

**How well do financial experts perform?**  
**A review of empirical research on performance of analysts, day-traders,  
forecasters, fund managers, investors, and stockbrokers<sup>1</sup>**

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Patric Andersson  
Center for Economic Psychology,  
Stockholm School of Economics,  
SE 113 83 Stockholm, Sweden  
Email: [ppa@hhs.se](mailto:ppa@hhs.se)  
Phone: +46 8 736 9576

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**Abstract**

In this manuscript, empirical research on performance of various types of financial experts is reviewed. Financial experts are used as the umbrella term for financial analysts, stockbrokers, money managers, investors, and day-traders etc. The goal of the review is to find out about the abilities of financial experts to produce accurate forecasts, to issue profitable stock recommendations, as well as to make successful investments and trades. On the whole, the reviewed studies show discouraging tendencies of financial experts.

*JEL Classification:* G00; G20; M40

*Keywords:* Behavioral finance; Expert judgment; Financial psychology; Forecasting; Investment; Trading; Performance

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## 1. INTRODUCTION

The stock-market is essentially imbued with judgments and decisions made by professionals as well as private, or as they may also be referred to as amateur, investors. Financial advisors, stockbrokers, and newsletter writers issue stock recommendations that may influence investment decisions of private (and professional) investors. People entrust their savings to mutual and pension funds run by professional investors, like money managers, with expectations that these fund would generate high yields and, preferably, break the stock market index. Like professionals who issue stock recommendations, money managers may base their investment decisions on forecasts, or judgments, provided by economists and financial analysts. These forecasts also play an important role for private investors who buy and sell stocks on a regular basis. The improvement of information technology has meant better possibilities (for instance through Internet) to buy and sell stocks for lower commission fees. A new breed of private investors tries to make a living by taking advantage of these possibilities. This new breed is often called day-traders, who buy and sell the same stocks on the same day. Day-trading takes a substantial part of the activity of the stock-market. Based on a unique data set, which consisted of the complete transaction records of all trades made on the Taiwan Stock Exchange for four years, Barber, Lee, Liu & Odean (2004) concluded that circa 20% of the total trading value (USD 5,672 million) could be characterized as day-trading completed by private investors. The corresponding percentage for institutions (i.e., professional investors and traders) was 0.5%.

As noted above, the stock-market involves several types of professionals. In principle, they are financial advisors, stockbrokers, newsletter writers, fund and money managers,

financial analysts, and traders.<sup>2</sup> To these types of professionals, it seems appropriate to include day-traders for the simple reason that they attempt to make a living on stock trading and, therefore, devote their time to buy and sell stocks in a professional manner. The professionals active on the stock-market are often referred to as financial experts suggesting that they are highly competent and able to attain superior performance (cf. Wärneryd, 2001). It should be noted that they may be called financial experts regardless of evidence that they perform well. The present manuscript will from now use this terminology and, accordingly, denote stock-market professionals as financial experts.

A question that ultimately arises is the following: How good are financial experts? More specifically, how good are they at forecasting, issuing stock-recommendations, and trading stocks? The present manuscript aims to answer this question by reviewing studies on performance of financial experts conducted by researchers from multiple disciplines like accounting, economics, finance, and psychology. To the best of my knowledge, such a review has not been published before. In his excellent primer on financial psychology, Wärneryd (2001) gives a three pages long summary on this topic. His summary covers only a handful of studies.

The remainder of the present manuscript is organized into five parts. First, the phenomenon of expertise is described. Second, the task environment faced by financial experts is discussed. Third, some anecdotal evidence is briefly commented. Fourth, the scientific evidence on the performance of financial experts is reviewed. Five, the manuscript ends with conclusions of the reviewed studies.

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<sup>2</sup> This list does not claim to be complete, but aims to illustrate the major part of stock-market professionals. It might be argued that the list should also include other types of professionals such as auditors, managing directors of the listed companies, board members of listed companies, administrative staff, and technicians supporting the computerized trading systems. Admittedly, they influence the stock-market per se, but their influence has not the same immediate effects on stock prices as financial analysts, stockbrokers, money managers, investors, and traders.

## 2. THE PHENOMENON OF EXPERTISE

Before moving on, it is useful to give a brief account of the phenomenon of expertise. In general, experience and seniority are poor indicators of expertise as these factors have been found to be weakly correlated with good performance (Bedard & Chi, 1993). Thus, the mere exposure of repeatedly performing tasks does not vouch for excellent performance.

Broadly speaking, expertise comes from two sources: inborn capacities (i.e., talents) and deliberate practice. It is widely assumed that talent is the major and most important determinant of expert performance, but an overwhelming body of research emphasizes the importance of deliberate practice (Ericsson & Charness, 1994). Individuals, who aim at attaining exceptionally good performance, must carry out practice activities in a goal-oriented and constructive fashion (Ericsson & Lehmann, 1996b). For example, 20-year old musicians deemed as true experts had devoted themselves to approximately 10,000 hours of accumulated practice, while amateurs of the same age had spent only 20 per cent of that amount (Ericsson, Krampe & Tesch-Römer, 1993). The significant role of deliberate practice for attaining expert performance has also been confirmed in a variety of domains like chess, sports, and music; for reviews see (Ericsson, 1996b). At present, few research projects have focused on investigating the importance of deliberate practice for reaching excellence in business-oriented domains.

