Can institutions and macroeconomic factors predict stock returns in emerging markets?

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A R T I C L E   I N F O

A B S T R A C T

In this paper we test for predictability of excess stock returns for 18 emerging markets. Using a range of macroeconomic and institutional factors, through a principal component analysis, we find some evidence of in-sample predictability for 15 countries. In-sample predictability is corroborated by out-of-sample tests. Using a mean-variance investor framework, we show that investors in most of these emerging markets can make significant profits from dynamic trading strategies. Finally, we show that investors in most countries where short-selling is prohibited could make significant gains if limited borrowing and short-selling were allowed.

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1. Introduction

In this paper our focus is on the predictability of stock market returns in emerging markets. The literature is voluminous. See, for example, the long list of influential papers cited in Ferreira and Santa-Clara (2011) and Westerlund and Narayan (2014a,b). Two directions are popular. One stream of studies considers whether returns are predictable using macroeconomic indicators, while the other stream considers financial ratio predictors and, at best, the results are mixed. The main issue is that in-sample and out-of-sample tests produce conflicting results, which is problematic. The background to the existing tension is as follows. Generally, in-sample tests of return predictability have found some encouraging results favouring predictability, which is best summarised by Lettau and Ludvigson (2001, p. 842), "It is now widely accepted that excess returns are predictable by variables such as dividend–price ratios, earnings–price ratios, dividend–earnings ratios, and an assortment of other financial indicators".

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This literature has attracted criticism though. On econometric grounds, there is not one main issue but many: (a) the predictor variables have been highly persistent, and when corrected produce even weaker evidence of predictability (see Ang and Bekaert, 2007; Stambaugh, 1999); (b) the predictive model's errors are correlated with predictor innovations (see Lewellen, 2004); (c) data mining (see Foster et al., 1997; Rapach and Wohar, 2006a); (d) parameter instability, so much so that the hypothesis of a constant regression coefficient is almost always rejected (see Paye and Timmermann, 2006); (d) heteroskedasticity (Westerlund and Narayan, 2012, 2013, 2014a); and cross-sectional dependence (Westerlund and Narayan, 2014b). Persistency and correlation between returns and predictor innovations have the tendency to bias the regression coefficients and the ensuing t-statistics on which the null hypothesis of no predictability is based (see, inter alia, Lewellen, 2004; Stambaugh, 1999). Compared with in-sample tests of return predictability, there are limited studies on out-of-sample tests. Of the limited studies (see Welch and Goyal, 2008 and the references therein) that exist, the evidence is generally negative. Welch and Goyal (2008) represent a comprehensive analysis of stock return predictability. They consider a wide range of predictor variables and perform both in-sample and out-of-sample tests. They conclude that most models do not reveal predictability of returns, which is true both in-sample and out-of-sample. Thus, they claim that predictive regression models "would not have helped an investor with access only to available information to profitably time the market" (p. 1455). The lack of consensus on return predictability has motivated much of the recent literature, with Ferreira and Santa-Clara (2011, p. 515) claiming that: "The predictability of stock market returns … remains an open question".

While the focus of much of the stock return predictability literature has been on financial ratio predictors, it is unknown whether other non-financial predictors also fail to predict returns in-sample and out-of-sample and, thus, the question remains unanswered.[3] It is well-known that emerging market risk return characteristics are different compared to developed markets. Compared to developed markets, for instance, emerging markets are highly volatile and provide attractive returns. Harvey (1995) argues that emerging markets are segmented with high degree of return predictability.[4] On the issue of predictability of returns in emerging markets, Hjalmarsson (2010) finds that fundamentals, such as earning–price ratio and dividend–price ratio, have reasonable ability to predict stock returns of emerging markets.

The goal of this paper is to examine whether macroeconomic factors and institutional factors predict excess returns. We consider institutional risks associated with corruption, ethnic tension, internal country-specific conflicts, and law and order, and macroeconomic risks associated with up to 10 macroeconomic indicators. While some studies, such as Ferson and Harvey (1994, 1998), consider macroeconomic predictors, none of the studies has considered the role of institutions in predicting returns.[5] Our analysis is conducted on time series data and considers 18 developing countries.

The contribution of our paper is three-fold. First, we focus on emerging markets where institutions play an important role in the performance of stock markets. Therefore, for the 18 countries we choose, there is a rich data set on institutions. This allows us to gain more insights on the role of institutions. We are also able to examine whether or not investors can make use of the information content in institutions to make non-negligible profits in developing countries. In addition, we also learn from the literature that macroeconomic indicators are successful predictors of returns, although studies on this subject are limited. Therefore, we also entertain macroeconomic predictors of returns. It follows that our use of both institutional and macroeconomic variables as predictors of returns for emerging markets is unique and, therefore, offers a fresh perspective on return predictability. Moreover, with limited emphasis on developing country markets, very little is known about the role of short-selling. We contribute to this literature as well. We find that there are nine countries in our sample in which short-selling is prohibited.

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[3] The study that comes closest to our work is Mateus (2004), who examines stock return predictability both for individual countries and for a cross-section of 13 EU accession countries. Related studies on return predictability have used other approaches to testing for predictability; for an example, see Kinnunen (2013) and Eterovic and Eterovic (2013).

[4] Lack of integration of emerging markets with developed markets has also been confirmed in more recent studies (see Bekaert et al., 2011; Cakici et al., 2013).

[5] There are, however, related studies that have generally considered the effects of institutions on specific firm issues. Demirguc-Kunt and Maksimovic (1999) explain the role of institutions in debt composition for both developed and developing countries. The impact of religion on market outcomes has been considered by Kumar et al. (2011). The role of governance at the firm level on stock returns has been considered by Core et al. (2006). The relationship between societal norms and financial sector development has been analysed by Garretsen et al. (2004).