The Importance of Dividend Policy in Frontier Markets

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The aim of this study is to find out if Frontier Markets stocks' performance is influenced more by certain company characteristics than others. Therefore we want to understand which features investors should prioritise when making investment decisions in Frontier Markets, how this compares to Emerging and Developed Markets, and thus how their investment approach should change from market to market. In order to give an answer to these questions we investigate the impact of different corporate financial characteristics (fundamentals) on stock's returns using a multivariate regression model.

Background

Previous literature has tried to explain the relationship between companies's fundamentals and their stocks' returns. Over the years, researchers have used a great number of indicators to proxy company's specific features. Four factors have always been taken into consideration: the size of the company, the level of leverage, the level of profitability and the capital expenditure.

In more recent years, academic authors have focused on the relationship between the stock's returns and the company's dividend policy, including in their research model two additional variables related to dividend yield and dividend payout ratio. Amongst these works, *Farooq et al. (2013)* found a significant relationship between the stock's price performance and the company's dividend policy. Often, early stage developing markets, such as Frontier Markets, are considered to have weak corporate governance – at both country and company level - due to their poor / inadequate disclosure policies, usually associated to moral hazard issues[1]. External investors would, therefore, prefer firms with high dividends fearing that insiders might divert retained earnings to unprofitable opportunities *(Easterbrook, 1984; Jensen, 1986)*. The investors' preference to invest in companies with a high dividend policy is due to the perception of increased safety and stability. Reducing the amount of cash available to the management by increasing the dividends can be thought as a mechanism to lower potential agency costs. Therefore, firms can use dividend policy as a tool to communicate to external investors their virtuous corporate governance, and so encourage them to invest in their company.

[1] Farooq et al. (2013) found dividend policy to be relevant for Casablanca Stock Exchange listed equities.

Methodology and Data

In order to fulfil our task we use a multiple regression model which is constructed to explain six-months stock's returns[2] by using the company's specific fundamentals as control variables. Following previous literature we use *MarketCap*, to control for size-factor, *Leverage*, which tells us how indebted the company is, *Earnings*, to account for the level of profitability, and *AssetGrowth* to proxy the growing attitude of the company. Based on previous studies, we include in our model two more independent variables, *DivPayoutRatio*, the dividend payout ratio, and *DivYield*, the dividend yield, to analyse dividend policy impact. The model is described as follow,

$$Ret = \alpha + \beta_1 DivPayoutRatio + \beta_2 DivYield + \beta_3 MarketCap + \beta_4 AssetGrowth + \beta_5 Leverage + \beta_6 Earnings + \varepsilon. \quad (1)$$

Our original sample included the ten largest weighted equities within the five highest weighted countries in the MSCI Frontier Index, the MSCI Emerging Index and the MSCI World Index (149 equities in total) over a period from January 2009 to June 2019. This initial sample accounted for almost 67%, 35% and 20% of each Index respectively. To be included in the final sample, we required the companies to have at least a minimum number of observations for all the control variables. This screening led us to a final sample of 123 companies (35 Frontier, 43 Emerging and 45 Developed), covering almost 48%, 27% and 18% of each market index. The final sample period runs from January 2011 to June 2019, for a total of 102 observations. We then aggregated the equities into three equally-weighted portfolios representing each market (Frontier, Emerging and Developed) by taking the average value of each variable we considered in our model[3]. All data is taken from Bloomberg.

Empiric Results

Results from equation (1) are shown in Exhibit 1. As we expected, *DivPayoutRatio* and *DivYield* are statistically significant only for Frontier Markets, while they do not explain the variance in equities' returns for Emerging and Developed Markets. On the other hand, *Leverage* and *Earnings* are significant for Emerging and Developed Markets while they are not for Frontier.

[2] We use six-month rolling stock returns because most of the companies we investigate issue accounting data on a semi-annual basis, therefore we assume them to have an impact on a semi-annual window return.

[3] We trim outliers in all firms' characteristics to the 0.5th and 99.5th percentile values of their cross-sectional distribution to exclude potential outliers bias.

The outcomes are in line with the conclusions drawn by *Farooq et al. (2013)*. The variables related to firm's dividend policy are significant only for Frontier Markets, which means that Frontier companies might use dividends as a signalling mechanism to prove themselves as healthy corporate governance firms in order to encourage foreign investments[4]. From a statistical standpoint, these numbers tell us that in Frontier Markets dividends are positively correlated with stocks' returns (the higher the dividend payout ratio and/or the dividend yield, the higher the return on that stock).