In the early 1970s, Einhorn (1974) suggested that expert judges ought to be able to produce reliable and stable judgments. Specifically, he claimed that experts should make identical, or at least similar, assessments when faced with identical information; i.e., high levels of within-subjects and between-subjects agreement. Several research projects have been inspired by Einhorn's (1974) behavioral conditions of expertise. A meta-analysis showed that weather forecasters were highly reliable (i.e., within-subjects agreement = 0.91) whereas professionals in auditing, human resources management, and psychology were

moderately reliable (Ashton, 2000). In general, research has shown that experts in various domains seldom generate better predictions than novices who have received some training, and that experts are completely outperformed by simple statistical models (cf. Camerer & Johnson, 1991).

Recently, a new measurement of expertise was introduced. This measurement rests upon the assumptions that experts should be able to discriminate among information as well as to make consistent judgments and that taking the ratio of discrimination over inconsistency can adequately identify experts (Shanteau, Weiss, Thomas & Pounds, 2002). Empirical evidence has shown that this measurement seems to successfully identify experts (Shanteau et al., 2002). However, the measurement does not take into account the quality of judgments meaning that subjects may be deemed as experts despite the fact that they produce consistently inaccurate conclusions.

In contrast, the research program on expert performance takes the outcome of the activities performed by experts into account. This research program defines expert performance as consistently superior behavior with regard to a specific set of representative tasks within a domain (Ericsson & Smith, 1991). Technically, superior performance can be defined as two standard deviations above the average level of performance in a population of judges within the domain (Ericsson & Lehmann, 1996a). Note that this definition will not be used in the present manuscript as a way to select studies to review. Focus of the research program is put on finding stable and quantifiable attributes underlying exceptional performance (Ericsson & Lehmann, 1996a; Ericsson, 1996b). It should also be possible to adequately reproduce the tasks in controlled environments, so that expert performance and its underlying psychological mechanisms could be studied with process-tracing methods and traditional experimental methodology (Ericsson, 1996a). For instance, while performing a certain task experts (and non-experts) may be asked to verbally report their ongoing thoughts.

Analyses of the resulting verbal protocols give valuable insights into the cognitive processes that occur during the achievement (Ericsson & Simon, 1993). For example, with the use of verbal protocol, a seminal study by De Groot (as cited in Ericsson, 1996a) showed that chess masters, in contrast to non-experts, were able to rapidly consider a couple of first-class alternative moves by just glimpsing at the chessboard; a finding that suggests pattern-based retrieval from memory rather than extensive information processing.

Besides innate and acquired abilities, performance of experts also depends on the structure of the task environment. By reviewing findings from multiple empirical studies of expert judgment, James Shanteau (1992) has suggested that certain task characteristics are associated with good and bad expert performance. In domains characterized by static stimuli and decisions about static targets (e.g., weather forecasting and livestock assessment), experts tend to perform well (Shanteau, 1992). On the other hand, in domains associated with changeable stimuli and decisions about human behavior (e.g., clinical psychology), experts tend to perform poorly (Shanteau, 1992). As it has dynamic features (e.g., volatile prices), the stock-market seems to fit with the latter domain. Consequently, one might expect that financial experts as a group would perform poorly.

Moreover, in well-defined tasks, experts can rely on their extensive experience and outperform non-experts, but this advantage is lost or reduced in unstructured task with the result that experts and novices perform equally poorly. This point is illustrated by the findings of a classic study of chess involving two types of chess players, masters and amateurs, who recalled board positions where the chessmen had been placed in accordance with a real game and in a random way (see Ericsson & Smith, 1991). In the real game condition, the masters recalled more positions correctly than the amateurs, but in the random condition the two groups scored equally poorly.

In conclusion, expertise does not only depend on talent and experience but also deliberate practice. Task characteristics are very important for experts (and non-experts) to perform well.

### **3. TASK ENVIRONMENT OF THE STOCK-MARKET**

The previous part concluded that performance of experts is not only attributed to inborn and acquired capabilities, but also partly due to the structure of the task environment. This part sheds light on theoretical and practical considerations of the task environment faced by financial experts.

#### **3.1. Theoretical considerations**

The stock-market is hypothesized to be efficient. Fundamental for modern finance is the theory of efficient capital markets that bluntly postulates that all publicly available information is completely incorporated in the security prices (Fama, 1991). Once new information is revealed, the prices are rapidly adjusted immediately. The prices are assumed to mirror the intrinsic values of the securities. With regard to stocks or shares, the intrinsic value is basically rational expectations of the present value of the listed company's future fundamentals, which are dividends and earnings growth, discounted for any inflation.

