Learning from the Past Bubbles and Bursts: Understanding Human Behaviors, Investment Risks and Opportunities for Sustainable Return

เรียนรู้วิกฤตเศรษฐกิจ: การเข้าใจธรรมชาติของพฤติกรรมมนุษย์ ความเสี่ยงและโอกาสในการลงทุนเพื่อผลตอบแทนที่ยั่งยืน

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Abstract

Knowledge and knowing our investment goal are keys to satisfactory outcomes when applied effectively. Though we tend to put blame on fate and misfortune, it is natural human behavior that tends to make bias and emotional decisions. As in the global financial crisis, it was the result of series of irrational behaviors and bias decisions made by market participants. This paper looks back in a few of financial histories, human behaviors and how process could be used to seize an investment opportunity, understand today trends, and stay on course of meeting investment plans. With financial markets around the world going through rapid and unprecedented changes, learning from past crisis would help us understand financial market today with more conscious mind and achieve sustainable investment returns.

Keywords: *Stocks, Investment Opportunities, Behavioral Finance, Financial Crisis, Investment Risks*

บทคัดย่อ

ความรู้ความเข้าใจเป้าหมายเป็นสิ่งสำคัญในการลงทุนเพื่อให้เกิดผลลัพธ์ที่น่าพึงพอใจของนักลงทุนเมื่อดำเนินกระบวนการอย่างมีสติ ธรรมชาติของมนุษย์มีอคติในการตัดสินใจ ดังนั้น แทนที่จะกล่าวโทษโชคชะตา นักลงทุนควรเรียนรู้จากความผิดพลาดและปรับการลงทุนให้มีประสิทธิภาพมากยิ่งขึ้น บทความนี้จะกล่าวถึงประวัติศาสตร์ของวิกฤติเศรษฐกิจ จิตวิทยาการลงทุน และการใช้กระบวนการลงทุน ตลอดจนความเข้าใจ

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การเปลี่ยนแปลงของสถานการณ์ปัจจุบันเพื่อบรรลุเป้าหมายการลงทุนในสถานการณ์ปัจจุบันที่ตลาดทุนมีความผันผวนมากขึ้น เมื่อเทคโนโลยี สังคม และเศรษฐกิจ มีการเปลี่ยนแปลงอย่างรวดเร็ว นักลงทุนต้องวางเป้าหมายการลงทุน เข้าใจพฤติกรรมมนุษย์และตลาดทุน ควบคู่ไปกับการประเมินอัตราความเสี่ยงที่ยอมรับได้ และสามารถรับมือกับการเปลี่ยนแปลงได้อย่างมีประสิทธิภาพ ทั้งนี้ ความรู้และการเรียนรู้บทเรียนจากหายนะทางเศรษฐกิจจะทำให้เราเข้าใจ และมีสติในการเห็นคุณค่าและบรรลุเป้าหมายได้ดีมากยิ่งขึ้น

คำสำคัญ: *หุ้น โอกาสในการลงทุน จิตวิทยาการเงิน วิกฤตเศรษฐกิจ ความเสี่ยง*

Introduction

In history lies wisdom, we could learn a lot from past economic and financial histories in developing practical researches and theories. History has a crucial role to play in our understanding and analysis of reality. According to Galbraith (1997), financial memory is "notoriously short," hence this paper will look back at a few of financial history of economic crises and lessons we could learn for today investment.

There are a few major financial crises in our history around the world. As in most financial crises, they usually begin with various asset price bubbles accompanied by credit market booms where asset prices appreciate unrealistically with over optimism from huge crowd of participants followed by a contraction, liquidity dry up resulting in a selloff leading to market crashes/ financial crisis. These could be rising of real estate values, tradable assets, and stock market. Moreover, as the world is interconnected today, economic bubbles and burst in one country will also impact other countries.

Market speculations leading to price bubbles have been discussed and studied since the early 1600s by Professor John Kenneth Galbraith. Bubbles are created by human speculation when something is new and there are ample amount of money from leverage (Galbraith, 1994). This paper aims at exploring a major financial history of bubbles, financial behaviors, causes of stock price crashes and an opportunity to seize an investment opportunity to stay on course of meeting investment plans. Learning from past events could help investors understand financial market today and become more proactive in positioning their portfolio to better manage risk and improve return.

