection of numerical data and exhibiting a view of the relationship between theory and research as deductive, a predilection for a natural science approach and as having an objectivist conception of social reality”<sup>83</sup>. There are a number of limitations regarding quantitative research which will be discussed later when using it for the purpose of this study. However one major critique is that it fails to distinguish between the social world and the natural world and so misses out on the real meaning given by people to events and phenomena. Numerical data is static and so quantitative findings are said to be disconnected from the social world. However, researchers using this method usually wish to reduce their own influence on their respective studies by reducing the contaminating influence of their own biases and values. This allows for replication of the study which cements its validity.

The qualitative strategy emphasizes a more “inductive approach to the relationship between research and theory on which the emphasis is placed on the generation of theories”<sup>84</sup>. The focus here is on words and the meanings, and interpretations given by people to phenomena in the social world. Qualitative research seeks to explain human behaviour by finding out the reasons behind it and the meanings given to it by individuals. Some of the methods of qualitative research include ethnography, interviews, participant observation, and focus groups. It has ties with phenomenology where the focus is geared towards the meaning given by a subject to the objects of its consciousness. Strauss and Corbin define qualitative research as “any type of research that produces findings not arrived at by statistical procedures or other means of quantification. It can refer to research about persons’ lives, lived experiences, behaviours, emotions, and feelings as well as about organisational functioning, social movements, cultural phenomena, and interactions between nations.”<sup>85</sup>

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81 *ibid*, pg. 28

82 Brannick, T. And Roche, (1997)W.K. Business Research Methods, Oak Tree Press, pg. 25

83 Bryman and Bell, (2007), “Business Research Methods”, Oxford University Press, pg. 154

84 *ibid* pg. 28

85 Strauss, A.L., J Corbin, (1990), “Basics of Qualitative Research”, Sage Publications, pg. 10-11

### **3.2 The Research Project**

For most applications in the social or behavioural sciences, research questions are best answered with mixed method research designs, that employ both quantitative and qualitative analysis, rather than with a sole reliance on either of the methods. Mixed methods are becoming increasingly popular in the behavioural sciences field, and research should be conducted with a clear intent to answer a question, solve a problem or evaluate a circumstance. In the previous chapter it has been argued that the investment psychology of the current financial crisis has not been extensively researched, therefore the main aim of this study is to analyse the importance of those factors that affect investors' decision making. The research consists of two distinct phases that aim to identify and determine the importance of these factors. Eighty candidates were surveyed on their opinions on the current financial crisis and on their spending behaviours by a self-completion questionnaire. The data captured from those respondents who return their questionnaires will be compared to the contents of chapter 2. The questions endeavoured to capture the opinions, perceptions and attitudes of the respondents, on the importance of these two topics. The qualitative aspect combined five interviews in both the investment banking and psychology sector, and is undertaken to define the exact nature of the problem and to gain a better understanding of the environment within which the problem occurred.

### **3.3 Mixed Methods**

There have been many debates over the past number years about employing both qualitative and quantitative analysis as a combined research method. An epistemological version views both qualitative and quantitative research as "grounded in incompatible epistemological principles". However the technical version sees both methods as capable of being fused and gives prominence to the strengths of data collection and data analysis with both<sup>86</sup>. Thus the mixed method approach is becoming a popular approach to use as many researchers view it a feasible and in some cases more desirable than relying on one method.

When employing both, one research strategy can be cross-checked against the results of another; this increases the confidence of the researcher should the results be highly compatible. By using both self-completion questionnaires and structured interviews, it is possible to combine 'the specificity and accuracy of quantitative data with the ability to

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<sup>86</sup> Bryman and Bell, (2007), "Business Research Methods", Oxford University Press, pg. 644

interpret idiosyncrasies and complex perceptions provided by the qualitative analyses<sup>87</sup>. For the purpose of this study, semi-structured interviews were used as the primary means of collecting data, in order to develop a grounded understanding of investor's attitudes and perceptions towards the stock market. Questionnaires were then conducted and sent out to eighty recipients in the general public domain, which had an 83% response rate, and these were used to support the main findings which emerged from the qualitative data. Overlapping findings from these two methods can be used as a triangulation exercise<sup>88</sup>. The qualitative analysis was favourable as the main research tool in the formation of hypotheses, which can then be tested against the quantitative findings. Also the in-depth knowledge gained from the qualitative findings can be used to inform the design of the survey questionnaires. These methods were suitable in this case; however in a lot of instances there is the high possibility that there will be a failure to corroborate findings.

### **3.4 Quantitative Research**

Quantitative research can be defined as research involving the use of structured questions where the respondents' answers have been predetermined, and a large number of respondents are involved. By definition, measurement must be objective, quantitative and statistically valid. Quantitative research begins with the testing of theories and thus a broadly deductive approach to the relationship between theory and research is taken<sup>89</sup>. The research design method is then chosen based on a variety of issues such as external validity of findings and the researcher's ability to impute casualty to their findings. The next step entails devising measures of the concepts, in which the researcher is interested. The research sites and the respondents are then selected, based on certain criteria of the research. The information is then collected and transformed into 'data'. Thus the research is prepared so that it can be quantified easily. These variables require the coding of information; that is transforming it into numbers to facilitate the quantitative analysis of the data. These codes act as tags to allow information to be processed by the computer<sup>90</sup>. The data is then analysed to test for the relationship between variables and to develop ways of presenting the results. It is at this stage that the findings will emerge. These findings will then correspond to the original theory, thus

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<sup>87</sup> *ibid*, pg. 646

<sup>88</sup> Bryman and Bell, (2007), "Business Research Methods", Oxford University Press, pg. 647

<sup>89</sup> *ibid*, pg. 155

<sup>90</sup> *ibid*

the presence of both an element of deductivism and inductivism approach is indicative of the positivist foundations of quantitative research<sup>91</sup>.

There are a number of limitations associated with this type of research. The development of standard questions by researchers can lead to 'structural biases' and false representation, where the data actually reflects the view of the researcher instead of the participating subject. Thus the presented answers may not necessarily reflect how people really feel about the subject. Results are also limited as they provide numerical descriptions rather than detailed and narrative ones. Overall quantitative research is collected in a much narrower and sometimes superficial database as compared to qualitative research.

### **3.4.1 Self-Completion Questionnaires**

This type of research employed self-completion questionnaires which were sent out to eighty recipients in the general public. This was chosen as part of the research as it saves time, cost and money in capturing the required information rather than relying solely on semi-structured interviews. Responses would be covered in a format that is easier to tabulate, allows statistical treatment and enhances the ability to translate into the research findings and conclusions. The questionnaire was subsequently divided into 3 categories that corresponded to individual spending behaviour, current policies and the fuelling of the financial crisis. A sample questionnaire can be located in Appendix III.

Self-completion questionnaires as compared to structured interviews tend to have fewer open questions since closed ones tend to be easier to answer. They are also shorter to reduce the risk of 'respondent fatigue', since it is manifestly easier for a respondent who becomes tired of answering questions in a long question to consign it to a 'waste paper bin' than to terminate an interview<sup>92</sup>. They also have easy to follow designs to minimise the risk that the respondent will inadvertently omit a question<sup>93</sup>. There are many advantages of semi-structured interviews however. They are cheaper and quicker to administer than interviews. They can be distributed in very large quantities at the same time via post or in this case electronically via email. Responses are very fast especially when questionnaires are sent via email or social network sites.

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<sup>91</sup> Bryman and Bell (2007), "Business Research Methods", Oxford University Press, pg. 157

<sup>92</sup> Bryman and Bell, (2007), "Business Research Method"s, Oxford University Press, pg. 241

<sup>93</sup> *ibid*, pg. 241

It is worth noting the main concerns with this research methodology as compared with interviews. Questions must be concise, simple and easy to complete as the respondents do not have an interviewer to help them out should they be having difficulty understanding the questions. There is no opportunity to probe respondents to elaborate on answers<sup>94</sup>. Respondents are more likely to become very tired of answering questions that are not very salient to them, and which they are likely to perceive as boring. However when the research issue is salient to the respondent, a high response rate is feasible. Complex questions can therefore not be asked in a questionnaire which limits both the scope and number of questions to be asked. As the questions can be read thoroughly before the respondent begins to answer the questions, none of the questions asked are truly independent of the others<sup>95</sup>. Partially answered questionnaires are more likely because of a lack of prompting or supervision. However in overcoming these limitations, questions were kept short, to the point and were closed.

Closed questions enhance the compatibility of answers by making it easier to show the relationship between the variables. The availability of multiple answers explains the situation, thus clarifying the meaning of questions for respondents who are having difficulty<sup>96</sup>. With closed questions however there is a loss of spontaneity in the research answers. There is always the possibility that respondents might come up with interesting replies that are not covered by the fixed answers<sup>97</sup>. For this reason, answers were left open in the qualitative section of the research to gain richer insight into the topic of discussion.

