

IS BASEL THE RIGHT GATEWAY FOR A MORE EFFICIENT DEBT MARKET? AN INTERNATIONAL COMPARISON

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Abstract: *Current literature does not agree on the impact that Basel regulation is having onto the banking system, small and medium size enterprises (SMEs) and the single country economies. Moreover, recent crises cast some doubts on the efficacy of the regulation itself. With this paper, we investigate this issue by comparing the credit allocation capabilities of different countries. In particular, we compare two Anglo-Saxon Countries (the USA and the UK) with a group of eight European Countries where Basel rules are fully implemented. We find that, without the competition of well-developed risk capital markets, Basel regulation struggles to be effective.*

Keywords: *SMEs financing, Basel regulation, Ratings, Certainty Equivalent. JEL classification: G32, M10, G28*

Introduction

The objective of this study is to evaluate the efficacies of the developments of Basel regulation on both the banking system, small and medium size enterprises (SMEs) as well as the overall economy of ten Countries: a group of eight European Countries where Basel regulation is fully implemented (Germany, France, Italy, Spain, Hungary, Poland, the Czech Republic and Slovakia) and two Anglo-Saxon Countries where the above regulation is only partially implemented (USA and UK). In fact, if on one hand, the main objectives of Basel regulation are those of strengthening transparency and accountability, enhancing sound regulation, promoting integrity in financial markets, reinforcing international cooperation and reforming international financial institutions; on the other hand, the G20 leaders committed to ensuring that regulation is efficient, that it does not impede financial innovation and it supports the expansion of trade in financial services. We aim to contribute to the current literature debate with two research questions. The first one is a comparison of two systems (the Continental European and Anglo-Saxon ones) with different levels of application of the regulation itself and different corporate financial systems (the Anglo Saxon Countries being more capital market oriented while the European Countries being more banking centered). This is performed by intersecting two dimensions: the level of banks' financing, which is a proxy for the true banks' credit allocation ability and an innovative rating methodology (Mantovani and Castellan, 2015). The higher the intersection, the more efficient the country in allocating credit to SMEs. The second one is another comparison within the Countries, based on the level of efficiency according to Fisher Separation Theorem (1930) and the efficiency by Fama (1965).

We find several interesting results. First, we observe heterogeneity in the mix of explanatory variables for the asset-side capability of firms to perform in the long run. This has potential implications for the banking system because the current framework of Basel regulation is a one size fits all solution and banks of different Countries may require different credit ratings solution dependent on the inner characteristics of the corporate system of the specific country.

Second, we find that in the two Anglo-Saxon Countries (USA, UK) the allocation efficacy of the banking system is higher than that of Europe. This may mean that the competition of capital markets is stronger than regulation itself.

The rest of the paper is organized in the following sections: literature review, sample and methodology of analysis, empirical results, discussion and conclusions.

Market failures and Basel regulations: a literature review

The Basel Banking Accords are norms issued by the Basel Committee on Banking Supervision (BSBC) under the Bank of International Settlements (BIS) in Basel, Switzerland.

The Basel Committee of Banking Supervision was founded in 1974 by central bank governors of G10 countries. Its aim was to increase financial stability and the quality of banking supervision worldwide by setting minimum standards for the regulation and the supervision of banks. Capital adequacy soon became the main focus of the Committee's activities and in 1988 the Basel Capital Accord (also known as Basel I) was approved. It required a minimum capital ratio of capital to risk-weighted assets of 8%. The Accord was always evolving over time, and in 1999 the Committee issued a new Revised Capital Accord, (Basel II) which entered into force in 2004. Basel I, because of its simplicity and its underestimation of risks, was substituted by the new Accord.

The new framework was designed to improve the way in which regulatory capital requirements reflect underlying risks and to better address the financial innovation that had occurred in recent years. The changes aimed at rewarding and encouraging continuous improvements in risk measurement and control².

Given to financial crisis in 2010 the Basel Committee issued another accord, Basel III, with the purpose to improve the resilience of financial markets³. The implementation of Basel III started from January 2014; limited to the risk-based capital requirements.

