DOES THE INSTITUTIONAL ENVIRONMENT AFFECT PERFORMANCE? EVIDENCES FROM DIFERENT COUNTRIES

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ABSTRACT

In the global scenario, companies from different countries need to understand the influence of the economic environment in order to make their strategic planning. Sometimes is difficult to be compliant with all the regulations and this could be the highest risk these companies will face when they are stablished globally. In the empirical researches, we have found some evidences that economic freedom is related to economic growth and it affects the productive effort and the efficient use of resources (for example, property rights affects the economic growth and economic freedom promotes the financial development). Considering these evidences, our purpose is to investigate if the level of regulation affects companies 'performance in 12 different countries. Data were collected from the Capital IQ and Fraser Institute databases. A panel of data of 10 years of observations were used with the Stata software. The general results show that the less free environment, the company's performance worsens while its leverage increases and the higher the regulation, the worse the company's performance (considering its indebtedness level). Based on them, the paper intends to open the discussion about the level of government regulation pointing out the benefits to companies' decisions from a less regulated business environment.
Keywords: Economic Growth, Institutional Environment

1. INTRODUCTION

In the global scenario, companies need to develop strategies in the way they may improve their financial performance considering the influence of the economic environment. Macroeconomic variables tend to affect business and some studies presented significant relation with financial performance of the company (Asbridge, Walters, & Jones, 1994).

But institutional variables are as important as macroeconomic variables. North (1991, p.97) defines institutions as

> (…) the humanly devised constraints that structure political, economic and social interaction. They consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights).

As argued by North (1990), some economies develop institutions that produce growth and development, while others develop institutions that produce stagnation. Consequently, companies find difficulties to be compliant with all the regulations imposed by the government and this could be the higher risk these companies will face when they are stablished globally. Gwartney & Lawson (2003) explain that the essence of economic freedom means personal choice, voluntary exchange, freedom to compete and protection of person and property. The authors also state that the level of a country's economic freedom is determined by its institutional settings and its economic policy. In the economic theory, we have some evidences that economic freedom is related to economic growth (Bjørnskov, 2016; Mahmood; & Azild, 2011; Vega-Gordillo & Alvarez-Arce, 2003), effects the productive effort and the efficient use of resources (Gohmann, Hobbs, Gulf, Myers, & Mccrickard, 2006). More specifically, property rights affects the economic growth and freedom promotes the financial development (Bjørnskov, 2016). In this sense, the purpose of this paper is to investigate if company's financial performance is affected by the country´s level of economic freedom. As a contribution, we intent to open a discussion about government regulation on business, labor and credit markets and how its interfering may cause on the performance of the companies in general. Evidences from our observation may be the best way to call the attention from companies and governments about how regulations on business environment affects financial performance. This paper is divided into three sections – besides introduction and final remarks. The first section shows the theoretical support. The second section describes the research methodology and empirical procedures. The third analyzes the results and discusses the findings.

2. THEORETICAL SUPPORT
2.1. Performance in companies around the world
Company's performance is affected by the economic environment and by the market context such as rivalry - besides their strategy (Baron, 2012). In this sense, Orlitzky, Schmidt, Rynes, & Rynes (2003) states that the economic environment is still more important that the strategy they are following, once this environment is not controlled by companies. An research done by Asbridge et al. (1994), identified that macroeconomic variables affects bank performance in commercial banks. In this study, exchange rate, interest rate, external debt, import, exports and money supply was independent variables while financial performance was the dependent variable. This study found that exchange rate, external debt and gross domestic product have influence on the financial performance of banks. They also found that exchange rate and gross domestic product have positive and significant impact on the financial performance and external public debt has negative and significant influence on the financial performance. Financial performance also may be affected by internal factors as governance, debt, size, sustainable practices and cash flow as pointed out by many authors (Anderson & Reeb, 2004; Dami, Rogers, & Ribeiro, 2007; Gallego-Álvarez, Segura, & Martínez-Ferrero, 2015; Santos, Murmura, & Bravi, 2018). An study conducted by Carton & Hofer (2010) addresses the measurement of organization financial performance and has undertaken to empirically identify both the different distinct dimensions of organizational financial performance and the measures that represent those dimensions. Their study showed that some variables affects financial performance are growth, economic value, cash flow, market, cost of capital, leverage and change survival.