### **3.5 Qualitative Research**

The qualitative aspect of this study was based on the experiential knowledge of four individual investors and traders and one psychologist. Qualitative research proposes that reality is what is perceived and experiences are what are constructed: “Feelings are facts”. As Bryman (2004) suggests, qualitative research is an “ontological position described as constructionist, which implies that social properties are outcomes of the interactions between individuals, rather than phenomenon out there”<sup>98</sup>. In this research, meanings of central concepts could not be proven without the constructive knowledge of the participants of the study. Their meanings and interpretations were what were important.

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<sup>94</sup> *ibid*, pg. 242

<sup>95</sup> *ibid*, pg. 243

<sup>96</sup> Bryman and Bell, (2007), “Business Research Methods”, Oxford University Press, pg. 261

<sup>97</sup> *ibid*, pg. 262

<sup>98</sup> Bryman, A. (2004), “Social Research Methods”, Oxford University Press, Oxford, pg. 266

In the context of this research, data was gathered on the basis of ‘insider’ information that is generated and described by the participants involved. Denzin and Lincoln (2003) describe qualitative research as a process that can be seen in five phases. Firstly the researcher is traditionally subjective, locating “the researcher in history”<sup>99</sup>. The second phase is the ‘interpretive paradigm’ that guides research by “a set of beliefs and feelings about the world”. The third phase is when interoperating paradigms come to enter the world of empirical knowledge. The fourth is when methods are employed in analysing empirical information and the final phase of the process is when the “final tale” is interpreted<sup>100</sup>. Interpretation in the case of this research did fundamentally depend upon the interpretation of meaning for the respondents, and how their meaning could be interoperated while being continually reflexive and non-judgemental. Research becomes in some way “impressionistic”. ‘Subjectivity’ focuses on individual meaning and allows respondents to name their world as opposed to accepting what is told to be truth; this is part of the process of critical reflection. These meanings, feelings and impressions were tested against the hypothesis developed from my own investigations and interpretation of central concepts.

Qualitative design does come with some limitations however: “Qualitative researchers are called journalists, or soft scientists. Their work is termed unscientific, or only exploratory, or subjective”<sup>101</sup>. As qualitative design focuses on subjective levels of experience and values, objectivity is seen as void. Therefore to some it is perceived as ethically flawed as the relationship between the researcher and the respondents is considered too close. This type of research can therefore be linked to biases such as subjectiveness or non-representativeness. It is also considered very time consuming in general and does not allow for comparability. With these limitations considered, qualitative research is still valid in its dynamic representation of lived experiences that are the true representation of the living world.

### **3.5.1 Semi-Structured Interviews**

A semi-structured interview follows the basic form of a structured interview with a series of general questions to insure that all areas of interest are covered. However it has the added advantage for the interviewer of being able to further probe the interviewee when required. Semi-structured interviews are seen as the most common form of interviewing methods in

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<sup>99</sup> Denzin, N. & Lincoln, Y. (2003), “Strategies of Qualitative Inquiry”, SAGE Publications, London, pg. 31

<sup>100</sup> *ibid*, pg. 37

<sup>101</sup> Denzin, N. & Lincoln, Y. (2003), “Strategies of Qualitative Inquiry”, SAGE Publications, London, pg. 12

qualitative research because they are reflexive, open, naturalistic and flexible<sup>102</sup>. They enter into dialogue with the interviewee: Questions are usually specified, but the interviewer is free to probe beyond the answers in a manner that would appear prejudiced to the aims of standardization and comparability. The use of semi-structured interviews should enhance the richness of the information gathered and helps to create a flexible environment for enquiry, by allowing the topics as opposed to specific questions guide the interview: "...the interviewer has worked out a set of questions in advance, but is free to modify their order based upon her perception of what seems most appropriate in the context of the 'conversation'..."<sup>103</sup>. Questions were specified but they were either modified or disregarded depending on the process of the interview. In this way the interviewer needs to be open to change and unexpected responses. This gives the interviewee a considerable bit of leeway and also provides the researcher with the opportunity to ask questions on the spur of the moment; this can be quite rewarding in accumulating information. By having a lax approach to the format and wording of the questions it guarantees that there is not too much repetition in the dialogue of the conversation. If an interviewee goes off on a tangent they will often answer the next formatted question without knowledge of the questions to be asked.

A number of questions were devised that had a specific role of proving the objectives to be legitimate grounds for research. The research questions were grouped in a specific manner in order to accumulate the information that would provide the researcher with the chance to analyse the findings, and prove the objectives to be just and meaningful. These objectives as outlined in Appendix I constitute the core of this project and the semi-structured interview provided the arena to complete this task. In order to guarantee a meeting or semi-structured interview it is very important that polite persistence is adhered to. This is critical when organising an interview, because interviewing within an organisation often involves encroaching on an individual's work time. This is a reality and it is often hard to arrange an interview during working hours.

### **3.6 Coding and Data Analysis**

Analysis during the data collection process is important so the information is not lost and ideas are not forgotten. Data must be collected, coded, conceptually organised, interrelated, analysed and evaluated so it can then be used as a foundation for further sampling, data

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<sup>102</sup> Robson, C. (1993), "Real World Research, Blackwell Publishers", Oxford, pg. 270

<sup>103</sup> Robson, C. (1993), "Real World Research, Blackwell Publishers", Oxford, pg. 231

collection and analysis. Different 'clusters' of common data were collected and coded accordingly. Colour coding was the most useful way of organising the data under conceptual headings. As more information was gathered, common ideas began to emerge which could both be compared and contrasted with other information gathered, eventually leading to generalisations and then themes. This type of data analysis is informed by Grounded Theory. Aspects of grounded theory include looking for common indicators that help to inform the concepts of the study and refine theories relating to the study. In this way common threads can be found throughout the research, and this provides structure to the analysis. Therefore grounded theory is more accurately described as a research method in which the theory is developed from the information gathered. This makes the process an inductive approach, reasoning from the specific to the general and allowing categories or patterns to emerge. However a deductive approach must also be used, to assure awareness of the categories of information that are collected during the research, and to analyse these against concepts that were developed. Analysis data collection should be about moving between induction and deduction as the research process does not form a "one-way sequence".

The process begins with a general research question in mind. Then the relevant respondents are theoretically sampled, this allows for data gathering and coding<sup>104</sup>. Grounded theory was used in this instance because it is particularly useful for formulating new theories in fields where extensive research has not yet been carried out.

### **3.7 Ethical Issues**

In this study there were issues of confidentiality and anonymity that had to be voiced and it was ensured that 'informed consent' was given of the individual participants. It needed to be clarified that the research process is for the nature of the study only. The nature of the research was in the interest of the study itself but consideration also had to be given to the interests of participants involved. Research conducted may harm one person, but may not harm another, so it is imperative for the researcher to have a good understanding of what harm entails. Diener and Crandall (1978) refer to harm as being an act that can cause harm to participant's development, self-esteem and stress levels. This was a major concern for the research because certain interviewees were reluctant or hesitant to provide information at times. Confidentiality is very important and when arranging an interview with the respondent, an agreement must be made to maintain their confidentiality. The information that is accrued

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<sup>104</sup> Bryman and Bell, (2007), "Business Research Methods", Oxford University Press, pg. 588

from the meeting should not be handed onto a third party and should be destroyed once the information has been analysed and used accordingly. Each participant in the interview was given the option to have their name printed in the dissertation or else have an alias. Fortunately every participant gave their consent to disclose their respective details.

### **3.8 Limitations of the Study**

It is evident that there are a number of limitations within the research. Running the analysis with only five respondents for the qualitative aspect did have a negative effect on the research process, as it was a relatively small sample of respondents. It was therefore difficult to highlight relationships and cross tabulations that were significant. Therefore it is difficult to make widespread generalisations about investors and their attitudes towards the market. However due to time and resource constraints it was difficult to interview a larger sample size. It was however interesting to gather feedback from both the banking sector in the UK and Ireland; responses varied among participants and these responses reflected the economic conditions in each country. I was fortunate enough to conduct two face-to-face interviews in London and one face-to-face interview in Dublin, which did not hinder on my financial resources in any respect. The third interview conducted in the UK was over the phone, which limited the analysis slightly. The research topic was viewed as a slightly invasive by some traders, thus there were controversies surrounding certain questions which limited feedback in gathering the required information. As the qualitative research was limited with regard to sample size, it was imperative to carry out quantitative research. This had a very high response rate, but was limited by the fact that it was aimed at the general public. Only nine of the eighty respondents targeted were traders or investors.

### **3.9 Conclusion**

Although this research employed a mixed method of analysis, qualitative research was the preferred method used. In this study, subjectivity was encouraged in order to open up dialogue and record honest meanings. While qualitative analysis is contextual, it has been argued by some theorists as a 'soft' science as it lacks complete objectivity. The Quantitative analysis was useful as a 'hard' science, thus validating the findings. Recording, coding and data analysis had to be maintained throughout the primary data gathering stage so that information was not lost and a pattern of information could be developed.

