An Investigation into Analysts’ Conflicts of Interest Pre and Post Financial Crisis: the impact of European Union’s Market Abuse Directive 2003/EC 6 (MAD)

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1 The author acknowledges that all errors are her own.
# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>4</td>
</tr>
<tr>
<td>1. Introduction</td>
<td>7</td>
</tr>
<tr>
<td>2. Theoretical Background</td>
<td>8</td>
</tr>
<tr>
<td>3. Analysts’ recommendations: Do they furnish economic value to investors?</td>
<td>9</td>
</tr>
<tr>
<td>4. Forecasting factors which impact accuracy of analysts’ recommendations</td>
<td>12</td>
</tr>
<tr>
<td>4.1 Buy-Side and Sell-Side research analysts</td>
<td>12</td>
</tr>
<tr>
<td>4.2 Experience</td>
<td>14</td>
</tr>
<tr>
<td>4.3 Gender</td>
<td>14</td>
</tr>
<tr>
<td>5. Analysts’ Conflicts of Interest</td>
<td>16</td>
</tr>
<tr>
<td>5.1 Definition of Conflicts of Interest</td>
<td>17</td>
</tr>
<tr>
<td>5.2 Causes of conflicts of interest</td>
<td>17</td>
</tr>
<tr>
<td>5.2.1 Underwriter Hypothesis</td>
<td>18</td>
</tr>
<tr>
<td>5.2.2 Bribery Hypothesis</td>
<td>21</td>
</tr>
<tr>
<td>5.2.3 Information Hypothesis</td>
<td>21</td>
</tr>
<tr>
<td>6 Biases emotional overoptimism and overconfidence</td>
<td>21</td>
</tr>
<tr>
<td>6.1 Overoptimism</td>
<td>22</td>
</tr>
<tr>
<td>6.2 Overconfidence</td>
<td>24</td>
</tr>
<tr>
<td>7 Regulation</td>
<td>25</td>
</tr>
<tr>
<td>7.1 The Role of Capital Markets and the modern capital markets landscape</td>
<td>25</td>
</tr>
<tr>
<td>7.2 Rationale for the introduction of MAD</td>
<td>28</td>
</tr>
<tr>
<td>7.3 The scope and scale of MAD</td>
<td>29</td>
</tr>
<tr>
<td>7.3.1 Disclosure Requirements</td>
<td>31</td>
</tr>
<tr>
<td>7.3.2 Enforcement and Implementation</td>
<td>32</td>
</tr>
<tr>
<td>7.4 European Securities and Market Authority Formation</td>
<td>32</td>
</tr>
<tr>
<td>7.5 The requirement for MAD</td>
<td>35</td>
</tr>
<tr>
<td>8. Research Gap</td>
<td>39</td>
</tr>
<tr>
<td>9. Research Design</td>
<td>40</td>
</tr>
<tr>
<td>10. Data and sample</td>
<td>41</td>
</tr>
<tr>
<td>10.1 Research Questions</td>
<td>42</td>
</tr>
<tr>
<td>11. Methodology</td>
<td>42</td>
</tr>
<tr>
<td>11.1 The purpose of an event study</td>
<td>42</td>
</tr>
<tr>
<td>11.2 The Evolution of event studies</td>
<td>43</td>
</tr>
<tr>
<td>11.3. Event Study Variables</td>
<td>44</td>
</tr>
</tbody>
</table>
11.3.1. Event dates ................................................................. 44
11.3.2. Event Window ............................................................ 45
11.3.3. Normal returns ............................................................ 45
11.3.4. Abnormal Returns ....................................................... 45
12. Conclusion and outlook ..................................................... 46
References ............................................................................ 47
Abstract

Purpose
The purpose of this study is to investigate whether the Market Abuse Directive 2003/6/EC (MAD) achieved its goal to “level the playing field” for all investors by mitigating financial analysts’ conflicts interest in capital markets. MAD was introduced to address market abuse in European capital markets and to harmonise European law. In particular, this study examines if the adoption of MAD enhanced transparency in financial analysts’ recommendations across three jurisdictions (Germany, Ireland and the United Kingdom). Consequently, this study seeks to determine if MAD had a veritable impact on analyst behaviour during the global financial crisis of 2008/2009.

Design/Methodology/Approach
A mixed-method approach is proposed, consisting of an analysis of an extensive dataset of analysts’ recommendations spanning from March 1999 to December 2013 from the Irish, German and United Kingdom stock exchanges, complemented by semi-structured interviews with a representative sample of analysts from each domain. The rationale for selecting these three countries is to enable a comparative analysis across three jurisdictions, namely Germany, a Eurozone country with a codified legal system and whose capital markets are grounded in a bank-centred model and Ireland and the United Kingdom, countries that both employ common law with stock-market centred models (Forbes et al., 2015). Hence, the three samples facilitate the exploration of disparities in cross-country regulatory adoption. In doing so, this study will shed light on whether or not MAD improved transparency and equality for investors in the three jurisdictions.

The proposed methodology consists of two phases. Phase one involves undertaking a multi-country event study which will be used to test stock market reactions for investors following analyst recommendations. The data collection includes gathering historical share prices, volumes traded, recommendations data, the number of analysts covering an entity, and recommendation revisions. The data collection is complete.

This study examines analysts’ buy, hold and sell recommendations. Recommendations are particularly predisposed to being manipulated, as they are generally used by individual investors rather than institutional investors (Malmendier and Shanthikumar; 2007, Dubois et

Schipper (1991) posits that institutional investors tend to rely on Earnings per Share (EPS). Consequently, analysts’ recommendations are a suitable proxy to test the effectiveness of MAD as a regulatory response to analysts’ potential conflicts of interest (Dubois et al., 2014).

Phase two will involve conducting semi-structured interviews with a representative sample of analysts from Germany, Ireland and the United Kingdom, derived from the National Societies of Financial Analysts in Europe and the European Federation for Financial Analysts Societies. These interviews mark a new departure in the literature and will provide rich insights into analysts’ behaviour and the impact of MAD on their potential conflicts of interest.

This study uses a mixed-methodology to address the three research questions which are as follows:

1) To test if MAD enhanced the accuracy of analysts’ recommendations across three jurisdictions;
2) To test if MAD had a veritable impact on analysts’ behaviour; and
3) To explore how analysts perceived MAD across three jurisdictions.

The quantitative components of the study address the first and second question, whilst the qualitative element addresses the third question. Together both methods provide a comprehensive and multifaceted means to address the research questions and as such provide empirical evidence as to the economic effectiveness of MAD.

Originality/value-
The efficacy of analysts’ research regulation merits rigorous examination (Dubois et al., 2014). The introduction of MAD saw a change in the regulation of capital markets and such change provides a rich setting to conduct research on the impact of such a change on market participants’ behaviour (Bradshaw, 2009). In an era of unparalleled regulatory uncertainty, the change in the European regulatory environment brought about by the adoption of MAD affords an opportunity to provide novel evidence as to the relationship between regulation and changes in analysts’ behaviour (Dubois et al., 2014).

Much of the empirical work to date has concentrated on examining the level of disclosure and the impact of MAD on the market up to 2007 (Agrawal et al., 2006; Preevo and Ter Weel,
2010; Dubois et al., 2014). This study is novel in that it focuses on whether the intended impact of MAD was evident in the build-up or aftermath of the global financial crisis in 2008/2009, which rocked investor confidence and trust in the regulation of analysts’ conflicts of interests.

The contribution of this study is twofold. First, despite the prevalence of literature on analysts’ conflicts of interest, existing research has been primarily concentrated on U.S. capital markets (Barber et al., 2006; Kadan et al., 2009). Few studies focus on the frequency, causes and effects of analysts’ conflicts of interest in European capital markets (Cumming et al., 2015) especially since the introduction of MAD with the exception of Dubois et al., (2014) whose analysis spans from 1997 to 2007. By using the era surrounding the global financial crisis this analysis will shed light on the effectiveness of this important Directive at a time of severe market vulnerability. Second, this study adopts a holistic approach to the evaluation of MAD by incorporating a qualitative dimension through use of semi-structured interviews with analysts in addition to capturing the wealth gains/losses via the event study. Such interviews will garner rich insights into the behavioural aspects of analysts and empirically establish if observable changes in analysts behaviour are directly associated with the adoption of MAD. To the best of the authors’ knowledge this is the first study that is underpinned by a mixed-methodology within a European setting.

Employing a mixed-methods approach will inform us as to the adequacy of market-based deterrence of conflicts of interest which is of relevance to academics, the investment community, regulators, governments (both national and international), the European Securities and Markets Authority (ESMA)³, and the European Commission. Systematic Risk Board (ESRB)⁴.

³ The European Securities and Markets Authority is an independent European Union authority that promotes investor protection and stable markets. This body is accountable to the European Parliament, the Council of the European Union and the European Commission. ESMA oversee the supervision of the national supervisory bodies, who supervise individual entities in their jurisdictions.

⁴ The European Systemic Risk Board (ESRB) carries out macro-prudential oversight of financial markets at the European level and supervises national security supervisors.
Research implications-
This research examines analysts’ potential conflicts of interest within European capital markets. This will shed light on how investors fared from MAD, when they had their greatest need for protection, during the financial crisis 2008/2009. The results will have implications for the projected consequences of future regulatory developments in the on-going endeavours to harmonise regulation across Europe. This harmonisation process is central to the creation of a veritable fully integrated single-market, which is the aim of the Financial Services Action plan\textsuperscript{5}. ESMA are now charged with the implementation and supervision of the single market. This study underscores the importance of the examination of behavioural changes brought about as a result of regulatory changes. As such, this research will be of interest to academics, the investment community, regulators, governments (both national and international), ESMA, and the European Commission.

**Keywords:** Market Abuse Directive (MAD), Analysts, Conflicts of interest, Recommendations, Global Financial Crisis.

**EFM Classification**- 570, 720

1. Introduction
This study demonstrates the economic impact of MAD on financial analysts’ potential conflicts of interest. To achieve this goal this study focuses on a period from 1\textsuperscript{st} March 1999 to 31\textsuperscript{st} December 2013. This study examines the impact of regulation when investors were at their greatest need in the era of the Global Financial Crisis. Consequently this study seeks to shed light on the impact of regulatory responses within Europe on analysts potential conflicts of interest anchored within the context of the Global Financial Crisis. of 2008/2009.

The remainder of the paper is structured as follows: section two outlines the theoretical background to analysts’ role and section three reviews the value of analysts’ recommendations within the literature. Section four examines factors which impact forecasting including the difference between Sell and Buy-side analysts, the influence of

\textsuperscript{5} On 11 May 1999, the European Commission instigated the Financial Services Action Plan (FSAP) to promote a single market in Europe. The FSAP was a highly ambitious and successful plan to integrate EU markets through law (Enriques and Gatti, 2007).
experience, reputation and gender on forecasting styles. Section five explores the sources of analysts’ potential conflicts of interest and reviews the literature specific to Germany, Ireland and the United Kingdom. Section six examines potential bias within analyst recommendations, namely overoptimism and over confidence. Section seven delineates the European capital markets regulatory landscape and the requirement for the introduction of MAD. Section eight looks to related work so as to establish the gap. Section nine outlines methodology and data sources. Section ten offers a conclusion and outlook.