Objectives of the study

1. To explore major historical economic and financial crises
2. To investigate the causes of investors' financial losses in financial asset bubbles and bursts
3. To explore the causes of stock prices crashes
4. To indicate the 'lessons learned' from the investment cycle phenomenon

Major financial bubbles and financial crises

Financial crises refer to broad areas of situations in which some financial assets rapidly lose their values including stock market crashes. Bursting of financial asset bubbles could lead to debt crises, currency crises, and sovereign defaults (Kindleberger & Aliber, 2000). When a financial crisis occurs, it is usually followed by an economic crisis where unemployment rate increases, consumer confidence and manufacturing activities go down which then possibly lead to debt crisis and sovereign defaults. In this paper, I wish to focus on stock market crashes, a quick and abnormally big decline in the main stock market index. Numerous studies have been made to understand how stock market crashes happen and its impacts in the economy. With the recent 2007-2008 crisis, policy makers around the world are more concerned about the impact of stock market crashes and disruptions they might cause to the economic growth, unemployment, investments, consumptions,

wealth, and health of the financial system. As a result, the impact of macroeconomic policies including fiscal, regulatory and monetary policy, on stock markets has attracted a great deal of attention from academics, investors and policy makers. Investors particularly are more careful of the stock price crash risks especially now, as we are experiencing bull market run that occurs more than 10 years. Hence, understanding what happened in the past crashes and stock price crash risk would be invaluable.

A major financial bubble is the recent housing bubble in 2007-2008 due to excessive borrowing, lending and investment through 'securitization' of financial innovations caused by the United States and became a wide spread global financial crisis in our recent history, resulting in decade long economic downturn. There are great numbers of contributing factors and lessons learned from this recent crisis beyond the scope of this paper (for more details, please see, for example Acharya and Schnabl, 2009). As with Thai market, 1997 Tom Yum Kung crisis, overleverage, excessive debts in foreign currency and speculative investments were also a major part of the crashes of the Thai real estate, financial sectors and stock market which leads to weak economy and currency crisis. Excessive foreign borrowing from private sectors was used to finance speculative investment projects. With the depreciation of THB, firms struggled to meet debt payments, finance companies faced with high non-performing loan, market lost confidence and the overall economy was impacted with high unemployment rate and declining growth that led Thai and other Asian economy into recessions.

Prior to 2007-2008 crisis is the Dot Com/ Technology bubble in the late 1990s and early 2000s, when people chased tech stocks at high prices believing they could sell them at higher prices. Like the dot com bubble, the British Railway Mania in 1840 was the result of over excitement toward new business prospects of a disruptive innovation of a railroad then (Colombo, 2017). The largest one day crash in financial history is known as Black Monday stock market crash of 1987, when US market was driven by a great bull market, and index nearly doubled from 1986 business environment was boosted by hostile takeovers, leveraged buyouts and merger crazes. As with the bubble burst on Black Thursday 1929, speculative bubble was a product of the prosperity of the 1920s (Galbraith, 1997), when thousands of small investors putting their money in common stocks (Garraty, 1994). Gordon (1999) reviewed that banks could borrow at 5 percent from the central bank that lent to brokerage firms at 12 percent which then loaned to their customers at 20 percent fueling speculation in 1929 stock market crashes. Professional traders on the New York Stock Exchange could manipulate prices through inside information on buy and sell orders, and short selling (Malkeil, 2007).

Economic bubble was nothing new, the earlier recorded economic bubble was the Dutch tulip bubble of 1637, when speculation drove the value of tulip bulbs to immoderations. At the market peak, the rarest tulip bulbs could price for six years of average annual salary of a skilled worker. Though tulip seems to be associated with Holland, it is not native there, it was brought to Europe in the middle of the sixteenth century from the Ottoman Empire, or the Turkish Empire. Then tulip was seen as a status symbol among Holland's upper classes, and prices began to increase. By 1636, tulip bulbs were traded on many Dutch cities' stock exchange, making it easier for more people in the society to speculate in the tulip markets. People were selling lands and houses to speculate in the market. Tulip traders were making (and losing) lots of money, and the local government could not stop or regulate the trade. And like any bubble, it will come to an end when prices dropped, and this was caused by a fail trade, hence rumors spread, fears created, panic sell began and the bubble busted.