# Chapter 4

## Presentation of the Research Findings

### 4. Introduction

This chapter presents the research findings that were gathered through interviews with a Professor of psychology, and top executives and fund managers from a number of Investment banks. The findings for these interviews are presented under relevant concept headings which were developed in relation to Chapter Two. The data is not analysed in this chapter but is simply presented in systematic manner in which information was collected. This approach is adopted so that the reader will gather a sense of the interviewing process and the respondents that participated in the study. Any direct quotes from the interviews have been italicised and longer quotes are separated for more clarity in the body of the text. A list of the questions that were used in the interviews can be located in Appendix I and II. A sample self-completion questionnaire can be found in Appendix III and the results will be discussed and analysed in the following chapter.

### 4.1 The Organisation

#### **Investment Banking Sector**

Ermes Caramaschi: Director at Citibank, London

Michael Guiney: Fund Manager at Millennium Hedge Fund, London

Yusaf Khan: Fund Manager at Old Lane Hedge Fund, London

Fergal Scully: Ex Fund Manager at Barclays, Risk Arbitrage, Hedge Fund Investing

#### **Psychology Sector**

Dr. Patricia Casey: Professor of Psychology, UCD

### 4.2 Background to Psychology

In starting the research project it was crucial to meet with a psychologist and gain professional insight into the central themes of both psychology itself and the psychology of

the current crisis. In meeting with Dr. Patricia Casey, the conversation opened with the general concept of 'irrationality'. She remarked by saying that all individuals are capable of acting irrationally due to the presence of neurochemicals in their brain directing behaviour.

*"People may become aggressive, while others are careless and may become irresponsible with money by taking risks; others are impulsive when it comes to the markets"* (Casey).

The four investors were asked whether they felt that they had cognitive limitations in the market due to time, pressure and uncertainty constraints; thus being unable to act rationally to the full extent.

*"Not really. However what seems 'rational' to one person may not seem 'rational' to another"* (Millennium).

*"It depends on the sort of investment. Usually you will have plenty of time to make informed decisions. It's about making a decision with all the information you know up to that point in time"* (Barclays).

Ermes answered this question from an aggregate rather than an individual perspective:

*"It's very difficult to see when irrational exuberance has taken its toll. There are individuals that perhaps don't believe in the fundamentals associated with a particular economy but they believe that prices have momentum and they just follow prices, ie to them it's rational to follow the momentum"* (Citibank).

The conversation with Patricia Casey flowed on from there and the next topic of interest was on 'habit' and how these are embedded in early life and become extremely difficult to alter as one matures. Casey stated that:

*"Habits are a mixture of our genetic makeup, background and current influences. There is always going to be tension among these. The earlier the age these habits are embedded the harder they are to change"*.

#### **4.3 Uncertainty in the market**

A group of questions were devised to gain clear insight into what investors feel is the one sure thing that creates uncertainty around investing. This question was left open for

respondents to give extra feedback on the question thus gaining richer insight into the concept. In general the biggest driver of uncertainty was believed to be:

*“Market volatility. It’s inherent in the market everyday”.* (Barclays).

*“They have lost complete confidence. The stock market has provided zero returns over the last ten years debunking the myth that you always make money over the long term by investing...The psychology of the market can change very quickly on just a few catalysts”* (Millennium).

Ermes Caramaschi said that the biggest uncertainty they faced back in 2008 was;

*“...a consumer which was falling off the cliff in terms of their ability to spend, this resulted in a feed through effect in terms of supporting prices in the housing market. Banks were heavily explosive in the real estate sector & are being written down aggressively due to a failing consumer”* (Citibank).

He also said that it was very difficult for anyone to value assets correctly due to the amount of gearing in the system which was at record highs. Yusaf Khan also believed that *“the last quarter of 2008 went to unprecedented levels”* (Old Lane Hedge Fund).

Ermes Caramaschi then continued to talk about uncertainty in our current affairs and the forthcoming months ahead. *“At this juncture the biggest question mark is whether the fiscal and monetary stimulus which is being imposed by the Government will stick and whether they will translate into sustainable growth”* (Citibank). He pointed out that the consumer can take one of two routes in order to finance consumption:

*“...employment and credit. In the absence of employment it’s crucial that they have access to credit. The market is discounting a high possibility that banks will lend again and that companies will start employing”* (Citibank).

#### **4.4 Changing Mindset after the Crisis**

Interviewees were asked to assess their market strategies prior to the recession. The question here focused on whether they thought investing is based around a game of chance or skill:

*“It’s not a game of chance or skill; you just need to have experience and patience when it comes to the stock market”* (Millennium).

*“They require skill. We all think we’re marvellous”.* (Barclays).

*“They require skill, experience and market knowledge”* (Old Lane Hedge Fund).

Having gained insight to this, it was imperative at this point to find out whether their tactics and mindset towards the market had changed due to the prevailing crisis. This was asked with the aim of validating modern research conducted on post-boom psychology

*“As far as investing is concerned, the big thing that has emerged is that the consumer is going into a de-leveraging process. A growing global population is also causing strain on finite commodities”.*

*“As far as my mindset is concerned I am more cautious than two years ago. I am positioning myself not in anticipation of growth but very much to take advantage of those two themes”* (Citibank).

*“Because others are in trouble at the moment, this indirectly means that you are also”* (Old Lane Hedge Fund).

#### **4.5 Media, News and Price Movements**

Another topic for discussion that was hugely relevant to the literature was that of the media hype surrounding markets and the negative effect these forces can have on the financial structure as a whole. In understanding how people react to negative or positive news it was necessary to first gain insight from Patricia Casey, *“These forces are governed by our genetic makeup. Someone who is very independent minded may be capable of ignoring these, while others are easily influenced”.*

From there a foundation was built whereby the hypothesis from chapter two could be tested. Respondents were asked to what extent market changes presented in the media or press influence their decisions. Guiney replied:

*“Yes. If something behaves contrary to how you believe it should and you cannot understand why, then you are better off not being involved. Only invest in areas where you understand the investments ‘heartbeat’ and truly understand what forces cause the price to change”* (Millennium).

*“If you can separate out that from the rest of your investments, it could be an opportunity to get cheaper prices. It just depends how bad it is really. Sometimes it’s an opportunity and other times it’s a warning”* (Barclays).

*“No not for me. When you have assets being re-valued up the ones who are going to be most sensitive to what’s going on in the media are either those who are under-invested or those that are fighting the trend. This then creates a capitulating behaviour which drives prices up again” (Citibank).*

*“Not really. The media tends to be behind us; being direct market participants we tend to know about what’s going on a lot faster than the media” (Old Lane Hedge Fund).*

Another question relating to this topic was in discovering whether investors become more emotionally involved in the stock market because they have ready access to price movements.

*“You look at them every minute of the day. You’re probably better off not sitting in front of a screen watching movements constantly, but that’s just what all traders end up doing” (Barclays).*

*“Yes it enhances anxiety and the by-product of that is a self-imposed amount of pressure to feel like you need to do something” (Citibank).*

Yusaf Khan answered this question, not from an individual perspective but in light of other investor’s attitudes:

*“People who are relatively inexperienced or perhaps do not have control over their emotions...It has negativities in the sense that you are supposed to buy when assets are going down and sell when going up, not the other way around. When the markets go down, people will sell because of fear; when the markets go up people will buy because of greed” (Old Lane Hedge Fund).*

#### **4.6 Main Players Fuelling the Crisis**

Key to this research was gaining insight into investor’s views as to why the market is in the current state of affairs and whether they thought it was down mainly to bad policy implementation or a corporate culture of greed. Guiney believed it was down to both: *“Ultimately the lack of proper regulation is to blame but corporates will do stupid things if the regulators allow them to”.*

*“... if AIB decided to be more prudent five years ago then shareholders would have said ‘Hey, look at all the money Anglo Irish is making’, so AIB followed for fear of being left behind.... if the regulator had put a stop to Anglo’s reckless lending then there would be less of an issue” (Millennium).*

Fergal Scully believed it was more to do with greed and corporate profits rather than Governments and Regulators, “...*They can only do so much and people will always get around it. It's more do with the Corporations themselves allowing certain risks to be taken*” (Barclays).

*“I don't think the Government have anything to do with it, they have actually gone out of their way by helping markets by pumping in massive amounts of liquidity. It's to do with an unprecedented amount of leverage in the system...”* (Old Lane Hedge Fund).

He feels that it was very difficult to figure out how much leverage there was in the system because of a lack of transparency. When this leverage was taken away, people ultimately had to sell, which exacerbated market movements. Ermes put the blame down to both:

*“Authorities probably induce bad corporate behaviour. For example why were banks running at 20-40 times leverage, it's because the opportunity cost of doing that was too big....If interest rates were higher then you would have an alternative rather than leveraging up low returns....it's most likely due to ample liquidity and the system provided by Central Banks”* (Citibank).

#### **4.6.1 Current Policy Implementation**

Questions from various different angles, depending on the context of the interview were asked with regard to maintaining confidence within the banking structure. Respondents gave feedback as to which policies are most appropriate in encouraging future investors and lenders to regain confidence. Guiney simply stated that they need to “*Nationalise them*” (Millennium). Fergal Scully agreed that nationalising the banks is required to maintain confidence so that everyone has the potential to share on the upside of the banks moving forward. He said that NAMA has an awful lot of pitfalls for the Irish Government and that is it likely they will make a total mess of this policy:

*“... as oppose to solving the bank's balance sheet problems and hopefully encouraging lending. By doing so you're lumbering every tax payer in the country with the current debt....They have already taken too much time talking about implementing NAMA rather than acting”* (Barclays).