Exhibit 1: Model (1) Results for Frontier, Emerging and Developed markets from January 2011 to June 2019

$$Ret = \alpha + \beta_1 DivPayoutRatio + \beta_2 DivYield + \beta_3 MarketCap + \beta_4 AssetGrowth + \beta_5 Leverage + \beta_6 Earnings + \varepsilon$$

Ret	Frontier	Emerging	Developed
DivPayRatio	0.003***	0.000	-0.004
DivYield	0.089***	0.047	0.042
MarketCap	0.520***	-0.250*	0.272*
AssetGrowth	0.756***	0.924**	0.886***
Leverage	1.456	-3.026**	-3.249**
Earning	-1.746	2.701***	3.125***
Constant	4.624***	4.222*	2.036
Adjusted-R^2	0.627	0.335	0.295[5]

As noted above, another difference amongst the three asset classes worth highlighting, is that some of the control variables are highly significant for Frontier Markets, while they are not for Emerging and Developed, and vice versa. The only fundamentals statistically significant for all three markets are *MarketCap* and *AssetGrowth*[6]. Nevertheless, the main goal of this work is not to explain the economic motivation behind those differences, but rather to simply highlight which fundamentals an investor should prioritise while facing investment decisions in different development stage markets.

To further confirm our results we ran a second model which considers only *MarketCap* and *AssetGrowth* (model (2)), to have an understanding of how these two variables account for the total variance explanation in each market.

$$Ret = \alpha + \beta_1 MarketCap + \beta_2 AssetGrowth + \varepsilon, \quad (2)$$

We then ran the same model two more times, accounting both for the most significant control variables for Frontier Markets (model (3)), and for Emerging and Developed Markets (model (4)),

$$Ret = \alpha + \beta_1 DivPayoutRatio + \beta_2 DivYield + \beta_3 MarketCap + \beta_4 AssetGrowth + \varepsilon, \quad (3)$$

$$Ret = \alpha + \beta_3 MarketCap + \beta_4 AssetGrowth + \beta_5 Leverage + \beta_6 Earnings + \varepsilon. \quad (4)$$

The results in Exhibit 2 show that *MarketCap* and *AssetGrowth* – which, as we saw before, are the only significant variables for all three markets - alone hold more explanatory power for Frontier (0.413 out of 0.627 of total variance explained by Model (1), which is roughly 66%), and Developed countries (0.190 out of 0.295, approximately 64% of total variance) than for Emerging Markets (0.113 out of 0.335, around 34% of total variance explained).

Exhibit 2: Model (2) Results for Frontier, Emerging and Developed Markets using a subset of fundamentals as control variables from January 2011 to June 2019

$$Ret = \alpha + \beta_1 MarketCap + \beta_2 AssetGrowth + \varepsilon$$

Ret	Frontier	Emerging	Developed
MarketCap	0.512***	-0.221***	0.242***
AssetGrowth	0.714***	1.194***	0.892***
Constant	2.473***	2.553***	0.445***
Adjusted-R^2	0.413	0.113	0.190

Exhibit 3 displays model (3) and model (4) results. When we use model (3), which does not control for *Leverage* and *Earnings*, the loss of significance for Frontier Markets is not meaningful: the Adjusted-R^2 drops from 0.627 to 0.601, while Emerging and Developed lose almost half in statistical significance, from 0.335 to 0.135 and from 0.295

[4] See Farooq et al. (2013) and Balasubramanian (2008).
[5] ***, **, and * mean the variable is significant at 0.01, 0.05 and 0.1 level, respectively.
[6] Size variable is significant for all three markets but it does have a different sign, positive for Frontier and Developed and negative for Emerging.

to 0.201, respectively. On the other hand, when we run model (4), which instead does not account for *DivPayoutRatio* and *DivYield*, the loss of significance is more important for Frontier Markets (the Adjusted-R^2 drops from 0.627 to 0.435) than for Emerging and Developed. (the statistical significance falls from 0.335 to 0.317 and from 0.295 to 0.287, respectively).

Exhibit 3: Model (3) Results for Frontier, Emerging and Developed Markets using a subset of fundamentals as control variables from January 2011 to June 2019

$$Ret = \alpha + \beta_1 DivPayoutRatio + \beta_2 DivYield + \beta_3 MarketCap + \beta_4 AssetGrowth + \varepsilon$$

Ret	Frontier	Emerging	Developed
DivPayRatio	0.003***	0.000	-0.004
DivYield	0.094***	0.081	0.085*
MarketCap	0.566***	-0.262	0.231***
AssetGrowth	0.918***	1.274***	0.820***
Constant	4.861***	0.387	2.587*
Adjusted-R^2	0.601	0.135	0.201

Exhibit 4: Model (4) Results for Frontier, Emerging and Developed Markets using a subset of fundamentals as control variables from January 2011 to June 2019

$$Ret = \alpha + \beta_1 MarketCap + \beta_2 AssetGrowth + +\beta_3 Leverage + \beta_4 Earnings + \varepsilon$$