Since the introduction of Basel II, it was predicted that large banks would have adopted an Internal Rating Based (IRB) system substituting the Standardized Approach (SA). Based on an analysis of Belgian banks, Masschelein (2003) concludes that IRBs seem to imply lower capital requirements thanks to more efficiency in measuring risks. Similarly, Allen et al. (2004) show that adopting a credit scoring system allows for a faster and less costly investment valuation. Berger et al. (2005), Cowan and Cowan (2006) and Frame et al. (2001) go a step further and, in analyzing the US market, conclude that adopting an external credit scoring system increases SMEs financing. For instance, Berger et al. (2005) find in a sample of US banks that the adoption of an external credit system contributed to a significant increase in SMEs financing over a three years cycle. Similar results were also reached by Cowan and Cowan (2006) who used a survey methodology for their analysis, and by Frame et al. (2001).

A larger issue is to determine which rating system to utilize (quantitative, qualitative or a mix of both). The literature concerning pure quantitative analysis is relatively well developed and it mainly concerns models of corporate bankruptcy prediction (Beaver, 1966; Altman 1968; Altman et al., 1977; Platt and Platt, 1990). Because of their relatively high discriminatory power, they are well accepted by the industry even if they present some disadvantages such as the lack of a theory that explains why and how certain financial factors are linked to corporate bankruptcy.

Given this unresolved puzzle in the literature, we notice that all studies focus mainly on the implication of Basel regulation to banks' capital requirement and little has been written on the issue of modelling credit risk specifically for SMEs. We aim to contribute to this issue by investigating two levels of efficacy of the Basel agreements: among Countries where regulation is different and within Countries where regulation is applied. In fact, our first research question is:

RQ1: how a set of Countries, where Basel accords are partially implemented (UK and USA), compares to a set of Countries where Basel regulation has been fully implemented (Italy, France, Spain, Germany, Slovakia, Hungary, Poland and the Czech Republic)?

The comparison analysis relates to the level of overlap between the amounts of financing actually received by companies (which, for the second group of Countries is a proxy for Basel regulation) and

the merit of credit as assigned by an innovative forward-looking rating system as proposed by Mantovani and Castellani (2015).

Basel II introduced the possibility for banks to develop their own Internal Rating Based systems (IRB) next to the choice of directly using the Standardized Approach (SA), which relies on credit ratings of borrowers assigned by “external credit assessment institution (ECAIs)”. Both the above methods find their fundamentals on the concepts of probability of default, exposure at default and loss given default, which are well documented in the literature starting from the seminal work by Beaver (1966), Altman (1968) and Ohlson (1980) down to the more recent model by Altman and Sabato (2007), which is specific to SMEs. We think that one of the main shortcoming of these models is the fact that the horizon of analysis is limited to 12 months forwards. As stated above, we answer our first research question by using the methodology developed by Mantovani and Castellani (2015), which is forward looking by its nature and does not limit the risk assessment of a company to a one-year horizon. We think that this is particularly important to the universe of SMEs because, often times, successful ideas with a high profitability potential, require a longer time horizon to develop. Another area of investigation of this study is the level of efficiency of the financial system in different Countries. In fact, we formulate the second research question:

RQ2: which is the allocative contribution given by the Basel regulation within a group of Countries where regulation itself is applied: Italy, Germany, France, Spain, Slovakia, Hungary, Poland and the Czech Republic? And what about Anglo-Saxon Countries: United States and United Kingdom, where Basel regulations are partially applied?

These Countries are classified based on their level of capital allocation efficiency. We define capital allocation efficiency based on the Separation Theorem by Fisher (1930), which states that, given perfect and complete capital markets, the production decision is governed solely by the profit-maximization objective, while the consumption decision is governed solely by utility maximization. The two decisions are hence separated and independent, meanwhile the governance of risks is done by financial markets.

Sample and methodology of analysis

The sample under analysis covers data extracted from ORBIS database (edited by Bureau van Dijk⁴) for ten Countries: the United States of America (USA), the United Kingdom (UK), Italy, France, Spain, Germany, Hungary, the Czech Republic, Poland and Slovakia. Specifically, it includes manufacturing and service firms with unconsolidated balance sheet data for total assets, operating revenues, fixed assets, shareholder’s funds and cost of employees, over the period from 2006 to 2013⁵.

The sample is made of 80,464 firms: 3,174 firms in USA, 10,803 firms in UK, 15,998 firms in France, 13,847 firms in Italy, 7,569 firms in Spain, 6,713 firms in Germany, 6,751 firms in Hungary, 12,357 firms in Czech Republic, 2,051 firms in Poland and 1,201 firms in Slovakia. For each company, we consider a panel of 8 years data: 643,712 financial reports. Furthermore, in order to determine a long-term merit of credit, we used the same dataset to compute the spread between persistent ROI and T(ROI) through 25 indices typically used to describe the risk profile of a corporation for all the 643,712 financial reports, i.e. a total of 16,092,800 data.

