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# An examination of U.S. institutional and individual investor sentiment effect on the Turkish stock market

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A B S T R A C T

This study examines the effect of rational and irrational components of U.S. institutional and individual investor sentiment on Istanbul Stock Market (ISE) return and volatility. The results show that there is a significant spillover effect of U.S. investor sentiment on stock return and volatility of ISE. A breakdown of sentiment by the type of investor shows that the impact of institutional sentiment is greater than that of individual sentiment. A breakdown of sentiment by rationality shows that the effect of rational sentiment on ISE return is faster though not necessarily greater than that of irrational sentiment. The conclusion from these results is that the effect of U.S. investor sentiment is systemic and cannot be diversified away. U.S. investor sentiment, therefore, constitutes a priced risk factor and must be accounted for accordingly in international asset pricing models. The findings also provide some evidence of a negative relationship between U.S. investor sentiment and ISE return volatility.



## 1. Introduction

Although a number of models have been proposed to explain and predict stock returns, forecasting stock returns is still a formidable challenge. In particular, the traditional financial models ignore the psychological and sociological factors that conceivably influence asset prices and the investment decision process. Because of the limited efficacy of traditional finance models, researchers have been trying to build alternative models that rely on psychological and behavioral factors (Barberis & Thaler, 2003).

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Behavioral finance challenges the rational investor assumption that underlies traditional finance models and argues that some financial anomalies can best be explained using models that assume some degree of investor irrationality (De Long, Shleifer, Summers, & Waldman, 1990). This is a contrarian approach as it assumes that investors might be irrational in their reaction to new information about asset pricing and investment decisions. The presence of irrational investors or noise traders (Kyle, 1985) constrains the ability of rational, efficiently informed investors to conduct arbitrage because although the rational investors are capable of hedging fundamental risks perfectly, they are still subject to the irrational investor risk, or noise trader risk, and this causes the stocks to be mispriced to an even greater extent (De Long et al., 1990). Irrational investors do not trade on stock fundamentals but on the basis of sentiment and other psychological impulses.

The investor sentiment can persevere in the financial markets. The unpredictability of investor's perceptions creates risk in the asset prices, preventing rational arbitrageurs from aggressively betting against them. As a result, asset prices can deviate significantly from their intrinsic values because such investors do not use stock fundamentals when they make investment decisions. Therefore, investor sentiment has a long term impact on asset prices. A partial list of behavioral asset models includes De Long, Shleifer, Summers and Waldmann (DSSW) (1990), Campbell and Kyle (1993), Hirshleifer, Subrahmanyam, and Titman (2006), Dumas, Kurshev, and Uppal (2006) and Kogan, Ross, Wang, and Westerfield (2006). However, empirical validation of these models has produced mixed results. Lee, Shleifer and Thaler (LST) (1991), Swaminathan (1996), Brown and Cliff (2004) and Neal and Wheathly (1998) find that investor sentiment significantly affects stock returns. Sias, Starks, and Tinic (2001) and Qiu and Welch (2006) do not find a significant relation between proxies for individual investor sentiment and closed-end fund discounts. Behavior, unlike rational choice, is society and culture specific. Thus, the empirical findings of behavioral models cannot necessarily be generalized to other societies and cultures; each needs to be studied independently to determine the relevance and applicability of the behavioral models.

This study is the first research that examines the impact of U.S. institutional and individual investor sentiment on ISE stock return and volatility. The ISE, an emerging stock market, was established in 1985 and started operating in 1986. The purpose of establishing the ISE was to create a secure and stable trading environment for both investors and the firms. As of December 2011, the market capitalization of the 361 companies listed in the ISE was approximately $423.6 billion dollars ranking the ISE 15th among emerging markets in terms of capitalization with average daily trading of $798.4 million (http://www.ise.org/Publications/AnnualReports). This paper adds to the growing literature on behavioral finance by filling a gap and addressing the spillover effect of foreign investor sentiment on the Istanbul Stock Market.

The empirical results of the generalized impulse functions generated from vector autoregression (VAR) show that unanticipated changes in the rational component of U.S. institutional investor sentiment have a positive significant impact on ISE return. Thus a positive investor sentiment tends to increase ISE return. A positive increase in the irrational component of U.S. institutional investor sentiment has a significant negative effect on ISE volatility in the second lag. Thus, this effect is slow to trickle down to the ISE. An impulse response analysis is then performed to study the impact of an unanticipated increase in the rational and irrational components of U.S. institutional investor sentiment on ISE return and volatility. The first-period impulse response indicates that a one standard deviation shock to ISE return results in approximately a 2.0% increase in ISE return, and a 0.8% decrease in ISE volatility. The irrational component of the U.S. institutional investor sentiment also has a significant impact on ISE return but with a lag. These results show that ISE is impacted by both rational and irrational impulses from U.S. institutional investor sentiment.

The impact from U.S. individual investor sentiment is however disparate. The effect of the rational component of U.S. individual investor sentiment is positive and significant on ISE stock return in the first period and insignificant thereafter. But the increased return comes with significantly higher volatility in ISE. The effect of the irrational U.S. individual investor sentiment on ISE return and volatility is insignificant. A possible explanation for this might be their limited involvement in the ISE market.

The results of this study have practical implications for both domestic and international investors. Investors who are interested in making investment in the Turkish stock market have to consider the impact of U.S. institutional investor sentiment on Turkish stock market return and volatility. These spillover effects from U.S. need, therefore, to be incorporated in the investor's international asset pricing model.

The rest of the paper is organized as follows. Section 2 presents literature review, Section 3 discusses the model, methodology and data, Section 5 first discusses the impact of U.S. market fundamentals on sentiment, and then reports the VAR results, and Section 5 concludes the research.

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