2. Theoretical Background

Analysts are dominant actors in capital markets, acting on behalf of both companies and investors. Their role is to conduct equity research, compile Earnings Per Share (EPS) forecasts, set target prices and disseminate recommendations. One of their primary functions is to make recommendations to investors as to which stocks to buy, hold, or sell. Hence, analysts are deemed “the eyes and ears of capital markets” (Ryan, 2006, p.149). In theory, as agents, financial analysts contribute to market efficiency by collating, processing and disseminating financial information promptly to market participants (Beaver, 1998; Palepu et al., 2010). In doing so, they are catalysts for allocational market efficiency (Kim et al., 1997). Additionally, Barker et al. (1998) posit that analysts influence market equilibrium.

There is significance evidence within the literature that analysts’ output affects share prices (Giovly and Labonishok, 1979; Womack, 1996; Barber et al., 2001, Asquith et al., 2005; Frankel et al, 2006; Twedt and Ress, 2012). Furthermore, there is much substantiated evidence to suggest that analysts’ forecasts are used as proxies for market earnings expectations and as such, potentially steer investors decisions (Shipper, 1991). Over recent decades analysts have been associated with overly optimistic outputs⁶ and being prone to errors due to their bias (Mokoalelo-Mokotel et al., 2009). Yet, investors place much reliance on analysts’ output, despite empirical evidence that such forecasts may be inaccurate and prone to bias (DeBondt and Thaler, 1990).

⁶ See for instance “Study finds analysts tips don’t move prices”, by Francesco Guerrera and Anuj Gangahar, The Financial Times, 17 May 2009, “Research analysts culled at top investment banks” by Robin Wigglesworth, The Financial Times, 1 February 2017 showing that analysts’ recommendations are only accurate less than 49% of the time or “Other people’s money” John Kays’ review in 2015 of how self-serving behaviour is profitable to banks, but comes at a cost to the rest of the economy and as such to society as a whole.
The next section outlines the value of analysts’ recommendations from the earliest known study to recent research.

3. Analysts’ recommendations: Do they furnish economic value to investors?

The earliest known study which seeks to ascertain the economic value of recommendations to investors was conducted in 1933. Cowles (1933) examines 7,500 recommendations from 16 financial services agencies and the compounded records of 20 fire insurance companies in the United States. This research covers data from 1928 to 1932 and proposes that most analysts do not produce abnormal returns. Michaley and Womack (2000) dispute Cowles’ findings, and maintain the findings overlook the turbulent economic times of the Great Depression in his sample fame. Furthermore, they state that his benchmark index was erroneously calculated. Michaley and Womack (2000) speculate that Cowles’ findings of underperformance of 1.43% per year by analysts, was potentially flawed.

Michaely and Womack (2000) assert that after Cowles’ research, empirical examination of analysts’ recommendations did not occur in essence until the 1960’s and 1970’s. Diefenbach (1972) examines U.S. data from the New York Stock Exchange encompassing a time-frame from 1967 to 1969. He concludes that analysts’ performance around recommendations tends to be unexceptional and solely 26% of all sell recommendations outperform the S&P 425, compared to 47% of buy recommendations. Despite this assertion, Diefenbach (1972) acknowledges that the services of a research department are much broader in scope and scale than merely the dissemination of recommendations. In particular, he clarifies that equity research input services include gathering, organising and reporting of information. In contrast, the output component consists of relative judgement amongst investment alternatives. The net value of the input and an output activity constitutes the productivity of investment research. In a similar vein, Logue and Tuttle (1973) scrutinise recommendations from six major U.S. brokerage firms covering a sample frame from 1970 to 1971. They find that utilising recommendations does not result in a superior investment performance. However, their findings conclude that it is more beneficial to follow a sell recommendation more beneficial for stocks which materially underperform the market after three and six months.
A common theme of analysts’ recommendations not providing investment value is emerging within the literature in the 1970’s. Bidwell (1977) covers a random sample of U.S. institutional brokerage research reports published from 1970 to 1973. His research examines the track records of 11 leaders in the industry who conduct institutional brokerage research, deploying a beta-adjusted benchmark. His findings validate both the findings of Diefenbach (1972) and Logue and Tuttle (1973), which contend that following recommendations fails to garner superior investment results.

More recently Michael and Womack (2002) note that until the 1980’s probing analysts’ outputs in a methodical and unbiased manner was fraught with difficulties. These difficulties stemmed from two sources, first the lack of access to information and second, establishing representative samples which were free from survivorship bias and availability bias. The former referring to the concentration on analysts output which survive the selection process and overlooking those that do not. The latter pertains to another cognitive bias which leads to overestimate the probabilities of events linked with notable or dramatic occurrences.

Dimson and Marsh (1984) conduct the first research which empirically examines analysts’ forecasting ability. This marked a new departure in the literature examining the value of analysts’ recommendations. A distinct benefit of this pioneering study is that \textit{ex post} selection bias is not observable, as the researchers decided to carry out this study before the data was collated and analysed (Michaely and Womack, 2002). Moreover, heretofore, studies concentrate on U.S. data, whereas, this study examines U.K. data. Dimson and Marsh (1984) select 4,187 one-year forecasts prepared by major U.K. brokerage houses on over 200 of the largest U.K. shares. This accounts for approximately 80\% of recommendations made by 35 analysts from 1980 to 1981.

Dimson and Marsh (1984) emphasise the perplexity within the literature\textsuperscript{7} as to why analysts’ endeavours do not appear to increase the performance of portfolio yields. Their research suggests that this may be due to two possibilities. First, this is an indication of informational market efficiency, and as such analysts are unable to produce profitable recommendations. Second, they submit that the market may not be entirely efficient. Consequently, beneficial information is encompassed within analysts’ reports. However, this information may not be

\textsuperscript{7} Dimson and Marsh (1984) refer to studies conducted by Hodges and Brealey (1972); Garmaise (1982); Groth \textit{et al.} (1978).


interpreted by fund managers promptly and incorporated into transactions of appropriate volume.

Dimson and Marsh (1984) suggest that fund managers need to know the level of forecasting ability of the internal and external research before they can decide how much weight to give to the recommendation to form rational judgments. Furthermore, Dimson and Marsh (1984) contend that the value of information diminishes rapidly when it is published. Specifically, the benefits of information most probably flow to those who have access to unpublished private investment advice. Thus, it is most likely that the advantage will be availed by large institutions, as they have the scale to amalgamate independent forecasts from multiple sources. Dimson and Marsh (1984) report that analysts’ forecasts are biased upwards by on average 2.6 %. However, a trading programme based on forecasts achieved superior returns. Hence, if analysts compete to furnish their clients with information which is valuable and timely, the benefits of their research may be shared inexorably amongst the investment community. In summation, this sharing of information may potentially contribute positively to informational market efficiency.

The paucity of reliable and bias-free databases, due to a lack of technology, became less of an issue during the 1990’s. Additionally, deploying appropriate benchmarks comparative to the relative risk began to emerge in this era. It is evident that within the literature, it is from this decade that a burgeoning interest in the analysis of analysts’ recommendations commenced. In the 1990’s Stickel (1995) and Womack (1996) lead the field of academics examining recommendations.

Womack (1996) examines U.S. brokerage firms from 1989 to 1991 inclusive. Womack’s research scrutinises 1,573 recommendation changes on 822 companies from 14 major brokerage firms. He posits that analysts appear to possess market timing and stock picking capabilities. Compellingly, Womack (1999) suggests that there is substantiated evidence that stock prices are influenced by changes in analysts’ recommendations. This impact on stock prices is observable both immediately after the recommendation change, and in the ensuing months. Moreover, Womack (1999) finds that both the dissemination of buy or sell recommendations, have a material influence on stock prices. In particular, he advocates that sell recommendations affect prices more than buy recommendations.
4. Forecasting factors which impact accuracy of analysts’ recommendations

Within the literature, there are a myriad of factors that impact forecasting. We examine the primary factors which are the differences between Sell and Buy-side analysts’, the influence of experience, and gender.

4.1 Buy-Side and Sell-Side research analysts

At a rudimental level, Buy-Side and Sell-Side research analysts play a similar role. Buy-Side analysts provide information to portfolio managers who ultimately decide whether they buy, hold or sell the stock. Buy-Side analysts add value by two means. First, they filter through vast amounts of Sell-Side research and company news to produce a synopsis report. Second, they seek to increase demand in a new issue that their firms are underwriting or issuing (Groysberg et al., 2008). Buy-Side analysts are expected to reach independent conclusions from a different perspective from Sell-Side analysts. Sell-Side analysts add value by generating new business through research and services that drive trading volume in the stocks covered (Groysberg et al., 2008).

However, there are a number of crucial differences between Buy and Sell-Side analysts. The scale and scope of their coverage is distinct. Buy-Side analysts typically cover considerably fewer amounts of securities than Sell-Side analysts. Groysberg et al. (2008) propose that Buy-Side analysts are often responsible for entire sectors; Sell-Side analysts usually cover one segment solely. The sources of information used differ; Buy-Side analysts generally make their sales to their own portfolio managers and staff (Groysberg et al., 2008), while Sell-Side analysts tend to make recommendations for both internal and external clients. The type of information deployed by an analyst depends on the time or phase within the decision-making cycle. Buy-Side analysts require segment information and longer series of historical summary information than Sell-Side analysts’ reports (Bouwman et al., 1995). Sell-Side research is broadly published for institutional and retail clients. Buy-Side information is generally private and privileged research available to Buy-Side portfolio managers only (Groysberg et al., 2008). Chen et al. (2006) suggest that since Buy-Side research is used internally the Buy-Side analysts do not face the same conflicts of interest as Sell-Side analysts. Moreover, the divergence in target audiences of the analysts drives the differences in their incentives. Clients reward Sell-Side analysts by directing activity to their firms;
which means increased commissions. Sell-Side analysis lowers the information cost to investors and helps to create a liquid market for securities. Sell-Side analysts are remunerated by investment banks (Groysberg et al., 2008).

Cheng et al. (2006) find that funds rely more on Buy-Side research than on Sell-Side or independent research. Abnormal returns increase with Buy-Side reliance and experience. Kacperczyk and Seru (2007) suggest that the funds which have more skilled managers tend to prefer private (Buy-Side) information to public (Sell-Side) information. Fund managers consider Buy-Side reports to be of a higher quality than Sell-Side reports. Approximately one-third of buy side optimism and one-fifth of forecast error are attributable to Buy-Side’s higher retention rate for low-quality analysts (Groysberg et al., 2008). Following the Regulation Fair Disclosure promulgated by the U.S. Securities and Exchange Commission in 2000, a decline in Sell-Side performance occurred and was not matched in Buy-Side performance. Groysberg et al. (2008) suggest that this is due to the information advantage of Sell-Side analysts being removed. Managers put higher weight on Buy-Side reports when the quality increases relative to the Sell-Side or when the analyst’s degree of bias or uncertainty about bias increases (Cheng et al., 2006). Fund managers place an average of 70% on buy side research an average weight of less than 25% on Sell-Side research and an average weight of less than 5% on independent research (Chen et al., 2006). Buy recommendations generate abnormal returns on the day of the recommendation. Sell recommendations do not display significant negative abnormal yields (Kumar, 2009).