In order to answer to our first research question, we rank firms in each Country according to their asset-side capability to perform in the long run. Such a capability is based on an integrated view of each firm to generate operating returns in terms of ROI as defined in equation [1]

$$ROI_t = \frac{EBIT_t}{(FIAS_t + WKCA_t + FIAS_{t-1} + WKCA_{t-1})/2} \quad [1]$$

Where $EBIT$ = Earnings before interest and taxes; $FIAS$ = Fixed Assets; $WKCA$ = Working Capital

The sustainability of the corporate performance is depicted in terms of P(ROI) - T(ROI) difference, which is a proxy of the long term merit of credit for the firm according to Mantovani and Castellan (2015). T(ROI) is the long term threshold ROI adjusted on a series of ratios that aim to capture ex ante corporate risk (see Appendix – Table 1 and Table 2). T(ROI) is based on the confident equivalent, an original evolution of certainty equivalent proposed by Lintner (1965) to assess values incomplete markets.

To rank the firms' merit of credit, the zero level of the proxy [P(ROI) - T(ROI)] is considered. The higher the gap, the higher is the merit of credit. Then, this ranking is intersected with two indicators arranged around their median levels: 1) the Intensity of debt (equation [2]), as a proxy for the efficiency of the banking system to allocate the quantity of credit; 2) Price of Financing (equation [3]), as a proxy for the efficiency of the banking system to determine the price of credit allowances.

$$\text{Intensity of debt} = DEB/OPRE_t = \frac{[(NFP_t^* + NFP_{t-1}^*) / 2]}{OPRE_t} \quad [2]$$

$$\text{Price of Financing} = INT/DEB_t = \frac{INTE_t}{[(GFP_t^* + GFP_{t-1}^*) / 2]} \quad [3]$$

Where: *GFP* = Gross Financial Position = Loans + Long term debt; *OPRE* = Operating Revenue
SHFD = Total Shareholder Funds

This comparison will result with a set of two matrices made of four quadrants. They allow us to determine the overlap between the true banks' credit allocation ability (horizontal matrix direction), with the optimal allocation as determined by the integrated rating methodology (vertical matrix direction). The two matrices are reported in the following box.

Table 1: Overlaps between Long Term Merit of Credit and Intensity of debt

		ROI - T(ROI)	
		Positive	Negative
DEB/OPRE _t	Higher	I. Firms with positive rating that raise more financial resources than sample average	II. Firms with negative rating that raise more financial resources than sample average
	Lower	III. Firms with positive rating that raise less financial resources than sample average	IV. Firms with negative rating that raise less financial resources than sample average

Table 2: Overlaps between Long Term Merit of Credit and Price of Financing

		ROI - T(ROI)	
		Positive	Negative
INT/DEB _t	Lower	I. Firms with positive rating that pay less for their raised financial resources	II. Firms with negative rating that pay less for their raised financial resources
	Higher	III. Firms with positive rating that pay more for their raised financial resources	IV. Firms with negative rating that pay more for their raised financial resources

Countries are ranked according to three evidences emerging from the two matrixes:

- 1) **Risk of Default** (II quadrant of the quantity matrix), which indicates the percentage of firms that are given credit by the banking system, while the rating system assigns to them a negative ranking. This indicator reflects the potential “bad debt” for the banking system of the Country.

- 2) **Missing opportunities:** for this topic, we started from the III quadrant of the quantity matrix (which indicates the percentage of firms, which are not given credit by the banking system, while the rating system assigns to them a positive ranking) and we adjusted it by the real expected GDP growth of each Country. So, we found the opportunity cost of missing GDP growth for each Country.
- 3) **Inefficient Debt Pricing** (quadrant II over the sum of quadrants II & III of the price matrix), which indicates the percentage of firms that underpay their financial risks (quadrant II) over the total amount of mispriced bank allowances (quadrants II and III).

For research question two, we initially perform a series of panel regression to verify the level of efficiency of each Country under analysis, according to two steps.