Guiney agreed that: “*NAMA has the 'perception' that the banks will be free of bad debt and will encourage people to lend again*” (Millennium).

Ermes said that, *“If the banking industry is deemed to be fixed then investors will have confidence in it. The market has fairly short memory so they’ll forgive quite quickly as long as they see policies being implemented”* (Citibank).

#### **4.7 Current Investments in the banking industry**

Respondents were asked what investments they were confident in at the moment and whether it was likely that this investment could become speculative when the market has regained confidence and amass into a bubble. Guiney said he was confident in;

*“Ten year Government Bonds (US, UK & Germany) as I really believe we are entering a period of deflation much like Japan has had for the last 20 years. There is just too much excess capacity, too much unemployment etc. for the prices to get pushed higher”* (Millennium). He said that the markets need to de-risk and de-lever, so by under investing for a few years the markets will get to where they should be.

*“Government Bonds were in bubble territory earlier this year when US Bonds yielded 2.5%. Now they yield about 4%, which is a good return on something where you will not take a capital loss. But if they get back towards 2% it’s hard to see the value and to me that’s a bubbly price”* (Millennium).

*“Very little, given how much the market has risen recently”* (Barclays).

*“Commodities. Most likely they will become speculative”* (Citibank).

*“Equities would certainly not be in my comfort zone, but more likely to own debt for example Corporate Bonds”* (Old Lane Hedge Fund).

##### **4.7.1 Green Stocks**

There is an unprecedented amount of research predicting that the next big bubble will be in ‘Green Stocks’. The interviewees were asked whether or not they would invest in ‘green stocks’ today. Guiney firmly said;

*“NO. People talk ‘Green’ and there is a certain amount of capital allocated to it so companies ‘look good’, but the reality is that it’s almost impossible to find the winners in that space now...a lot of them will go bust”* (Millennium).

*“Yes I would but I’d be investing in them because they make money and maybe other investors would follow suit, but I wouldn’t be investing in them just because they’re ‘green’” (Barclays).*

*“Yes to an extent. I wouldn’t see many opportunities based on those criteria however” (Citibank).*

*“Probably not. Now that oil prices are down, people are not looking at alternative fuel sources” (Old Lane Hedge Fund).*

#### **4.8 Real Estate**

In relation to the work done by David McWilliams in the importance of giving real estate an intrinsic value, it was insightful to find out how investors predict the housing market will look like over the coming years.

*“It’s very hard to be scientific about house prices. The nature of a house is that you live in it and fall in love with it as a home; you’re never really going to be able to give an intrinsic value. So there is always going to be room for exuberance on the upside”.*

*There is still more room for them to come down maybe about 20%. But once banks start lending again, people will be back to the good old days” (Barclays).*

Guiney believes that, *“...over the next 10 years property values will continue to fall and rent will start to rise so that they will hopefully meet at some point in the middle with a near accurate valuation”*

*“...The implementation of property tax has some benefits over stamp duty....but does not however create a nice feeling as an investment...if the value of one’s home continues to rise, then their property tax will also. Property is becoming a hated investment” (Millennium).*

#### **4.9 Conclusion**

This study set out to explore how investor sentiments drive market euphoria. The data gathered from the interviews gives insight into this topic, however some interviewees felt that perhaps some of the questions were invasive and they were reluctant to give concrete answers on the specified question. Instead they provided knowledge on the market as a whole, as this was a far more comforting topic than discussing individual sentiments. In this way, some of the questions were altered for follow up interviews to give a non-invasive impression to the respondent. However the overall feedback from the interviews was lucrative enough to analyse against concepts and questions already developed in the literature review.

## **Chapter 5**

### **Analysis of the Research Findings**

#### **5. Introduction**

This section provides an in-depth analysis of the research findings according to the literature covered in Chapter Two. Broadly speaking, psychological concepts discussed in the literature review will be applied to the findings from all five interviews in both the psychology and banking sectors. Both the traditional and more contemporary economic theories, discussed therein, will then be applied to the findings from the banking sector and the data obtained from the self-completion questionnaires to validate these concepts. Lastly, focus will be placed on the integration of both economic and psychological themes into the data obtained from the four interviews in the banking sector, which will explore the validity of the new paradigm 'emotional finance'. This will provide clues as to whether these new concepts will become openly projected in the future. Additional analysis will focus on the real estate sector, Government policies, Central Banking and regulation, as these topics have been, and continue to be, hotly debated.

#### **5.1 Psychological Findings**

Economists and psychologists alike have provided evidence from real life that the majority of individuals are intendedly rational and logical but can become hot-headed, short-sighted and even excited when operating in markets. The majority of scientific studies acknowledge this 'dark side' but nevertheless underestimate its power to influence aggregate behaviours. Studies carried out by Dan Ariely, Milgram and McWilliams have revealed such casualties, and have also attempted to create awareness of the detriments these influences have on the economy. All five interviews revealed that people are predisposed to some form of irrationality in any given environment; however the respondents in the banking sector revealed how these characteristics can surface more readily given the extent of financial market volatility.

Findings confirmed that we live in a world marked by chaos, emotions, rationality and irrationality which makes classical economic theory an unreliable benchmark for determining market behaviour. All of the respondents that were interviewed in the investment banking sector agreed that psychological vulnerabilities and volatility within the market hinders their

performance to a certain extent, thus not allowing them to achieve optimal results with every decision. A big concern for investors is that *“Psychology of the market can change very quickly on just a few catalysts”* (Michael Guiney). In gathering feedback, it was imperative at this point in time to ask the interviewees whether they themselves felt limited in decision making given the influence of uncertainty, time and pressure constraints. Research has proposed that all individuals possess cognitive limitations no matter how intendedly rational they are. The hypothesis did not test positive for this in gathering feedback from an individual investor’s perspective, as most respondents believed that they were not limited in this respect and that they are well capable of making informed decisions.

*“I myself am not limited to this extent, but there are several individuals that perhaps don’t believe in the fundamentals associated with a particular economy....therefore they find it rational themselves to simply follow the momentum of prices”* (Ernes Caramaschi).

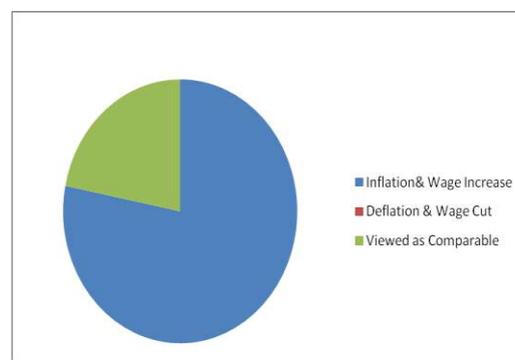
Findings also suggested that what may seem rational to one person, may not seem rational to another (Michael Guiney). In this way, the investors interviewed felt that they themselves were not limited, but that aggregate investor behaviour can result in a deviation from rational behaviour. These findings correlate with the findings done by Jean-Claude Trichet, president of the ECB who stated that behavioural patterns can be observed which are perfectly compatible with rationality from an individual investor’s perspective but can nevertheless lead to large deviations of asset prices from their fundamental value. Therefore it is very difficult to determine when irrational exuberance has escalated asset values.

The majority of time, investors and traders will have time on their hands, allowing them to make objective decisions but will not always have all the necessary information that could become available to them (Fergal Scully). This finding supports the literature of both Dow and Simon who believe that investors cannot be permanently optimising given the nature of markets and the fact that they will never have all the required information available to them. Therefore the validity of the Efficient Market Hypothesis is further jeopardised.

### **5.1.1 Money Illusion**

The “Weak Rationality Principle” assumes that individuals adapt to changing environmental conditions according to their objectives in a systematic and therefore predictable manner, by

weighing up all costs and benefits to alternative choices<sup>105</sup>. Experimental evidence has however confirmed that ‘money illusion’ is in fact present, thus leading to economically relevant departures from rationality and self-interest. From the interview with Patricia Casey she remarked by saying that “*the prefrontal cortex is responsible for judgment and money illusion therefore giving a false perception*”. The self-completion questionnaire confirmed that ‘money illusion’ does in fact exist in the majority public domain. With these findings, 78.1% of recipients confirmed that they would rather receive larger wages during an inflationary period than take a salary cut of the same amount during a deflationary period, thus leaving real purchasing power unchanged. This helps explain the property boom, as people were ignorant of real evaluation of house prices and interest rates over the long-term.



**Figure 1: Money Illusion: Factors Viewed Most Positively**

On the other hand, 21.9% of recipients said that they would view both situations comparably, thus they had no preference as to which economic setting was prevalent.