Buy-Side analysts tend to be more optimistic than their counterparts. Buy-Side analysts produce 8 to 16 percent more optimistic recommendations than those for Sell-Side. The absolute forecast errors are 11 to 15 percent higher than those of their Sell-Side peers (Groysberg et al., 2008). Sell-Side analysts face conflicts of interest because of the potential impact of recommendations on trading revenue, investment banking business, and access to top management of the covered firm (Hayes, 1998; Irvine, 2004; Jackson, 2005; Cowen et al., 2006; Ljungqvist et al., 2007; Agrawal and Chen, 2008; Choi et al., 2009). Both Sell-Side and Buy-Side analysts are conduits for conflicts of interests in capital markets. However, Sell-Side analysts exhibit more traits of this specious conduct.
4.2 Experience

There is a school of thought in the literature that suggests that experienced analysts forecast in a more accurate manner and tend to exhibit less bias (Bernhardt et al., 2006; Clement, 1999; Clement and Tse 2005; Mikhail et al., 1997). Contrarily, Luo et al (2012) suggest that general experience is not associated with superior forecasting accuracy. However, firm-specific experience does impact significantly and consistently upon forecasting precision (Luo et al., 2012). Nevertheless, the market places greater weight on seasoned analysts’ forecasts (Mikhail et al., 1997; Stickel, 1995).

Analysts with less experience tend to issue forecasts that are overly optimistic (Drake and Myers, 2011; Yin and Zhang, 2013). In contrast, Hong et al. (2000) suggest that caution is exercised more amongst inexperienced analysts. Novice analysts are more likely to be punished for inaccurate earnings forecasts than their more experienced counterparts (Knill et al., 2012). As a result, inexperienced analysts are less likely to issue audacious forecasts as they are more likely to be terminated for ‘bold forecasts that deviates from the consensus’ (Hong et al., 2000, p. 121). As analysts become more experienced, they garner stronger relationships and construct deeper information channels; deviate more from the consensus with a tendency to issue less biased forecasts (Knill et al., 2012). Novice and highly-experienced analysts issue forecasts with smaller bias than moderately experienced analysts who deviate further from the consensus (Knill et al., 2012). Previously more accurate analysts lean towards bolder recommendations in subsequent forecasts. Bold forecasts tend to be more accurate (Clement and Tse, 2005; Luo et al., 2012). Inexperienced analysts tend to revise their forecasts more frequently. Additionally, there is a lower probability that they will publish timely forecasts (Hong et al., 2000). Returns increase when the fund's Buy Side Analysts are more experienced, or when the fund relies more on Buy Side Analyst research in comparison to other sources (Chen et al., 2006).

4.3 Gender

In recent years, there has been a growing interest in the role of gender in capital markets. Gender diversity has led to heated debates both in industry and within academic literature: from the impact of gender on decision-making (Cadsby and Maynes, 2005), to the influence of gender diversity on corporate performance (Rodriquez-Dominguez et al., 2012), to the
composition of boards (Campbell and Minguez-Vera, 2008; Chappele and Humphrey, 2014; Adams, 2016).

Females remain underrepresented in the profession of analysts. Within the literature there are two broad reasons proposed for this phenomena. The first possibility is professional self-selection, that is to say, females do not select this nature of work due to preference or indeed ability (Placheck, 1981; Pitts, 2003; Kumar, 2010). The second potential reason for relatively few females engaging in this work may be due to gender discrimination within the workplace (Neumark, 1996; Wennaras and Wold, 1997; Goldin and Rouse, 2000; Black and Strahan, 2001).

If there are fewer female analysts due to discrimination, this leads to important questions for academic research. As such, this suggests that in order for a female analyst to be more successful than a male analyst, she has more hurdles to surmount and consequently would do a better than average job than their male counterparts (Green et al., 2007). If indeed there are less females due to self-selection, there should be no difference between the performance of female and male analysts (Green et al., 2007).

Within the canon of behavioural finance literature, there is significant evidence that associates males with optimism and overconfidence (Hogg and Tanis, 1997; Barber and Odean, 2001; Stotz and von Nitzsch, 2005). Crucially, men tend to be more overconfident in what appear to be masculine tasks. Given the predominance of men in the finance industry it is unsurprising that Prince (1993) shows that men display the proclivity to be more overconfident than women in financial matters. Müller (2007) suggests that overconfidence and optimism are intrinsically linked. Overconfidence results in an individual underestimating future risks and overoptimism results in an overestimation of positive future outcomes. Overconfidence is a disproportionate certainty in one’s own ability or knowledge, while optimism tends to be an excessively positive belief in outcomes that are independent of one’s control (Malmendier and Tate, 2005). Russo and Schoemaker (1992) revealed that even rational individuals are prone to overconfidence.

The complexity of the task being undertaken and feedback are critical factors when examining overconfidence. Lenny (1997) exhibits that gender disparities in overconfidence exist exclusively when feedback is absent or ambiguous. As Barber and Odean (2001)
outline, stock picking is a task associated with low predictability and noisy feedback. Thus, it is an ideal environment to scrutinise overconfidence and to some extent optimism. Male executives tend to exhibit more overconfidence in significant corporate decision-making, such as acquisitions and issuing debt in comparison to females (Huang and Kisgen, 2013). Therefore, there is a certain expectation that females are less confident; *ipso facto* females will issue less optimistic recommendations than males (Bosquet *et al.*, 2014).

Forecasting ability and accuracy are impacted by multiple factors: aptitude, experience and industry specialisation (Jacob *et al.*, 1999). There is a school of thought within the behavioural finance literature that there is heterogeneity in the decision-making processes of female and male financial professionals. A key driver of this heterogeneity is deemed to be gender-specific attitude towards and appetite for risk (Barsky *et al.*, 1997; Jianakopolas and Bernasek, 1998; Cohen and Einav, 2007). Niessen and Ruenzi (2007) examine gender differences between the investment strategies of fund managers. They find that female managers follow less risky and less extreme investment strategies, than their male counterparts. If it is true that females are more risk-averse and less extreme in their decision-making, then we would expect females to issue more conservative recommendations than males. In particular, we would expect that females would issue less strong sells and strong buys than their male counterparts.

Despite growing interest in forecasting ability, both within academic literature and within the investment industry itself, there is a dearth of literature examining the impact of gender on forecasting ability. Surprisingly, of the sparse literature focused on female forecasting abilities, extant evidence suggests that females tend to issue more audacious forecasts than their male counterparts; regardless of their forecasting style, they are more accurate (Kumar, 2010; Brown *et al.*, 2015). Furthermore, female analysts are less concerned with the impact on their bonus of issuing recommendations under the consensus (Brown *et al.*, 2015).

5. Analysts’ Conflicts of Interest

This section will define a conflict of interest and examine the potential causes of conflicts of interests. Section 5.1 will define a conflict of interest and section 5.2 will examine causation in accordance with the three themes within the literature.
5.1 Definition of Conflicts of Interest

Defining a conflict of interest within the literature yields varying results. Mehran and Stulz (2007) provide a valuable analysis of the term from a legal and economic perspective. In particular Mehran and Stulz (2007) suggest a conflict of interest is an expression used to describe the situation in which a public official or fiduciary who, contrary to the obligation and absolute duty to act for the benefit of the public or a designated individual, exploits the relationship for personal benefit, typically pecuniary (Mehran and Stulz, 2007).

Mehran and Stulz (2007) posit that existence of a conflict of interest does not necessitate that it is injurious to a client. In particular, they suggest that what is more relevant is to establish mechanism to mitigate against and reduce the impact of conflicts of interest. The next section will examine the potential causation of conflicts of interest.

5.2 Causes of conflicts of interest

Avogleas (2005) posits that causes of analysts conflicts of interest within the literature can be broadly classified in three categories: one, gatekeeper failure (Coffee 2003), two, misaligned incentives approach (Cain et al., 2005; Höfer and Oehler, 2014), three, herding (Welch, 2000; Clement and Tse, 2005; Brown and Wermers, 2013). (Coffee 2003) suggests that due to analysts’ conflicts of interest analysts fail to perform a vital duty, which is to police the capital markets. The second issue is the misaligned incentives approach. Analysts confront conflicts of interest between the accuracy of their forecasts for their clients and succumbing to their own self-interest or that of their employers (Cain et al., 2005; Höfer and Oehler, 2014). Conflicts of interest arise due to analysts receiving incentives from their employers to direct investors to particular investments (Mehran and Stulz, 2007). Such conflicts may produce costs which can be classified as classic agency costs (Fisch and Sale, 2003). As agents, analysts do not carry the burden of the full significance of their conflicted actions. Rather this burden is felt by investors (Stigler, 2001). In particular the seller assumes the cost of conflicts of interest (Mehran and Stulz, 2007). The third explanation is herding. In essence analysts herd due to career concerns and disregard their information to follow the consensus. Furthermore a decline in business ethics and infectious greed has potentially caused analysts conflicts of interest to be exasperated.

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Theoretically, the three principal sources of analysts’ conflicts are framed as (a) the underwriting hypothesis (i.e. analysts who are employed by investment houses may seek to curry favour with clients, by issuing overoptimistic recommendations to promote trading of the entity they are underwriting (Lin and McNicols, 1998; Michaely and Womack, 1999; Chan et al, 2007)); (b) the bribery hypothesis (i.e. dissemination of overoptimistic recommendations to garner future investment banking revenue streams (Hayward and Boeker, 1998; Kolasinski and Kothari, 2008); and (c) the information hypothesis (i.e. analysts seek to inveigle investment managers’ favour so as to obtain or maintain paths to information in the future (Francis and Philbrick, 1993; Lim, 2001)). Despite any inherent biases, extant literature proposes the analysts’ recommendations do add value (Jegadeesh et al., 2004).

### 5.2.1 Underwriter Hypothesis

The underwriter hypothesis suggests that conflicted equity research stems from analysts’ issuing overoptimistic recommendations about the security they cover due. This potentially is due to their affiliation created during the underwriting process.