The movements of security prices are assumed to follow random walks, implying that it should be impossible to use current price series to predict future price series. If players on the stock-market could hypothetically predict future prices with some accuracy, they would be able to profit on their knowledge, but the forces of competition and rationality would immediately react and soon the prices would have been adjusted. Thus, on efficient markets, there are no opportunities for arbitrage. Or, as put by Brealey & Myers (1996): "markets have no memory".

As a result of the so-called random walks of security prices, there is little use of attempting to predict future prices on the basis of current prices, because all pieces of publicly available information are in fact already considered. Accordingly, it is not possible to persistently beat a random selected portfolio of stocks. In other words, efficient markets seem to be examples of unfriendly environments with respect to the potentially poor possibilities of attaining good performance of experts.<sup>3</sup>

Over the years, behavioral economists have discovered several anomalies in the theory of efficient markets. One such anomaly is that prices may follow mean-reverting patterns rather than random walks. In particular, it has been found that securities with decreasing (increasing) past performance (i.e., prices and returns) tended to rise (drop) in the future (Thaler, 1992). The idea of price reversals has not been widely accepted. Supporters of efficient markets have argued that this anomaly is an artifact derived by inappropriate data analyses (Fama, 1998); an argument that researchers in behavioral finance obviously believe is incorrect (e.g., Thaler, 1999; Shiller, 2003).

Another anomaly is that price movements are linked to calendar effects in that stock prices move in persistently abnormal fashions around the turn of the year, the turn of the month, the turn of the week, the turn of the day, and before holidays (cf. Thaler, 1992).<sup>4</sup>

Inspired by psychological research on mood, a recent study analyzed stock exchange data and weather statistics from 26 countries and found that sunny days were associated with

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<sup>3</sup> To be more specific, the theory of efficient markets does not really rule out the presence of superior performance. Some players on the stock-market may possess private information that is unknown to others. Such insiders may be able to consistently obtain abnormally high profits. From a theoretical perspective, it should be possible to achieve superior performance without insider information. The theory postulates that the *average* player is not capable of systematically beating the market. Consequently, the players on the stock-market have different skills with regard to judgment and decision-making. Players having excellent (i.e., above average) skills will outperform, or profit on, those players with poor (i.e., below average) skills.

<sup>4</sup> Proponents of the theory of efficient market have argued that it is difficult to successfully exploit the anomalies. Malkiel (2003) referred to an experienced money manager, who complained: "I have yet to make a nickel on any of these supposed market inefficiencies" (p. 72).



greater stock returns (Hirshleifer & Shumway, 2003).<sup>5</sup> In short, behavioral economists have provided evidence that stock-prices are somewhat predictable and that stock-markets are not perfectly efficient.

In conclusion, from a theoretical point of view the stock-market seems to involve characteristics that might make it difficult for financial experts to perform well.

### **3.2. Practical considerations**

On the whole, the stock-market concerns judgments about the future courses for stocks and other kinds of securities as well as decisions to buy and sell stocks. Accordingly, financial experts can be divided into two categories. The first category includes those financial experts who solely predict the future course of stock-market and related issues such as predicting the performance of listed companies (e.g., forecasts of earnings per share). Examples of such experts are newsletter writers, analysts, advisors, and stockbrokers. Although there are many differences between them, the main task of these experts is to produce forecasts or give profitable stock recommendations. The second category concerns those financial experts who make decisions about trades and investments in stocks and other securities. To this category belong professional and private investors, who not only need to predict the stock-market but also make decisions. These two categories of financial experts are consistent with the view by Shanteau (1988) who distinguished between advice-giving and action-taking experts. Thus, the financial experts face the two kinds of tasks: form judgments about the future or make decisions to trade stocks.

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<sup>5</sup> One might think that a trading strategy based on this observation would be profitable, but such a strategy would demand frequent trading and, as consequence, transaction costs would eliminate the profits (Hirshleifer & Shumway, 2003).

The judgmental task differs from the decision-making task in many ways. First, trading and investment demand multiple skills than forecasting. Technically, making investments and trading stocks is different. Investors put their money at stake for a longer period of time than traders. In this paper, investors and traders will be used interchangeably. Financial experts engaged in investments and trading must be able to successfully identify potentially profitable securities to invest in as well as correctly determine the appropriate time for buying and selling those stocks. In contrast, the task of judgmental financial-experts is limited to figure out the future course of the stock-market and the performance of the listed companies. Second, forecasting involves far lesser risk-taking than trading stocks. In contrast to making poor investment decisions, producing inaccurate forecasts leads seldom to big losses. Third, the two tasks are associated with different motivational or incentive structures. While the consequences of inaccurate forecasts mainly affect those (often private) investors relying on the analysts, poor trading hits the investment experts in an immediate manner. Financial experts who constantly make inaccurate forecasts and issue poor stock-recommendations might in the long run be out of business. However, making too optimistic forecasts might be beneficial to the career of a financial analyst in that he/she might be hired by prestigious brokerage houses and obtain higher salaries (cf. Hong & Kubik, 2003).

Finally, it should be noted that day-traders and other private investors, who try to earn a living on trading stocks, face greater risks than fund and money managers. The reason is that the former group of investors jeopardizes their own money. On the other hand, fund and money managers are bound by various institutional and organizational policies that may prevent them from following their own judgment. For example, there are regulations for the level of risk (i.e., how many percentages that can be invested in certain stocks) that fund and money managers can take.

