If Markets Are Efficient, Why Do Crises Occur?

2008 brought about what has been described as the worst financial crisis since the Great Depression in the 1930s. The crisis caused a global recession for the following five years, prolonged mass unemployment as well as a decline in household wealth by almost $20 trillion in the United States. But who or what was to blame? Distinguished British investor, Jeremy Grantham, singled out one particular idea as ‘responsible for the (current) financial crisis’ - the Efficient Market Hypothesis (EMH). However, this is just one of many possible arguments put forward by leading economists to explain the economic situation the world was facing. Efficient market ideas are one of the most controversial topics in economics; this was demonstrated in 2013 when Eugene Fama and Robert Shiller were co-winners of the Nobel Prize for Economics - the former for presenting the EMH and the latter for criticising this very idea. In this piece, I shall discuss various root causes to financial crises in general, particularly focusing on the financial crisis of 2008, as well as assess whether markets are actually efficient and whether it really matters when considering crises.

![Image of Real GDP, percent fall from pre-recession peak]

Figure 1 - The effects of the Global Financial Crisis on the Real GDP of the US compared to other recessions in the past 40 years
The Efficient Market Hypothesis is defined as a theory which states that asset prices reflect all publicly available information about the asset’s value. It was first developed by Fama in the early 1960s and by 1970, he had combined his ideas with Samuelson’s work on the random walk behaviour of prices. Fama proposed that there are three types of market efficiency: weak, semi-strong and strong. The weak form states that prices of tradable assets already reflect all past publicly available information. The semi-strong form goes a step further and claims that prices instantly change to reflect all new public information. Furthermore, the strong form proposes that prices instantly reflect all hidden and insider information as well. Overall, the main implication of the hypothesis is that all share prices are always fairly valued and that markets are informationally efficient. Consequently, stock price movement should reflect a random walk. The EMH states that news about the market’s perception of an asset’s value is the only thing which can change stock prices and so since news is unpredictable, stock price changes must also be unpredictable. It implies that since prices already show all available information, every stock is as good an investment as any other and therefore the best thing to do as an investor is to simply buy a diversified portfolio.

There are large amounts of empirical evidence supporting the EMH which can be split into two parts: evidence formed by reviewing the performance of investment analysts and evidence supporting the random walk behaviour of prices. The most common test for the former statement is to compare the results of investing after seeking the advice of analysts with the whole market. This test was taken further by the Wall Street Journal where the results of investments made by analysts were compared to random stock picks made by a dartboard. It became clear that the analysts beat the dartboard as often as the dartboard beat the analysts - this was even the case when the analysts had a reputation of ‘beating the market’ in the past. Therefore, technical analysis of using past stock price data to forecast predictions was rendered as ineffective. This is exactly what the EMH predicts - investors will be both lucky and unlucky but being lucky does not mean that this investor has found a way to ‘beat the market’. To investigate the random walk behaviour of prices, financial economists carried out various tests by examining historic stock price data to see if it had any correlation to the current price changes. These empirical results supported data collected by Ball and Brown (1968) and led Fama to conclude that stock prices were not predictable and followed a random walk. Fama regards this evidence supporting efficient markets as ‘extensive’ and states that any contrary evidence can be considered ‘sparse’.

The basic link between this hypothesis and financial crises is that these crises cannot be predicted accurately. Since prices reflect random walk behaviour, a prediction of a large change in asset prices cannot be made using past information. Using this logic, the financial crisis of 2008 must have occurred in an efficient market with other unpredictable (at the time) causes. The short term causes of the crash began when mortgages were lent out to subprime borrowers with poor credit histories. These mortgages were passed on to large banks and to reduce risk, these banks decided to pool together these mortgages into lower risk securities known as collateralised debt obligations (CDOs). Each mortgage in the CDO was ranked into tranches by how easily it was likely to default by various credit rating companies. This was problematic as corporations including Moody’s were very generous in their ratings, inviting investors to buy into subprime mortgages which appeared much safer than they were. When these mortgages began to default, a crash was imminent. Therefore, it
can be argued that the poor assessments of subprime mortgages made by credit rating companies were the direct cause to the crash of the housing market which was a leading factor in the financial crisis. From this reasoning, crises can occur under the efficient markets conditions - in this case, the apparent reckless collusion between banks and credit rating companies acted as the principle cause behind this crisis.

![US House Price Changes](image)

*Figure 2 - Changes in US House Price demonstrating the increase from 1999 to 2007 and the rapid fall by 2008*

This effect was further catalysed by the low interest rate kept by the Federal Reserve during the years leading up to 2008. The stable low rate provided incentive for investors to take more risk and put their money into long term, high yield securities such as housing market assets. It also encouraged investors and banks to borrow extra capital to strengthen their investment; the returns from these investments would exceed the initial low cost of borrowing. Therefore, it can be argued that the Federal Reserve played an important part in causing the 2008 crisis; the low interest rates they provided were the underlying cause into why banks took the risk of investing into subprime mortgage securities. However, this does not mean that the causes of the crisis can be blamed on the Federal Reserve; the low rate may have been as a result of factors of the world economy out of the Fed’s control. For example, in growing economies such as China, the savings rate was far greater than investment. Capital flooded into the safe Treasury Security market causing a sharp decrease in the interest rate. From this reasoning, it is clear that the interest rate played a vital role in the financial crisis; arguably a more significant role than the actions of banks and credit rating companies.