As first, we tested the Fisher Separation Theorem (1930). The Capital Allocation Efficiency is supposed when there is no significant relationship between the return on investment ($ROI_{i,t}$) and the current mix of risks within a corporation but, at the same time, there is a significant relationship (adjusted R-squared greater than 10%) between the intensity of debt (Equation [2]) and corporate risks. In fact, in this situation, investment and financing decisions are independent. Entrepreneurs can be indifferent toward risks in their decision processes, since the investors control the level of risk by building up portfolio adjusted to their risk tolerance. To test this first block of the efficiency puzzle, we run two regressions: the former between $ROI_{i,t}$ (Equation [1]) and set of proxies of corporate risks; the latter between the Intensity of debt (Equation [2]) and the set of proxies.

As second, the financing efficiency, according to Fama (1970) standards, is considered. The strong form of efficiency cannot be detected, because the relations between expected returns and expected risks cannot be easily tested at the empirical level. Hence, only three tests are conducted: (i) semi strong form of efficiency, when financing decisions are dependent only on the current level of risks; (ii) weak form of efficiency, when financing decisions are also related to past risks; (iii) absence of efficiency, when there is no relationship between firm financing and its risks meanwhile there is evidence of a strong autocorrelation with past financing.

Following are the three panel regression models adopted for both the first step (ROI as dependent variable) and the second one (Intensity of debt as dependent variable):

- | | | |
|------|---------------------------------|---|
| i. | Semi strong form of efficiency: | $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \varepsilon_{i,t}$ |
| ii. | Weak form of efficiency: | $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 X_{i,t-1} + \varepsilon_{i,t}$ |
| iii. | Absence of efficiency: | $Y_{i,t} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 X_{i,t} + \varepsilon_{i,t}$ |

If a Country is not efficient at the first step, any regression for Intensity of debt will show low levels of adjusted R-squared. In this case, corporate managers have to intervene to adjust unfit equilibrium and higher than 10% adjusted R-squared in regressions for ROI are expected. The same Country should miss the second step as well, showing higher adjusted R-squared for the second and the third regressions (“weak” and “absence”) if compared with the first (“semi-strong”), when run over the Intensity of debt.

Finally, we try to match empirical evidence from the two research questions. We compare the level of efficiency of the financial system with the of overlap between the true banks’ credit allocation capacity and the forward looking credit allocation methodology, as it results from investigations for research question one. If different but coherent evidences will emerge for the European and Anglo-Saxon Countries, than the Basel Regulation may not be the right gateway to an efficient debt market.

Empirical results

In order to answer to the first research question, we need to calculate T(ROI) (Mantovani and Castellan, 2015). Under a methodological point of view, this consists of applying a particular regression (Predictive Regression, here below, as in equation [4]) to each of the ten Countries in order to find the statistically significant indicators, which has the highest predictive power to estimate the future confident equivalent around ROI. The dependent variable is represented by the return on investment ($ROI_{i,t}$), while the independent variables (the vectors $X_{i,t}$) are a set of indices that are typically used to describe the risk profile of a corporation. They include operational risks, such as the degree of operating leverage and the absolute intensity of working capital, technological risks such as the absolute intensity of fixed assets and financial risks such as financial leverage and long-term debt rate (see Appendix – Table 1). For each of this independent variable, we consider the autoregressive component, also.

$$ROI_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 X_{i,t-1} + \varepsilon_{i,t} \quad [4]$$

Table 3 presents the regression for each Country using to calculate T(ROI).