#### 4. ANECDOTES OF FINANCIAL EXPERTS' PERFORMANCE

Popular press has given two contrasting views on the capability of financial experts. On the one hand, there exist several anecdotes about their good performance. On the other hand, there are several stories of how poorly they perform. For obvious reasons, these pieces of anecdotal evidence should be approached with caution, as they may be distorted by several factors (e.g., access to insider information and failure of considering transaction costs) implying questionable degrees of validity and reliability. Nevertheless, the anecdotes are interesting in that they illustrate commonly held beliefs about financial experts. This part sheds light on both views.

**Stories of good performance.** In year 2002, the Wall Street Journal reported that it would end its well-known contest between investment experts and dartboards (Jasen, 2002). In this 14-years old contest, the stock-picking skill of financial experts has been compared with the performance of stocks selected by darts thrown at the stock tables, as well as the development of the Dow Jones Index. Of the 142 monthly contests, the participating financial experts performed better than the dartboard and the Dow Jones in 87 and 76 times, respectively (Jasen, 2002).

In two bestsellers, the author Jack Schwager (1989; 1992) interviewed some 30 top traders and told their stories. It is unclear on what grounds these so called market wizards were selected, but apparently they had attained impressive financial achievements. Among other things, some of them had transformed \$30,000 into \$80 million, scored five consecutive years of triple-digit percentage returns, realized an average monthly return of 25 per cent , or, alternatively, earned a return of 250,000 per cent over 16 years. No explicit details were given about demographics, but a thorough read suggests that on average the interviewed traders had roughly 16 years of trading experience and the majority had university degrees. All except one of them were male. The bestsellers give comprehensive and interesting descriptions of the

reasoning of financial experts. Had the scripts of the interviews been thoroughly analyzed (using qualitative methods), it would perhaps have been possible to draw more conclusions about similarities and dissimilarities among the interviewed top traders. Nevertheless, Schwager (1989, 1992) claimed that the following characteristics were common for the alleged expert traders: (1) they employed different methodologies (technical analyses vs. fundamental analyses), (2) their methodologies fitted with their personalities, (3) they were highly confident about their capability to beat the market, (4) they spent a vast amount of time analyzing markets and trading strategies, (5) they took little risks, (6) they believed losses were inevitable, and (7) many of them waited patiently for the right opportunity to trade.

Another example of superior financial performance is the legendary investor Warren Buffett, who runs the holding company Berkshire Hathaway. Since he took the helm of the company in 1965, the operating earnings per share has increased from \$4 to \$500 in 2000, corresponding to an annual increase of about 18% (Cunningham, 2000). According to Buffett, this impressive result originates from allocating capital to businesses with outstanding economic records and run by good managers (Cunningham, 2000). Buffett has hinted that his success to some extent is due to the fact that he is a student of the pioneer of modern security analyses, Benjamin Graham (see appendix in Graham, 1986).

**Stories of poor performance.** The aforementioned stories should be contrasted with anecdotes where financial experts have performed poorly. Business press has reported several instances of poor forecasting by financial experts. Referring to events in the US where financial analysts at well-known investment banks had in secret laughed at stocks, which they had earlier enthusiastically recommended to the general public, the journalist Noceera (2002) argued vividly that predictions and recommendations of analysts could not be trusted.

Business press has also reported on several stories where pure amateurs have had better investment performance than experienced financial professionals. For instance, it was

recently reported that a group of British schoolgirls managed to construct a notional stock portfolio that resulted in a return of 141 per cent over two months; for the same time period the British mutual fund managers had on average a return of 4 per cent and the main index of London Stock Exchange fell by 5 per cent (Behrmann, 2003). It must, however, be emphasized that the school girls made hypothetical investments meaning that they did not put real money at stake and their hypothetical purchases of stocks had no effects on the stock market. Consequently, comparisons with performance of fund managers seem inappropriate.

## **5. REVIEW OF EMPIRICAL RESEARCH**

Anecdotal evidence suffers from poor reliability and validity. It has obviously not the same strength as scientific evidence on the capability of financial experts. On the basis of searches in various bibliographic databases and other sources (e.g., reference lists, browsing through journals, and web-pages), I identified circa 35 studies that have investigated the performance of financial experts. With respect to their scope of investigation, these studies could be divided into four broad areas: (1) forecasting performance, (2) stock-picking performance, (3) investment and trading performance, (4) and other aspects.

### **5.1. Forecasting performance of financial experts**

Over the years, there have been many research studies on the forecasting performance of financial experts. These studies have investigated either the ability to predict the future course of the stock-market or the ability to forecast earnings per share.