Dugar and Nathan (1995) examine 400 on the New York and U.S. Stock exchanges from 1983 to 1988. Dugar and Nathan (1995) find that analysts who are affiliated with investment banks issue more optimistic recommendations and forecasts than unaffiliated analysts. However, returns do not contrast materially between affiliated and unaffiliated analysts. Hence, the authors cannot definitively assert if the level of over-optimism is founded in the underwriting relationship or is attributable to advantageous information. Capital markets ascribe less significance to affiliated analysis when forming earnings expectations than unaffiliated analysis. As such markets account for the conflicts of interest in recommendations of affiliated analysts when developing expectations; the market is not deluded by overoptimism. Notably, affiliated earnings forecasts are typically as precise as unaffiliated analysts.

Similarly, Lin and McNicholas (1998) posit that recommendations from affiliated analysts are more favourable than unaffiliated analysts. From a sample period from 1989 to 1994 Lin and McNicholas (1998) find affiliated analysts’ forecast earnings are not on average more optimistic than unaffiliated. Investors respond in the same manner to affiliate and unaffiliated ‘strong-buy’ and ‘buy’ recommendations. However, ‘hold’ recommendations from an
underwriter yield lower returns. This suggests that investors expect affiliated analysts to issue hold recommendations when a sell would be more appropriate. This paper proposes that investors correct for bias in unaffiliated analysts ‘Hold’ recommendations. Affiliated analysts may be incentivised to issue positive recommendations to sustain positive client relationship management. There is no ostensible effect on share price in response to recommendations from neither affiliated nor unaffiliated analysts. Hence, investors are not adversely impacted thus, agreeing with finding of Dugar and Nathan (1995).

Conversely, Michaely and Womack (1999), find that investors are adversely impact by the affiliation bias. Their study examined data covering 1990 to 1991 from 391 Initial Public Offerings (IPO). Michaely and Womack (1999) find that analysts’ recommendations are biased when they are affiliated with an underwriter. There is a potential conflict of interest between analysts’ fiduciary duty to investment clients and their motivation to market stocks underwritten. Analysts’ recommendations are biased when they are affiliated with an underwriter. Consequently, there is a potential conflict of interest between analysts’ fiduciary duty to investment clients and their motivation to market stocks underwritten by the firms which engages them. Additionally, there is a material difference between pre-recommendations prices patterns of non-underwriter and underwriters recommendations. Hence, Michaely and Womack (1999), propose that there are two possible causative reasons for biased recommendations from affiliated underwriters. Firstly, the affiliated analyst is cognisant of the bias. Secondly, the bias is cognitive and inadvertent on the part of the affiliated analyst. To conclude the former is the primary reason in 88% of surveyed reported this to be the case (Michaely and Womack, 1999).

Cowen et al. (2006) posit that analysts whom are not affiliated to the underwriting firms make less optimistic forecasts and recommendations than at non-underwriter firms. Cowen et al. (2006) examine data sample spanning from 1996 to 2002 which includes 177,254 recommendations observations. Brokerage firms make the most optimistic recommendations, due to lower and reputational and incentives to provide impartial research (Cowen et al., 2006).

Chan et al. (2007) examine U.S. and E.U. data from on average 1,411 firms per quarter from the second quarter of 1984 to the last quarter of 2004. Chan et al., (2007) scrutinise all quarterly earnings forecasts for all domestic equity issues covered on IBES Daily Detail
Earnings Estimate History file. They find that analysts at affiliated underwriters are over-optimistic. In particular, analysts have a proclivity to positive surprises (Chan et al., 2007). This can be particularly observed for firms which may be prospective investment bank clients. The augmentation of nonnegative earnings surprises is materially more significant for growth firms than for value firms. This potentially may be due to growth firms seeking to raise external capital or pursue mergers and acquisitions more frequently than value firms tend to. Furthermore, growth firms are more susceptible to considerable decreases in price should unsatisfactory earnings occur. Hence, analysts possess additional enticements to eschew dissatisfaction for such entities. Unlike U.S. analysts, foreign analysts (non-U.S.) do not manifest an increased inclination to affirmative earnings surprises. There is a surge of nonnegative earnings surprises from 49% in the latter half of the 80’s to 76% in 1999-2000. Chan et al. (2007) submits that this in conjunction with the rise in the equity market coupled with the increase in underwriting activity is one indication of bias occasioned by conflicts of interest. Evidence derived from the growth firms corroborates potential conflicts of interests. From 1999 to 2000 85% of firm-quarter surprises are affirmative for growth firms. There offers a marked difference to 53% from 1984-1989. Distribution for value firms is less marked. Further evidence of conflicts of interest is the preference of growth firms. Whereas independent analysts favour growth firms less. Chan et al. (2007) observe less perceptible changes over the time period examined. The connection between investment banking and analysts is not as cogent as in non-U.S. markets. The European data does not exhibit an increase in positive surprises which is the opposite of the US data. Chan et al. (2007) conclude that there is bias observable.

Malmendier and Shanthikumar (2007) examine data from the NYSE from February 1994 to July 2001. Analyst bias recommendations upwards especially when affiliated. Investors discount this bias especially when using affiliated recommendations. However, smaller investors follow recommendations literally. Specifically they do not discount for affiliation bias. Potentially, the failure of smaller investors to discount for conflicts of interest is due to naivety or higher costs of obtaining information. Smaller investors do not focus on analysts from independent brokers and appear to trust analysts too much. There is no difference in yields by following in affiliated versus unaffiliated recommendations. Just as Chan et al. (2007) find analysts’ output to be biased, so do Malmendier and Shanthikumar (2007) However, they find that in the analysts’ output but that investors are not adversely impacted by this bias.
5.2.2 Bribery Hypothesis

The bribery hypothesis suggests that analysts issue favourable recommendations as they are essentially seeking out future clients to establish revenue streams through underwriting fees. Ljungqvist et al. (2007) examine 16,625 debt and equity offerings from U.S. entities from 1993 to 2000. There is no prima facie evidence that over optimistic recommendations or upgrades results in winning an underwriting contract (Ljungqvist et al., 2007). Furthermore, the reputation of the analyst and the bank is far more significant than winning an underwriting contract. Specifically, prior equity relationships are more significant when the bank was not affiliated during the event window prior to the equity offering. Ipso facto, reputation is a moderating force to foster accuracy in analysts’ output.

5.2.3 Information Hypothesis

The information hypothesis explores how analysts seek to inveigle investment managers’ favour so as to obtain or maintain paths to information in the future. Lim (2001) examine U.S. data from the first quarter of 1984 to the last quarter of 1996. Using a quadratic-loss utility function they establish empirical evidence of where analysts trade off bias to improve the likelihood of access to management information in the future.

To conclude the three hypotheses are grounded in the concept that analysts who are affiliated tend to issue favorable recommendations in the hope to maintain relationships with underwriting clients, or garner underwriting clients in the future. Equally securing pathways to information may causes analysts output to tend to be favorable. However, a central concern of this study is to establish whether analysts’ outputs are marred by overoptimism and overconfidence bias. This is examined in section 6.

6 Biases emotional overoptimism and overconfidence

Central to this study is to establish whether analysts’ recommendations are flawed due to conflicts of interest or whether they are indeed marred by analysts’ bias. Within the literature the bias which impact analysts’ recommendations most significantly, are overoptimism and overconfidence. Müller (2007) suggests that overconfidence and optimism are intrinsically linked. Overconfidence results in an individual underestimating future risks and overoptimism results in an overestimation of positive future outcomes. Overconfidence is a
disproportionate certainty in one’s own ability or knowledge, while optimism tends to be an excessively positive belief in outcomes that are independent of one’s control (Malmendier and Tate, 2005). Forbes (2009) suggests that overconfidence and overoptimism are linked and refers to overconfident optimists. Whilst, Russo and Schoemaker (1992) reveal that even rational individuals are prone to overconfidence. The remainder of this section is as follows. Section 6.1 discusses overoptimism in analysts’ output and section 6.2 examines overconfidence.

### 6.1 Overoptimism

Since the earliest studies of analysts’ recommendations, there is empirical evidence demonstrating analysts’ overoptimism. Overoptimism is observable through the dissemination of a significantly higher ratio of favourable recommendations over unfavourable recommendations. However, there is substantiated evidence that investors discount for this bias. Furthermore, regulation has endeavoured to reduce this overoptimism bias.

Cowles (1944) continuing the results of his original study (1933) extends the record of 11 forecasters. Of these records 4 of whom are financial periodicals and 7 financial services, covering data from 1928 to July 1943. Forecasts are independently graded by two readers as to their level of bullishness or bearishness. Of the 6,904 forecasts recorded 4,712 were bullish, 1,107 doubtful and 1,085 bearish, despite only 88 months of the timeframe being bull markets and 98 months being bear markets. Thus, there are signs of steadfast and unjustifiable optimism. Cowles (1944) suggests that the findings are potentially explained that investors have a preference for good news over bad news.

construe information in an overly optimistic manner. Analysts overreact to positive information and underreact to negative information.

Chopra (1998) examines U.S. data from the beginning of January 1985 to the end of December 1997. Findings from this study suggest that earnings forecasts are very optimistic at the beginning of the year and wane as they year progresses. The forecasts decline as the quarterly figures are disseminated. Analysts overstate earnings by 11% at the beginning of the year. However, from 1993 analysts were more accurate with a forecast error of less than100 basis points. Additionally, Chopra (1998) suggest that this overoptimism is remedied within one year.

In the U.S. the National Association of Securities Dealers Rule 2711 (NASD Rule 2711\(^9\) ) was introduced to regulate the provision of equity research on Wall Street. Since the implementation of Rule 2711 in the mid- 2000’s, there is empirical evidence that there is a reduction in overoptimism (Barber et al., 2006).

Within the literature there are four schools of thought pertaining to the causation of this bias: self-section bias, the underwriter hypothesis, the bribery hypothesis and information hypothesis which are examined in section.

From a selection of EPS forecasts and recommendations made by more than 4,000 analysts employed at 272 research firms from 1987 to 1994, McNichols and O’Brien (1997) posit that overoptimism in recommendations is caused by self-selection bias. Essentially, analysts cover entities that they view favourably.

However, there is empirical evidence that investors discount for analysts’ bias and factor in overoptimism when they examine and interpret analysts’ outputs (Forbes and Skerratt, 1992; Agrawal and Chen, 2008; Kwag and Shrieves 2010). Yet, Ferreira and Smith (2006) posit that changes in U.S. regulation stemming from Reg FD\(^{10} \) have limited to no impact on the

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\(^9\) The Financial Industry Regulatory Authority (FINRA) enacted the 2711 rule in 2002. This rule regarding research and analysts’ reports put restrictive measures on the Investment Banking Department Relationship with Research Department. NASD Rule 2711: forbids investment bank personnel from approving or reviewing research reports before publication. Also, this rule forbids an investment bank supervisor from overseeing or controlling research analysts. This Rule is no longer applicable. NASD Rule 2711 has been superseded by FINRA Rule 2241 on 25\(^{th}\) September, 2015.

\(^{10}\) Regulation FD addresses the selective information disclosure pertaining to regulated securities. Its objective is foster full and fair disclosure.
fashion in which investors react to changes in recommendations. In Europe, Dubois et al. (2014) posit that overoptimism in analysts’ recommendations has significantly decrease since the introduction of MAD. However, this reduction is more significant in countries where there are stricter enforcement measures.