Another historical bubble on the stock market involved the hottest stock in England, the South Sea

Company Bubble in late 1720, where stock value was wiped out, and investors were losing a lot of money (Colombo, 2017). In the early eighteenth century, it was a prosperous time for British people, when the British Empire was strong, and most British people have a lot of money to invest and seek for places to invest their money. This is when the South Sea Company (SSC) was established and was granted a monopoly to trade in the South Seas in exchange for assuming England's war debts. Monopoly was a great appeal for investors, and stock price began to rise. Investors were attracted to SSC stocks, with the company issued an IOU (I Owe You) to the government worth 10,000,000 pounds sterling in exchange for the rights to all trades in the South Seas. No one questioned the performance of the company nor the quality of the management, so they kept buying the expensive stocks. High prices drove more speculation and drove the price even higher until the bubble burst. Soon the management of SSC realized and admitted that the company value did not worth its trading prices. So they sold the stocks in the summer of 1970 but the news on the failing company leaked to other shareholders. And like any ending of the bubble, when there was bad news, panic sell triggered.

Throughout the history, we can see that economic and financial crises tend to reoccur. There may be a unique difference in each of the past economic and financial crises leading to crashes in stock market, That is, they do share some similarities in the inflated asset prices, excessive use of leverages, speculative behaviors, lack of financial clarity and transparency, innovations and drying up of liquidity. The limit of human rationality, biases in investment and herding behavioral influences is the cause of panics and crashes in asset prices as well.

Sir Isaac Newton, one of the smartest people in all history who invented the entire theory of classical physics including calculus and three laws of motion, was also drown into the speculation of the South Sea Company. He too had invested a large amount in SSC and made 100% profit in the first trade. After he sold, SSC price continued to rise at even at faster pace, so he went back into the trade but this time sold his position at a great loss at the end of 1720 which caused him his life savings (Guenthner, 2017). For the rest of his life, the word 'South Sea' is forbidden at his presence (Holodny, 2016). At this point, Sir Isaac Newton also mentioned that "I can calculate the movement of stars, but not the madness of men."

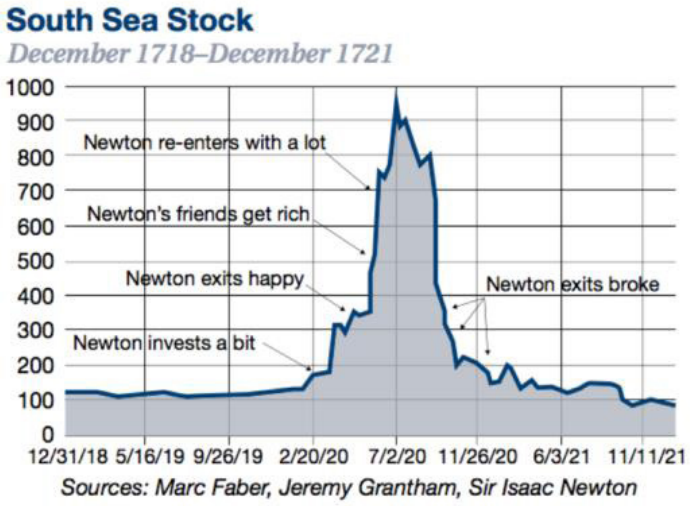

Figure 1 The chart shows South Sea Company's stock price and how Sir Newton's emotional sentiments went through market cycles of the stock

Source: Guenthner (2017)

As with the average investors, we do not like to lose and are afraid of missing out of new perceived profitable ideas (or stocks). Average investors are relatively new to the market (Tian, 2017), and many of them went from greed to satisfaction and excitement of the trade. We are fear of missing out of something great that our friends and neighbors are making more money than us. Then from fear of missing out, more greed and envy drives us to take more risks and eventually lose as shown in the chart above (Figure 1).

When people feel good and optimistic, market goes up. On the other hand, when things go bad or some uncertainties occur, people tend to take extreme actions like selling low and buying high, not vice versa, or sell the winning stock while holding on to the losing stock. Our emotions can be a great risk to our financial performance. It is important to be mindful of our emotions from taking irrational and rush investment decisions. When we are most happy and looking to add more position that is probably the time we want to take some profits and not to chase higher prices at greater risks resulting in lower yields.