**Forecasts of stock-market.** One of the first published studies on this topic was a seminal paper by Cowles (1933). In an attempt to establish whether it was possible (at that time) to foretell the future of the stock-market, Cowles analyzed 3,300 forecasts issued by 24 financial publications during 1928 to 1932. He employed a kind of content analysis – a

method uncommon to many modern researchers in economics and finance. The employed method meant that three judges evaluated the 3,300 forecasts with respect to the predicted degrees of bear or bull market. More specifically, the forecasts were individually interpreted with regard to the proportion of stocks investors would purchase given a certain forecast. A score representing the return the investors would gain if they completely followed the forecasts was calculated for each of the 24 financial publications. The scores were then compared with randomly generated benchmarks. This comparison showed that the mean forecast failed to perform better than random and that the most successful forecast was not better than could be expected by chance. Eleven years later, Cowles (1944) reported additional evidence on the failure of financial publications to successfully predict the trend of the stock market. In this study, his evidence was based on forecasts covering 10 to 15 years.

Modern research has confirmed the findings of Cowles (1933, 1944) and, consequently, shown the inability of financial experts to predict the stock market. In the early 1970 Stael von Holstein (1972) performed an experiment on whether feedback about accuracy could improve probabilistic forecasting of stock price changes. Contrary to what could be expected based on common sense, he found no evidence that the participating financial experts made more accurate forecasts after receiving feedback. In fact, an overwhelming majority of the participants made worse predictions than a uniform forecaster.

It might be argued that the experimental-based findings of Stael von Holstein (1972) cannot be generalized to the real world. However, an empirical study of De Bondt (1991) gives further evidence of poor expert forecasting ability. De Bondt (1991) analyzed circa 5,400 individual stock index (Standard & Poor) predictions made by distinguished economists during 1952-1986. The predictions concerned horizons of either seven or thirteen months. Accuracy was measured by constructing econometric models where the dependent variable was the (actual seven or thirteen) month-returns and the independent variable was the

corresponding predicted returns. If the forecasts were accurate the models would explain considerable amount of variance. The discouraging result was that the models hardly captured any variance. Thus, the forecasts had no predictive power and were of little use for investment strategies (De Bondt, 1991). In addition, it was found that the distinguished economists tended to make mean-reverting forecasts; that is after years of bull (bear) markets the economists predicted, on average, that the market would drop (rise).

**Forecasts of earnings per share.** Forecasting earnings per share (EPS) has also been subject for numerous research projects. On the whole, these projects have reported that financial analysts tend to consistently produce EPS forecasts that are either too optimistic or too pessimistic (Butler & Lang, 1990; De Bondt & Thaler, 1990; O'Brien, 1990). In other words, their forecasts are not completely accurate.<sup>6</sup> It has also been claimed that simply assuming no changes in EPS may lead to better predictions than those made by financial experts (cf. Conroy & Harris, 1987). Accuracy has been measured as the mean absolute difference between actual and predicted EPS across a given period and a given firm.

Criticisms have been raised with regard to how forecasting errors have been measured. Since analysts make their forecasts at different dates and update them once they obtain additional information like forecasts from colleagues and quarterly reports, they may rely on the well-known heuristic of anchoring and adjustment (cf. Tversky & Kahneman, 1974). This heuristic might result in so called recency effects. When controlling for such effects, it was found that there were differences amongst financial analysts with respect to forecasting accuracy (Sinha, Brown & Somnath, 1997). Analysts identified as superior continued to produce superior forecasts in subsequent periods, whereas analysts deemed inferior did not remain to be poor at predicting EPS (Sinha et al., 1997).

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<sup>6</sup> Their optimism might also be a result of the accounting principles by the listed companies (cf. Andersson & Hellman, 2004).

Research has also tried to link forecasting errors to various characteristics of financial analysts like experience, reputation, environment, and information search patterns. As regards the relationship between forecasting errors and experience of predicting EPS, there are inconsistent findings. On the one hand, with the use of computer-based experiments in which 60 financial analysts provided one single EPS prediction, (Hunton & McEwen, 1997; Hunton & McEwen, 2000) found that experience was negatively and moderately correlated with forecasting errors ( $-.25 < r_s < -.41$ ). On the other hand, studies, which were based on large data bases of historical forecasts made annually by several hundreds of financial analysts for 10 – 15 years, have reported that the corresponding relationship is weak and insignificant (Mikhail, Walther & Willis, 1997; Clement, 1999). However, firm-specific experience seems to matter. Financial analysts, who had experienced several years of forecasting a certain industry, tended to make slightly lower levels of forecasting errors than relatively analysts, who lacked this experience (Mikhail et al., 1997).

Another type of characteristics found to be associated with forecasting errors is reputation. As a proxy for reputation, Stickel (1992) used membership in a prestigious association (i.e., All-American Research Team) and observed that members seemed to issue more accurate and frequent forecasts than non-members and that members who were to be relegated forecast less accurately than members keeping their status. Unfortunately, Stickel did not report to what extent experience, general or firm-specific, was related to membership.