We may understand that financial performance is affected by company´s financial strategy, however, environmental variables are too important to the company´s performance as well as the internal variables.

2.2. Regulation and Economic Freedom

Regulation is one of the five dimensions of Fraser's Economic Freedom of the World Index (EFW from now on). According to Gwartney & Lawson (2003, p. 415) "when regulations restrict entry into markets and interfere with the freedom to engage in voluntary exchange, they reduce economic freedom". Regulatory restraints that imposes restrictions on business, labor and credit markets are measured by EFW. As well documented by the empirical literature, there are significant statistically relationship about firms (or countries) performance and economic freedom. Gwartney (2009) based on the institutional theory of growth found cross-country comparisons of different economic performances related to different economic freedom levels. Countries with higher level of economic freedom have better economic performance. McMullen *et al.* (2008) pointed out that economic freedom restrictions impact entrepreneurial activity differently. It depends on the particular dimension restricted by and the entrepreneur's motive for engaging in entrepreneurial activities. Bengoa & Sanchez-Robles (2003) conducted a research that found economic freedom has a positive relationship with foreign direct investments. However, they also comment that their research found that the host country requires adequate human capital, economic stability and liberalized markets to benefit from long-term capital flows. Bjørnskov (2016) explored the politically contested association between the degree of capitalism, by capturing and measuring economic freedom, and the risk and characteristics of economic crises. He also offered some theoretical considerations, estimate the effects of economic freedom on crisis risk in the post-Cold War period 1993–2010. He used the duration, peak-to-trough GDP ratios and recovery times of 212 crises across 175 countries within this period. The results showed that economic freedom is robustly associated with smaller peak-to-trough ratios and shorter recovery time. These effects are driven by regulatory components of the economic freedom index. Gohmann et al. (2006) discuss that the main focus of traditional economists uses compare competitive markets frameworks in innovation, discovery and arbitrage as forms of entrepreneurship. What we have to remember is that unproductive and destructive entrepreneurship as lobbying for subsidies, barriers to entry, special tax treatment, and price regulation are most used in regulated countries as a way to create barriers to the other competitors.

2.3. Previous studies

As previous studies, Sufian & Habibullah (2010) found that economic freedom and business freedom shows positive impacts, implying that higher freedom on the activities that banks can undertake and entrepreneurs to start businesses increases banks' profitability. This study provides empirical evidence on the impact of economic freedom on banks' performance. The analysis was made on Malaysian banking sector during the period of 1999–2007. These findings suggest that the unproductive and destructive entrepreneurship may have a corrosive impact on Malaysian banks' profitability. However, the same study found that the impact of monetary freedom is negative, demonstrating the importance of government intervention in determining the profitability of banks operating in the Malaysian banking sector (Sufian & Habibullah, 2010). Chortareas, Girardone, & Ventouri (2013) investigated the dynamics between the financial freedom counterparts of the economic freedom index drawn from the Heritage Foundation database and bank efficiency levels. They founded that the influence from financial freedom in bank performance tend to be better seen in free markets with higher quality of governance. However, in insurance firms, Lee & Lin (2016) showed that financial liberalization has a negative impact in the financial performance.

Not only internal factors were observed in private ownership company's performance. Berg, Lin, & Tsaplin (2005) showed that regulatory incentives reward behavior that affects profits and costs. Privately owned firms respond to these incentives increasing cash-flow and mark-up, increasing performance and value to the shareholder. Many authors also found that less investment protector (less regulation) also influence company´s corporate governance. Yoshikawa & Rasheed (2010) and Firth, Fung, & Rui (2006) also indicates that countries with inadequate investor protection laws and weak law enforcement have poor corporate governance. We also found that Peev (2015) used a dataset matching firm-level with country indicators to access to external finance, governance and economic liberalization and it shows that they have direct effect on firm growth. However, they also indicate that the better performance is observed in countries with better governance indicators.

