Chalmers University of Technology

MVE220 / MSA400 Financial risk

Reading project: Tulip Mania

Writers:
Reusch Eide Alexander
reusch@student.chalmers.se

Bergström Martin
mabergst@student.chalmers.se

Gönczi Johan
gonczi@student.chalmers.se

Examiner:
Rootzen Holger
hrootzen@chalmers.se

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April 24, 2022

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1 Introduction

Throughout history there have been a few examples of significant crashes in the financial market. The global financial crisis in 2008 and the great depression in 1929 to name a few. But before them, a very peculiar case of what we today know as a financial bubble arose as early as the 17th century. The Tulip mania may be the first example of greed and eagerness to capitalize on a commodities price spiraling out of control. Although these outrageous flower prices and its subsequently aftermath did not cause a crash in the economy back then. Parallels to modern markets can still be seen today with new products and commodities.

2 Facts

The Tulip mania took place between 1634 to 1637 during the Dutch Golden Age. It is in general considered to be the first ever speculative financial bubble and the contract prices for tulip bulbs could reach extreme levels(1). For example, a tulip known as ”the Viceroy” could reach prices higher than a skilled craftsworker could earn during a whole decade (2). The tulip mania could in many ways be classified as a socio-economical phenomenon, rather than a economic crisis, since the mania had no critical impact on the prosperity of the republic. The mania and the burst of the financial bubble did not end the Dutch economic domination. Instead, it was followed by a century of Dutch leadership in almost every branch of global finance and manufacturing (3).

From the beginning of the 17th century, to about the middle of the 18th century, the Dutch Republic's business, economic and financial systems where the most advanced in the world. The Republic had the worlds first formal stock exchange and invented many financial instruments (4).

The tulip is a bulb flower which means they multiply through seeds or sprouting buds from a bulb. The time for a planted seed to mature to a flower producing bulb can vary from seven to twelve years. The flower only blossom for about one week then it goes away and blooms again same time of season in one to three years.

The tulips where at first a luxury item imported to the Netherlands from Turkey and became popular in the wealthy dutch society. There were multiple variants of tulips with different properties, for example if the bulb was infected with the mosaic virus it produced a flower that had a flame like pattern which made them more desirable. Infected plants had a lower propagation rate than normal which made the pattern very rare.

The market sold bulbs by weight as large bulbs were more likely to produce more bulbs and more rare variants of tulips had a more expensive price. At these bulb markets, traders could use sales contract that would refer to bulbs being planted at a given location without knowing the exact outcome. Formal early versions of future contracts were developed where the contract holder had right to future delivery of bulb outgrowths. Traders would meed up in taverns in groups known as colleges, were there were little regulated bidding trades. These contract could later be sold for a profit. Although no margin was required for these trades so there were no constrains for the magnitude of individuals positions. (5)

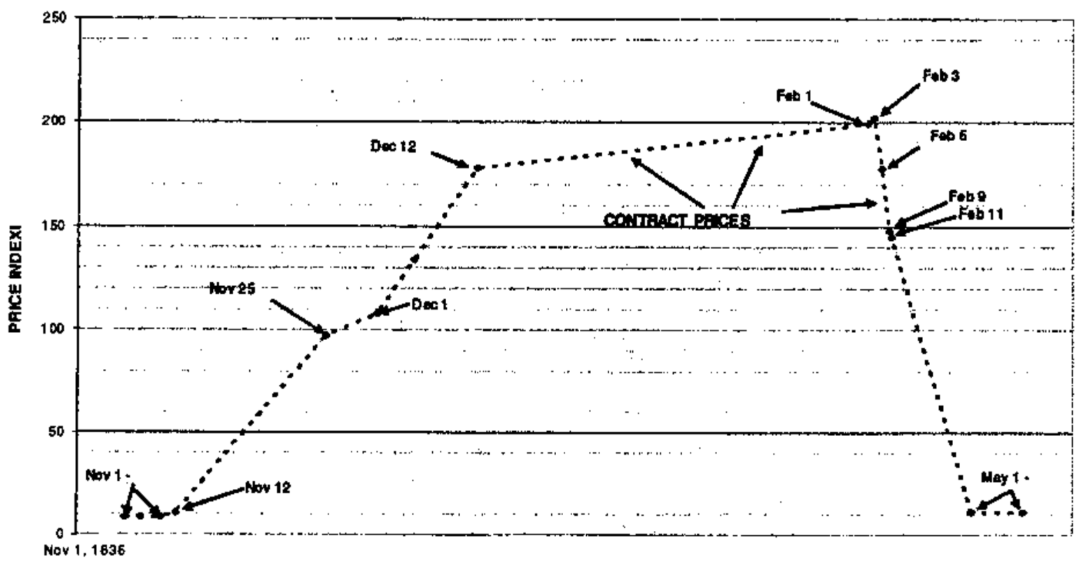

Figure 1: Records of index prices in Dutch tulip contracts during months of November 1636 to May 1637. Picture is taken from (6)

Records of the actual tulip prises is not always 100% accurate, due to the fact that the records date back to the 17th century. But records still exist in (6). The magnitude of the actual collapse of the tulip prices is depicted in Figure (1). If one was to compare the the peeks of prices during the mania, roughly around February 1637, to the months of November 1636 and May 1637 the price was around 20 times higher. Comparing this to annual rate of price decline to the 18th - 19th century, which saw a maximum average annual rate of around 40%, the annual rate of price decline of the tulip during the mania was over 99.99%. Effectively being worth zero compared to peek prices in the end (6).