When commenting upon the paper of Mikhail et al. (1997), which dealt with the effect of experience on analysts' performance, Jacob (1997) argued that improvement of forecasting and stock-picking performance over time could be due to institutional background as well as incentive rather than solely due to individual learning. Two years later, Jacob, Lys & Neale (1999) presented a study that indicated that financial analysts at broker-industry specialization and larger brokerage firms had better accuracy. As regards the influence of incentive, a



computer-based experiment found the following tendencies (Hunton & McEwen, 1997): (1) the financial analysts, who were told that their company had an underwriting relationship with the case firm, tended to make more optimistic predictions than the analysts, who were informed that they would follow the case firm on a regular basis in future; and (2) the analysts in the control group tended to make more accurate earnings forecasts than their colleagues in the two incentive-triggered groups.

Finally, two ingenious computer-based studies have investigated the link between EPS forecast performance and information search strategies. The studies have shown that financial analysts inclined to search information in a direct and selective manner provided better forecasts than analysts, who passively process the cues of information as these cues were sequentially presented (Hunton & McEwen, 1997; Hunton & McEwen, 2000).

In conclusion, the reviewed studies suggest that financial analysts are poor at predicting the general course of the stock market, but they do provide moderately accurate EPS forecasts. Experience seems to lead to slightly better forecast.

## **5.2. Stock-picking performance of financial experts**

Investigating stock-picking ability of financial experts is not a recently founded area of research. About 70 years ago, Alfred Cowles (1933) analyzed the performance of 7,500 (buy and sell) recommendations made by 16 financial service agencies during the period 1928 – 1932. He found that the raw annual average return of the agencies was below the market and could be estimated to -1.4 per cent. Only six agencies managed to perform better than the market, but statistical tests showed that this observation was more likely to be a result of pure chance than skill. One might argue that the poor performance was due to extra-ordinary events like the Great Stock-market Crash in 1929 and the severe recession in the 1930s. Between September and November in 1929, the industrial stock index of Wall Street dropped from 452 to 224 and in July 1932 this index had fallen to 58 (Galbraith, 1955/2004).

Armed with the scientific development of the disciplines of economics, financial, and statistics and helped by the improvement of computer technology, modern researchers have further investigated the alleged stock-picking ability of financial experts. When evaluating the performance of stock recommendations (and investments), control is made for portfolio risk meaning that the chosen securities is compared with benchmarks. A commonly employed benchmark is stock indices like S&P 500 or the Dow Jones, but index comparisons may lead to biased results because the selected securities often have different risk-characteristics (Walker & Hatfield, 1996). An alternative method is to find securities that share risk characteristics as the ones of the selected securities. The risk-adjusted, or the abnormal, return is then calculated by subtracting the return of the matched securities from the return of the recommended securities. The core theoretical concept of modern finance, the capital asset pricing model (CAPM), could also be applied when evaluating investment performance. More specifically, the risk-adjusted measures of Sharpe, Treynor, and Jensen are based on this model. Those measures are argued to be conservative tests of performance (Walker & Hatfield, 1996).

Contemporary research has provided mixed evidence on the quality of financial experts' stock-picking ability. On the one hand, there are studies indicating that their ability is poor. It has been shown that writers of investment letters do not attain superior performance; their abnormal returns are in fact close to zero (Jaffe & Mahoney, 1999; Metrick, 1999). Stock-picking ability could also be estimated by other types of publicly available recommendations issued by experts, such as stock advice in business magazines (e.g., Barron's Annual Roundtable), newspaper (e.g., Wall Street Journal), and brokerage reports. These recommendations seem to be somewhat inaccurate. On average, the abnormal returns of such recommendations for a period spanning six months to three year are estimated to be around zero (Barber & Loeffler, 1993; Desai & Jain, 1995; Womack, 1996). However, stock

recommendations are associated with announcement effects, which are possibly caused by buy-pressure from naïve investors, resulting in instant but short-lived average abnormal returns of between 2 and 4 per cent (Barber & Loeffler, 1993; Desai & Jain, 1995). After about two days the announcement effects and the abnormal returns have completely disappeared.

On the other hand, there are studies reporting excellent stock-picking performance of financial experts. Sundali & Atkins (1994) analyzed data from Wall Street Journal's dartboard column, which was mentioned in the introductory section. They found that the participating experts on a one-month basis managed to perform better than a stock index (Dow Jones Industrial Average) as well as randomly thrown darts by an average of 1.4 and 3.2 per cent, respectively.

Recently, a study reported that investors can indeed profit from stock recommendations issued by the average financial expert (Barber, Lehavy, McNichols & Trueman, 2001). Specifically, the study showed that purchasing stocks with the most and the least favorable recommendations among experts (i.e., highest level of consensus versus lowest level of consensus) yielded abnormal returns of 4.1 and -4.9 per cent, respectively. Following consensus sell-recommendations yielded also abnormal returns. Investment strategies that capitalize on the average recommendation require, however, high trading activities. When considering transaction costs, those strategies yielded abnormal returns of zero per cent (Barber et al., 2001). Besides, it is unlikely that the general public can profitably rely on the stock advice issued by financial experts, because institutional investors are often able to trade before the recommendations have been publicly disclosed (Walker & Hatfield, 1996).