3. RESEARCH METODOLOGY

This research used a hypothetical-deductive research, according to the proposed grounds for Popper (2005) and it is characterized by the establishment of hypotheses to be tested through empirical research, namely, the observation of reality. The data used for hypothesis testing was econometric analysis using multiple regressions (Hair *et al.,* 2010; Greene, 2003). It has investigated a causal relationship between variables, so it is a correlational research.

3.1. Population and Sample Selection

In order to carry out this study, we have selected companies from 13 different countries from 5 continents worldwide. We used 10 largest companies based on Equity and a 10 years panel data from 2007 to 2017. The data were obtained from Capital IQ database and from Fraser Institute, and they were combined to produce this study. Moreover, 2016 was the most recent year for which complete the Economic Freedom Index (EFI). Additionally, the data comprise with the database from Fraser Institute during the period from 2007–2017. From Capital IQ we collected the annual report and all information from each of the company. Due to limitations on the disclosure process of companies, many of them did not have data for all the years observed, so it was necessary for the authors to have an unbalanced panel. On the debugging process were excluded those without accounting data needed and, also financial companies, for its peculiar characteristic of performance to the research. The sample of research is 130 companies, with a total of 1170 observations.

3.2. Hypothesis

The hypothesis is based on the literature - we have some evidences that economic freedom is related to economic growth (Bjørnskov, 2016; Mahmood; & Azild, 2011; Vega-Gordillo & Alvarez-Arce, 2003) and affects the productive effort and the efficient use of resources (Gohmann et al., 2006), while property rights affects the economic growth and economic freedom in general promotes the financial development (Bjørnskov, 2016). In the other hand, we understand that performance is managed by internal variables as size, leverage, retained earnings, Ebitda (Anderson & Reeb, 2004; Dami et al., 2007; Gallego-Álvarez et al., 2015; Santos et al., 2018) and external variables (Asbridge et al., 1994; Baron, 2012; Carton & Hofer, 2010; Orlitzky et al., 2003). Based on these researches, it was possible to draw the following hypothesis:

H1: There is a relation between performance of the company and the country´s regulation score.

In order to test this hypothesis, we estimate an econometric model defined below.

3.3. Definitions of the Model and Variables

The model used in this research has been drawn from researches on corporate financial performance, such as: Anderson & Reeb (2004); Dami et al., (2007); Gallego-Álvarez et al. (2015); Santos et al. (2018), Asbridge et al. (1994); Baron (2012); Carton & Hofer (2010); Orlitzky et al. (2003) were the basis to seek the necessary variables, since they are works developed with companies all around the world.

3.3.1. Econometric Model

The model 1 allows to evaluate the research hypothesis relating the economic freedom level and according to equation 1 that detailed Performance is the company's *Perform* as dependent variable; EFW_{it} is the level of Economic Freedom of the country this company is located as independent variable and VCj_{it} are the control variables and ε_{it} is the error.

$$Perform_{it} = \beta_0 + \beta_1 EFW_{it} + \sum_{j=1}^{k} \delta_j VC_{jit} + \varepsilon_{it}$$

The model 2 allows to evaluate the research hypothesis relating the economic freedom level and according to equation 2 that detailed performance is the company's *ROA* as dependent variable; EFW_{it} is the level of Economic Freedom of the country this company is located as independent variable and VCj_{it} are the control variables and ε_{it} is the error.

$$ROA_{it} = \beta_0 + \beta_1 EFW_{it} + \sum_{j=1}^{k} \delta_j VC_{jit} + \varepsilon_{it}$$

The model 3 allows to evaluate the research hypothesis relating the economic freedom level and according to equation 1 that detailed Performance is the company's *ROE* as dependent variable; EFW_{it} is the level of Economic Freedom of the country this company is located as independent variable and VCj_{it} are the control variables and ε_{it} is the error.

$$ROE_{it} = \beta_0 + \beta_1 EFW_{it} + \sum_{j=1}^{k} \delta_j VC_{jit} + \varepsilon_{it}$$