6.2 Overconfidence

Analysts are frequently accused within the media of disseminating output which manifests their overconfidence11. Furthermore, there is significant empirical evidence to substantiate anecdotal evidence. This section will detail the extant literature in the canon of behavioural finance pertaining to financial analysts.

Stolz and von Nitzsch (2005) perform qualitative research on 112 U.S. analysts over a brief period between March 10th to April 26th April 2002. The findings of these the telephone interviews suggest that analysts’ overconfidence is ostensibly more discernible for earnings forecasts than for price forecasts. Stolz and von Nitzsch (2005) suggest this may be due a greater sense of control when predicting earnings than prices. Of the sample examined circa 60% to 70% of analysts perceive their output to be above average. An overconfident analyst does not promote edification of their forecasting competencies. In particular analysts do not improve with experience Stolz and von Nitzsch (2005).

Chung and Lee (2006) perform a quantitative analysis of all firms on listed on the NYSE and AMEX excluding NASDAQ, from January 1963 to December 2001. In particular, Chung and Lee (2006) find that when individuals are overconfident they overreact of private information and underreact to information which is publically available. Specifically, market gains prompt overconfident individual’s trade more aggressively in successive time intervals. To conclude overconfidence is readily prompted in a bull market (Chung and Lee, 2006).

More recently, Bessière and Elkemali (2014) examine European non-financial entities from 1999 to 2007. Findings suggest that when analysts are overconfident they will overreact pre the announcement. Conversely, they underreact after the announcement. In ambiguous conditions overconfidence misreactions are higher for high-tech entities than for non-high-tech companies.

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11 See ‘Don’t throw away your final salary pension’, by Allistar Cunningham in The Financial Times, 27th April 2017, which details the damage overconfidence in financial advice can effectuate.
Similarly, Broihanne et al (2014) posit that financial professionals are overconfident. In particular their errors are clearly correlated to levels of confidence. Specifically, overconfidence strongly impacts how much risk professionals are willing to assume. Broihanne et al (2014) suggest that overconfidence reveals itself in four different guises: 1. inaccurate correction of probabilities 2. Better-than-average effect 3. Illusion of control and 4. Quixotic optimism.

To conclude there is empirical evidence of analysts’ overconfidence. As Forbes (2009) suggests there is a strong link between overconfidence and overoptimism. This study contributes to the literature pertaining to overconfidence and overoptimism within analysts’ recommendations.

7 Regulation
The globalisation and internationalisation of capital markets complicates the role of national regulators. Thus, international regulation is required to facilitate the activities of capital markets (Simmons, 2003). Capital markets play a critical role in the development of a country’s economic development. Thus, regulators are required to be especially vigilant of practices which may be injurious to the operations of capital markets (Shahzad and Mertens, 2017). This section examines regulation and the requirement for the introduction of MAD. The rest of this section is organised as follows. In section 7.1 the role of capital markets and the impact of market abuse on the operations of capital markets are outlined. Section 7.2 delineates the nature of market abuse and its impact on capital markets. In section 7.3 the requirement for the introduction of MAD is examined.

7.1 The Role of Capital Markets and the modern capital markets landscape
Avgouleas (2005) suggests that capital markets primarily have four functions. The first function is to furnish investors with a reliable criterion of value, since supply and demand allows price formation (price discovery) through the categorising of traders’ heterogeneous expectations, as well as the gradual release of private information albeit through a coded form. The second function facilities the efficient allocation of scarce resources which puts investors’ funds to the most efficient use via reliable price discovery mechanisms. The third function of capital markets is to provide a forum which brings together buyers and sellers of
financial assets, so that these assets can be put to productive use. The fourth and final function is that capital markets can be used by producers and consumers of physical commodities to have protection against adverse price movements. Although the role of capital markets is clear, the changes within the landscape require clarification.

Over the past decades, improvements in technology have resulted in capitals markets which are more integrated on an international level than ever before. Furthermore, capital market actors are now more sophisticated, complex and diverse. Whilst this creates enormous opportunities for growth and innovation, it also generates opportunities for market abuse (Avgouleas, 2005). An additional factor which has resulted in great change in European capital markets is the change in models. Forbes et al. (2015) examine the departure from the older state owned continental European approach in Germany and the member cooperatives of the Anglo-American approach model adopted in the UK, to the corporate mode of ownership and governance of stock exchanges. Additionally, change can be observed in the creation of new exchanges for example the Euronext. The Euronext is the first pan-European exchange which spans Belgium, France, Portugal, the Netherlands, and the UK. The Euronext has established cross border trading links with integrated clearing and settling facilities. This leads to the quick transmission of information from one market to another.

Avgouleas, (2005) posits that the implementation of cross border transaction facilities, the liberalisation of capital markets and the abolition of controls of international flows of capital during the 1990's have brought about significant changes to the landscape. Another factor is the facilitation of multiple listings throughout the 1990's both in Europe and the US. This has resulted in larger markets. Larger developed markets have a higher degree of integration than emerging markets (Gelos and Sahay, 2003). However, this growth in integration is not without detractors. Capital market integration has led to questioning because of the cost benefit trade off of this growth (Bagwati, 1998; 2000). Furthermore, Stiglitz (2002) has fuelled the international debate about globalisation, growth and integration of markets. Stiglitz (2002) disparages free trade economics and liberalisation in equal proportions. He proposes both factors pose a threat to the economic growth of emerging markets and the
stability of economic global financial system.\textsuperscript{12} The landscape of capital markets has transformed. Equally, the composition of the actor’s within this landscape has changed.

Avgouleas (2005) suggests that the composition of capital markets has changed in the last two decades. The number of individuals owning securities has increased. These securities are primarily equities and this is due to three factors.

One, there is shareholding culture which has transpired through the privatisation of state owned companies during the Thatcher era and in the US by policies enacted by Reagan. These polices were compounded by individuals receiving falling returns from bank products during the same era. The surpluses if any which were created largely flowed to the Baby Boomers in the U.S. Thus, these individuals began to move to towards investing in equities. Two, the privatisation of pension funds and the increased realisation by individuals that they would have to boost private pensions led investors to investing in equities. The deficit in pensions could be attributable to the inadequacy, especially in the E.U., of the finances of the state pay as you go schemes. Three, the expansion of technology and online trading, particularly in the late 1990's created a new generation of speculators with limited disposable income and unbounded confidence in their trading ability. These three factors coupled with the widespread use of the internet let to unsuspecting and naive investors who easily fall prey to elaborate and simple cases of market abuse.

Institutional investors dominated the 1990's and still hold a very large stake in outstanding investments. Pensions are generally managed by institutions. Pension funds are amongst the largest shareholders in the world. However, in recent years there has been a large increase in the number of retail investors. Retail and institutional investors have different informational requirements.

The underlying motivation for curbing conflicts of interest is to promote market efficiency. The Fama \textit{et al.} (1969) theory of an efficient market (that is the concept that all information is promptly incorporated into the share price) promotes investor confidence. Grossman and Stiglitz (1980) suggest that the production of new information, while it improves efficiency, diminishes the returns on trades based on privately acquired information and as such creates

\textsuperscript{12} Stiglitz (2002) Globalisation and its Discontents, was a bestseller, and details his experience as the chief economist in the World Bank, during the tenure of President Bill Clinton.
the efficiency paradox. Stout (2003) examines market efficiency and distinguishes between ‘informational efficiencies’ and ‘fundamental value efficiency’. Gilson and Kraakman (1977) put forward the theory that informational efficiency supports the claim that available information neither creates profitable trading strategies nor arbitrage. Relatedly, the market is efficient in the sense that when a trader becomes aware of information he cannot make a profit by trading on it (Stout, 2003). Alternatively, Beaver (1981) suggests that market efficiency is a prediction of the speed that new information is adjusted into a share price. The adoption of the concept of fundamental value efficiency means that price formation is a welfare enhancing mechanism. As a result value efficiency means markets channel that processes and prices accurately reflects all available information.

Avgouleas (2005) asserts that EMH brings about two issues relating to the disclosure of information. One, there are concerns around mandatory disclosure. When insiders trade freely on inside information, do prices reflect this private information and are as close as possible to the fundamental value. Two, when market prices are free from abusive changes, investors who demonstrate willingness to trade, express their unbiased estimates of the value of the relevant asset of the forecasts of the future price and their consumption and investment needs.

EMH has never been free from controversy, but there was a time when findings of this theory were supported by empirical evidence (Jensen, 1978). EMH has been challenged by behavioural analysis and the stock bubble of the late 1990's (Brudney and Bratton, 2003). Schleifer (2000) posits that the cumulative impact of behavioural finance and empirical evidence have undermined the hegemony of EMH. The three main criticisms of EMH are the presumption of a homogenous investor experience, effective arbitrage, and investor rationality (Debondt and Thaler, 1990).

### 7.2 Rationale for the introduction of MAD

International developments in the regulation of capital markets demonstrate the need for a commonly accepted and applicable regulatory framework to diminish analysts’ conflicts of interest (Kumpan and Leyens, 2008). Comparably to US measures MAD aims to restrict conflicts of interests in equity research. Moreover, MAD creates new disclosure requirements

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13 In the US Title 5, section 501 of the Sarbanes–Oxley Act and the 2004 Global Analysts Settlement addresses analyst conflicts of interest.
detailing the relationship between investment banking and equity research (Kadan et al., 2009).

This study seeks to evaluate the effectiveness of MAD in Europe and examine the impact of this regulation on equity research. Analysts’ conflicts of interest form part of market abuse. Market abuse research requires an examination of the ‘thorny issue’ of tainted research and the erosion of trust this effectuates Gross (2002).

Avgouleas (2005) recognises that market abuse is the most powerful enemy of market efficiency and destroys investor confidence in the markets. Market abuse comes in two guises: one, insider dealing and two, market manipulation. Market manipulation is a form of economic behaviour which is usually carried out by the dissemination of false or misleading information or detaining relevant information. Market manipulation results in distorted valuations or securities prices. The perpetrators are not only company insiders who prejudice the interests of other groups of stakeholders such as creditors, small shareholders and employees but also investment bank employees.

As outlined in section 7.1 markets are instrumental in the efficient allocation of capital resources and effectively are the ‘steam engine of economic growth in the modern world’ (Avgouleas, 2005, p.4). As such capital markets should operate orderly and legally; all those involved should uphold the law. When market abuse occurs it makes capital markets look like a ‘crooked card game’ (Avgouleas, 2005, p.5). In particular, market abuse lowers the legitimacy and effectuates a crisis of confidence. In summation, market abuse poses a major threat to the efficiency of markets and to investors trust. The next section examines the scope and scale of MAD.