On the other hand, various economists, including bestselling author Justin Fox, believe that the EMH was in fact responsible for this crisis. This idea does not deny that banks and credit rating corporations are partially responsible, but it assesses why few economists in these banks did not see this subprime mortgage market as very dangerous. Under the EMH, asset bubbles cannot exist - when Fama was asked about the concept of bubbles in 2013, he stated that the idea had ‘no meaning’. Since economists believed in this hypothesis, they failed to
see the danger of the bubble building in the housing market. Financial executives saw the market as a chance for profit as house prices were continuing to rise and they underestimated the negative consequences when this bubble ‘burst’ in 2008. This is because they believed that the bubble was not even there in the first place; it can be argued that they took the risk with securing the subprime mortgages as they believed in this hypothesis. Therefore, it can be deduced that the Global Financial Crisis occurred due to the belief of efficient markets which led banks to not see the real estate bubble.

There are in fact large amounts of empirical evidence against the efficient markets theory and which has been ever-increasing since the time the theory was presented. These may be considered anomalies but the frequency of this data seems to be high enough to deduce that the EMH may not always be generally applicable. The first piece of evidence is referred to as the January Effect where over long periods of time, stock prices take an abnormal rise between the months of December and January. This price change is more prominent in small firms but is very predictable and so is inconsistent with the random walk behaviour which the EMH predicts. Furthermore, some research suggests that markets overreact to certain new information; for example if a firm announces a very large change in earnings, the stock price will initially overreact for a short time and then eventually level out to the correct price in the following weeks. This effect violates the conditions of the EMH as investors could obtain abnormal returns if they invest at the right times. The evidence against the EMH supports the idea that investors believed in a false concept as a basis of their risk-taking and so the EMH can be considered a direct cause of the financial crisis.

On the contrary, popular author and economist, Tim Harford argues that the EMH should have left investors more cautious about the subprime mortgage market. In the climate of 2008, the real estate market was showcased as a low-risk, high-yield investment; if investors applied the EMH more accurately, it would have been clear that this was not the case. A consequence of the EMH is that the market will always be a step ahead - these high yield investments cannot be predicted using historic information. Therefore, the EMH cannot be blamed for the financial crisis because it was not followed - banks should have been sceptical of these mortgage schemes under the EMH. However, it was previously justifiably argued that investors used the EMH as the basis of their risk-taking. Using this logic, there must be other forces at play to cause banks and investors to act against the hypothesis they thought they were following.

It is clear that the EMH has a debated role in the financial crisis but there are also many other reasons which may explain the root causes of the 2008 crash. By applying Akerlof’s Lemon Theory, it can be deduced that asymmetric information played a significant part leading up to the crisis. Before 2008, the housing market was considered liquid; if financial institutions needed cash, they could sell these securitisations at a fair market price as they were perceived to be a safe, steady-stream investment. However, once subprime homeowners began to default, CDO tranches were downgraded by credit rating companies. For example, 27 of the 30 tranches of CDOs secured by Merrill Lynch in 2007 were downgraded from a rating of AAA to ‘junk’ (Coval, Jurek, and Stafford 2009). This meant that issuers of CDOs had a informational advantage over potential buyers and investors; it was unclear whether securities were being sold due to their low credit rating or the rapid need for liquidity. This added to the initial informational asymmetries brought about by the
introduction of the CDO market. The complex instruments involved in the securities as well as their lack of transparency meant that it was much harder for potential investors to assess the value of these assets. The consequence to this adverse selection was that buyers now believed that these securities were of low quality, leading to market freezes and a drop in demand by $480 billion from 2007 to 2009 (Pozsar, Adrian, Ashcraft and Boesky 2010). It is important to note that adverse selection was not a cause to the crash of 2008 but a magnifier of the effects; it explains how investor mentality and speculation catalysed the other short term causes into bringing about a freeze in the real estate market.

Furthermore, Akerlof and Shiller present other behavioural arguments to explain financial crises focusing on the depression in the 1890s. They argued that the cause of the 1890s depression was rooted in the mentality of the people. The Silver Purchase Act of 1890 meant that legal tender paper money was backed by the US government’s gold and silver reserves. Rationally, more people chose gold over silver and this naturally led to a decrease in the gold reserves. This decline was the pivotal cause to the change in confidence in society; people felt that something was definitely not quite right. By 1893, these thoughts had been combined with the stories of panic in 1873 and 1884 and confidence in the economy decreased even more, leading to a banking panic throughout society. It can be deduced from this analysis that confidence and ‘animal spirits’, as the authors put it, played a vital role leading up to the social panic in 1893. This can be applied to today’s world where human psychology in the economy has not drastically changed; people are still motivated to make money. Even if markets are efficient, crises will always occur as a drop in market confidence can unexpectedly occur at any point. The Silver Purchase Act was not meant to cause such a decline in confidence and this could not have been logically predicted. This proves that psychological factors are hugely significant and can be unexpectedly manipulated to cause financial crises, even if markets are efficient.

![Figure 3 - US Consumer Confidence changes over the last 50 years - confidence is at its lowest around the 2008 crisis.](image-url)
In conclusion, it is clear that there are a variety of reasons which play important roles in causing financial crises. In terms of the Global Financial Crisis, I believe that banks and credit rating companies are largely to blame as it was their investments into the subprime mortgage market which played the most significant role in the crash. I do not think that the EMH can be blamed as the root cause of the financial crisis as it was misused when applying it to the economy in 2008. It should be thought of as a concept: a simplified model of the economy - it may not always be true as some of the evidence suggested but for most investors and individuals, the market should be thought of as efficient. The hypothesis also cannot be held accountable as the reason why banks took greater risk as there were other reasons to justify this risk-taking such as the low interest rate at the time. With regards to crises in general, I believe the behavioural economic arguments such as investor confidence are hugely important when it comes to explaining the causes of financial crises. Markets may be efficient or inefficient and crises will still occur due to the ‘animal spirits’ which drive the economy.

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References