Causes of financial loss in economic bubbles

The world of investing could be rewarding as well as overwhelming. Like every discipline, investing requires learnings and knowledge in order to succeed. As we seen in the past financial crises, stocks price crashes are horrific events for investors especially short term trading investors with leverages. The studies of asset price bubbles are well explained by Kindleberger and Aliber (2000), Galbraith (1993), and Shiller (2000). Prior to crises, investors are likely experiencing stages of joys (euphoria), hope, excitement, encouragement and confidence to push the prices upward. At this point, investors are almost pressured to follow the crowd, or "herding" (for more studies please see Grinblatt, Titman & Wermers, 1995; Lakonishok, Shleifer, & Vishny 1992; Wermers, 1999). This situation of excitement and the euphoric stage of something innovative, and new with exceptional wealth prospects interfere with investors' making diligence investment decisions and ignoring the potential risks of losses. Janis (1982) explained that during this stage of euphoric mind, investors do not think for themselves but involved in "groupthink" which could cloud their independent judgement in evaluating the market. Eventually worry sets in, and investors experience uneasiness, apprehension, tension, pressure, and uncertainty which then lead to massive sell off triggered by suddenly unexpected bad news and asset price crashes (Kindleberger & Aliber, 2000).

From the past crises and financial anomalies, it is evident that we do not live in a utopian world, assets are not properly priced and market is not efficient and systematic as believed by traditional finance theories. Efficient Market Hypothesis (EMH) finding (Fama, 1970) believed that share prices reflected all available information and that investors are rational in making financial investment decision. Other traditional finance theories such as portfolio theory by Markowitz, arbitrage theory by Miller and Modigliani and capital asset pricing theory by Sharpe, Lintner, and Black, also based on the belief that market and participants are rational and efficient. However, EMH was unable to explain the occurrences of market anomalies like speculative bubbles (i.e. tulip mania, dot-com, and the recent financial crisis). Started in the 1980s, behavioral finance is gaining popularity in explaining market anomalies in the recent days. Behavioral finance studies investors' psychology and their influences in making financial decisions. Investors decision making is most of the time clouded by their behavioral biases (for example, overconfidence, disposition effect, herding, and home bias) and emotions that leads to inefficient and irrational decisions which can cause catastrophes in stock market particularly when fueled by excessive leverages involving mass market participants. The concept of prospect theory studies by Kahneman and Tversky (1979) formed the basis of behavioral finance in explaining value of gains and

losses, loss aversion, framing and the disposition effect. Other more recent studies in behavioral finance field include Thaler (1999), Bloomfield (2010), Parikh (2011), and Uzar and Akkaya (2013). More awareness in the behavioral finance studies could help us understand the causes of disruption in the market leading to stock price crashes and possibly improve our financial health and economic stability.

The chart in figure 2 shows investors' emotional effects on reactions and decision on price movement from 1996 to 2015. Stock price movements do not exclusively depend on company specific data or macroeconomic risk (i.e. volatility, inflation or interest rate risk) or industry specific information, but drastic market price movements or burst of bubbles are importantly affected by uncertainties and emotional stages of investors in the market. These include panics and irrational biases over pricing leading to a crash (Shiller, 2000).

The ups and downs of price movement could be explained in 14 stages of investor emotions (Hannon, 2011), see Table 1 and also figure 3.