3.3.2. Dependent Variable

The dependent variables for our analysis were used the following proxies: Earnings before interest, taxes, depreciation and amortization (Ebitda) representing the cash generation from the companies, divided by total assets, return on equity (ROE) for financial performance, and return on assets (ROA) for operating performance. All the information obtainable for constructing these variables was selected up to 2017, the last year for which economic-financial data were available for the different firms comprising the sample. These variables were obtained from the annual reports presented by each company on Capital IQ database. For the Ebitda Variable we calculated the ratio between Ebitda and total assets, producing the variable EBITDA used in this research, ROE variable we calculated the ratio between net income and stockholders' equity and for the ROA variable we calculated the ratio between operating income and total assets. Multiple regression analysis was used to test the hypotheses. Separate models were run for EBITDA, ROE and ROA as dependent variables.

3.3.3. Independent Variables

The index published by The Fraser Institute, the Economic Freedom Index of the World (EFW) is regularly published and updated since 2000. It is composed by a set of measures, based on 42 data points were used to build 5 major areas, but many of those components are themselves made up of several sub-components. The cornerstones of economic freedom are personal choice, voluntary exchange, freedom to enter markets and compete, and security of the person

and privately-owned property (Gwartney, Lawson, Hall, & Murphy, 2018). The EFW is composed by 5 areas as described:

- *Area 1: Size of Government:* As government spending, taxation, and the size of government-controlled enterprises increase, government decision-making is substituted for individual choice and economic freedom is reduced (Gwartney et al., 2018).
- *Area 2: Legal System and Property Rights:* Protection of persons and their rightfully acquired property is a central element of both economic freedom and civil society. Indeed, it is the most important function of government (Gwartney et al., 2018).
- *Area 3: Sound Money:* Inflation erodes the value of rightfully earned wages and savings. Sound money is thus essential to protect property rights. When inflation is not only high but also volatile, it becomes difficult for individuals to plan for the future and thus use economic freedom effectively (Gwartney et al., 2018).
- *Area 4: Freedom to Trade Internationally:* Freedom to exchange—in its broadest sense, buying, selling, making contracts, and so on — is essential to economic freedom, which is reduced when freedom to exchange does not include businesses and individuals in other nations (Gwartney et al., 2018).
- *Area 5: Regulation:* Governments not only use a number of tools to limit the right to exchange internationally, they may also develop onerous regulations that limit the right to exchange, gain credit, hire or work for whom you wish, or freely operate your business (Gwartney et al., 2018).

In addition to the independent variable proposed, in this study we have included total debt, company size, retained earnings, sector, year and country as control variables. These variables have been used in previous studies related to emissions. For example, leverage as the debt to equity ratio or debt to firm assets ratio has been used by authors such as Chui, Lloyd, & Kwok (2002); Gallego-Álvarez & Segura (2015); Gallego-Álvarez, Segura, & Martínez-Ferrero (2015); Segura, Formigoni, David, & Abreu (2016). The research papers informed that leverage is more likely to influence ROE rather than ROA and they included leverage in their research. With respect to size, Dami, Rogers, & Ribeiro (2007), Anderson & Reeb (2004) and Lee & Lin (2016) initially included this variable among the control variables. In terms of retained earnings, Amidu (2016) shows that as much as the company retain earnings, higher is the performance.

3.3.4. Control Variables

Leverage [$ET_{(i,t)}$] as the total debt of company. Knowing as follows in equation 1 that PC is the current liabilities of company i in year t; PNC is the non-current liabilities of company i in year t; and AT is the total assets of company i in year t.

$$ET_{i,t} = \frac{PC_{i,t} + PNC_{i,t}}{AT_{i,t}}$$

Company size [$LNAT_{(i,t)}$] is used by (Minichilli, Corbetta, & MacMillan, 2010) (Soares & Kloeckner, 2008) Minichilini *et al.* (2010), Perobelli & Fama, 2002, Perobelli *et al.* (2005), Soares & Kloeckner (2008) and Zaha (2010), knowing that the larger the size of the company, induce higher level of debt. So, it is measured by the natural logarithm of the total assets of company.

Retained earnings is used in the paper of Amidu (2007), and concludes that as higher is the retained earnings, higher is the performance of the company, because its used for investment.

