Shipping investor sentiment and international stock return predictability

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ABSTRACT

Stock return predictability by investor sentiment has been subject to constant updating, but reaching a decisive conclusion seems rather challenging as academic research relies heavily on US data. We provide fresh evidence on stock return predictability in an international setting and show that shipping investor sentiment is a common leading indicator for financial markets. We establish out-of-sample predictability and demonstrate that investor sentiment is also economically significant in providing utility gains to a mean-variance investor. Finally, we find evidence that the predictive power of sentiment works best when negative forecasts are also taken into account.

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1. Introduction

Investor sentiment as a predictor of the cross-section of stock returns has been identified in the literature by several studies (Brown and Cliff (2004), Lemmon and Portniaguina (2006), Baker and Wurgler (2006, 2007), Stambaugh et al. (2012, 2014), among others. The evidence on the effects of sentiment exclusively focuses on cross-section results for the US stock market with Baker et al. (2012) being the only study to explore investor sentiment, that is based on market proxies, in an international setting. Their study shows that annual investor sentiment is a contrarian predictor of cross-sectional international stock market returns in an in-sample framework. As such, there is no guarantee that the results are protected against in-sample overfitting and can be used to produce accurate forecasts of stock returns. Therefore, whether investor sentiment can predict international stock market returns remains an open question.

Our paper fills an important gap in the finance literature by providing a comprehensive picture of stock return predictability using measures of international investor sentiment that are based on market actions. We study stock return predictability in an international setting which allows broadening the evidence on the specific research question and provides a natural out-of-sample test for earlier US based findings. Further, we complement earlier studies by Baker and Wurgler (2006, 2007), Baker et al. (2012) and Huang et al. (2015) by looking into the predictive ability of investor sentiment for stock returns from a different angle, that of shipping investor sentiment.

Given the lack of a common measure of investor sentiment for stock markets internationally, earlier studies have attempted to use accurate proxies of it and consumer confidence indices are found to be highly adequate measures. However, these indices have flaws as direct measures of investor sentiment, since their construction is based on surveys and consumers' actions can differ substantially from that of their responses. We overcome this limitation using investor sentiment indices for the three major shipping markets (container, drybulk and tanker), that are based on actual market sentiment proxies and the principles set out in Papapostolou et al. (2014), to study stock return predictability by investor sentiment in an international setting.

Why use shipping sentiment to predict international stock market returns? The importance of maritime transportation to the world economy has been highlighted as early as the 18th century by Smith (1776) who illustrates the economic benefits offered by sea transportation. Today, seaborne trade is the backbone of the global economy but is hardly present in the finance literature. Approximately 80% of global trade by volume and over 70% of global trade by value are transported by sea and these shares are even higher in the case of developing countries (United Nations Conference on Trade and Development (UNCTAD), 2014).[4] Our interest in the shipping industry also stems from the extensive reference to the Baltic Dry Index[5] (BDI) as a leading economic indicator – and the opposing views – in financial press and blogs,[6] and more recently, of the drybulk shipping market as a proxy of global economic activity (Kilian, 2009; Bakshi et al., 2014) and a predictor of stock returns (Apergis and Payne, 2013; Alizadeh and Muradoglu, 2014; Bakshi et al., 2014) in the economics and finance literature (other recent references on the shipping industry include, Kalouptsidi, 2014; Papapostolou et al., 2014; Greenwood and Hanson, 2015). The reliance on BDI as a leading indicator of the world economy is further highlighted by its inclusion in the construction of a number of economic series, including the Goldman Sachs Global Leading Indicator (GLI). The rationale for employing the shipping industry as a predictor of stock returns – apart from the established relationship in the literature as mentioned above – is based on the fact that shipping is a proxy for global economic activity, while the relationship between time series expected returns and macroeconomic variables capturing economic growth has been extensively investigated (Lettau and Ludvigson, 2001; Lustig and Van Nieuwerburgh, 2005; Møller and Rangvid, 2015, 2016, among others). Therefore, there is an indirect link between stock returns and shipping through the latter capturing global economic activity.[7]

Shipping is undoubtedly a truly global industry and can be considered representative of the general health of the world economy. Yet, making reference exclusively on BDI is not sufficient for two reasons. First, shipping is not only about the drybulk market of the industry and the transportation of raw materials. There are other shipping markets and commodities that are equally important; for example, crude oil, which is transported by tanker vessels and is one of the most vital natural resources of industrialized nations; or finished goods, which are transported by container vessels and are closely related to consumer end-demand. Neither of these markets is captured by BDI. Second, BDI reflects the balance between supply and demand and is not solely demand-driven.[8] Therefore, the index can practically fall in an environment of expanding raw materials demand if the supply of vessels grows faster. For the above reasons, BDI has to be treated with caution when referring to it as a leading indicator.[9]

Our paper answers a number of empirical questions: Can shipping sentiment be considered a common leading indicator for financial assets? Is shipping sentiment economically significant in providing utility gains to a mean-variance investor? Should the investment community concentrate only on the drybulk market of the shipping industry, as suggested recently in the financial press and finance literature? Our results are consistent under both time-series and pooled regressions, while the latter estimations mitigate the data-mining problem that may plague US stock market data (Ang and Bekaert, 2007). The monthly R^2 statistics are also higher than those reported in the literature (Baker and Wurgler, 2006; Baker et al., 2012; Huang

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[4] Review of Maritime Transport, 2014. New York and Geneva: United Nations.

[5] The Baltic Dry Index (BDI) tracks the cost of shipping raw materials, such as coal, iron ore, steel, cement and grain, around the world.

[6] For example: FT Alphaville: Why does the BDI matter? (30/01/2008); Wall Street Journal: Shipping-cost Index drops (24/08/2009); Financial Times: Don't panic, the Baltic dry is a rubbish indicator (07/07/2010); The Source, Wall Street Journal: Baltic dry index watchers can relax (16/11/2010); Financial Times: The shipping news: BDI does not mean buy, buy, buy (04/10/2013).

[7] Electricity usage, as a proxy for industrial production, has also been found to predict stock returns (Da et al., forthcoming); "the Chinese premier relies on electricity consumption as a more accurate measure of economic growth in China. All other figures, especially GDP statistics, are man-made and therefore unreliable" – Wall Street Journal (6/12/2010).

[8] As noted by Jeremy Penn, CEO of The Baltic Exchange (Baltic drying up as a gauge, Wall Street Journal, 03/03/2010) "There are two elements to the BDI: demand and supply. When the supply of shipping is fairly stable, demand represents a good pointer to activity in primary industry. BDI is a good indicator of drybulk rates in the market; but we have never made great claims for it to be more than that".

[9] Especially in periods of oversupply of vessels as it has been the case recently. For example, during the period January 2010 to April 2014 the year-on-year average growth of the drybulk fleet (supply) was 11.61%, and the year-on-year average growth of the OECD industrial production (demand: assuming that industrial production is a proxy of drybulk shipping demand) was 2.68% (source: Clarkson Shipping Intelligence Network, http://www.clarksons.net/sin2010/). As a consequence, employing the BDI – which was recording new lows due to the oversupply of vessels – as a leading indicator of economic activity would generate the incorrect signal.