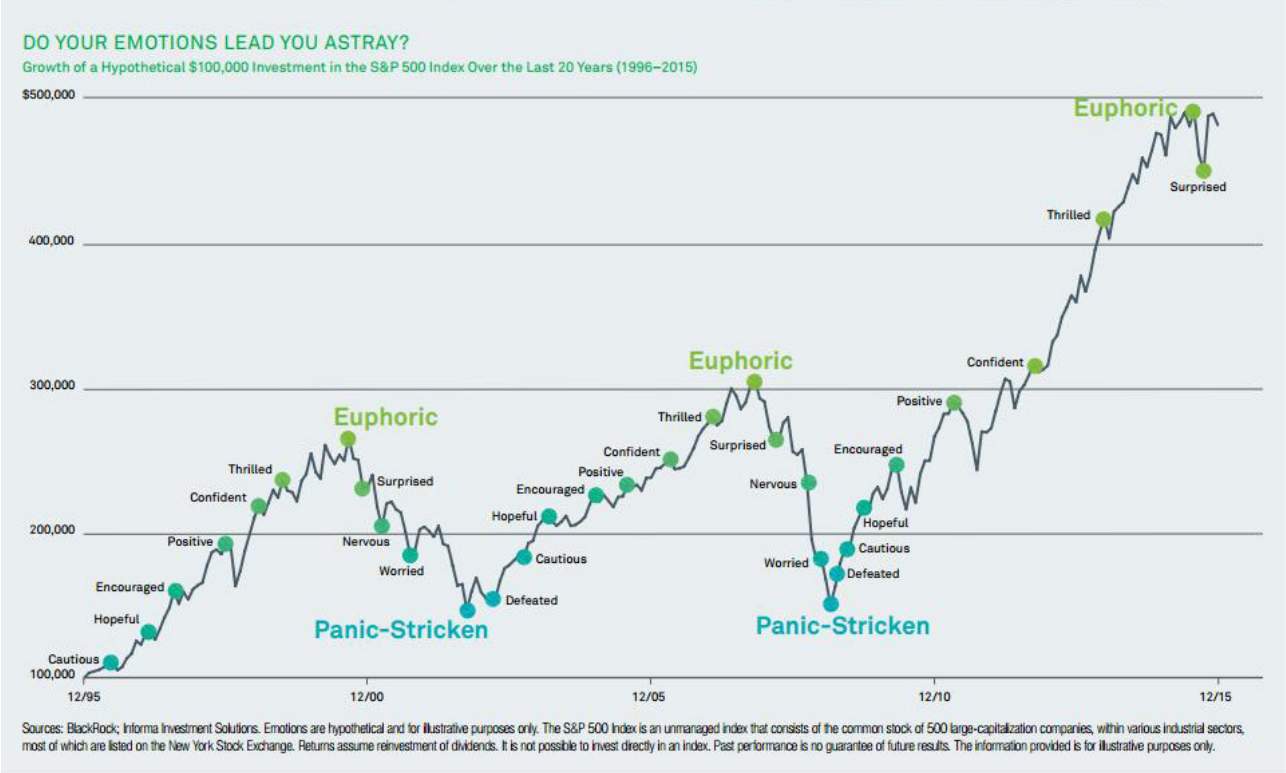

Figure 2 The ups and downs of investing and emotions in the market from 1996 to 2015
Source: Koesterich (2015)

Table 1 The 14 stages of investor emotions

The 14 stages of investor emotions
1. Optimism- Most investors enter the market with positive outlook to make money.
2. Excitement- Then we start making some money, thus we anticipate a brighter future and hope for more successes.
3. Thrill- The market continues to be favorable, we are making more money and at this point we believe we have the right trading process and we are 'smart' not 'luck.'
4. Euphoria- This is the point of maximum financial risk but also maximum financial gain. We feel very confident from the easy return made and start to ignore the risk. We then ignore the risk and chase higher price stocks expecting to make a quick return.
5. Anxiety- Market is now showing us a different side of the trade where unrealized losses incur; at this point we might comfort ourselves that we are long term investors.
6. Denial- The market is yet turning around quick enough. We are more eager for any sign of short term price improvements.
7. Fear- At this point we are no longer confident in our trading process and become confused. At this point, it might be best to sell our position with some profits.
8. Desperation- The market moves further down and we lost our chance to profit. We hold to any ideas that will bring at least the principle back.
9. Panic- The market continues to go down and we are at loss for what to do next.
10. Capitulation- At this point we lose hope in the market and want to get out to prevent any bigger losses.
11. Despondency- After selling the last position at losses, we no longer want to participate in the market again though this is the point of maximum financial opportunity.
12. Depression- We are still hurt by the bad trading experiences. At this point there are those who permanently exit the market while other may look back, learn from the past mistakes and become better investors in the market. It takes emotional intelligence for investors to learn from their past mistakes.
13. Hope- Market starts to turn around and we have had the time to reflect on our previous mistakes and realize that market actually have cycles. This is where we begin to analyze new investment opportunities.
14. Relief- The market is turning positive again and we start to believe in the better investing future this time around.