## **5.2 Uncertainty in the market**

From the research findings, it is clear that the biggest uncertainty surrounding financial markets in general is market volatility. This volatility is built-in to the market and is part of the means by which markets operate. However, the financial system experienced an unprecedented amount of leverage in 2008, which was the biggest driver of uncertainty; this meant that there was a lack of transparency in the financial markets (Yusaf Khan), which consequently resulted in the bursting of the economy. Shortly after this, there was a trend reversal in consumer behaviour which heightened their inability to spend, thus having a knock-on effect on house prices and consequently the banking system (Ermes Caramaschi). While a lot of people remain unaffected by the crisis with regard to employment, income and

<sup>105</sup> Kirchgässner, G. (2004), “The Weak Rationality Principle in Economics”, Department of Economics, No. 2004 – 13, December 2004 pg. 3

other economic measures of growth; their ego and mindset towards spending have also been altered immensely due to a mass wave of pessimism that is prevalent in society. Had only those that are seriously affected by the crisis responded by reducing consumer spending, then the banks and Governments would not be facing the global meltdown that is unfolding at the moment. Sixty of the eighty recipients targeted in the public domain were unaffected by the economic crisis, as they were either at University or still had secure jobs with wage levels unaffected. However 39% of these confirmed that they were definitely more cautious buyers, while 45% said that they had changed their spending habits slightly. Only 16% said that their spending habits hadn't changed at all.

### **5.3 Changing mindsets towards the market**

In analysing the research done on post-boom psychology and determining whether individual investors experience a completely new mindset towards investing, it was imperative to ask the respondents whether they felt that their strategies, mindsets and egos had been altered since the crisis. Ermes Caramaschi went more in-depth with this question and took it from both an aggregate and individual perspective. A major concern at the moment is the indirect effect the de-leveraging process of the consumer will have on the banks. Also the scarcity of resources and commodities globally is causing concern. The crisis has caused a systemic shock and is creating awareness about our consumption habits, thus hopefully encouraging people to slow down. He said that both consumer and commodity constraints have caused him to re-position his thinking to take advantage of these two aspects (Ermes Caramaschi). Investors have become more cautious and need to take a closer look at the markets in order to spot the opportunities which majority participants will miss. However their strategies within the market have not changed at all.

### **5.4 The effects of media, news and price movements**

Most of the interviewees from each of the banks agreed that investing and trading requires a lot of skill, experience and market knowledge. They also reasoned that the 'ease of entry' or at least the perceived 'ease of entry' into the financial markets accelerates boom-bust cycles. These findings support Pring's view that the media hype surrounding markets encourages inexperienced individuals to tamper with the market not knowing how to play the game. Perhaps the fact that numerous participants commit themselves to the financial markets heightens its complexity and inefficiency. As Dow pointed out, the financial markets employ

heuristics to guide decision-making. Useful strategies can be developed but as they cascade down through expert levels to households, they often become exploited and lose their fundamental concept. Thus, as the heuristic degenerates, speculative buying builds strength and the seeds of instability are sown<sup>106</sup>.

In relation to the surrounding media hype, the respondents were then asked how media influences their decisions under uncertainty. As Professor Patricia Casey described it, the effect of these external forces really depends on an individual's genetic makeup with regard to how independent-minded they are. Most of the respondents felt that they were not influenced because in essence the markets are ahead of the news and media (Yusaf Khan). They also felt that it was not in their nature to be sensitive to matters in the media, having gained many years of experience in the market. It could however be an opportunity to 'buy cheap', because after all, others are going to be affected by bad news prevailing in the media and share prices will decline. Thus, it is difficult to ignore external information as it could provide opportunities; it is however imperative to separate this news out from the rest of your investments which investors may unconsciously succumb to on occasion (Fergal Scully). Taking from a different perspective, Michael Guiney believes that any bad news prevailing in the media should encourage investors to stay away;

*"... if something behaves contrary to how you feel it should behave then it is difficult for an investor to know what is truly causing the prices to change. Only invest in areas where you understand the investments 'heartbeat'"* (Michael Guiney).

Advancing with this topic, investors were then asked if they feel themselves becoming more emotionally involved with the stock market by sitting in front of a screen all day and having ready access to price movements. All of the four banks agreed that this does heighten their anxiety and will encourage them to buy more should things be moving in their favour. They have access to these movements throughout the day and agreed that it is extremely difficult to ignore this information. *"There is a self-imposed amount of pressure to feel like you need to act"* (Ernes Caramaschi). Fund Managers feel an immense amount of pressure that they need to outperform market averages from the previous years<sup>107</sup>. This only encourages investors to 'buy high' and 'sell low'. Investors may feel the need to sell because things are crumbling

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<sup>106</sup> Dow, S. (2008), "The Psychology of Financial Markets: Keynes, Minsky and Emotional Finance", Department of Economics, October 2008, pg. 5

<sup>107</sup> Feder, B. J. (1987), "Experts Question Market Rationality", The New York Times, January 24<sup>th</sup> 1987

due to an excessive amount of fear building up and to buy when the market is rising because of greed (Yusaf Khan).

Fergal Scully stated that it would be wiser not to sit in front of a screen all day watching these price movements but this it is simply a habit of all traders. These findings suggest that it is an extremely difficult habit to reverse because an investors psyche feeds on the desire for price movements. These findings contradict the efficient market theory which can tolerate only small deviations in asset prices; thus if this hypothesis was true then investors should sell when assets are overvalued and buy when undervalued. The irrational investor defence prevents them from doing so.

### **5.5 Largest Factors Fuelling the Crisis**

Below highlights the key findings from each of the banks on who they feel is most responsible for fuelling the crisis. Primarily a lack of proper regulation is to blame but corporates will misbehave if the regulators allow them to (Michael Guiney). Both Ernes Caramaschi and Yusaf Khan put majority blame on an unprecedented amount of leverage in the system, while Khan also believes that Governments had absolutely nothing to do with fuelling the crisis. Scully from Barclays has a different view by saying that people will always find a way around regulations and it was to do with the corporations themselves taking on excessive risk, therefore a corporate culture of greed was the main reason behind the crisis (Fergal Scully).

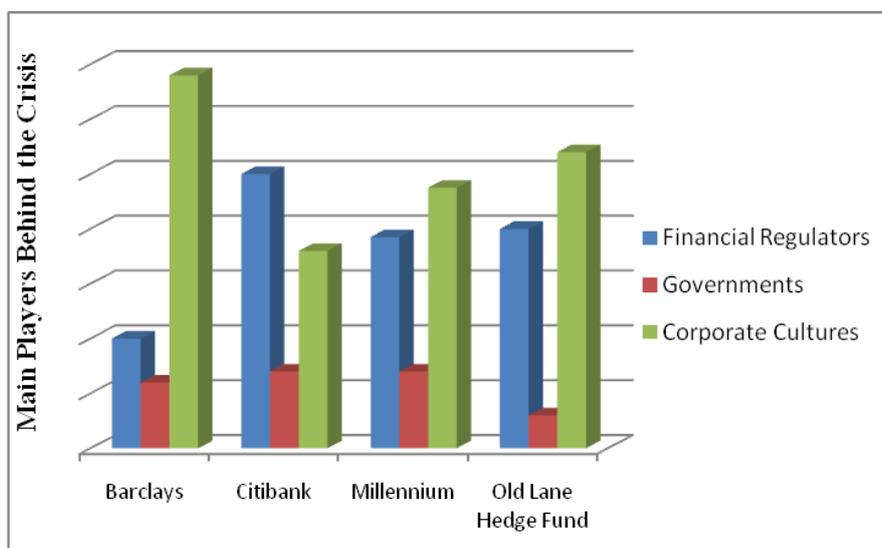


Figure 2: Showing the different outlooks on who is to blame for the financial crisis

Michael Guiney goes on to talk about how a growing corporate culture of greed followed by fear is equally a predominant cause of the crisis. He talks about how the banks got greedy over the past ten to fifteen years and how they created products (CDOs) that would 'pool' groups of mortgages together. These more advanced mathematical approaches to managing credit risk allowed them to slice and dice loans, parcel them up and get them rated AAA by a rating agency and then sell the pieces to other banks around the world. This basically created a false illusion of credit, creating money out of thin air which allowed banks to lend more as they convinced the regulators that they had rid themselves of a lot of their existing mortgage risk. Over time these collateralised debt obligations, became ever more complicated and began to create CDOs of CDOs which became CDO<sup>2</sup> and so forth, thus encouraging lending further. By convincing regulators that they had no more risk than ten years earlier, everyone was satisfied that the system was sound and the banks were safe. People borrowed to excess on the illusion that that there was an infinite supply of credit which caused house prices to sky-rocket; it was self-fulfilling. Every lender participated in this game, for fear of getting left behind.

Guiney puts things into perspective by saying that fifteen years ago the credit derivative market was almost non-existent, while today it has an outstanding notional of \$80 trillion. Fifteen years ago credit growth in Ireland stood at 7%, while in 2006 it grew to over 30%, which was further encouraged by the market across the US, UK and Europe growing from zero to \$80 trillion in just fifteen years. These findings correlate with those of Milgram, a psychology professor who demonstrated the fickleness of individuals when operating in groups or markets. Central Banks, regulators, commercial banks and borrowers were not watching out for situations that give rise to bad behaviour. A greedy corporate culture surfaced whereby everyone felt ethical and morally in-tune because they shared a common view that the economy would keep on growing.