Furthermore, a study of the stock picking ability of 65 prominent money managers (i.e., so called financial superstars) showed that only three managers succeed to outperform

the benchmark (i.e., matched securities) for a period lasting about 500 days after the buy recommendations have been initially published (Desai & Jain, 1995). For a 500-day holding period, the abnormal returns ranged between 16.4 and 4.6 per cent. As the finding could not be established with statistical certainty, Desai & Jain (1995) concluded that it is very difficult to identify money managers with superior stock-picking abilities. It should be noted that they seemed to be slightly better at giving sell recommendations (Desai & Jain, 1995). Thus, not even so-called financial superstars managed to identify stocks that performed consistently better than appropriate benchmarks.

To sum up, the reviewed studies paint a gloomy picture of financial experts' allegedly superior stock-picking ability. It appears that the financial experts are, on average, not so good at picking profitable stocks. But they generally perform better than chance.

### **5.3. Investment and trading performance of financial experts**

Over the years researchers in finance have conducted many studies of the ability of financial experts to outperform the market. Their interest is partly due to the quest for testing the efficiency of stock market. If it were proven that some investors managed to systematically beat (appropriate benchmarks of) the market, this finding would violate the theory of market efficiency (Malkiel, 2003). Financial researchers have taken a particular interest in money managers, because these types of financial experts have strong incentives to perform well. Financial researchers have not explicitly investigated the performance of money managers, but rather the performance of their funds. Thus, there is an implicit assumption that fund performance is mainly due to the individual money manager.

**Fund and money managers.** Some 70 years ago, Alfred Cowles (1933) – a pioneer in econometrics - examined how successful fire insurance companies were at investigating money in the stock-market. While the average return was negative (-4.7%), he found that five

of the 25 examined companies had raw returns spanning between 10.1% and 27.4%. No consideration was taken to transaction costs. Cowles' calculations might not be precise, as the theories and methodologies of modern finance were still in its infancy (cf. Bernstein, 1998).

One of the first contemporary studies found that none of the 115 investigated fund-managers managed to perform significantly better than expected from chance (Jensen, 1968). It should be noted that no consideration was taken to transaction costs. Lakonishok, Shleifer & Vishny (1992) analyzed the performance of 341 different money managers during a four year period (1985-1989) and found that the average manager did not yield a return better than the chosen benchmark (Standard & Poor 500 Index). Another interesting finding was that some managers seemed to achieve consistently superior financial performance, but when accounting for management fees their performance appeared to be below the benchmark. Recent evidence suggests that an overwhelming majority of money managers fail to achieve fund returns exceeding the benchmark and that performance is not persistent (Malkiel, 2003). The analyses of the funds are associated with a bias of survivorship in that poorly performing funds tend to be merged into other funds eliminating the records of unskilled money managers (Malkiel, 1995).

The stock-market is not the only vehicle for studying performance of traders. Hartzmark (1991) used transaction records from nine different future markets (e.g., wheat, oats, cattle, and bonds) to explore the ability of traders to correctly match their positions to the subsequent price movements. On the whole, he found evidence on regression towards mean in that traders who perform superiorly (poorly) in early periods tend to achieve poorly (superiorly) in the later periods. Across the markets, the number of good traders was lower than expected by chance. Hartzmark (1991) concluded that the returns to traders of futures depend on sheer luck and chance rather than skill and ability. Furthermore, the market for frozen pork bellies was studied in some detail by Leuthold, Garcia & Lu (1994). They

discovered that although the majority of the professional traders were unsuccessful, a minority managed to correctly predict the course of this market permitting them to earn substantial profits.

In sum, most studies of fund and money managers point to the conclusion that they are not able to consistently attain good performance (i.e., outperform relevant benchmarks).

**Day traders.** Since the advent of the dot-com industry, much attention has been drawn to day-trading, which is buying and selling the same stock on the same day. Despite the attention, there is relative little published research on day-traders. In one of the first studies of day-traders, Harris & Schultz (1998) investigated performance of 161 day-traders using transaction data involving some 20,000 trades over a three week period. Most day-traders had specialized in trading a handful of stocks and were engaged in high trading-activity. Mean profit per (round-trip) trade before commission fee varied substantially between -\$18 and \$221. Of the 69 most active day-traders, 52 were profitable before commission fee and 35 were profitable after commission fee (\$25 per trade). The weekly average profit before (after) commission fee was \$5,450 (\$1,690). Six of the 69 most active day-traders gained after commission fee more than \$10,000 per week.

The findings of Harris & Schultz (1998) should be viewed in light of the study by Jordan & Diltz (2003), who examined transaction data spanning 20 months from a national securities firm specializing in day-trading. They found that the mean net profit of roughly 330 day-traders was -\$7,904. About 73.4% of them made net losses, while 12.2% had net profit more than \$10,000. Thus, the day-traders of Jordan & Diltz (2003) did not perform equally well as those of Harris & Schultz (1998), where the majority made money. Explanations may be that the two studies involved different time periods as well as day-traders relying on different trading systems.