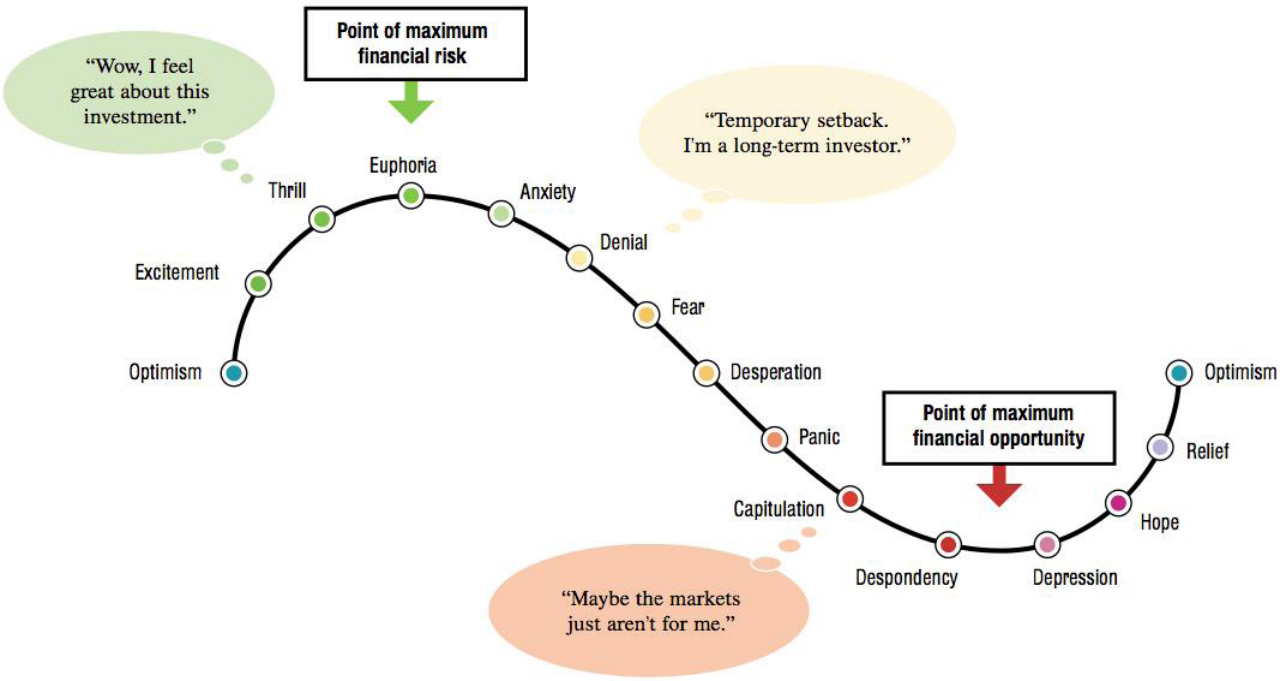

Figure 3 The 14 stages of investor emotions
Source: Hannon (2011)

There are various factors that cause the past financial crisis, together with the sudden and unexpected nature of the crisis, so no one can really predict the exact timing and severity of the crisis. From our past experiences looking in the history, market participants, economic professions, governments, policy makers, and academics may be able to see part of the developing threats of the crisis risks but no one can really assert to predict the whole picture in advance. Although financial crisis and stock prices crashes of great magnitude are infrequent, disruptive impacts on financial system and investors losses are high, thus investors are highly concerned with major crashes and usually overestimate the chance of a big crash (Goetzmann, Kim, & Shiller, 2017). In addition, most time, it is difficulties for investors, policy makers and economic professions to prevent the panic forces and change rules and regulations in time to prevent the next crisis to happen. However, we can learn from the past that causes the crisis but the future cause of crashes will be triggered by something unexpected, may be in the areas of innovations in financial technology: cyber security, AI, machine learning, Internet of Thing IoT, Distributed ledger technology DLT, Cryotography, if they are wrongly used. Given our understanding of the past crisis, policy makers, government and investors will be able to handle the next financial crisis with more rapid and efficient solutions.

Causes of stock price crashes

Looking at financial history, stock investment is the asset to grow one's wealth over the long term (see also figure 4). As demonstrated in the research of professor Siegel, over the long term, return on equities is not only greater than other financial assets but more predictable than bond return when measured in terms of purchasing power (Siegel, 2002).