The chart below resembles the average views from each of the banks on who they think were the main players behind the crisis.

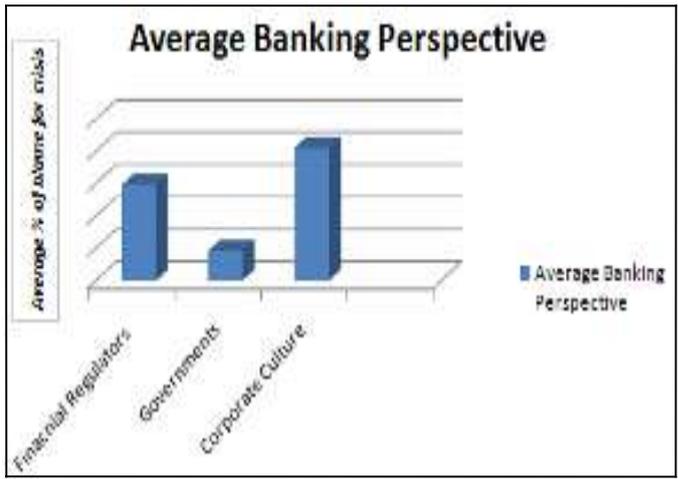


Figure 3: Showing avg. perspective on who were the main players behind the crisis

A total of 65 self-completion questionnaires were collected by recipients in the general public domain, and their responses were a true reflection of the average banking perspective. 67.7% of recipients blamed a corporate culture of greed within the whole system including lenders, borrowers and regulators as the main culprit behind the crisis. 21.5% believe it was down to a failure of the regulators to hone in on banks' lending behaviour. While only 10.8% would blame the Central Banks and Governments collectively cutting interest rates and taxes thus encouraging a boom further.

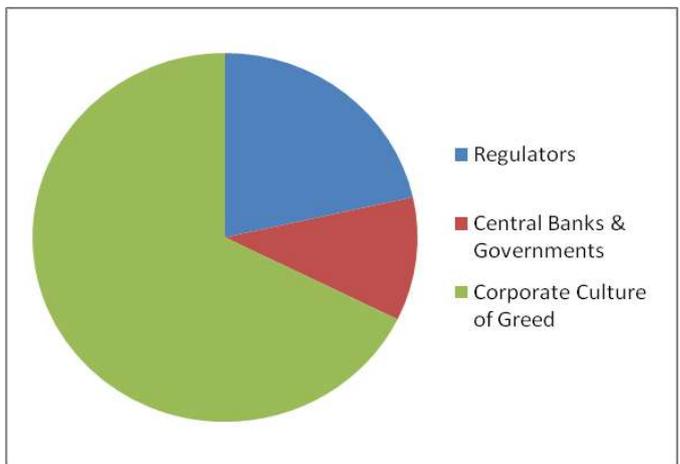


Figure 4: Main players at fault as perceived by the general public

### 5.6 Controversy Surrounding Policies

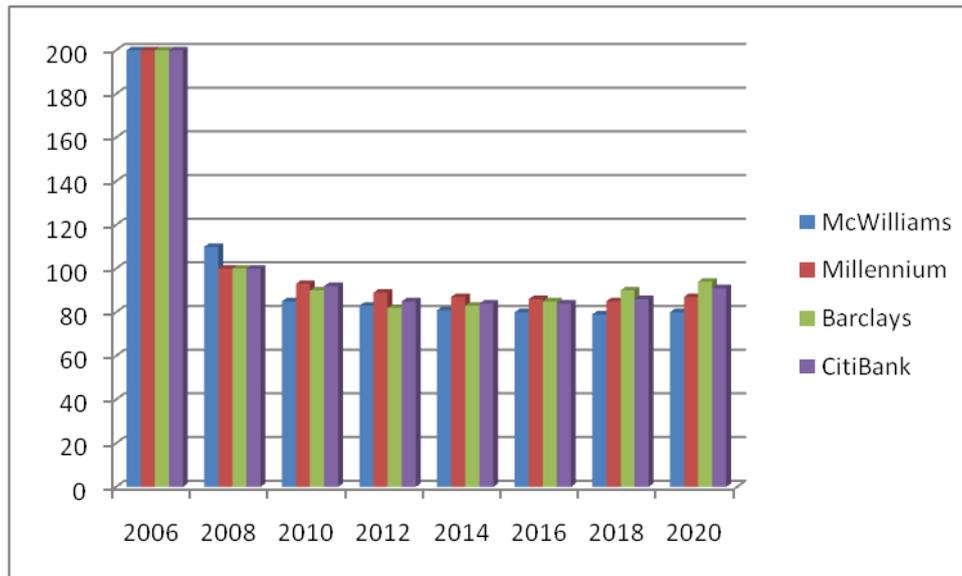
A huge concern the bankers are facing presently is whether the monetary stimulus that is being imposed by the Governments will go ahead and will generate sustainable economic growth. The markets are anticipating the high possibility that the banks will shortly be

capable of lending again and thus companies will be able to employ more people again due to an expansion in credit. However, there are still conflicting objectives among authorities, which mean that policy implementation could again be untimely and inaccurate, as was the case historically.

Depending on the context of the interview questions were asked from different angles with regard to maintaining confidence within the banking industry. It was agreed that there are many policies which will ultimately lift the burden off the banks, but that there needs to be an agreed policy implemented to ensure rapid economic recovery. Ermes from Citibank believes that financial markets have fairly short memory and that they can recover from a meltdown fairly quickly. The biggest problem at the moment is that the markets are in anticipation of recovery; however Government controversy is heightened evermore than it was before and as a consequence they are slow to implement policies. Both Guiney and Scully feel that the Government have spent too much time debating the NAMA legislation. They feel that nationalising the banks would be a much more appropriate route to take and would maintain confidence in the public, as everyone would have a potential share on the banks moving forward. Guiney feels that NAMA provides only the 'perception' that banks will be free of bad debt, thus encouraging people to lend again. However it is most likely that this will go belly up as they are not actually 'solving' the problem. The economy needs to take a further slump and serve its deflationary time.

### **5.7 Real Estate over the next 10 years**

Real Estate Values peaked in Ireland in 2006 and had reached prices of more than 200% of their fundamental value. It only took the space of two years for property to collapse by almost half, however it is predicted that property could fall another 10% gradually before rising again. Below is a representation of the differing perspectives from each of the banks on how real estate will pan out over the next few years. These results were compared to what David McWilliams thinks the property values 'should' go to in order to regain quick recovery in the housing market. McWilliams firmly believes that house prices are still ridiculously over-valued in Ireland and that they should come down to an intrinsic price (of 14 X annual rent) to facilitate a fair valuation. He is an eternal optimist in this climate and feels that falling house prices will allow people to seek out opportunities in real estate and buy homes cheap. McWilliams believes that people should '*walk away from NAMA and let property prices fall*'.



**Figure 5: Predicted Relative House Values over the next 10 years**

In asking investors whether they think house prices will fall dramatically over the next few years, it gives a reflection as to whether McWilliams' theory will become a reality. Fergal Scully from Barclays projected his view that property is a 'loved' investment; it is your home and your belonging so its nature is that there is always going to be room for exuberance on the upside. He seemed unsure as to whether property will fall dramatically over the next year or so but revealed that there is room for it to fall at most another 20% over the coming years. He reckons that once banks start lending again, the system will be back to 'the good old days'. Ermes from Citibank had a similar outlook to this but he feels that property prices will decline at a slower and steadier rate and will take a longer period of time to reverse on the upside. Guiney commented on this by saying that property will fall at a slow and manageable rate over the next ten years, while at the same time rent will start to increase so that the two values will hopefully meet at some point in the middle providing an almost intrinsic value. He went on to say that real estate is becoming a hated investment at the moment, especially with the implementation of property tax on homes.

### AVERAGE PREDICTION OF HOUSE VALUES 2008 - 2020

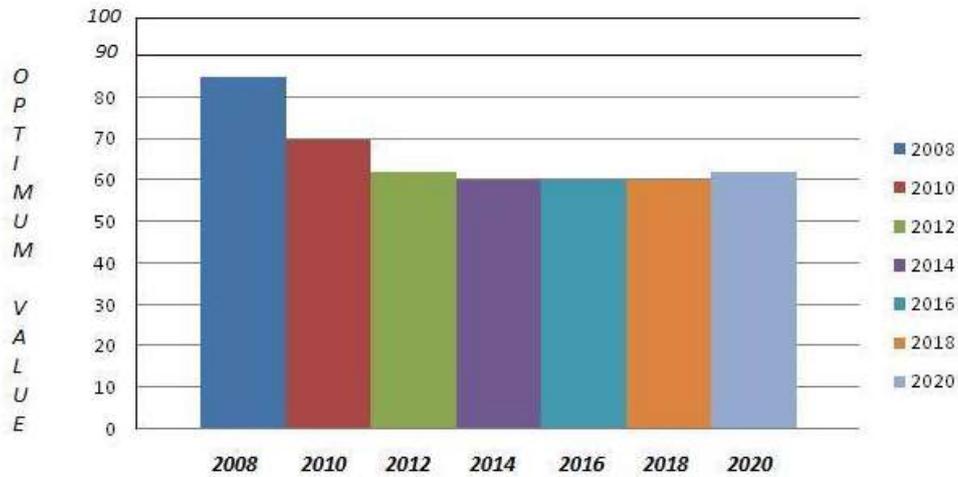


Figure 6: The average perspective of how real estate will look over the next 10 years

As discussed in the literature review, post-boom psychology leads to an aversion towards property. House value predictions over the next five years show that there will continue to be an aversion towards property and that eventually these values will stagnate for a number of years before rising in value again.