Year is identified by dummies to capture any macroeconomic shocks and possible temporal effects that can affect all companies (Barros, 2005). The year dummies are represented by a binary variable and t is equal to one in the year observed for company i and zero otherwise.

4. DATA ANALYSIS AND RESULTS
4.1. Descriptive Analysis
The top 10 companies from the following countries were surveyed: Argentina, Australia, Brazil, China, Colombia, France, Great Britain, New Zealand, Peru, South Africa, Spain, Turkey and the United States. The countries were chosen by the availability of existing data. The Economic Freedom index of each country, according to the Fraser Institute Economic Freedom of the World is showed in Figure 1.

Figure 1 – World Economic Freedom Index
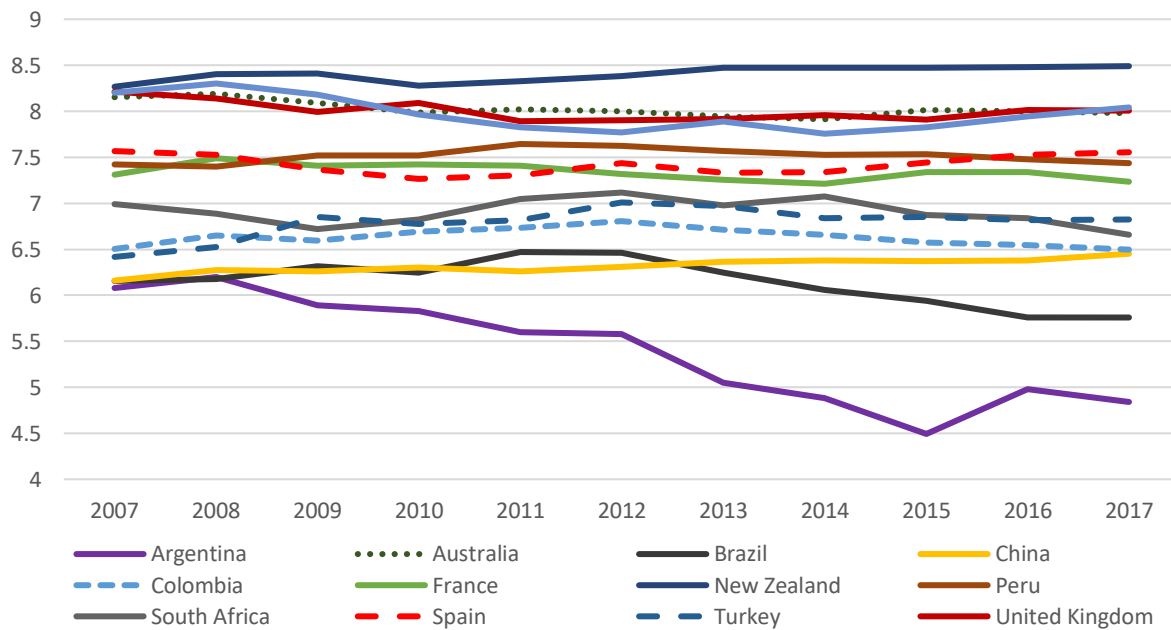
Source: Fraser Institute

We may observe that from the countries researched, we have rank from 4,83 (Argentina, the least free) to 8,49 (New Zeland, the freest). It should be noted that all continents were contemplated, just as the range of Economic Freedom was also. In relation to Area 5, defined as *Regulation*, the behavior of the countries is evidenced in Figure 2.