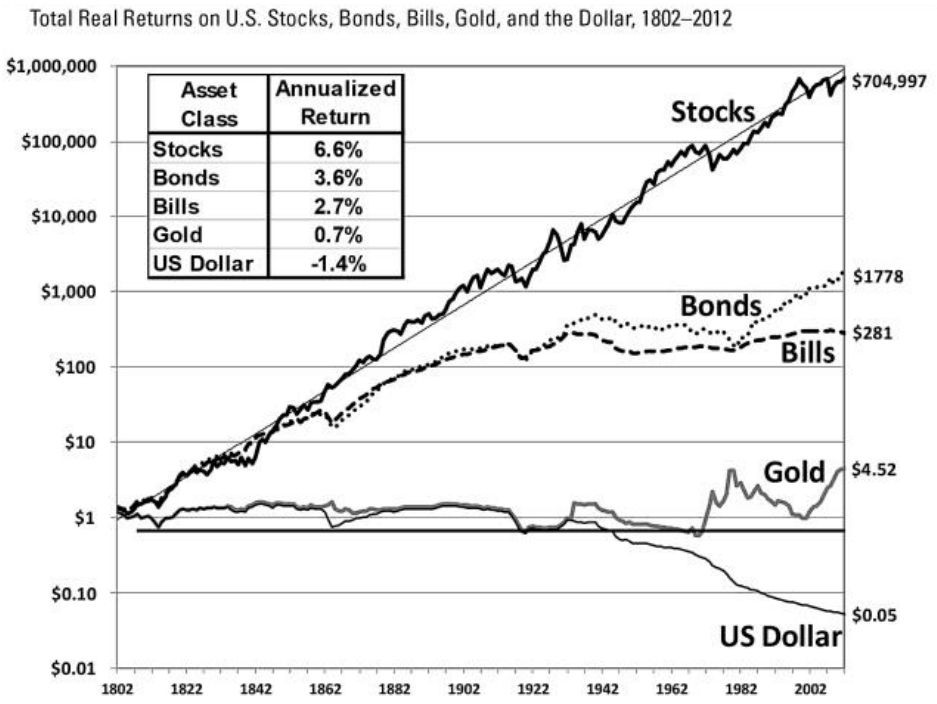

Figure 4 Show stocks provided the highest returns over a 210-year period.
Source: Siegel (2002)

If market crashes of great magnitude are rare, I wish to focus on what makes large and sudden stock prices decline in order to improve our investment portfolio returns and lower risk. According to previous studies and research done by Chen, Hong, and Stein (2001), stocks with the following characteristics are prone to price crashes: 1) abnormally high stock price volumes (driven by speculative behaviors from both professional and uninformed investors), 2) "glamour" stocks with high past returns and low book to market ratios, 3) stocks with popular analyst coverage (as they are more timely disclosure of bad news), 4) low accounting quality, where management may use accruals to hide bad news (Hutton, Marcus, & Tehranian, 2009), 5) high short sell stocks as most short sellers are more sophisticated investors who might foresee bad news that is yet reflected in the prices (Callen & Fang, 2014), 6) stock with high past sales growth expectations (Bradshaw, Hutton, Marcus, & Tehranian, 2010), 7) earnings announcement (see Skinner & Sloan, 2002), and 8) economic policy uncertainty (including fiscal, monetary policies, trade and regulatory policies) make stocks more volatile and prices are likely to fall at the announcement of a policy change particularly in the weak economic condition (Pastor & Veronesi, 2012; 2013). As we have seen a monetary policy announcement of interest rate hike (in late 2015, first time in more than nine years), easing (in July 2019), new tariff on international trade 'trade war' has a great impact on market volatility and stock price risks.

Increase and decrease in stock prices are driven by various factors. Investors are especially concerned with sharply price declines. It is very difficult to predict the exact timing of price crashes and by how much stock prices will move. However, investors can be proactive in positioning their portfolio to better manage risk and improve return. Based on the studies above,

we could structure our portfolio to avoid or minimize impacted stocks with these characteristics in order to improve return with lower risk. Stock price risks could be driven by systematic risk like financial crisis, which impacts the entire market and unsystematic risk which is firm specific. Research findings above can provide a guide for deeper fundamental analysis focused on companies' specific risk and company development, global economic factors, geopolitical risks, inflation, interest rates, and exchange rate, to determine the underlining stock price, while the technical analysis based their prediction on past prices movement, volume and pattern. However, price movements are not driven only by company's performance and macro-economic views but also by investors' moods and emotions (Graham, 2003). Price moves not only by fundamental but mass psychology and market sentiment (Shiller,2000). In addition to the unsystematic risk (company focus) and systematic risk (market risk), it is important to understand human nature that human own risks of emotional biases and psychological influence are significant factors that drive stock price movements and impact investment returns.

Lessons learned: Winning ourselves and not the market

Market efficiency theory is perhaps one of the most debated and stimulating issues in investments. Supporters of the theory would rather match market performance by investing in market index fund instead of analyzing and investing in the winner stocks trying to find undervalue assets. Investing in total stock market index fund could be one rational method for general public who has long term investment horizon (Graham, 2003).