### 5.8 Future Investments

Each bank was then asked which investments they would be confident in over the forthcoming years, and whether these investments would become speculative when the market regains confidence. The majority of respondents said that they wouldn't be confident in much out there; however they would invest in Government Bonds due to the belief that the market is entering a period of deflation, much like what happened to Japan since the 1990s (Millennium). Guiney remarked by saying that there is too much unemployment and credit constraints for prices to get pushed any higher. He does believe that Government Bonds could enter bubbly territory however, as they had done at the beginning of this year. Khan from Old Lane Hedge Fund said that he would steer clear of equities and most likely invest in corporate bonds. While Ermes from Citibank is confident in commodities at the moment but does think that these will become speculative over the next few years.

### **5.8.1 Gold Entering Bubbly Territory**

There is talk at the moment surrounding what assets in the financial markets will amass into the next economic bubble. Currently gold stands at \$1,072 per ounce, as investors turn to the precious metal, as they fear the US currency will continue to devalue. On average gold has never peaked as high as this before and this marks one of the most speculative investments of its time. The graph below shows how gold became a speculative investment in the early 1970s due to the abandonment of the Gold Standard. Each inflationary period after that saw share prices increase sharply for the scarce metal.



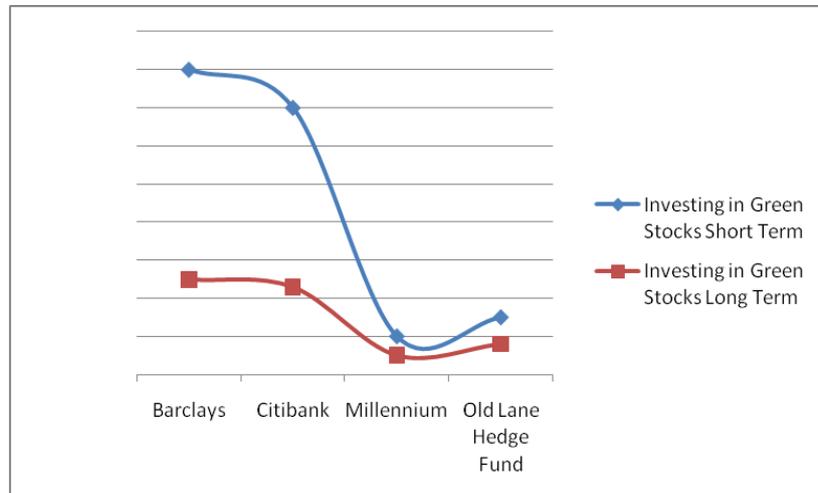
Figure 7: Bloomberg - Gold Stocks entering bubbly territory during inflationary periods

These recent figures suggest that this investment is very likely to amass into a bubble and it is a reflection of irrationality and mass thinking within the stock market. In the space of five years, gold has almost tripled in value.

### **5.8.2 Irrational Investors in pursuit of greed**

Taking this into account, the respondents were asked whether they would invest in 'green stocks' at the moment because after all our future is dependent on a 'Green Future'. Both Barclays and Citibank said they would keep a small proportion of their portfolio invested in green stocks because they currently yield returns; however, they wouldn't necessarily follow the theme of these stocks and be looking at them over the long term. Old Lane Hedge Fund said most likely not, as oil prices are down now, people are not looking to alternative fuel sources anymore. Millennium agreed with this, by saying that a lot of companies invest in

this area simply to create a good image for their company; however many of these companies are going bankrupt, as the market is becoming heavily saturated. This was the case two years ago when the market fell in love with solar stocks as oil prices had sky-rocketed.



**Figure 8: How the different investors feel about investing in 'Green Stocks'**

The graph below is representative of this kind of trend which is inherent in the market each time a 'new idea' emerges. Ten years ago everybody invested in companies that make memory for iPods and PCs. IPO numbers grew in the consumer electronics industry proportionally to the growth of this latest fad. The bubble starts with a few 'hot' IPOs catching the imagination of investors. Then the demand for such IPOs leads to numerous imitators and dramatic price appreciation until the public's thirst is quenched and a collapse ensues. The iPod craze made people believe that all these companies would be rolling in the money, however the only two players left in this space are Apple (AAPL US) and Samsung (005930 KS). The others such as Infineon (IFx), Microm (MU), Elpida (6665) have seen their share prices collapse even as the iPod craze took off. Even Qimonda (QMNDQ US) went bankrupt last year and was down -99%. This is because the market became saturated and the price of memory has collapsed (dram45) as more and more compete to sell it cheaper. Since the year 2000, Apples stock is up 1,629%, while Samsung is up +367%. All of the other players in this market have imploded and are seriously struggling to compete. The irrationality of investors has a long history and shows no sign of subsiding as can be reflected in these historical precedents.

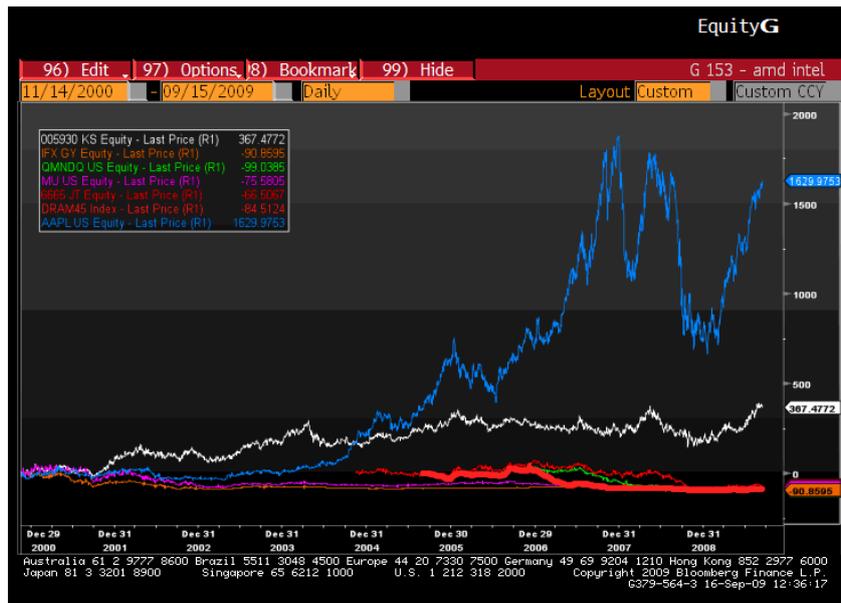


Figure 9: Taken from Bloomberg: Share Prices for Consumer Electronic Companies 2000-2008

## 5.9 Conclusion

The hypothesis drawn from the literature review is one of a mishmash of theories generated by the work of Keynes, Minsky and Friedman. While efficient markets are rejected in this instance; thus requiring intervention from authorities, Central Bank policies must be re-considered. Central Banks should be left free of manipulation from the Governments and should be able to act in a manner which they find most effective. The interplay of fear and greed within the whole structure should not be ignored and requires further in-depth research. The majority of these findings correlate with this hypothesis, for example it is confirmed that majority blame for the crisis can be put down to a corporate culture of greed. However, individuals are still ignorant of the power Governments hold over the economy. Governments hold most authority and are therefore influenced most readily by the ravages of greed. Central Banks realise when monetary policies need to be reversed; however their voices are few and very often ridiculed. The Government on the other hand remain oblivious to the negativities of credit creation as they firmly believe that this time they are causing the largest transformation that the economy has ever seen. The next chapter will discuss these policies further and offers recommendations in overcoming the battle.

# Chapter 6

## Conclusions and Recommendations

### **6. Introduction**

This final chapter offers conclusions to the study and some key recommendations for further research. It draws together a summary of what can be concluded from the research findings and highlights some challenges identified during the research process and how these might be overcome if future research were to be carried out in this field.

