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The benefits of international diversification: market development, corporate governance, market cap, and structural change effects☆

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ABSTRACT

This paper examines the benefits of international diversification for US investors, while accounting for market development, corporate governance, market cap effects, and structural change across countries over the period August 1996–July 2013. Improved risk adjusted returns are obtained from a diversified portfolio consisting of a mix of developed and emerging countries. Additionally, we find that diversification benefits are not significant for most of the small-cap foreign assets when an investor already holds a position in corresponding country-large-cap assets. Diversification benefits based on the governance effectiveness of a country's companies are not ubiquitous. We find that economically significant improvements in risk-return performance can be attained by adding large caps of developed countries with high and low overall Governance Metrics International (GMI) ratings and large and small caps of emerging countries with low overall GMI ratings to the investment universe containing the assets of common law developed countries. However, diversification benefits are economically significant only for large and small caps of low GMI emerging countries when short selling is not allowed.

1. Introduction

Over the past decade, the expansion of the global economy has been linked to the significant growth and liberalization of both emerging and developed capital markets, as well as technological advances which have made investing easier and opened access to equity assets. An investor now has more options in constructing portfolios to achieve the benefits of a greater degree of international diversification as a consequence of nonsynchronous co-movements of national economies and stock exchanges. The earliest proponents of international diversification are Grubel (1968), and Levy and Sarnat (1970), who employ standard mean-variance analysis. Errunza, Hogan, and Hung (1999) examine the benefits of constructing a domestic security portfolio that mimics foreign indices to achieve a higher return without direct foreign exposure. They find that investments in the foreign markets provide significant diversification benefits even though mimicking portfolios that are highly correlated with foreign markets could be created from US traded securities. However, they also show that the benefits of international diversification have diminished during the time period of study from 1976 to 1993. Li, Sarkar, and Wang (2003) find significant benefits to international diversification for a US-based investor despite portfolio constraints, in particular on short selling. Kearney and Lucey (2004), however, highlight the reduced benefits of diversification into emerging markets as correlations increase over time (see also Gupta & Donleavy, 2009; Gupta & Guidi, 2012).[1] Furthermore, Berger, Pukthuanthong, and Yang (2013) use mean-variance analysis to show international diversification benefits for adding frontier markets in recent years. Apart from looking at the benefits of international investment per se, later work has looked at more nuanced style based international diversification. Estrada (2008) examines the benefits of international diversification in the application of fundamental indexation, and finds significant benefits to diversifying fundamentals based indices using low-cost country index funds and ETFs. Eun, Huang, and Lai (2008) look at international portfolio diversification between 1980 and 1999 using mean-variance tests. Their sample countries include 10 countries, i.e., Australia, Canada, France, Germany, Hong Kong, Italy, Japan, the Netherlands, the U.K. and the US. They find that investing in small-cap stocks provides significant diversification benefits for US investors and investors holding large-cap stocks of sample countries. However, since they form market cap portfolios using data on all exchange traded companies, their strategies would be intractable to implement in practice. To

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[1] Pukthuanthong and Roll (2009), however, show that correlations across markets may not measure accurately the degree of integration between markets.

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deal with this issue, Switzer and Fan (2007) investigate international diversification benefits by using the sample of G7 countries' large and small cap indices. The main advantage of their approach over Eun et al. (2008) is the fact that their size-based indices are easily replicable either by investing exchange traded funds (ETFs) or in manageable number of securities.

This paper extends Switzer and Fan (2007) in a number of ways. First, we look to assess the benefits of international diversification for a larger group of developed as well as emerging markets using more recent data that include both the financial crisis as well as recovery periods. As in Switzer and Fan (2007) we also look at size effects. In addition, we consider the effects of corporate governance differentials as a factor affecting the performance and benefits of diversification. A number of studies have identified potential relationships between corporate governance and performance. In a seminal study, La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2002) introduce evidence suggesting that better corporate governance, as reflected in country macro proxies of governance (civil law vs. common law domicile, and country protection of minority shareholders), enhances corporate valuation based on Tobin's q across countries. Gompers, Ishii, and Metrick (2003) devise a trading strategy that involves buying a portfolio of strong stockholder rights firms and selling a portfolio of weak stockholder right firms, generating an abnormal return of 8.5% per year during the 1990s. Bebchuk, Cohen, and Ferrell (2009) show abnormal returns based on their entrenchment index. On the other hand, Johnson, Moorman, and Sorescu (2009) suggest that industry clustering is the main driver of the abnormal returns generated by the Gompers et al. (2003) trading strategy and those found by Bebchuk et al. (2009). Our study is the first, to our knowledge, to use the widely followed Governance Metric International (GMI) country rankings to measure governance in spanning tests that account for risk and return and it assesses the effects of governance in enhancing the returns of international portfolios, incorporating clustering effects that may differ across developed and emerging markets. Finally, we look at the impact of structural change on analysis by performing the tests for pre-crisis among international return series.