7.3 The scope and scale of MAD

In 2005, the European Commission enacted MAD, a regulatory response to market abuse, designed to enrich transparency and equality for all market participants and in doing so attempting to thwart potential conflicts of interest. MAD was adopted on 28th January 2003, promulgated on 12th March 2003, came into force on 12th April 2003, with an implementation deadline by 12th October 2004 for Member States. Member states were then required to create
or revise national laws, to enforce MAD. In the case of the United Kingdom the government amended the Financial Services and Market Act 2000 and MAD came into effect on 1\textsuperscript{st} July 2005. MAD was adopted in Ireland via a statutory instrument which came into effect on 6\textsuperscript{th} July 2005\textsuperscript{14}. Germany passed MAD into national law on 30 October 2004. Thereafter, MAD applies to issuers with financial instruments admitted to trading, or who have filed a request for admission on a European regulated market, such as the Deutsche Boerse AG (DAX).

MAD created a new offence designated as market manipulation\textsuperscript{15} and defined inside information\textsuperscript{16}. The Regulations apply to issuers of all listed securities\textsuperscript{17} (including open- and closed-end funds, debt securities and securitisations) or where a request for admission to a regulated market has been made\textsuperscript{18}. The Directive does not apply to transactions relating to and emanating from\textsuperscript{19}: Monetary policy, exchange rates, or public debt management; European Schemes of Central Bank; National Central Banks; and Share “buy-back” programmes or the stabilisation of financial instruments\textsuperscript{20}.

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\textsuperscript{14} Statutory Instrument No. 342 of 2005

\textsuperscript{15} “Market manipulation” as per Article 1 S 2 (a) is defined as (a) transactions or orders to trade (i) which give, or are likely to give, false or misleading signals as to the supply of, demand for or price of financial instruments, or (ii) which secure, by a person, or persons acting in collaboration, the price of one or several financial instruments at an abnormal or artificial level, unless the person who entered into the transactions or issued the orders to trade establishes that his reasons for so doing are legitimate and that these transactions or orders to trade conform to accepted market practices on the regulated market concerned; (b) transactions or orders to trade which employ fictitious devices or any other form of deception or contrivance; (c) dissemination of information through the media, including the Internet, or by any other means, which gives, or is likely to give, false or misleading signals as to financial instruments, including the dissemination of rumours and false or misleading news, where the person who made the dissemination knew, or ought to have known that the information was false or misleading.

\textsuperscript{16} “Inside Information” shall mean information (as defined by Article 1 of Directive 2003/6/EC) of a precise nature which has not been made public, relating, directly or indirectly, to one or more issuers of financial instruments or to one or more financial instruments and which, if it were made public, would be likely to have a significant effect on the prices of those financial instruments or on the price of related derivative financial instruments.

\textsuperscript{17} Article 10 (a & b)

\textsuperscript{18} “Regulated Market” shall mean a market as defined by Article 1 (13) of Directive 93/22/EEC

\textsuperscript{19} Article 7: This Directive shall not apply to transactions carried out in the pursuit of monetary, exchange rate or public debt-management policy by a Member State, by the European System of Central Banks, by a national central bank or by any other officially designated body, or by any person acting on their behalf. Member States may extend this exemption to their federated States or similar local authorities in respect of the management of their public debt.

\textsuperscript{20} Article 8: The prohibition provided for in this Directive shall not apply to trading in own shares in “buy-back” programmes or to the stabilisation of a financial instrument provided such trading is carried out in accordance with implementing measures adopted in accordance with implementing measures adopted in accordance with the procedure laid down in Article 17 (2).
7.3.1 Disclosure Requirements
The Directive disclosure requirements are four-fold as outlined below.

A. Disclosure of Inside Information
The Directive supplies direction as to how to manage inside information from the issuers of financial instruments. Issuers must publish information that concerns the relevant issuers as soon as possible and report it on their website\(^{21}\). If an issuer discloses privileged information to a third party in the exercise of his duties, he must make public disclosure of that information. The Regulation states that it is an offence to use inside information to buy or sell financial instruments.

B. Duty to Maintain Insider Lists
Issuers and persons acting on their behalf (both legal and natural) must collate and maintain a list of persons who have access to privileged information; this information is then issued to the national listing body. The list should state the person’s identity, the reason that they are on the list, and the date the list was created and updated.

C. Disclosure of Transactions and Securities
The Directive also introduced a requirement for persons with managerial responsibility and persons closely connected with them to disclose transactions in securities\(^{22}\) to the national financial regulator.

D. Recommendations Produced by Third Parties
Persons\(^{23}\) who produce or publish recommendations or financial research concerning financial instruments or regarding the issuers of those instruments, or produce or disseminate information recommending investment strategies, to the public must, *inter alia*, present the information equitably and disclose interests or conflicts of interest. This does not apply to the dissemination of information by a journalist subject to fitting regulation and provided the journalist does not obtain any direct or indirect benefit from the publication of said information\(^{24}\).

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\(^{21}\) In accordance with the rules on transfer of personal data to third persons as laid down in Directive 95/46/EC of the European Parliament and of the Council of October 24 October 1995 on the protection of individuals with regard to the processing of personal data and the movement of such data.

\(^{22}\) Article 6 (4) Persons discharging managerial responsibilities within an issuer of financial instruments and, where applicable, persons closely associated with them shall, at least, notify to the competent authority the existence of transaction conducted on their own account relating to shares of the said issuer, or to derivatives or other financial instruments linked to them. Member States shall ensure that public access to information concerning such transactions, on at least an individual basis, is readily available as soon as possible.

\(^{23}\) “Person” shall mean any natural or legal person in accordance with Article 1 Section 6.

\(^{24}\) In accordance with Article 1 Section 2 (c)
E. Penalties and Punitive measures

The Directive also refers to penalties which ensue upon breach to ensure uniformity in each Member State. The equivalent form of wrongful conduct shall incur an identical penalty in each of Member State. If a competent authority adopts an administrative measure or penalty, it must inform the ESMA. Largely, the penalties in the Member States are related to and complement the criminal law measures already in place. Of particular interest to this study are the punitive measures in Germany, the United Kingdom and Ireland who respectively have established the following:

1) Germany: Individuals/Natural Persons can be fined up to €5,000,000 and Legal Persons up to 10% of their overall annual turnover, and publication of the offence;

2) United Kingdom: The Financial Services Authority can impose unlimited fines on companies and/or individuals, a public statement that the individual has engaged in market abuse and a court injunction to prevent repetition; and

3) Ireland: Section 32 of the Companies Act 1990 Part V stipulates a fine not exceeding €10,000,000 and/or ten years imprisonment on indictment and summarily prosecution by the Central Bank will result in a €5,000 and/or 12 months imprisonment.

7.3.2 Enforcement and Implementation

Each Member State assigned the powers to a national body to ensure that the provisions adopted on foot of the directive are applied. In accordance with Article 12, the competent authority is given all of the supervisory and investigatory powers that are required to implement all of its functions.

7.4 European Securities and Market Authority Formation

The implementation of the Directive is overseen by the European Securities and Market Authorities (ESMA) in Paris. This authority seeks to foster transparency in financial markets, to improve confidence in the integrity of the integrated European market and promote greater cross-border cooperation. ESMA was established on 1

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January 2011 to replace the Committee of European Security Regulators. This organisation is accountable to the European Parliament and European Council. The instituting of ESMA is a demonstrable indication of the importance of the regulation of market abuse and insider trading; to assist in detecting and monitoring this behaviour, resulting in appropriate punishment. This body has a two-fold mission which is to seek to protect the investor and promote market efficiency.

The founding of ESMA was one of the protective measures that resulted from recommendations from the de Larosiere report in 2009. This report suggested reforms to the structure of supervision of the financial sector in the European Union. Moreover, suggestions from the Committee of Wise Men were taken into account to form ESMA. This body gives “physical form to Europe’s comprehensive response to the financial crisis”.

The fundamental objective of regulating and controlling insider trading and market abuse is to protect investors’ interests, the reputation of individual companies and maintain confidence in stock exchange operations. ESMA serves as a standard setter for securities legislation and delivers technical guidance where mandated by the Commission. The creation of ESMA is part of the framework of financial supervision and is Europe “putting into effect in practical terms the lessons learnt from the crisis.”

ESMA is a part of the European Systemic Risk Board, which comprises of three European Supervisory Authorities, ESMA in Paris, the European Banking Authority

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27 The Council of Wise Men chaired by Baron Lamfalussy developed the Lamfalussy Process. This four level procedure for the development of the financial services industry regulations is used by the European Union. http://www.esma.europa.eu/consultation/role-CESR-Level-3-under-Lamfalussy-process
29 https://www.esma.europa.eu/
(EBA) located in London and the Frankfurt based European Insurance and Occupational Pensions Authority (EIOPA) as delineated in figure one below.

Figure 1: European Systematic Risk Board: https://www.esma.europa.eu/

Reach of the European Securities and Market Authority

ESMA possesses a pan-European reach through direct supervision and the active co-ordination of national authorities\(^\text{31}\). This entity’s objective is to add to the harmonisation of technical rules applicable to financial institutions and to work in tandem with the National Competent Authorities\(^\text{32}\). This independent European Union authority is working on establishing coherent regulatory technical standards to form a single rulebook. The creation of a single set of rules is one element of a level playing field and a smoothly operating internal market in Europe. Prior to the creation of ESMA, the practice amongst member states was a veritable “patchwork”\(^\text{33}\) approach to legislation and enforcement; creating an environment with too many opportunities to fall through regulatory cracks\(^\text{34}\).

To reflect the pan-European reach, the Board of Supervisors of ESMA is composed of twenty-eight national authorities plus a consultative arm, the Securities and Market Stakeholder Group (SMSG)\(^\text{35}\). This consultative group comprises of thirty individuals

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31 https://www.esma.europa.eu/
33 The forum of European securities Commissions: Ref.: Fesco/00-096l, Date: 29th June 2000
35 https://www.esma.europa.eu/
drawn from seventeen Member States including academics, consumers, financial institution employees, financial market participants, small and medium sized enterprises and users of financial services. SMSG focuses particularly on draft technical standards, potential breaches of EU law by national competent authorities and constructing a common Union supervisory culture.

Among the powers that ESMA possess are the following:

1. To continue the work of Committee of European Security Regulators but with new powers, *inter alia*, draft legally binding technical standards for market securities regulations;
2. Resolve disagreements between national authorities;
3. Invoke emergency powers; and
4. Monitor system risk of cross-border financial institutions.

Countries will be required to publically indicate compliance or explain why they have not complied; effectively creating a “name and shame” safety measure. However, ESMA cannot make a decision that could have material fiscal consequences for a Member State.

### 7.5 The requirement for MAD

The requirement for a new directive MAD was stressed by the Financial Services Action Plan. The goal of the Financial Services Action Plan (FSAP) is to create a veritable single financial market for Europe. Equally the need for a single market was stressed by the Lamfalussy Report on the Regulation of European Securities Markets.