These two studies suggest that a few day-traders are indeed able to profit on their trading, but it is unclear whether day-traders are able to consistently make (or lose) money. Recall that the research program on expert performance emphasizes that experts must be able to perform consistently well (cf. Ericsson & Smith, 1991). To what extent day-traders are able to consistently have net profits has been investigated in a recent working paper by Barber et al. (2004). Barber et al. analyzed all trades carried out on the Taiwan Stock Exchange (TSE) from January 1995 to December 1999. Considerable variation was found in performance (and trading volumes) of the Taiwanese day-traders. On the basis of their (standardized) past profits, the day-traders were clustered into seven categories, which corresponded to seven different levels of performance. This procedure made it possible to find out whether the day-traders were able to persistently earn or lose money. The analyses of Barber et al. (2004) suggest that there was a strong relationship between past and subsequent performance. While an overwhelming majority (circa 80%) lost money in a consistent manner, a minority of top performing day-traders (i.e., 393 accounts of a total of 926,000 accounts) managed to earn average daily profits of circa \$250 after commission fee. Hence, there seems to be evidence for consistent performance among day-traders.<sup>7</sup>

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<sup>7</sup> A similar conclusion about private investors can be found in a working paper by Coval, Hirshleifer & Shumway (2002). Their study was based on transaction records from about 16,500 accounts at a major discount brokerage during 1990 – 1996. Investors classified in the top (bottom) 10 per cent earned (lost) approximately a risk-adjusted return of circa 15 (12) points per day. (One point corresponds to approximately one dollar.) In other words, the study found that some investors seemed to be capable of consistently earning as well as losing money relative to the stock market. Coval et al., (2002) argued that this tendency was not due to possession of private information, as it was unlikely that a large number of small (money-wise) private investors would have access to inside information in various large companies.

#### 5.4. Other aspects of the performance of financial experts

Besides the reviewed research studies of forecasting, stock-picking, investment, and trading performance, financial experts have been investigated with respect to other aspects. On the whole, those studies have dealt with judgmental processes and the role of training.

**Judgmental processes.** In a classic paper, Slovic (1969) illustrated how a statistical technique (analysis of variance) could be employed to investigate information use by professionals who make complex decisions. As an example, he analyzed the decision processes of two expert stockbrokers, who rated 128 hypothetical companies. The experiment showed that the stockbrokers relied on different information, despite that they strongly believed that their decision processes were similar. There was also little agreement in their ratings ( $r = 0.32$ ). Three years later, Slovic conducted an additional experimental study. This study reported that the participating 13 stockbrokers had little insights into how they weighted information as well as had poor agreement (Slovic, Fleissner & Bauman, 1972).

Recently, Morrin et al., (2002) employed computerized process-tracing to study judgmental processes among security analysts. They found that the 19 participating analysts differed with respect to decision strategy, information search, raw performance, age, experience, and risk propensity. In principle, the analysts applied two types of strategies: contrarian and momentum. The former type assumes that because prices are mean reverting, one should buy and sell securities whose values have fallen and risen, respectively. In contrast, a momentum strategy implies that money is invested in securities with rising prices, as it is likely that they will continue to rise in value, and that securities with falling prices are sold off. Specifically, Morrin et al., (2002) documented that analysts, who had a contrarian strategy, were significantly older and experienced as well as spent more time examining information but performed slightly worse than the analysts, followed the trend of the markets, i.e., a momentum strategy. Morrin et al., (2002) also presented data on how analysts reasoned



while processing information. Accordingly, two types of decision strategies had different kinds of reasoning. Contrarian-prone analysts tended to maintain their strategies regardless of performance, whereas analysts relying on momentum strategies were willing to change their decisions and strongly believed that they could beat the market (Morrin et al., 2002).

**Role of training.** A study has found that novices, who took part in a short training session, managed to solve a set of retirement investment problem twice as good as certified experts (Hershey & Walsh, 2000/2001). The trained novices and the experts also processed information in a similar manner. Another study showed that novices without instructions tended to perform somewhat worse than novices taught to examine accounting information in the same active and directed ways as experts do (Jacoby et al., 2001). Recall also the earlier mentioned study by Stahl von Holstein (1972) to improve forecasting with the provision of feedback about accuracy. It turned out to be unsuccessful.

## 6. CONCLUSION

In conclusion, the reviewed studies suggest the following tendencies of financial experts.

- They have difficulties in accurately predicting the future course of stock market.
- Their predictions of earning per share fall often above or below the actual outcome.
- Experienced analysts tend to be slightly more correct than inexperienced ones.
- Stock recommendations issued by financial experts lead seldom to high returns.
- Fund managers seem to be unable to persistently attain returns that outperform appropriate benchmarks.
- An overwhelming majority of day-traders loses money, but there is minority who is capable of persistently earning a substantial amount of money on buying and selling stocks on a daily basis.

Given these discouraging tendencies, it might be argued that the participants in the reviewed studies would not qualify as financial experts. This argument is also fueled by the definition of the research program on expert performance. According to this program, expert performance is defined as performance that is two standard deviations above the average (cf. Ericsson & Lehmann, 1996a). However, the present manuscript has used a broad definition of financial experts; a definition that is shared by many earlier research projects (cf. Camerer & Johnson, 1991).

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