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Investor sentiment effect in stock markets: Stock characteristics or country-specific factors?

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ABSTRACT

This paper analyzes the investor sentiment effect in four key European stock markets: France, Germany, Spain and the UK. The findings show that sentiment has a significant influence on returns, varying in intensity across markets. The variation appears to involve both stock characteristics and cross-country cultural or institutional differences. The results also show sensitivity to the choice of sentiment proxy, suggesting the need for further investigation.

1. Introduction

Investor sentiment can be defined as investor opinion, usually influenced by emotion, about future cash flows and investment risk (Chang, Faff, & Hwang, 2012). Some researchers also explain it as the propensity to speculate or the optimism or pessimism about a given asset (Baker & Wurgler, 2006).

The suggested causes are diverse. Baker and Wurgler (2006) argue that the effect is not uniform across all stocks and is more likely to be associated with certain types of stock, particularly those that are hard to value or to arbitrage. Their results prove that when sentiment is high/low this type of stocks suffers from over/under pricing, which later reverts.

Schmeling (2009) offers arguments centered on country-specific factors, suggesting that the results depend decisively on the level of institutional quality and country-specific cultural factors. Chang et al. (2012) also focus on country-specific factors, attributing importance to differences in information quality, legal systems or corporate governance. These last works therefore appear to suggest that country-specific factors, such as the level of market integration and certain cultural factors hold the key to explaining the effect of investor sentiment on future stock returns.

In this context, this paper aims to analyze the role played by stock characteristics in explaining the effect of sentiment on future stock returns. The arguments put forward in the above-mentioned literature, however, suggest the need to analyze whether the

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sentiment effect depends on stock characteristics, country-specific factors, or a combination of the two. The results of individual analyses by country or by stock characteristics can be difficult to interpret. Let us consider a characteristic-based analysis (size, btm, volatility, dividends,…) and two countries, A and B. If the results indicate, for example, that the impact of market sentiment on size portfolio returns is stronger in country A than in B, there is no way to know whether this result is to be attributed to the stock characteristic (size) or to the country effect. Clearer conclusions to support one explanation or the other could be drawn by using controls for country effects or, alternatively, if the characteristic (size) has the same dispersion in both countries. Otherwise, either cause is possible. The commonest solution for determining which effect is responsible involves the analysis of portfolios that are neutral to one of the variables, say the country, or the use of techniques to isolate the effect. Results obtained using methods such as these enable assessment of the specific role of each variable, in this case the stock characteristic (size). If the results do not indicate impact of investor sentiment on portfolio returns but the analysis by individual countries reveals a significant country effect, the latter is obviously the sole cause. Significant returns obtained after controlling for the country effect will be entirely attributable to the stock characteristic. In the latter case, strategies that track cross-market dispersion in the characteristic in question will help to test for an additional effect relating to country-specific cultural or institutional factors.

This paper contributes in various ways to the financial literature. Firstly, it uses a set of tests, including country-neutral strategies and multilevel regression, in order to determine whether stock characteristics, country-specific factors, or a combination of the two can explain the intensity of the investor sentiment effect on future stock returns. As far as we are aware, this matter has not been addressed previously, since the literature has approached the problem by analyzing the two possible causes separately. Secondly, it performs separate analyses of four key European markets, France, Germany, Spain and the United Kingdom. Most previous studies on this subject have reported on sets of countries that are widely diverse in terms of financial development. Their findings may therefore be due to differences of this nature rather than to market-specific cultural and institutional factors. Our intention in considering four countries with similar levels of financial development is to enable us to eliminate any effects arising from disparities in this respect. Finally, another contribution of this paper is that it analyzes the role of the overall US and European investor sentiment and includes a robustness test of the importance of the choice of the sentiment indicators in the construction of the investor sentiment proxy. We performed further analyses using direct measures of investor sentiment.

The remainder of the paper proceeds as follows. Section 2 presents the literature review. Section 3 describes the database and the basic structure of the investor sentiment proxy. Section 4 presents a parametric discussion of the results for the individual markets. Section 5 analyzes whether the investor sentiment effect depends on the stocks or country being analyzed. Section 6 contains a discussion of the various issues involved in the choice of proxies for investor sentiment, and comments on the influence on results. Finally, Section 7 outlines the main conclusions of the study.

2. Literature review

According to classic finance theory, prices in equilibrium only reflect the discounted value of expected cash flows. Thus, any possible variations will depend only on systematic risk. Within this context, investor sentiment does not constitute a relevant factor, since the presence of irrational investors trading on sentiment is soon offset by the remainder of rational investors in the market trying to bring prices into equilibrium.

The behavioral finance literature suggests that sentiment affects trading decisions. The influence of investors' future expectations can bring about the over- or under- pricing of stocks, and thus affect pricing models.

Early empirical evidence centered on demonstrating how sentiment predicts future returns in the US stock market (Baker & Wurgler, 2000; Brown & Cliff, 2005; Kothari & Shanken, 1997; Neal & Wheatley, 1998; Shiller, 1981, 2000) and estimating the effect of sentiment on small-stock premiums (Brown & Cliff, 2004; Lee, Shleifer, & Thaler, 1991; Lemmon & Portniaguina, 2006; Neal & Wheatley, 1998; Swaminathan, 1996). Zhu (2013) models time-varying return distribution through quantile regressions and copulas and uses sentiment index as a potential candidate to predict the return distribution.

Another set of studies examines the possibility of a causal relationship between index returns and changes in investor sentiment, failing to find any sentiment effect on short-run returns (Brown & Cliff, 2004; Jansen & Nahuis, 2003; Otoo, 1999; Wang, Keswani, & Taylor, 2006).

Focusing on other financial markets, Wang (2001, 2003) analyzes the sentiment effect in the futures market, Han (2008), and Lemmon and Ni (2011) in the options market, Ahn, Lee, and Suh (2002) in the currency market and Burghardt, Czink, and Riordan (2008) and Schmitz, Glaser, and Weber (2009) in the warrants market.

The two main channels through which sentiment can affect pricing are investor sentiment and arbitrage. Under the first of these channels, sentimental demand shocks vary across stocks while arbitrage limits are constant. Interpreting sentiment as the propensity to speculate, sentiment increases the relative demand for stocks that are vulnerable to speculation, whose valuations are subjective and difficult to determine, and whose contemporaneous returns are higher than is justifiable. Specifically, small stocks, high volatility stocks, extreme growth stocks, distressed stocks, young stocks and non-dividend-paying stocks, should be the most difficult to price and, therefore, the most vulnerable to investor sentiment.

Under the second, interpreting sentiment as optimism or pessimism about stocks in general, the effect of changes in sentiment will be uniform but the difficulty of arbitrage differs among stocks. In fact, the literature has shown that arbitrage is particularly costly and risky with certain stock types (young stocks, small stocks, unprofitable stocks, extreme growth stocks or distressed stocks).

These two channels appear to affect the same type of stocks, or, put another way, the most speculative stocks are also the hardest to arbitrage and this profile of characteristics will therefore be the most influenced by investor sentiment. Lemmon and Portniaguina (2006) find this effect to be present particularly in small stocks and with less institutional ownership. Baker and