Table 3: Predictive Regressions for each Country

CZECH REPUBLIC			GERMANY			SPAIN			FRANCE			HUNGARY		
const	0.1748	***	const	0.1205	***	const	0.0731	***	const	0.1977	***	const	0.0701	***
	(0.0000)			(0.0000)			(0.0000)			(0.0000)			(0.0000)	
CA/FIAS _t	0.0003	**	WKCA/OPRE _{t-1}	-0.1608	***	CA/FIAS _t	0.0005	***	CA/CL _{t-1}	0.0065	***	FIAS/OPRE _t	0.0140	***
	(0.0132)			(0.0004)			(0.0000)			(0.0089)			(0.0000)	
EBIT/INT _t	0.0000	**	FIAS/OPRE _t	0.0120	***	DOL _t (price)	-0.0005	***	WKCA/OPRE _t	0.0189	***	DEB/EQUITY _t	-0.0046	***
	(0.0158)			(0.0001)			(0.0076)			(0.0009)			(0.0040)	
ROS _t	0.1057	***	DOL _t (price)	0.0018	***	FIAS/OPRE _t	-0.0009	***	WKCA/OPRE _{t-1}	-0.0514	**	ROE _t	0.0540	***
	(0.0000)			(0.0041)			(0.0000)			(0.0217)			(0.0000)	
TAX _t	0.0373	*	EBIT/INT _t	0.0001	***	DEB/OPRE _{t-1}	-0.0023	***	LEV _t	-0.0034	**	ROS _t	0.5599	***
	(0.0760)			(0.0000)			(0.0000)			(0.0361)			(0.0000)	
R-squared	0.0009		EBIT/INT _{t-1}	0.0001	***	DEB/EQUITY _t	-0.0008	***	DEB/OPRE _{t-1}	0.0026	*	ROS _{t-1}	0.1899	***
Adj. R-squared	0.0009			(0.0000)			(0.0024)			(0.0660)		---	(0.0000)	
F-stat (pvalue)	0.0000		ROE _t	0.0128	***	DEB/EQUITY _{t-1}	-0.0008	***	ROE _t	0.0167	***	R-squared	0.0458	
				(0.0038)		---	(0.0031)			(0.0005)		Adj. R-squared	0.0458	
			DEB/OPRE _{t-1}	-0.0456	***	ROE _t	0.0437	***	ROE _{t-1}	0.0277	***	F-stat (pvalue)	0.0000	
				(0.0000)			(0.0000)			(0.0000)				
			ROE _{t-1}	0.0121	***	ROE _{t-1}	0.0326	***	EBIT/INT _t	0.0000	***			
				(0.0050)			(0.0000)			(0.0000)				
			ROS _t	0.8364	***	EBIT/INT _{t-1}	0.0000	***	EBIT/INT _{t-1}	0.0000	***			
				(0.0000)			(0.0025)			(0.0001)				
			R-squared	0.0141		ROS _t	0.0923	***	ROS _{t-1}	0.0037	*			
			Adj. R-squared	0.0141			(0.0000)			(0.0580)				
			F-stat (pvalue)	0.0000		ROS _{t-1}	0.0177	***	R-squared	0.0021				
							(0.0000)		Adj. R-squared	0.0021				
						AV/STAF _t	0.0006	***	F-stat (pvalue)	0.0000				
							(0.0057)							
						AV/STAF _{t-1}	-0.0008	***						
							(0.0001)							
						R-squared	0.0642							
						Adj. R-squared	0.0641							
						F-stat (pvalue)	0.0000							