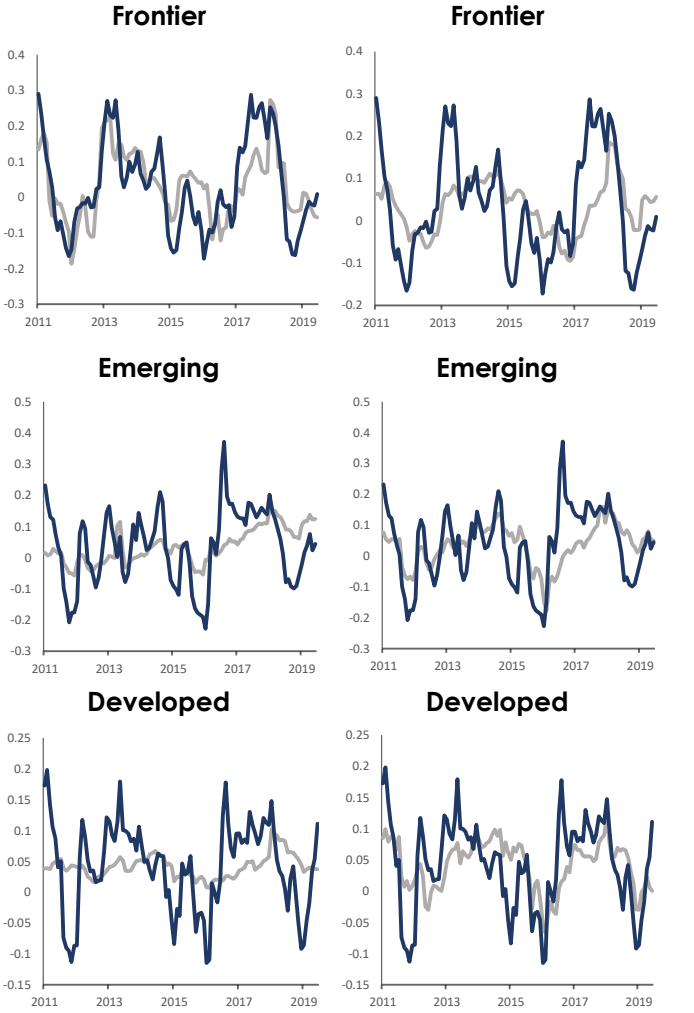
Ret	Frontier	Emerging	Developed
MarketCap	0.524***	-0.289***	0.175**
AssetGrowth	1.289***	0.874**	0.894***
Leverage	0.384	-2.903**	-2.866**
Earning	-8.086	3.319***	3.325***
Constant	1.235*	5.897***	1.029
Adjusted-R^2	0.435	0.317	0.287

The results of models (2), (3) and (4) classify hierarchically our list of control variables in terms of statistical importance: for Frontier and Developed Markets *MarketCap* and *AssetGrowth* explain most of the six-month stock returns, followed by *DivPayoutRatio* and *DivYield*[7], for Frontier, and *Leverage* and *Earnings* for Developed; for Emerging, instead, *Leverage* and *Earnings* are the most significant variables, followed by *MarketCap* and *AssetGrowth*.

Exhibit 5: Estimated and actual Six-Months Stock's Returns for Frontier, Emerging and Developed Markets using different fundamentals as control variables from January 2011 to June 2019

$$Ret = \alpha + \beta_1 DivPayoutRatio + \beta_2 DivYield + \beta_3 MarketCAp + \beta_4 AssetGrowth + \varepsilon$$

$$Ret = \alpha + \beta_1 MarketCap + \beta_2 AssetGrowth + \beta_3 Leverage + \beta_4 Earnings + \varepsilon$$



At the end, Exhibit 5 allows us to better appreciate the differences in estimating a stock's returns amongst the three markets. The six-months estimated returns (light grey-line) are plotted over actual returns (blue-line) for each

[7] In Frontier Markets *DivPayoutRatio* and *DivYield* are more important to look at than the level of debt or profitability when it comes to returns' forecast.

market using equation (3) and (4). It's clear how the choice of fundamentals is a key matter. The light grey-line best fits the blue-line for Frontier Markets when we use model (3), while it fits best for Emerging and Developed Markets semi-annual returns when using model (4).

Conclusion

Analysts should pick a significant set of fundamentals when forecasting stocks' returns. In particular, they cannot apply the same model to all kind of markets. Companies' specific characteristics that best describe returns for Frontier Markets differ from those for Emerging and Developed Markets. Dividend policy variables have a key role in explaining stocks returns in Frontier Markets, while the level of debt and profitability seem to have a significant role in Emerging and Developed Markets. This work further highlights why Frontier Markets have to be considered as a wholly separated asset class from both Emerging and Developed Markets, and, above all, that these markets require specialized professionals able to perform specific analysis to forecast stocks' returns in the best way possible.

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[8] Economics Ph.D. at Columbia University, NY, Tenure Professor of "Banking and Financial Economics" and "Microeconomics" at University of Naples "Parthenope".
[9] Finance/Econometrics Ph.D. at University of Kentucky, KI, Tenure Professor of "Financial Management" at University of Connecticut.
[10] Ph.D., MA, Economics at Washington University, Tenure Professor of Financial Theory and Finance Ph.D. Director University of Connecticut.