The Lamfalussy Report produced the introduction of new legislation grounded in a four-level design, comprising of framework principles, implementing procedures, co-operation and enforcement. MAD is grounded in this approach. The comitology committee who produced the Lamfalussy Report examined the regulation of securities markets with a goal of creating

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a single European market. The Lamfalussy report which was issued in 2001 was a key output of the Council of Wise Men. Their report resulted in recommendations to implement reforms, which strove to end the esprit de laissez-faire towards regulatory issues. The Lamfalussy report identified deficits in regulatory efforts within European capital markets. The recommendations for reform stemming from this report led to the creation of MAD.

The Committee of European Securities Regulators (CESR) was tasked with the provision of technical advice on how to implement MAD. Not only does the implementation of Mad show an important step in the FSAP, but also it should be included as post Enron measure. Furthermore it is a seeks to address and mitigate against the future likelihood of other scandals such as World Com, Ahold in the Netherlands and Parmalat in Italy (Ferraini, 2004).

7.5 Particulars of Directive relevant to this study

The underlying principles for this directive are twofold: one, the prohibition of insider dealing and market manipulation, and two, the requirement of E.U. member state harmonisation.

The first rationale, prohibiting market abuse in European, is incontestable. The reasons for doing so are not so clear. Within the literature there are two theories: 1. relationship based theories and 2 market based theories. Relationship based theories focus on the infringement of fiduciary relationships based on confidence and trust. Market based theories are grounded on the effectiveness and equitable dissemination of information to bring about the smooth operation of the market place.\(^{39}\)

The reason for the enactment of MAD which is given in the Directive itself is ‘circular’ (Ferraini, 2004, pp.713). The Directive states ‘an integrated and efficient financial market requires market integrity. The smooth functioning of securities markets and public confidence are prerequisites for economic growth and wealth. Market abuse harms the integrity of financial markets and public confidence in securities and derivatives’\(^{40}\). Furthermore, Consortium 12 states that the objective of the legislation is to ‘ensure the integrity of Community financial markets and to enhance investor confidence in those markets’. Market

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\(^{39}\) See Bainbridge (2000) for a review of the American literature on insider trading.

abuse comprises of insider dealing and market manipulation. Prohibiting manipulation aims to protect market efficiency. However, proscribing market manipulation is not the sole method for regulators and exchanges. Information disclosure is another means (Ferraini, 2004).

Harmonisation across E.U. member states is the second reason for the enactment of MAD. However, the clear need for regulation does not automatically suggest that there is uniformity of the relevant rules at a European level (Ferroni, 2002). The Directive clarifies that member states have varying degrees of legal requirements or none at all in place. This leaves economic stakeholders often ‘uncertain over concepts, definitions and enforcement’\(^{41}\). Moloney (2002) posits that market abuse is often effectuated by cross border components. Accordingly, market manipulation requires a co-ordinated reaction from member states (Ferraini, 2004). Moreover, pan-European legal harmonisation is likely to ease transaction costs. Ferraini (2004) asserts that this is due to investors and financial professionals whom are better positioned to consider the ex-ante impact of market abuse on their respective revenues. Furthermore, Ferrainini (2004) suggests that when the treatment of market abuse is harmonised across member states, ipso facto the chances of falling prey to market manipulation are similar and easier to estimate. In summation MAD is required to prohibit market abuse and to harmonise EU member state laws, so that market participants can assess the risk of market abuse on a cross border level when they are transacting on pan-European markets.

There are two forms of market manipulation outlined in the Directive: transaction based manipulation and information based manipulation. Article 1 (2)a of the Directive defines transaction based manipulation. This includes transactions which give or may give a false or misleading signal to the supply or demand for a price of financial instruments. Information based manipulation is defined in the Directive in Article 1 (2) b. This is the ‘dissemination of information through the media or by any other means, which gives, or is like to give, false or misleading signals as to financial instruments’. Failure to disclose a conflict of interest in a proper and effective manner is considered within this Directive to fall into this category.

\(^{41}\) 11\(^{th}\) Considerandum
Financial analysts and their conflicts of interest are covered by Article 6(5) of MAD. This article outlines that member states ought to ensure that there is appropriate regulation in place so that analysts ‘take reasonable care to ensure that such information is fairly presented and disclose their interests or indicate conflicts of interest concerning the financial instruments to which that information relates’. By the introduction of fair presentation and the duty to disclose conflicts of interest, the MAD addresses the grave need to address the production and dissemination of potentially flawed and indeed marred equity research (Avogleas, 2005).

In 2003, European regulators enacted MAD in an effort to reorganise European Capital Markets. Regulatory bodies have sought to bring about the restoration of trust in capital markets, to attenuate conflicted equity research and as such ameliorate the overall quality of analysts’ output. Confidence and trust are central to the intermediation process; permitting investors to make decisions without the fear of being duped (Enriques and Gatti, 2007). Additionally, credible information and trust in intermediaries offsets adverse selection mechanisms and hence are considered crucial to the lowering the cost of capital in a given economy (Coffee, 1984).

Trust in financial intermediaries is central to the efficient operation of capital markets. Mayer et al. (1995) propose that trust is essential in situations where there is ambiguity, interdependence and risk. Capital markets encapsulate these three factors. A lack of trust has serious and far reaching economic consequences and ‘may mutate into a crisis of confidence in the merits of European integration’ (DeBont, 2016, p.310).

Thus, MAD is central to the larger effort of the restoration of trust for the protection of all investors and the re-establishment of confidence in capital markets, for the benefit of a given economy. Member states oversee implementation via their national regulatory supervisory body. The Federal Financial Supervisory Authority (BaFin) in Germany, the Financial Services Authority (FSA) in the United Kingdom and the Central Bank in Ireland has been tasked with the supervision of their respective national stock exchanges adherence to MAD.

42 Investment recommendations are also subject to Directive 2004/39/EC and Commission Directive CD 2006/73/EC (MiFID). The primary objective of MiFID is to increase consumer protection in investment services. Of particular interest to this study is that conflicts of interest are the subject of the Directive (article 18).
Whilst national bodies are responsible for the supervision of individual institutions, the European Securities and Markets Authority (ESMA)\textsuperscript{43} as part of the European

\textbf{8. Research Gap}

There are a limited numbers of studies conducted on the impact of MAD. This section details studies that have been conducted to date so that we can identify the research gap.

The earliest study by Preevo and Ter Weel (2010) examine the impact of MAD on insider trading on the stock exchange in Amsterdam. Their study focuses on the changes in information content of press releases by quoted companies prior to and post the implementation of MAD. They perform a market model event study to examine a timeframe from 1\textsuperscript{st} July 2004 to 31\textsuperscript{st} December 2006 and scrutinise 5,168 announcements released by 124 securities over this period. Their findings are that the market is ‘cleaner’ (Preevo and Ter Weel, 2010, p.275). In essence they suggest that post the introduction of MAD there is less evidence of insider trading. Their findings suggest that post MAD, the cumulative average abnormal return and the cumulative average abnormal volume has decreased prior to the public release of news announcements.

In a similar vein, Christensen \textit{et al} (2011) examines MAD and determines the impact MAD had on liquidity. They suggest that the implementation of MAD in conjunction with the Transparency Directive of 2007 prompted a material increase in liquidity in European markets. Christensen \textit{et al} (2011) examine 27 E.U. and 27 Non-E.U. countries from the first quarter of 2001 to the second quarter of 2009.

More recently, Dubois \textit{et al}. (2014) examine recommendations from 1\textsuperscript{st} January 1997 to 31\textsuperscript{st} December 2007. They used the Security Data Company’s database to identify investment banking business affiliations. Dubois \textit{et al}. (2014) adhere to Ljungqvist \textit{et al}. (2007) and Loh (2009) definition of affiliation and examine the impact of analyst’s affiliation on their relative recommendations to examine 261,260 recommendations by 224 brokers on 3,412 firms. Dubois \textit{et al}. (2014) find that MAD significantly reduced the number of favourable recommendations.

\textsuperscript{43} The European Securities and Markets Authority is an independent European Union authority who promotes investor protection and stable markets. This body is accountable to the European Parliament, the Council of the European Union and the European Commission.
recommendations from affiliated underwriters. Furthermore, they find that the impact of MAD in a particular country depends on the severity of the legal sanctions in those jurisdictions. In essence the more severe the punishment is the higher the adherence there is to MAD.

MAD has a significant impact on affiliation bias (i.e. material decrease). This is not due to spill-over from Reg FD/NASD, Rule 2711, NYSE Rule 472 and the Global Research Settlement. The impact of MAD is significantly more potent in jurisdictions that enforce their laws more stringently. Due to the heterogeneity in legal sanctions the attenuating effect of MAD on bias (affiliation and over-optimism).

The latest study to examine the effective of MAD is conducted by Shahzad and Mertens (2017). Their study examines market manipulation on the Frankfurt Stock Exchange. The data sample spans from 2001 to 2006. Shahzad and Mertens (2017) conclude that MAD is successful which demonstrating through the decrease in the level of stock price volatility around stock announcement days. This result suggests that MAD reduced market abuse activities.

Thus, it is apparent that no study has covered the impact of financial analysts’ conflicts of interest in the era of the Global Financial Crisis. This study seeks to fill this gap through novel methodological design and a broad data set spanning from 1999 to 2013.

9. Research Design

To address the research questions this study will deploy a mixed-method, consisting of an analysis of an extensive dataset of analysts’ forecasts from the Irish, German and United Kingdom stock exchanges, complemented by semi-structured interviews with a representative sample of analysts from each domain. This study will deploy a sequential mixed methods design. The first stage of the design will involve the quantitative element which is an event study. The second stage is the involve conducting semi-structured interviews being conducted with a representative sample of analysts from Germany, Ireland and the United Kingdom. The quantitative component addresses research question 1 and 2. The qualitative component addresses research question 3. Together both methods provide a
comprehensive and multifaceted means to address the research questions and as such provide empirical evidence as to the economic effectiveness of MAD.

Employing a mixed-methods approach will inform us as to the adequacy of market-based deterrence of conflicts of interest which is of relevance to academics, the investment community, regulators, governments (both national and international), the European Securities and Markets Authority (ESMA)\(^{44}\), and the European Commission.

### 10. Data and sample

The data for phase one consists of all the public firms that are listed on the Irish, U.K. and German Stock Exchange. Our sample period starts on 1\(^{\text{st}}\) March 1999 and ends on 31\(^{\text{st}}\) December 2013. The 199 to 2003 covers the pre-MAD period while the 2004 to 2013 covers the post MAD period. Our sample is anchored within the era of the Global Financial Crisis. We collect historical share prices, share volumes, recommendation dates. Furthermore we collect the recommendations and mean recommendations the number of analysts covering an entity, and recommendation revisions of all equities listed on the stock exchange between 1\(^{\text{st}}\) March 1999 and 31\(^{\text{st}}\) December 2013. We randomly check the recommendation dates with Factiva to ensure accuracy. We collected this data via Thomson Reuters I/B/E/S downloads. We use ISIN numbers. Phase one data collection is complete.

