

UNIVERSITY OF ESSEX

EC371 - ECONOMICS ANALYSIS OF ASSET PRICES
TERM PAPER

Explain how, and discuss why, arrangements for trading assets in financial centres across the world have changed since the late 1980s. How would you seek to evaluate whether, and the extent to which, the changes have improved asset market efficiency?

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Chapter 1

Introduction

It is important for assets to be able to be traded around the world for global capital markets to function effectively, as they offer a relatively simple way for firms to raise money and give investors a way to receive returns on their investments. A financial asset is a liquid (easily exchanged for money) asset, such as bonds, stocks, cash and bank deposits. This paper shall address changes in the arrangements for the trading of these assets, focusing on equity (*stock*) markets, in financial centres since the 1980s. Kenton defines a financial centre (hub) as “*A financial hub is a city or region where a large number and variety of financial services institutions are headquartered.*” (*Financial Hub*). As a major global financial centre this paper shall focus its attention on London, whilst also touching on changes in other financial centres across the world. The actions of the UK government and other players in the London financial sector lead to this being the focus of this paper. Therefore, the main source of investigation will be the London Stock Exchange.

Firstly, this paper shall address the arrangements for trading assets in financial centres in the mid 1980s in London and briefly touching on the rest of the world; setting the scene for how assets were traded before the changes in the late 1980s. Equity markets have undergone various changes since the 1980s which shall then be detailed, however these changes are broadly due

to the result of advances in information technology along with liberalisation of regulation in financial markets. From here it shall be explored as to why these advances were deemed necessary to be implemented for trading assets and the effect of this on the economic aspects of price determination.

Following on, it will be assessed whether these changes, and to what extent, have improved efficiency in asset markets. Black's statement that: *"a liquid market is a continuous market in the sense that almost any amount of stock can be bought or sold immediately; and an efficient market, in the sense that small amounts of stock can be bought or sold very near the current market price, and in the sense that large amounts can be bought or sold over long periods of time at prices that, on average, are very near the current market price."* (Black, 1971). This shall be the way in which "efficiency" will be defined throughout this paper, as it encompasses an overall sense of "efficiency" which covers both "informational efficiency" and "operational efficiency".

Finally, the findings in this paper shall be summed up in a conclusion, taking a brief overview of all of the sections and providing a brief analysis into whether the efficiency in the equity market has increased and to what extent this is the changes discussed in this paper.

Chapter 2

Arrangements for trading of financial assets in London and other financial centres across the world in the mid 1980s

Prior to the upheavals and sudden deregulation of the financial markets in the late 1980s trading on stock markets was primarily done by a system called *open outcry* which involved traders making bids in the open market, giving all participants a chance to negotiate the best price as all information was publicly available. Everyone knows WHO is buying and at WHAT PRICE these individuals are buying stocks. (Martens, 1998) focuses purely on the effect of the open outcry system on the price discovery process and finds that the open outcry system will be highly efficient in price discovery when a market is moving quickly due to the way that prices are released and made public information. The traders were able to make very quick and easy adjustments to buying and selling prices with a simple hand gesture. Nothing needed to be written down, as in a more modern system. Therefore when technology was not sufficient to quickly handle these changing prices,

process the information and write it down these outcry systems were highly efficient. This outcry system permeated throughout the stock markets of the world and could lead to very high liquidity of assets due to the speedy nature of price adjustments.

Not only was the outcry system in place there was also far more regulation, particularly in the London Stock Exchange. The “Restrictive Trade Practices Act 1956” made trading far more difficult in the UK than it need to be, with the London Stock Exchange requiring “jobbers” (*who held stocks on their books and “made the market”*) and “brokers” (*who bought and sold stocks for their clients based on commission*). Additionally, Lawson states that both jobbers and brokers had to be independent, meaning they could not be part of a large financial group, along with the exclusion of all foreigners from membership of the stock exchange (Lawson, 2006).

These conditions lead to a rather restrictive stock market, especially when compared to the years that were about to come.

Chapter 3

How have arrangements for trading assets in financial centres changed since the late 1980s?

Technology now plays a major role in the arrangements for trading assets on the stock exchanges of the world, with automation and increased processing done by computers completely reshaping the trading process (Foucault, Pagano, and Roell, 2013)

Following from this increased technological gain many governments deregulated their banking industries, the UK included. In the UK this involved enacting legislation to counteract the “Restrictive Trade Practices Act 1956”, previously mentioned in 2, opening up the equity market to the world, enabling foreign citizens and companies to take part in the London Stock Exchange and purchase UK brokers, remove minimum fixed commissions and to merge (Snyder, 2006) jobbers and brokers. Overall this had the effect of increasing operational efficiency in the equity market as there were less “hoops” for traders to go through. This removal of regulation also allowed UK high street banks to enter the stock market and act on behalf of their customers. This simplified the process of participating in the equity market for ordinary people.