However, in modern times, commodities which does not have a clear underlying to determine their value, but which prices are rather heavily determined by supply and demand are often traded through a so called future market. In these markets, commodities are traded in terms of standardized contracts determined by the trading institution, called future contracts. This makes it accessible to either take a long or short position without actually buying the asset at any prices that a counterparty agrees upon. Therefore making it available for both normal traders and market makers to speculate on the rise or fall of a commodities value.

3 Conclusions

It can be a challenging task to determine the value of new technologies or commodities. Taking into consideration that the tulip mania was probably the worlds first speculative bubble, it is naive to expect them to be able to realise the magnitude of the risk of their investments. Especially to expect them to predict events that never had occurred before in history.

Unfortunately, there has always been opportunities for greater fools games to appear in the financial market ever since. However, to save common investors from entering such kind of risky investments, a more heavily regulated market could be taken into consideration. For example, a minimum amount of saved capital or restrictions on the fraction of the portfolio that can be invested in highly volatile assets. There is of course pros and cons with a regulated market, but it could potentially minimize the impact on smaller investors portfolios and lives from the largest downfalls when a speculative bubble bursts.

Furthermore, it can be tempting to invest in an asset that has only kept increasing in value in a rapid pace, even without any major understanding of the underlying value. Similar patterns of investments is common today and has been ever since the tulip mania. The Tulip mania is only one of many times when a herd mentality has lead to a greater fools game and the hope of a quick profit without necessarily believe in the underlying value of the asset. For example, how to determine the value of a decentralized crypto currency or the value of owning a non-fungible token, which anyone could copy. It may be difficult but sometimes it could be beneficial to stop and think if the investments intrinsic value could be justified. If the only justification for the investment is that the price has been increasing, the outcome of the investment may be undesirable. As always when dealing with risky investments, never invest more than you are willing to loose.

The more reasonable approach would to always seek investment opportunities which could either be liquidated without the risk of the asset defaulting. Centralized currencies like the Euro or dollar carries less risk of completely losing its value compared to crypto currency and are applicable for reinvestment in other markets. Commodities such as natural gas and oil can also be heavily volatile in their value, but always have a high demand due to its applications, unlike crypto currencies which price is only driven by demand of speculations.

Looking back at what happened with Tulip mania back in the 1600's, there is a lot of parallels clearly still being manifested in modern markets. It may not be easy to see it in the stock market, due to the fact of the principle of it being an arbitrage free market, meaning that there is no guarantied way of insuring a profit without any risk being taken. But when there is a no clear discrepancy between the speculations and actual worth of an product, how does one define the risk behind the product?

Market makers, such as financial institutions and hedge funds can most of the time afford to be wrong. But the average individual looking for investment opportunities must always face the fact of risk head on. In the last few years since the rise of crypto currencies popularity, the mentality of so called "pump and dump", meaning that one simply invest in a worthless asset only to increase its value and then to liquidate it at the assets peak value, have only become more popular. This mentality, or rather scheme, effectively traps uneducated investor into investing solely based on the fear of missing out on profit. In order the essentially minimize the risk, investments in these type of assets should only be conducted after proper regulation and restrictions are placed to prevent these type of schemes. Although most investor follows the rational investor principle by heart, that is investors prefer more to less and do not undertake trading strategies which result in a sure loss, never underestimate the risk arisen from irrational trades and herd mentality.

Despite all the history of different examples of speculative bubbles and events of greater fools game, investors seems so to have a short memory and similar events seems to be replicated throughout the history. Even today and within recent years, "meme" stocks such as Game Stop and Nokia has been extremely volatile and particularly young people has a tendency to treated the stock market more and more as gambling. In conclusion, if investors do not learn from history, stricter regulations might be the most effective way to protect investors and minimize the negative effects from a bursting financial bubble or grater fools game.

4 Further reading

For deeper knowledge and to read more about the tulip mania we recommend Famous First Bubbles:The Fundamentals of Early Manias (5) which covers a more deep dive about the tulip market in Netherlands but also about the situation with the bubanic plague and how it could have affected the event. We also recommend Irrational Exuberance by J. Shiller (1) for more reading on interesting economic bubbles. Lastly we recommend the article ”The tulipmania: Fact or artifact?” by Earl A. Thompson article (6) for more insight about the tulip mania and a financial analysis.

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