Phase two will involve conducting semi-structured interviews being conducted with a representative sample of analysts from Germany, Ireland and the United Kingdom, derived from the National Societies of Financial Analysts in Europe and the European Federation for Financial Analysts Societies. These interviews mark a new departure in the literature and will provide rich insights into analysts’ behaviour and the impact of MAD on their potential conflicts of interest.

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\(^{44}\) The European Securities and Markets Authority is an independent European Union authority who promotes investor protection and stable markets. This body is accountable to the European Parliament, the Council of the European Union and the European Commission. ESMA oversee the supervision of the national supervisory bodies, who supervise individual entities in their jurisdictions.


10.1 Research Questions

This study seeks to address the following research questions:

1) To test if MAD enhanced the accuracy of analysts’ recommendations across three jurisdictions;
2) To test if MAD had a veritable impact on analysts’ behaviour; and
3) To explore how analysts perceived MAD across three jurisdictions.

11. Methodology

A mixed-method approach is proposed, consisting of an analysis of an extensive dataset of analysts’ forecasts from the Irish, German and United Kingdom stock exchanges, complemented by semi-structured interviews with a representative sample of analysts from each domain. The rationale for selecting these three countries is to enable a comparative analysis across three jurisdictions, namely Germany, a Eurozone country with a codified legal system and whose capital markets are grounded in a bank-centred model and Ireland and the United Kingdom, countries that both of whom employ common law with stock-market centred models (Forbes et al., 2015). Hence, the three samples facilitate the exploration of disparities in cross-country regulatory adoption. In doing so, this study will shed light on whether or not the MAD improved transparency and equality for investors in the three jurisdictions.

11.1 The purpose of an event study

An event study seeks to examine return behaviour for a sample of entities undergoing a shared event (Kothari and Warner, 2006). The event may occur at different times within a calendar, or might be grouped at a particular date. In this case the introduction of MAD constitutes as an event.

There are a number of means to calculate returns but fall within two main categories, namely statistical and economic models. Statistical models include the constant mean return model and the factor model (MacKinlay, 1997). Factor models comprise of the market model. Factors models are deployed to diminish the magnitude of the abnormal return variance (Preevo and Ter Weel, 2010).
For each sample share \((i)\), the yield on the share for the time period \((t)\) in terms of the event \((R_{it})\) is:

\[
R_{it} = K_{it} + e_{it}
\]

A normal return is defined as an expected, or indeed the forecasted yield generated by the model selected and is denoted by \(K_{it}\). Contrastingly, \(e_{it}\) is the unexpected or abnormal return (Brown and Warner, 1980; Campbell et al., 1997; Kothari and Warner, 2006). By inverting the algebraic model, Kothari and Warner (2006) outline that the abnormal return, \(e_{it}\), is the disparity between the return conditional of the event and the expected return unconditional on the event. As such, the abnormal return is a direct gauge of the unanticipated modification in investor wealth, subsequent to the event (Kothari and Warner, 2006).

One of the initial steps in conducting an event study is calculating a model of normal returns. Specifically, the unexpected returns which are not reliant on the event, but rather rely on other information which must be delineated, before an abnormal return can be distinguished. All event study models are associated with particular idiosyncrasies and bias, which impacts the properties of abnormal returns metrics. Models for normal returns include: market model, constant expected returns models and the capital asset pricing model (Kothari and Warner, 2006).

11.2 The Evolution of event studies

Kothari and Warner (2006) suggest that the basic design of an event study has not significantly altered in thirty years. The design is largely based on the seminal stock split study of Fama et al (1969). The central focus remains on quantifying the sample securities mean and cumulative mean, anchored around the time of the event.

Brown and Warner (1980) examine the use of monthly stock returns. They conclude that a straightforward methodology grounded in the market model is equally specified and effective in a multitude of circumstances to perform satisfactorily. Conversely, deploying monthly returns is not without significant detractors (Musulis and Warner, 1980; Dann, 1981; De Angelo and Rice, 1983; MicNichols and Manegold, 1983).
Fama (1976) posits that daily and monthly returns differ. Specifically, daily returns deviate from the norm more than monthly. Furthermore, non-contemporaneous trading further complicates the use of daily data (Scholes and Williams, 1977).

There are a number of issues with daily data. Please refer to table one where we identify and address common issues within daily data

**Insert Table 1 here**

### 11.3. Event Study Variables

Just as Prevoo and Ter Weel (2010) we deploy a market model for our event study. This section examines the components of our event study.

#### 11.3.1. Event dates

Mulherin (2007) posits that a complication in using events studies to examine regulatory changes is that implementation is staggered and lengthy. Therefore, we consider the following to constitute events: MAD adopted 28th January 2003, promulgated 12th March 2003 with an enforcement date 12th April 2003. Furthermore we acknowledge national implementation of MAD, namely, Germany 30th October 2004, Ireland 1st July 2005 and the U.K. 1st July 2005 as events. Establishing the event date is not without complexity. Henderson (1990) suggests here are four choices: 1) before the event window, 2) during the window, 3) after the window and 4) around the window. We select the first option. Henderson (1990) posits that this is the most popular option. The overarching concerns are to form a window which is sufficiently long to mitigate contamination (Henderson, 1990). Brown and Warner (1980) highlight that event dates should be selected cautiously due to the results of the power tests on uncertain event dates. The more days in the event study that are included due to being unable to determine the event date the lower the power of the event methodology. In the study using daily data and isolating the event date increases the statistical power of the methodology. Further issues include the correct identification of the event, parameter instability, leakage and non-normality. Whilst event date frequency is an issue Dyckman *et al.* (1984) when they tested accumulated returns over a marginally longer time-frame permits the researcher to detect events when it is not possible to identify the event with precision.
Early merger studies of Mandalker, 1974 used the date of the merger with no significant results and when Asquith et al. (1983) used the announcement date there was significant results. Market adjusted returns assume alpha is zero and beta is one. Evidence of alpha and beta changes can manifest an event. Gujarati (1970) techniques assist in addressing alpha and beta changes. Furthermore, issues with parameter stability might indicate the use of a post-event estimation is more appropriate (Stickel, 1984).

11.3.2. Event Window

The event window is the time period over which the securities involved are examined (MacKinlay, 1997). The primary concern is that long horizon tests need extreme prudence (Kothari and Warner, 1997) and even with the best of statistical countermeasures is full of hazards (Lyon et al., 1999). The second concern is adding predictive power and the loss of data payoff. Like Womack (1996) we deploy a 3 day recommendation event period.

11.3.3. Normal returns

We note that Henderson (1990) proposes four forms of normal returns: one. mean return two. market return, three. control portfolio return and four conditional or risk-adjusted returns. We select the risk adjusted return. The primary concern is how to calculate return whether to use monthly returns or daily returns. Kothari and Warner (2006) suggest that other concerns include, calendar clustering, bear versus bull Markets, industry clustering, risk clustering, day of the week effect and first order serial correlation. We employ Daily as it allows more accurate measurement of abnormal return and more informative regarding the impact of announcement.

11.3.4. Abnormal Returns

We calculate the Cumulative abnormal returns over three days to assess how MAD changed how investors interpret recommendations\(^\text{45}\). The parameters are defined as being over (-250 to -11). We correct for infrequent trading by trimming data as seen in Maynes and Rumsey (1993).

\(^{45}\) We use a three day period releases with the market model as is deployed in studies of nature (Stickel, 1995); Womack, 1996; Salva and Sonney, 2006; Kadan, et al., 2007; Dubois and Dumontier, 2008)
12. Conclusion and outlook

The purpose of this study is to investigate whether the Market Abuse Directive 2003/6/EC (MAD) achieved its goal and levelled the playing field for all investors by mitigating financial analysts’ conflicts interest in capital markets. MAD was introduced address market abuse in European capital markets and to harmonise European law. In particular, this study examines if the adoption of MAD enhanced transparency in financial analysts’ recommendations across three jurisdictions (Germany, Ireland and the United Kingdom). Consequently, this study seeks to determine if MAD had a veritable impact on analyst behaviour during the global financial crisis of 2008/2009.

Deploying a mixed-method approach consisting of an analysis of an extensive dataset of analysts’ recommendations spanning from March 1999 to December 2013, we examine recommendations from the Irish, German and United Kingdom Stock Exchanges. The results will be complemented by semi-structured interviews with a representative sample of analysts from each domain, in doing so we mark a departure in the literature.

The rationale for selecting these three countries is to enable a comparative analysis across three jurisdictions, Germany, Ireland and the U.K. Hence, this research explores the disparities in cross-country regulatory adoption. In doing so, this study will shed light on whether or not MAD improved transparency and equality for investors in the three jurisdictions. Our study is anchored in era of the Global Financial Crisis to ascertain if MAD was effective and ameliorated the veracity of financial analysts’ recommendations. Furthermore we seek to determine the impact of MAD on analyst behaviour, when investors were at their most vulnerable, during the global financial crisis.
References


<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
<th>Evidence</th>
<th>Reference</th>
<th>Countermeasure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-normality</strong></td>
<td>Significant departures from normality</td>
<td>#1 Distribution of daily returns is fat-tailed in relation to a normal distribution.</td>
<td>#1 Fama (1976).</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>#2 This is also the case for daily excess returns.</td>
<td>#2 Brown and Warner (1985).</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>#3 The central limit theorem (Laplace, 1810) assures that if the excess returns in the cross section of securities are autonomous and identically spread, the distribution of the sample mean augments. Equally, the excess return converges towards normality.</td>
<td>#3 Blattberg and Gonedes (1974; Hagerman, 1978).</td>
<td></td>
</tr>
<tr>
<td><strong>Non-synchronous trading</strong></td>
<td>Security return and return on market index are quantified over a distinct trading interval</td>
<td>#1 Employing daily data exasperates this bias severely.</td>
<td>#1 Scholes and Williams, 1977; Dimson, 1979)</td>
<td>#1(Gheyara and Boatsman, 1980; Holthausen, 1981)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>#2 Utilising OLS estimates of market model parameters results in biased and mercurial results.</td>
<td>#2 Brown and Warner (1985).</td>
<td></td>
</tr>
<tr>
<td><strong>Variance estimation</strong></td>
<td>Time series properties</td>
<td>#1 Serial dependence Resulting from daily data non-synchronous trading.</td>
<td>#1 Brown and Warner (1985).</td>
<td>#1 Factor into model, (Ruback 1982)</td>
</tr>
</tbody>
</table>
| Variance estimation (contin.) | Cross sectional dependence of security-specific excess returns | Stationarity of daily variances | #1 Day of the week effect.  
#2 Weekend effect.  
#1 Stock return increases for the days around the event | #1 French (1980)  
#2 Gibbons and Hess (1981)  
#1 Beaver, 1968; Patell and Wolfson, 1979) | #1 Incorporate cross sectional dependence into the variance estimator for the excess return (Brown and Warner, 1980; Beaver 1981; Dent and Collins, 1981). |