This deregulation allowed highly innovative foreign firms to enter the UK financial markets, buying up brokerage firms which were not profitable (not efficient) and allowing them to expand and push their innovative, efficient practices onto the market. An additional bonus was that it was far easier for foreign investors to buy shares in companies, also benefiting the companies through them now having access to a new source of capital. However, as a consequence of this there are currently banks which are deemed “*too big to fail*” (Mohan, 2012) which has resulted in governments around the world needing to bail out banks to keep the financial market afloat, as these large commercial banks which are “*too big to fail*” also have a large stake in the equity markets.

Modern technology, the decreased regulation and innovative firms has also allowed for practices to develop such as high frequency trading. This means that when orders are sent to the book they are executed as fast as possible, as quickly as the book can function. Primarily this is done via algorithms that allow for traders to use trading strategies without actively placing buy and sell orders on their own. Therefore a lot of trading is now automated and occurs quicker than any human could process the information. This trading takes place in a matter of microseconds (O’Hara, 2015).

Interestingly, the outcry method previously used, when compared to the new electronic trading systems were actually less responsible for price discovery during high volatility (Martens, 1998). It is during periods of low volatility where the electronic method has more of an important role in the efficiency of the price. However, as computers and technology have advanced this has overcome some of these problems, enabling the new modern system to have an important role during periods of both high volatility and low volatility.

Chapter 4

Why did arrangements for trading assets in financial centres change since the late 1980s?

The improvement in communications technology was the primary driver behind why these changes in arrangements were made. These technological improvements were being made for ordinary people as well as large financial firms, with everyone able to communicate far easier, computers were becoming more common and a telephone line was basically a certainty. This increased ease of communication led to there being a general global feeling that there was less requirement for a physical trading floor as the same information could be communicated from a remote location.

The Conservative government in the 1980s felt that it was necessary to deregulate the financial markets, allowing for greater competition, increased openness and to establish Britain as a financial hub, however there were already movements towards deregulating the banking industry from long before Mrs. Thatcher's government (Robertson, 2016) so as to attract foreign investment into the UK. There was also general global pressure on the UK as if it did not deregulate its markets it would lose some of its prestige as a global financial

centre, as innovative foreign firms would take their business elsewhere.

Chapter 5

Have these changes improved asset market efficiency?

Ever since the “Big Bang” of the 1980s there has been increased informational efficiency. This is not necessarily due to the increased information available however, as under open outcry information was publicly available, Under the new computational system the buyers and sellers could remain anonymous, however the price information could still be seen. This increase in informational efficiency is mainly down to the fact that computers are far better and at processing and visualising data than a human would be. The deregulation in the financial market has also allowed for increased asset market efficiency due to the sheer speeds at which transactions are now taking place, a matter of microseconds (O’Hara, 2015). Due to the computational nature of these changes this has also resulted in a higher level of operational efficiency. This is primarily again due to computers being better at performing menial tasks than humans, such as recording every single transaction made and doing it quicker than any humans could do.

All of these increases in efficiency also mean that the new systems handle high frequency trading well at the microstructure level. The deregulation has also lead to increased competition, increasing efficiency and therefore all

of this in combination gives a better efficiency of trading assets, therefore price determination more accurately reflects the true market.

Additionally, (Black, 1971) sets out 4 criteria for an efficient, automated, stock exchange, being:

- Low Cost - No middleman taking a cut
- Continuous Trading - Possible to buy or sell whenever an investor wishes
- Fairness - Large investors do not care about dealing with small investors.
- Random price movements- Prices should fluctuate randomly, moving in one large jump rather than many small steps

According to Black's criteria these changes have improved all of the criteria that he sets out, leading to increased efficiency in financial markets.

Chapter 6

Conclusion

As has been seen throughout this paper the arrangements for trading assets was primarily driven by an increased use of technology. Not just in the financial centres but in ordinary people's daily lives. The deregulation of the markets then followed this technological boom, with ordinary people now finding it far easier to be involved in asset markets than they were previously. This is primarily down to commercial banks now being allowed to be involved in equity markets. One example of this is the rise of internet trading. People can now sit at home and make informed decisions on the financial markets and participate in them

Overall, the general consensus is that regulation (or deregulation) follows innovation (O'Hara, 2015) and struggles to keep up and therefore can either stifle asset markets or let them get out of hand, such as in the flash crash. Technological change has been the main driving force behind these changes since the late 1980s and has also hugely contributed to the increased efficiency in the financial markets.

When we consider Black's concept of efficiency it is plain to see that now the equity is more efficient than it was in the mid 1980s (Black, 1971).

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