Full length article

Valuing emerging markets companies: New approaches to determine the effective exposure to country risk

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ABSTRACT

The aim of the paper is to propose new measures of the effective country risk exposure for companies operating in emerging markets. In particular, we propose seven new approaches and a revised CAPM for emerging markets. We classified the new approaches into "Forward-looking" and "Historical" measures, with the former measures based on growth estimates, and the latter based on the historical growth.

We tested the Historical measures of company exposure to country risk on Latin America emerging-market companies, according to the classification of the MSCI Emerging Markets Latin America Index, and on US multinational companies listed in the Dow Jones Industrial Average.

The results of the test confirm that the new approaches can be effectively applied by financial analysts both to emerging-market companies and to mature-market multinational companies that operate in emerging markets, providing with a more reliable estimate of both the premium effectively requested by investors in the past and the actual premium.

Applying the new approaches, the cost of equity reflects the effective exposure of a company to country risk without being over- or underestimated, as is the case with other existing approaches. Our empirical research shows a diffuse undervaluation of country risk.

1. Introduction

Valuation in emerging markets is a topic extensively discussed in the literature. Companies that operate in emerging markets are exposed to a series of risks that are not faced by mature-market companies. Consequently, investors require a higher return than that requested in a mature market, and hence the cost of equity needs to be adjusted to reflect the additional risk perceived, taking into account a country risk premium. The majority of the models of country risk proposed in the literature do not consider the fact that a firm incorporated in an emerging market might operate mainly in mature markets and *vice versa*, i.e., a firm incorporated in a developed market may have a significant amount of operations or production facilities in undeveloped markets. Therefore, each company has a different exposure to country risk, depending on where it operates, and the adjusted cost of equity needs to reflect this exposure.

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The main literature in this field (Damodaran, 2003) proposes three methods, called "lambda", to estimate companies' effective exposure to country risk. The first method is based on the percentage of revenues that the company earns in the local market, compared with the revenues that the average company earns in the local market. The second approach is based on a comparison of the change in earnings per share of the company, denominated in the country's currency, and the change in the country sovereign bond denominated in US dollars. The last method (regression approach) considers the sensitivity of the company stock returns to the returns of the country sovereign bond denominated in US dollars.

The aim of the paper is to propose new methods to measure the effective exposure to country risk of emerging-market companies. We classified the new approaches in "Forward-looking" and "Historical" measures, with the former relying on growth estimates, and the latter on historical growth.

The first three methods represent the "Forward-looking" measures, while the last four represent the "Historical" measures. The "Prospective Lambda", reflects the effective exposure according to analysts' estimates of growth; the "Relative Lambda" relies on the firm value estimated through a relative valuation, while the "Industry Lambda" reflects the median exposure to country risk of the companies that belong to a specific industry.

The "Retrospective Lambda" represents the ex-post effective exposure to country risk; hence, it refers to historical data, while the "Company Effective Risk Premium" is a generalization of the Retrospective Lambda and expresses the premium effectively requested by investors to invest in that specific company. The "Actual Lambda" and "Company Actual Risk Premium" represent, respectively, the actual exposure to country risk of a company, and the actual premium effectively requested by investors at the time of the valuation.

The country risk premium model implemented in our analysis is the one first proposed by Damodaran (2003), which is called the "melded approach". This model considers both the country bond default spread and the volatility of equity markets in a country relative to the volatility of the country bond denominated in US dollars.

The empirical analysis is based on 58 companies listed on the main market-capitalization weighted index of Brazil, Chile, Colombia, Mexico and Peru for the years 2013 and 2014, and 26 multinational companies listed in the Dow Jones Industrial Average for the period 2010–2014.

First, we tested existing measures of a company's exposure to country risk with Brazilian companies. In particular, to test the effectiveness of the existing measures, we regressed companies stock returns against the 10-year Brazilian sovereign bond denominated in US dollars. ***Second***, we tested the new measures of a company's exposure to country proposed in this study,[1] the "Retrospective Lambda", the "Company Effective Risk Premium", the "Actual Lambda" and the "Company Actual Risk Premium", on the companies of Brazil, Chile, Colombia, Mexico, Peru and the US.[2]

The results demonstrate that both in 2013 and 2014, the extra return asked to invest in Latin America emerging markets was on average greater than the value of the country risk premium obtained from existing measures. This result confirms that the approaches to measure the exposure to country risk proposed in this study can be effectively applied by financial analysts both to stable-growth companies that operate in emerging markets and to mature-market multinational companies.

We improve upon the existing literature in several aspects: first, we propose new approaches to measure the effective exposure to country risk that yield estimates of the premium effectively requested by investors in the past, the actual premium requested by investors and the premium linked to future growth estimates; second, we propose a revised CAPM for emerging-market companies; third, it is now possible to correctly estimate the cost of equity of mature-market multinational firms. Moreover, some of the new approaches can be generalized in order to allow for a first period of high growth.

In contrast with the previous literature, we developed an approach to estimate the lambda through the relative valuation price and an approach to consider the exposure to country risk of the industry in which the company belongs. We suggest using the "Relative Lambda" if the company is actually considered to be under- or overvalued by the market, and to use the "Industry Lamba" for high-growth companies, in order to estimate the potential exposure to country risk in the stable-growth phase (*Terminal value*).

The rest of the paper is structured as follows: Section 2 presents a literature review; Section 3 illustrates existing measures of companies' exposure to country risk and the results obtained implementing the regression approach. Section 4 is dedicated both to our new approaches to determine a company's exposure to country risk and to our revised CAPM for emerging-market companies. Section 5 reports the results of the empirical analysis, while conclusions are offered in Section 6.

2. The cost of equity in emerging markets: a literature review

Estimation of the discount rate for an investment project under conditions of risk relies upon two crucial assumptions: market completeness and well-diversified investors. Although these two assumptions are tenable in developed capital markets, they are not suitable in emerging markets (Mongrut and Ramírez, 2006).

In this section, we review the main models proposed in the literature for estimation of the cost of equity in emerging markets. Whereas in mature markets the cost of equity is mostly estimated through the standard CAPM, its implementation

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[1] The first two methods were not tested because are based on analysts' estimates of growth, which are not very reliable, especially for emerging markets. For the implementation of the Industry Lambda, a significant number of peers for each company is needed.

[2] The analysis excludes preferred stocks and units that are comprised of different equities, e.g., a mix common and preferred stock. Because of the unreliability of their free cash flows estimate, banks and insurance companies have also been excluded from the analysis.