Figure following on the next page

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Figure 2 – World Economic Freedom Index: Area 5 (Regulation)
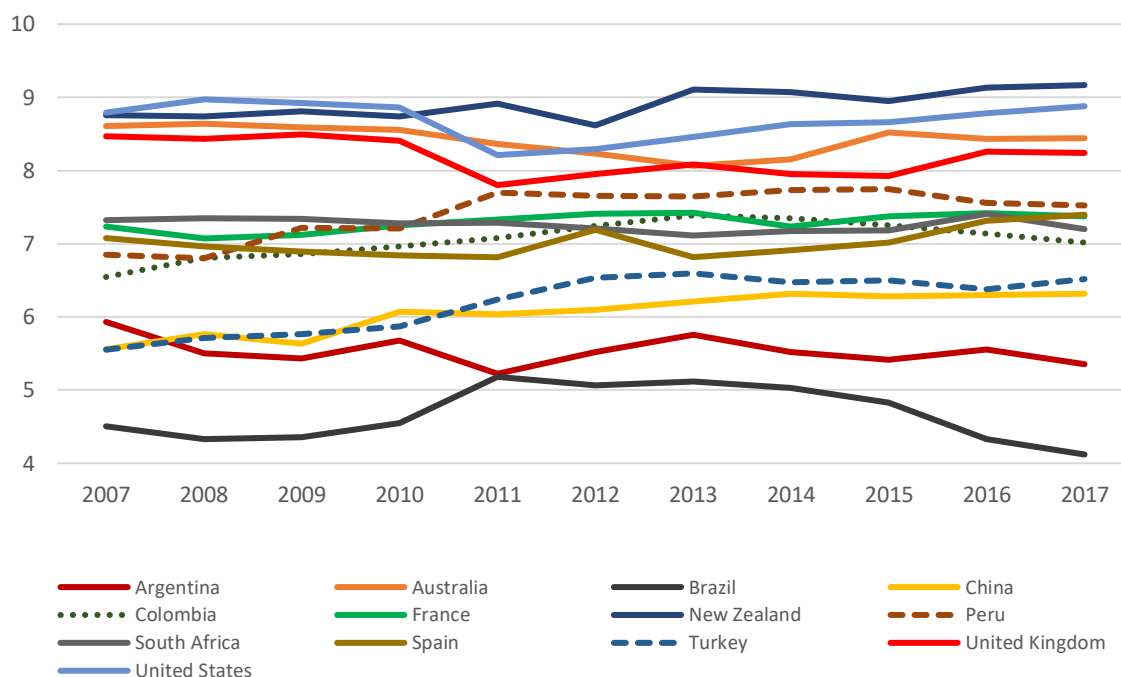
Source: Fraser Institute

It is possible to identify that there is a large and greater range difference between countries regarding the indicator of regulation of each of the countries observed. The average of the observed indicators was also calculated: Ebitda (EOA), Return on Assets (ROA) and Return on Equity (ROE). Table 2 the descriptive statistics of each of the indicators. It can be observed that the average Ebitda return was 37%, the ROA had 17% return and the ROE presented 33% return, on average. It is possible to identify that there is a large and greater range difference between countries about the indicator of regulation of each of the countries observed. The average of the observed indicators was also calculated: Ebitda (EOA), Return on Assets (ROA) and Return on Equity (ROE). Table 1 shows the descriptive statistics of each of the indicators. It can be observed that the average Ebitda return was 37%, the ROA had 17% return and the ROE presented 33% return, on average.

Table 1 – Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
EOA	1170	0.37	5.73	-0.15	157.66
ROA	1401	0.17	2.69	-0.34	74.31
ROE	1405	0.33	5.77	-6.96	211.68

Source: IQ Capital

4.2. Regression (GLS) with dummies

Simple regressions were also made with the variables observed and considering the year and country dummies. In this regression, it was not possible to find a significant relationship between the study variables. The variables presented multicollinearity, and for better observation, we opted for panel regression.

4.3. Panel Regression

For the panel regression to be performed, the Hausman test was used so that we could decide for the best panel between random effects and fixed effects. The Hausman test indicates that the best model is fixed effects, which was used in this research. The first panel, presented in Table 2, indicates the relationship between the performance of companies and the EFW.

