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Size matters everywhere: Decomposing the small country and small industry premia

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ABSTRACT

We explore the country and industry size effects by decomposing market value into four components: short-term return, representing momentum; long-run return, representing reversal; composite issuance; and lagged market value. We examine the implications of this decomposition for the country and industry size premia within a sample of 51 equity markets for the years 1973–2017. We confirm a significant size effect across countries and uncover an industry size effect: small industries markedly outperform large industries. While the cross-sectional dispersion in market value is determined almost exclusively by the lagged market value component, the country and industry size premia have two primary drivers: lagged market value and long-run reversal. Our analysis also discovers an industry issuance effect and a remarkable January effect in both country and industry returns. Finally we also shed some light on the vanishing small country effect in the last decade.

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1. Introduction

Small is beautiful, especially when it comes to international equity markets. The country size effect, or small country effect, is the tendency of country stock markets with small capitalization to outperform large markets. It was first discovered in a seminal study by [Keppler and Traub \(1993\)](#) and subsequently confirmed in out-of-sample tests ([Asness, Liew, & Stevens, 1997](#); [Keppler & Encinosa, 2011](#); [Li & Pritamani, 2015](#); [Zaremba, 2016b](#)). The country size effect constitutes a global-level parallel of the well-known small firm effect—the phenomenon that small companies significantly outperform large companies. This return pattern, initially documented by [Banz \(1981\)](#), is currently one of the pillars of the major asset pricing models, including [Fama and French's \(1993\)](#) three-factor model, [Carhart's \(1997\)](#) four-factor model, and the recent five-factor model of [Fama and French \(2015\)](#).

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In this paper, we take a unique standpoint on the country size effect. First, we extend it to an entirely new universe of industries, confirming robust pervasiveness of the effect. Second, we decompose the market size, or capitalization, into four separate components and explore the contribution of these constituents to the development and behavior of the size premium.

Our decomposition is firmly rooted in earlier discoveries of cross-sectional patterns affecting both security and equity index returns: the momentum phenomenon (Jegadeesh & Titman, 1993), reversal effect (de Bondt & Thaler, 1985), and the anomaly of composite equity issuance (Daniel & Titman, 2006). The first component of market value (*MV*) is cumulative stock return in months $t-12$ to $t-1$, or momentum (*MOM*). The second element is the long-run return (reversal), or the aggregate return in months $t-60$ to $t-13$ (*REV*). The third component is composite equity issuance in months $t-60$ to $t-1$, i.e., the total change in market value which does not result from the change in market prices (*ISS*). Finally, the fourth component is the 60-month lagged total stock market capitalization (*LMV*). Our study is conducted within a sample of 51 countries for the years 1973–2017. The investigated markets include developed, emerging, and frontier countries, and cover 936 various international industries. We conduct a battery of cross-sectional and time-series examinations.

Although our decomposition is straightforward and simple, it provides a range of new insights into the asset pricing in international equity markets. The major findings of this study can be summarized as follows. First, we convincingly confirm the existence of the country size premium and, additionally, we discover an industry size premium: the phenomenon that low-capitalization stock market industries outperform high capitalization industries. The small countries (industries) outperform the large ones by 0.49% (1.10%) per month.

Second, we not only confirm the presence of country and industry momentum and reversal effects, but we also document a whole new return pattern: a composite issuance effect in industry returns. Consistent with the stock-level findings of Daniel and Titman (2006), we document that the industries characterized by a high composite issuance in the last five years underperform the industries with a low issuance by 0.36% per month.

Third, we show which components of market value contribute to the development of the country and industry size effects. Although the cross-sectional variation in size is determined predominantly by the lagged market value (*LMV*), accounting for approximately 80% of the variance, the size premium is driven by not one, but two independent components: lagged market value and reversal. No individual component—*MOM*, *REV*, *ISS*, or *LMV*—was able to explain the country or industry size premium. For countries, approximately one-third of the premium was generated by the reversal effect and the rest resulted from the effect of the lagged market value. These results are robust to many considerations, including alternative weighting methods and breakpoints in portfolio design. For industries, these same two components are essential drivers of the premium, but in this case, a major role is also played by the portfolio construction methods.

Our decomposition also has implications for some secondary issues related to the country and industry size premium. First, we discover a sizeable and significant January effect in the country and industry size effects. The underperformance of the large markets (industries) compared to small markets (industries) is the most pronounced in January. The return on country (industry) factor portfolios was -2.91% (-3.04%) in the first month of the year, markedly lower than in the other calendar months. Although some other components (reversal, in particular) display low returns in January, the January effect in the country and industry size premia is driven predominantly by the January effect in the lagged market value component.

Second, some recent studies indicated that the size effect at the country level has significantly diminished (or even disappeared) during the past years (Evans & Schmitz, 2015; Zaremba & Shemer, 2017). We confirm this phenomenon and show its sources. For countries, in the years 2007–2017 all the components of the size premium proved unprofitable. Perhaps due to improvement in market efficiency, not only lagged market value, but also reversal, momentum, and issuance were not characterized by any cross-sectional pattern. On the other hand, when we consider the industry data, the size premium did not disappear entirely in the last decade, but it decreased by about half compared with the previous decade. The only component that displayed significant means of returns was lagged market value. None of the remaining contributors showed any average returns significantly departing from zero.

Our study contributes to a few strains of finance literature. First, it is related to the research seeking parallels of the firm size premium in international equity indices (Keppler & Traub, 1993; Asness, Liew, & Stevens, 1997; Keppler & Encinosa, 2011; Li & Pritamani, 2015; Zaremba, 2016a). As far as we are aware, we are the first to document the existence of an industry size premium. Second, we extend the limited literature on the drivers of the country size premium and the cross-sectional patterns in equity indices in general (Balvers & Wu, 2006; Evans & Schmitz, 2015; Zaremba, 2016a). We conduct a simple but novel decomposition that reveals the drivers of the country size and industry premia. Third, we add to the research on the January effect and its relation to firm size (e.g., Rozeff & Kiney, 1976; Keim, 1983, 1986; Kato & Schallheim, 1985; Lamoureux & Sanger, 1989; Porter, Powell, & Weaver, 1996). Although the literature here is relatively abundant, we are not aware of any earlier study documenting the January effect in the size premium within the country or industry indices. Fourth, we contribute to the investigations of the declining profitability of stock-level anomalies and international asset allocation strategies (Dimson & Marsh, 1999; Schwert, 2002; Chordia, Roll, & Subrahmanyam, 2011; McLean & Pontiff, 2015; Evans & Schmitz, 2015). We document the significant loss of profitability of the country and industry size premia in the last decade that was not only driven by the lagged market value component, but also accompanied by vanishing global momentum, reversal, and issuance effects. Finally, we broaden the current knowledge on the influence of issuance on expected stock returns (Daniel & Titman, 2006; Pontiff & Woodgate, 2008). We find that the cross-sectional pattern related to composite issuance is also present within the industry universe—the industries characterized by low (high) issuance tend to overperform (underperform).

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