Mean variance spanning tests and step-down spanning tests are conducted using the S&P 500 market index (SP500, representing large-cap stocks), the Russell 2000 index (R2000, small-cap stocks) and USLTGvt index (an index based on the returns of long-term US government bonds with maturities greater than 10 years) as initial benchmark assets. Test assets (overall, large and small cap country indices) are represented by US dollar denominated Russell total return indices from August 1996 until July 2013. Russell indices are relevant to the typical investor because they are either easily replicable using exchange-traded funds (ETFs) or can be replicated by investing in a manageable number of securities.

The empirical findings of our study suggest that for the entire period, US investors will derive benefits from diversification with a mix of firms from developed and emerging economies. Furthermore, we find evidence that additional diversification benefits of investing in emerging economies are significant when the investment universe benchmark consists of US and developed country indices. We also find that small-cap indices of few countries can be regarded as a separate asset class when the corresponding large-cap indices are included in the benchmark assets. These results are consistent with Switzer and Fan (2007) and contradict Eun et al. (2008). We also investigated whether there is a relationship between the corporate governance level of sample countries and diversification benefits provided by them. Moreover, we show some evidence for corporate governance effects across countries. In particular, we find that large caps of developed countries with high and low overall Governance Metrics International (GMI) ratings and large and small caps of emerging countries with low overall GMI ratings are not spanned by the benchmark assets. However, diversification benefits are economically significant only for large and small caps of low GMI emerging countries when short selling is not allowed. The impact of structural change is significant for most of the analyses herein. In only a few cases do we find the same governance/style based countries appearing in the optimal portfolios when we perform the analyses separating regimes between pre-crisis and post-crisis periods.

The remainder of the paper is organized as follows: Section 2 provides the description of the data; Section 3 describes the methodology; Section 4 provides the empirical results of the paper. Section 5 provides some robustness tests. Lastly, Section 6 offers concluding remarks.

2. Description of the data

This study uses monthly US dollar-adjusted stock market total return data for indices from an initial group consisting of 44 countries, including the US. The data are obtained from Morningstar EnCorr. The sample data were collected monthly for the period from August 1996 until July 2013 giving 204 individual monthly data points for each index. The S&P 500 index, the Russell 2000 index and the Ibbotson Associates SBBI US Long-Term Government Bonds index are used as representative of US large-cap, small-cap and bond investment returns. Each of the foreign countries is represented by three Russell indices; overall return index, large-cap (Lc) return index, and small-cap (Sc) return index. These foreign country indices are denominated in US dollars and, hence, include the effects of foreign exchange fluctuations over the period. Throughout the paper, countries are sorted according to their national gross domestic product (GDP), market development and overall corporate governance level. GDP data is obtained from the International Monetary Fund (IMF) as of 2012. The list of emerging countries is obtained from IMF, FTSE, MSCI, The Economist, S&P and Columbia University emerging country lists. Countries that are on either one of the lists are labeled as emerging economies. In order to rank countries based on corporate governance, average overall Governance Metrics International (GMI) ratings as of 2010 are used.[2] Countries are removed from the study if GMI ratings are not available or numbers of missing data are greater than 5% of sample period for any of the three national indices. The final sample consists of indices of 36 countries, shown in Table 1.

Panel A of Table 1 tabulates sample countries' GDP, population and measures of corporate governance effectiveness. Although the total population of developed countries is less than one-third of the total population of emerging countries, the total GDP and average GDP per capita of developed countries are more than double of those of emerging countries. In addition, developed countries, on average, have higher overall GMI ratings and corruption perception indices. These results suggest that developed countries are perceived to be less corrupt and more effective in terms of corporate governance practices. Panel B of Table 1 presents descriptive statistics for stock markets of sample countries. As of 2012, the total market capitalization of developed sample countries are two times more than emerging countries, although total market capitalization of emerging countries increased more than twice between 2005 and 2012. These results are partially due to the increase in the total number of listed domestic companies in emerging markets as opposed to the decrease in the total number of the listed domestic companies in developed markets. Based on average turnover ratios, we can argue that developed (emerging) markets have become less (more) liquid from 2005 to 2011. Also, emerging markets, on average, seem to be almost as liquid as developed markets as of 2011.

Table 2 presents the sample indices, their summary descriptive statistics, and their risk return characteristics. 1-month T-bill return is used as the risk-free rate for the sample period. The countries are ordered in descending order, based on the GDP. We assume that the investment universe of a US investor can be proxied by the large-cap (small-cap)

[2] GMI ratings are determined using a scoring approach that captures variation in Board Accountability; Financial Disclosure and Internal Controls; Shareholder Rights; Executive Compensation; Market for Control and Ownership Base Corporate Behavior and Corporate Social Responsibility Issues.