Table 2 – Financial performance measures and EFW

	EOA	ROA	ROE
Constant	2.3292	2.2833*	-4.4331
	-1.52	-1.38	-5.55
Economic Freedom Score (EFW)	0.0369	-0.0025	0.4242
	-0.04	-0.03	-0.38
Leverage (ET)	0.6597***	0.2144***	0.0034
	-0.02	-0.02	0.00
Economic Freedom*Leverage (EFW*ET)	-0.0670***	-0.0183***	-0.0002
	0.00	0.00	0.00
LN Total Assets (LNAT)	-0.2858*	-0.2380*	0.1826
	-0.15	-0.13	-0.32
Retained Earnings	0	0	-0.0006
	0.00	0.00	0.00
AIC	456.49	245.30	8764.62
BIC	481.81	271.53	8790.85
N	1170	1401	1401

* $p<0.10$, ** $p<0.05$, *** $p<0.01$
Source: authors

It is possible to observe that there is no significant relationship between EFW and performance indices alone. However, when we interact the EFW variable with the company's leverage (ET), Ebitda and ROA have a negative and significant relationship.

4.4. Regulation Score

The panel regression with fixed effects for the Regulation dimension was performed. The regulatory dimension considers that Governments not only use a number of tools to limit the right to exchange internationally, they may also develop onerous regulations that limit the right to exchange, gain credit, hire or work for whom you wish, or freely operate your business (Gwartney et al., 2018). Considering these statements, the interaction between regulation and leverage was made, testing to measure whether performance is influenced by regulation and, once influenced, whether the company's leverage influences this relationship (see Table 3).

Table following on the next page

Table 3 - Financial performance measures and regulation

	EOA	ROA	ROE
Constant	0.5253	1.1471*	-2.2073
	-0.37	-0.60	-5.12
Regulation Score	0.1152*	0.1284	0.1826
	-0.07	-0.08	-0.41
Leverage (ET)	0.6096***	0.2124***	0.0035
	-0.01	-0.02	-0.01
Regulation*Leverage	-0.0587***	-0.0175***	-0.0003
	0.00	0.00	0.00
LN Total Assets (LNAT)	-0.1515*	-0.2170*	0.1304
	-0.09	-0.12	-0.24
Retained Earnings	0	0	-0.0007
	0.00	0.00	0.00
AIC	-912.92	-194.07	8764.85
BIC	-887.60	-167.85	8791.08
N	1170	1401	1401

* $p<0.10$, ** $p<0.05$, *** $p<0.01$
Source: authors

In this regression it is possible to observe that the regulation is related to Ebitda, that is, the company's cash generation is positively affected by greater economic freedom in the country. This means that the higher the regulation, the worse the company's performance, considering its indebtedness.

5. FINAL REMARKS

This paper aimed to call attention about companies and government about the effects of freedom and regulation on business environment and financial performance. The general results show that the less free environment, the company's performance worsens while its leverage increases and the higher the regulation, the worse the company's performance (considering its indebtedness level). They show that in less free environments, the company's performance worsens when its leverage increases (see Figure 3).

Figure 3 – Scheme: regulation, leverage and performance
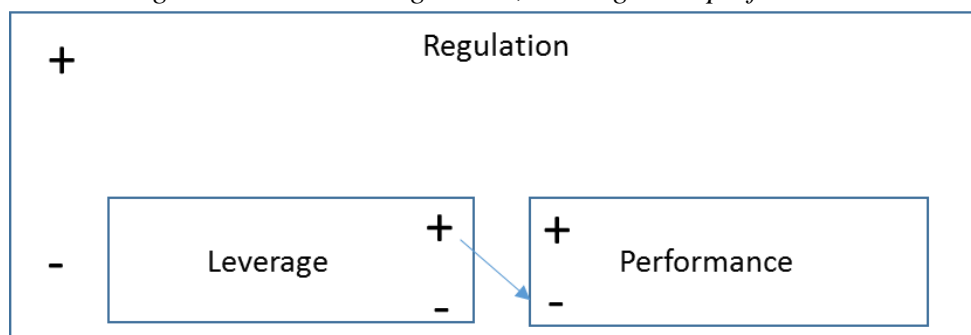
Source: authors

While the summary index EFW does not have significant effects on the company's leverage (ET), Ebitda and ROA, the Regulation (Area 5) affects Ebitda. These results seem to be compatible with the general conclusion of McMullen et al. (2008) that particular economic freedom restrictions impact entrepreneurial activity differently depending on the entrepreneur's motive for engaging in entrepreneurial activities.

In this paper we found that particular economic freedom restrictions affect different financial decisions and performance measures – such as leverage and earnings.

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