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ITALY					POLAND			SLOVAKIA			UK			USA			
const	0.0995 (0.0000)	***	DEB/EBITDA _{t-1}	-0.0002 (0.0649)	*	const	0.0959 (0.0000)	***	const	0.0947 (0.0228)	**	const	0.1490 (0.0000)	***	const	-0.0664 (0.0227)	**
CA/FIAS _{t-1}	0.0002 (0.0000)	***	DEB/EQUITY _{t-1}	-0.0014 (0.0000)	***	CA/CL _{t-1}	0.0094 (0.0469)	**	CA/FIAS _{t-1}	0.0048 (0.0030)	***	CA/FIAS _t	0.0002 (0.0120)	**	CA/FIAS _t	-0.0595 (0.0000)	***
CA/CL _t	0.0131 (0.0000)	***	ROE _t	0.0210 (0.0000)	***	FIAS/OPRE _{t-1}	-0.0143 (0.0484)	**	WKCA/FIAS _{t-1}	-0.0051 (0.0300)	**	CA/FIAS _{t-1}	0.0003 (0.0173)	**	WKCA/OPRE _{t-1}	0.0610 (0.0000)	***
FCFO/OPRE _t	0.0108 (0.0000)	***	ROE _{t-1}	0.0142 (0.0000)	***	ROE _t	0.0466 (0.0000)	***	DOL _t (price)	-0.0107 (0.0000)	***	WKCA/FIAS _t	-0.0005 (0.0580)	*	WKCA/FIAS _t	0.0773 (0.0000)	***
DOL _t (volume)	-0.0001 (0.0509)	*	EBIT/INT _t	0.0000 (0.0000)	***	ROE _{t-1}	0.0378 (0.0000)	***	DOL _{t-1} (price)	0.0115 (0.0000)	***	ROS _t	0.6588 (0.0000)	***	INT/DEB _t	-0.0145 (0.0028)	***
DOL _t (price)	-0.0008 (0.0022)	***	EBIT/INT _{t-1}	0.0000 (0.0004)	***	EBIT/INT _t	0.0001 (0.0000)	***	EBIT/INT _{t-1}	0.0013 (0.0000)	***	ROS _{t-1}	0.7050 (0.0000)	***	DEB/OPRE _t	0.0222 (0.0000)	***
DOL _{t-1} (price)	-0.0005 (0.0831)	*	ROS _t	0.4515 (0.0000)	***	ROS _t	0.9930 (0.0000)	***	R-squared	0.0159		AV/STAF _t	0.0149 (0.0984)	*	DEB/OPRE _{t-1}	0.0126 (0.0000)	***
FIAS/OPRE _t	0.0172 (0.0000)	***	ROS _{t-1}	0.0652 (0.0005)	***	CRED-DEBD _t	-0.0086 (0.0000)	***	Adj. R-squared	0.0159		AV/STAF _{t-1}	-0.0172 (0.0534)	*	ROE _{t-1}	-0.0209 (0.0000)	***
FIAS/OPRE _{t-1}	-0.0130 (0.0000)	***	TAX _t	0.0051 (0.0129)	**	R-squared	0.0380		F-stat (pvalue)	0.0000		R-squared	0.0075		EBIT/INT _t	0.0001 (0.0000)	***
INT/DEB _t	0.0005 (0.0832)	*	TAX _{t-1}	0.0023 (0.0887)	*	Adj. R-squared	0.0380					Adj. R-squared	0.0075		AV/STAF _t	0.0022 (0.0077)	***
DEB/OPRE _t	0.0180 (0.0002)	***	RLFA _t	-0.0001 (0.0605)	*	F-stat (pvalue)	0.0000					F-stat (pvalue)	0.0000		R-squared	0.0515	
DEB/OPRE _{t-1}	-0.0315 (0.0000)	***	RFLA _{t-1}	-0.0002 (0.0430)	**										Adj. R-squared	0.0514	
DEB/EBITDA _t	-0.0002 (0.0389)	**													F-stat (pvalue)	0.0000	
			R-squared	0.0256													
			Adj. R-squared	0.0256													
			F-stat (pvalue)	0.0000													

Once T(ROI) is calculated, firms are ranked based on the variable $[P(ROI) - T(ROI)]$, which is the proxy for their long term merit of credit according to Mantovani and Castellan (2015). The ranking is compared to the effective debt allocation by banks. Table 4 presents the resulting empiricals based on tables 1 and 2, which intersect the above three dimensions.

Table 4: Allocative matrices

CZECH REPUBLIC	DEBT/OPRE		Rating		GERMANY	DEBT/OPRE		Rating	
		higher	positive	negative			higher	positive	negative
	lower	10.74%	46.71%	lower	10.47%	41.98%			
		18.55%	23.99%		20.80%	26.75%			
SPAIN	DEBT/OPRE		Rating		FRANCE	DEBT/OPRE		Rating	
		higher	positive	negative			higher	positive	negative
	lower	8.55%	43.11%	lower	13.47%	40.38%			
		21.29%	27.05%		22.56%	23.60%			
POLAND	DEBT/OPRE		Rating		ITALY	DEBT/OPRE		Rating	
		higher	positive	negative			higher	positive	negative
	lower	13.25%	38.98%	lower	8.44%	41.81%			
		20.06%	27.71%		21.10%	28.65%			
HUNGARY	DEBT/OPRE		Rating		SLOVAKIA	DEBT/OPRE		Rating	
		higher	positive	negative			higher	positive	negative
	lower	21.44%	48.94%	lower	10.69%	44.56%			
		13.70%	15.92%		17.64%	27.11%			
UNITED KINGDOM	DEBT/OPRE		Rating		USA	DEBT/OPRE		Rating	
		higher	positive	negative			higher	positive	negative
	lower	10.04%	41.55%	lower	47.12%	9.78%			
		19.66%	28.75%		29.89%	13.21%			
USA	INTE/DEBT	lower	positive	negative	INTE/DEBT	lower	positive	negative	
		higher	11.72%	37.21%		higher	10.68%	41.16%	
		17.58%	33.49%		20.59%	27.57%			
		12.28%	38.27%		16.61%	34.01%			
	17.56%	31.89%		19.35%	30.03%				
	13.01%	38.25%		10.51%	39.70%				
	20.26%	28.48%		19.01%	30.78%				
	21.44%	48.94%		10.69%	44.56%				
	13.70%	15.92%		17.64%	27.11%				
	10.04%	41.55%		47.12%	9.78%				
	19.66%	28.75%		29.89%	13.21%				
	14.00%	34.78%		49.79%	7.16%				
	15.64%	35.58%		27.24%	15.81%				

Tables 5 to 7 present the rankings of the Countries based on three different indicators as stated above in sample and methodology description, i.e. Risk of Default, Missing Opportunities and Inefficient Debt Pricing.