Processes

Looking back in time in this review, we could see that market behavior has not always been efficient as seen in various past bubbles and crises. Investors do not always act rationally and most of the times our emotions crowd our judgements. And in general, it is hard to say whether we have all the relevant information to make informed trades. In addition, different investors have diverse investment objectives and appetites for risk. Investment is not about making a quick speculative and excessive return or competing with others in the market, it is about satisfying one's own investment objectives. The key is to be conscious to one's expected return, the changing prospects of the invested companies and major trends, understand our investment behaviors and meet our set investment objectives. Successful investors are those who put in place a financial plan and a behavior discipline that will make them reach their investment goals (Graham, 2003).

Below are some of the techniques used in the financial market to help control emotions and minimize risks. This is not to generalize the case that these processes work best for all investors because each has different investment objectives, life circumstances and appetite for risks. Some investors might have more time and resources to spare and more tolerance for risks regardless of their ages.

1. Stay on course with the predetermined investment objectives instead of being dominated by the market. Maintain a long term view on quality companies that will benefit in the changing trends. Major trends our world is experiencing involve impacts of technology, demographics, environmental, and new economic power i.e. China. These could be opportunities and threats for some companies and investors who understand will achieve sustainable return. Know the business of the stocks invested and not only the prices of the assets (Graham, 2003).

2. Diversification- could help preserve long term investments (Koesterich, 2015). Uncertainties are certain in the future, so it is important to keep the portfolio diversified and not to chase the hottest stocks in the market. Risk of losses is always possible, hence it is important to invest in good quality stocks at high

prices rather than low quality stocks at low prices to minimize losses and protect principle (Graham, 2003). Nevertheless, the higher the price we paid, the lower our return.

3. Dollar cost averaging- Controlling our emotions is the key, so that investors could manage their greed by not buying high when the market is overly optimistic and selling low when market is too pessimistic. With this acceptance that human tends to buy high and sell low, investors could minimize these mood swings by exercising dollar cost average, setting regular investment schedule, and focusing on long-term financial goals. In the recent years, through the development of machine learning, AI and robo-advisory have been enhanced to provide financial advice and portfolio management with minimum human intervention and biases.

4. Managing risk- It is very important to keep losses at minimal rather than to focus on making speculative gains. Set sensible expectation for making an adequate return on investment goal, not on excessive return that could drive your emotions wild. Like the use of leverage, it can be a useful tool when used moderately in a portfolio to increase returns. However, without sufficient resilience in the portfolio and strong equity of the investors, it could lead to a real disaster. During the financial crisis, most investors with excessive leverage suffered the most as they are being forced to sell at the bottom.

Conclusion

Bubble and burst will occur again today in the latest and hottest economies around the world. From our past experiences looking in the history, market participants, economic professions, governments, policy makers, and academics may be able to see part of the developing threats of the crisis risks (excessive liquidity, over leverage, over speculations, over confidence by market participants) but no one can really assert to predict the whole picture in advance. The next crisis may be caused by something new and unexpected. These could be in cryptography currency, alternative energy, cyber securities, technology, or alternative healthcare (i.e. cannabis) that are being boosted by hope, excitement and fueled by leverage and abundance liquidity. People are attracted to things that are difficult to get, with prospect of making more money especially if they are popular, and new as they are fear of missing out. The recent financial crisis in 2008 stocks price crashes is a terrible event still upsetting many investors and policy makers thus market today is trading with fear, cautious as evidenced in higher volatility. Until more crowds are following along fueled by more excess liquidity and fear of missing out, as they no longer see the value in the search, one of the catastrophic news or events (i.e. geopolitical risks, income inequality, and climate disruptions) might trigger massive selloff. Panic will likely occur at the peak of the market which will trigger the massive selling and then everyone just wants to get out of the trade at any prices. Given our understanding of the past crisis, policy makers, government and investors will be able to handle the next financial crisis with more rapid and efficient solutions. The point to ponder for any investor is to make money on investments, minimize the losses and lessen fear of the next major crisis and to enhance one's conscious ability to earn sustainable investment returns. Thus, a realistic return should be set to adequately attain the predetermined investment goals and situations and continue improvement of portfolio returns. As the world is changing and involving rapidly, we have to build the culture to continue to improve and question existing processes, technology and changing trends. What works today might not work 5-10 years from now, and we must be prepared psychologically and financially to weather the crisis or opportunity as they will reoccur.

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