### **6.1 Summary of the Main Findings**

Psychological findings have become robust enough and of enough potential economic performance, that it is no longer legitimate for economics to ignore these findings. One of the major puzzles in finance is that academic theorists view markets differently from the way traders or practitioners do. The academic view sees investors as perfectly rational, from which it follows that markets are efficient in the sense that all available information is discounted into current prices. On the other hand, traders see markets as offering speculative opportunities. The irrationality of investors has a long history and shows no sign of subsiding. Expectations of higher corporate profits were a driving force in the current market. Investors were attracted to the assets market because the interest rates on alternative investments, such as bonds, have long been going down. What drives this trend even further is the optimistic outlook about the economy at the time. Fund managers feel an immense amount of pressure to outperform market averages on the previous year. They believe that bigger risk taking is safe as banks are armed with an arsenal of mathematical tools used to manage credit risk; however these variables undermine their ability to provide investors with objective external measures of value. The sad fact is that smart people created these tools, but dumb people started relying on them.

In order to survive these markets, rational investors must choose a portfolio characterised by the highest level of return with the least level of risk; something which is very hard to do, giving the volatility and emotional influences of markets. The most important law in investing is the law of supply and demand. Prices are driven by buy and sell decisions based on individual beliefs and emotions. The key in today's market is to not get emotional. Wall Street has exhibited poor performance in risk management, because their strategies are based

on the traditional bell curve distribution standard deviation of risk, this theory generally only works in quiescent environments. Standard deviation does not accurately reflect the probability of devastating event-driven risks. Monitoring for increases in market volatility can be a useful tool in managing event risk; it also creates opportunities for portfolio appreciation. In order to remain rational, in today's climate, you need to diversify your portfolio and avoid the emotions of overconfidence or fear.

## **6.2 Recommendations**

What can be drawn from the literature review is that there are still conflicting views, and a mishmash of ideas as to which economic policies should be implemented for economic growth and fertility. What appears is that our entire culture has become self-obsessed and is therefore ignorant of the teachings from history. As the saying goes, *'If there's one thing we learn from history, it's that we learn nothing at all'*. What can be drawn from the literature is a mixed hypothesis developed by the workings of Keynes, Minsky and Friedman and also the work carried out by more contemporary research in the behavioural and emotional finance field. This hypothesis is one which refutes the efficient market fallacy and believes that Central Banks are necessary for achieving an optimal equilibrium within financial markets. Saying this, Central Banks need to re-assess their position within the market and go back to the fundamentals of money creation. This involves thinking back to the days when the Gold Standard was introduced and defining what purpose the Gold Standard had. It is not suggested that the Gold Standard be re-introduced as the current monetary policy, however certain aspects of this policy need to be considered when implementing an effective strategy. The interplay of psychology into these models needs to be seriously considered. Should the US continue to inflate their way out of recession, they are only encouraging a credit illusion which by no means fixes the fundamentals of the crisis. It is therefore argued that the Government do in fact have a very powerful force over the entire structure of an economy. This hypothesis suggests that Central Banks should be left free to implement strategies in a field which they have broad insight to; that field is monetary policy. The Government should be left independent of this, and take advice from Central Banks, not the other way around. As both the findings and the literature review suggest, Central Banks did send out warnings about the unethical lending practices of banks; yet Governments exerted their power by encouraging this lending and misbehaviour. They are not monetary specialists and can therefore not judge when a financial blow-up is at stake.

### **6.3 Personal Reflection**

The global financial crisis was the main catalyst behind my decision in undertaking a thesis of this nature. The crisis is extremely topical at the moment, which forced me to consider a specific area within this field that would have very limited research and analysis conducted on it. As a psychology non-specialist this thesis proved to be quite challenging at times yet rewarding with the immense amount of knowledge I was accumulating.

It has been very interesting to get into the psyche of experienced traders and see how they are balancing the burden of the recession on their shoulders. They have definitely adapted their mindsets towards investing which has shown how aggregate moods can change on just a few catalysts, therefore driving a dominant trend in the market. It is interesting to see the divide between theory and practice when you undertake a project such as this. Not only did it become apparent that some of the theories and concepts in the literature were off mark when it came to real world scenarios, but the efficient market fallacy continues to be used as a model to predict how markets work. This leaves the model a bit bare for any real analysis.

As I built up my literature review the dependency of research on yet more research really stood out. I had not even experienced the field area of research before I began writing my literature review. While the importance of academic research cannot be discounted it fades in comparison with the importance of field research, at least in relation to a project such as this. The Fund Managers I talked to had little or no knowledge of surrounding theories and little use for their terminology. Although much of the theory did have obvious connections, some of those connections were slightly ambiguous. A properly in depth research project into this particular area would have really benefitted for a long term exploratory approach, to properly link up investor sentiments, with both bullish and bearish markets.

That said I believe that the research project was ultimately of great benefit. I was unsure as to my ability to undertake such a project before this summer and, although there were times when I again doubted it during the process, I now think that with the proper framework in place a project such as this becomes very achievable. This was a learning process and any future project would probably take half the time. The major battle with this thesis was not the writing or the research but setting out the schedule to complete it.

*Mary Guiney*

## **6.4 Conclusion**

For too long it has been viewed that only a change in the fundamental data such as a credit crisis might entail a change in the discounted cash flow, therefore triggering a price change. A change of mood up to recently had no rational place in this concept. Positive anomalies can be observed when the market is euphoric; negative anomalies once the mood has reversed. This study has provided evidence that market movements are currently brought about not exclusively by changes of the fundamental factors but also by changes in the soft factors too like mood or credit freezes. The analysis of sentiment and its results constitute the very focus of this research. This concept is evident in many euphoric periods of the past. History repeats itself but never exactly in the same way. However investment psychology follows a very predictable pattern. Stock market crashes are the result of panic causing the dramatic prices to change. Thus there is no hard or even measurable way for predicting a euphoric period followed by a crash; these are instead the result of soft factors such as mood swings.

## **Appendix I:**

### **Sample Interview: Investment Banking**

#### **Psychological Limitations**

There is widespread evidence suggesting that people have cognitive limitations allowing them to act rationally to only a limited extent. Do you feel that you as an investor are limited to this extent due to uncertainty, time and pressure constraints within the market? If so, how do you go about dealing with these limitations?

#### **Uncertainty within the market**

What is the one sure thing that creates uncertainty around investing?

Why, in your opinion, are people shy of investing at the moment?

#### **Changing Mindset after the crisis**

Do you feel that investment decisions require a lot of skill in order to be successful?

Have your investment strategies changed since the recession?

How has your mindset changed since the financial crisis?

#### **Media, News and Price Movements**

To what extent do market changes presented in the media influence your choices? When bad news prevails and share prices decline are you motivated to move away from this investment?

Saying that you have ready access to price movements; does this motivate you to “check in” on your bonds, or other assets, consequently heightening your emotional involvement with the stock market?

#### **Policy Matters**

Investor Euphoria was visible in the big portfolio transactions during the first 6 months of 2007. Since then the number of transactions characterised by debt capital has significantly declined. What exactly are banks doing with the capital today if not investing?

Why in your opinion, is the market in the current state? Would you put majority blame on financial regulators, Governments or a corporate culture of greed which surfaced within the entire structure?

How would you advise future investors to maintain confidence within the banking system?

What policies do you feel are most desirable for economic recovery?

### **Current Investments**

What investments would you be confident in at the moment? Is it likely that these investments could become speculative when the market has regained confidence and amass into a bubble?

If you were to invest in 'Green Stocks' today because after all our future is dependent on a 'green future', would you? Or would you wait to see how this investment is going to pan out over the next few years?

Have you spotted many opportunities within this market?

What in your opinion is the future of the housing market? Do you think prices will continue to fall quite dramatically or do you feel that they will stagnate in the forthcoming years and then begin to escalate again?

## **Appendix II:**

### **Sample Interview: Psychology**

In what ways do we behave irrationally and why?

How easily influenced do we become when surrounded by new cultures?

How does one avoid the frenzy of the crowd? Is it very difficult to think logically and independently when operating in crowds?

Habits are embedded from a very early age. Is it possible for one to change these in order to become more rationally minded?

How powerful are external forces to individuals such as those within the press or media?

The concept of 'money illusion' has been known to cause individuals to engage in nominal rather than real evaluation when it comes to the economy. Is this illusion present in all individuals and are we predisposed to many other illusions?

### **Appendix III:**

#### **Self-Completion Questionnaire in the Public Domain**

**1. On an average day in the shop/supermarket would you find yourself purchasing items on impulse (items you had no intention of buying)?**

- Yes
- No

**2. If so on average how much of your shopping budget would you spend on such items?**

- 0-20%
- 20-40%
- 40-60%
- 60-80%

**3. Are you a more cautious buyer in this economic climate?**

- Yes definitely
- Only Slightly
- My spending habits haven't changed

**4. Would you view an increase in wages during a period of inflation more positively than taking a wage cut during a period of deflation?**

- yes
- no

**5. In your opinion what is the main cause for the current financial crisis?**

- The failure of financial regulators and central banks to hone in on banks' lending behaviour
- The Central Banks and Governments cutting taxes, interest rates and encouraging the boom further
- A corporate culture of greed within the whole system ie lenders, borrowers, regulators all at fault

**6. What in your opinion will make recovery slow and painful?**

- Opposing views of the Governments and Central Banks thus delaying policy implementation
- Recovery is bound to be slow and painful as nature has to take its course

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