Table 5: Allocative rankings - Risk of Default

LEVEL OF DEBT		
Ranking	Country	Risk of Default (II Quadrant)
1	USA	9.78%
2	Poland	38.98%
3	France	40.38%
4	UK	41.55%
5	Italy	41.81%
6	Germany	41.98%
7	Spain	43.11%
8	Slovakia	44.56%
9	Czech Republic	46.71%
10	Hungary	48.94%

Table 6: Allocative Rankings – Missing Opportunities

LEVEL OF DEBT			
Ranking	Country	Expected GDP growth	Missing Opportunities
1	Italy	0.95%	0.25%
2	Hungary	2.25%	0.36%
3	France	1.40%	0.41%
4	Germany	1.75%	0.46%
5	Czech Republic	2.55%	0.58%
6	Slovakia	2.85%	0.61%
7	UK	2.50%	0.61%
8	Spain	2.40%	0.65%
9	Poland	3.00%	0.75%
10	USA	3.15%	1.34%

Table 7: Allocative Rankings – Inefficient Debt Pricing

PRICE OF DEBT

Ranking	Country	Inefficient Debt Pricing (II/II & III Quadrant)
1	USA	20.80%
2	France	63.73%
3	Hungary	65.02%
4	Poland	65.38%
5	Germany	66.66%
6	Italy	67.62%
7	Czech Republic	67.91%
8	Spain	68.55%
9	UK	68.99%
10	Slovakia	70.40%

According to Table 5: (i) US firms are strongly different from the others in our sample; (ii) all Countries where Basel regulation is fully applied displays similar empirical evidence; (iii) the UK case seems nearer to the Continental Europe evidence, but this is direct consequence of the characteristics in data sample, as discussed later.

Table 6 shows the value of Missing Opportunities as adjusted by the expected GDP growth of each Country; therefore, deploying the opportunity cost of missing such a growth. This tricky indicator contributes to the resulting evidence, as the Italian and USA case explain. The first position for Italian firms is driven by the low value of the GDP growth (0.95%), while good companies missing bank allowances are frequent (21.10%, Table 4). Conversely, the last position of USA is direct consequence of particularly high value of GDP growth and frequency of companies missing opportunities.

Finally, Table 7 presents the Inefficient debt pricing classification. As for Risk of default allocation, US firms are strongly different than the other, while all Countries (Basel regulated) are more similar.

We turn now to the second research question of the study, where we attempt at grading the efficacy of Basel regulation within the Countries under analysis. Table 8, helps us to classify each Country according to the two steps of efficiency as identified in the section describing the model of analysis (financing efficiency and capital allocation efficiency)⁶.

Table 8: Adjusted R-squared of the test of efficiency of Financial System on a Country by Country basis

CZECH REPUBLIC	DEBT/OPRE	ROI	GERMANY	DEBT/OPRE	ROI
Semi-strong: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \varepsilon_{i,t}$	0.1602	0.0332	Semi-strong: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \varepsilon_{i,t}$	0.4672	0.0151
Weak: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 X_{i,t-1} + \varepsilon_{i,t}$	0.1644	0.0751	Weak: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 X_{i,t-1} + \varepsilon_{i,t}$	0.3743	0.0372
Absence: $Y_{i,t} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 X_{i,t} + \varepsilon_{i,t}$	0.7700	0.0655	Absence: $Y_{i,t} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 X_{i,t} + \varepsilon_{i,t}$	0.4021	0.0710
SPAIN	DEBT/OPRE	ROI	FRANCE	DEBT/OPRE	ROI
Semi-strong: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \varepsilon_{i,t}$	0.4928	-0.0007	Semi-strong: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \varepsilon_{i,t}$	0.4865	-0.0004
Weak: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 X_{i,t-1} + \varepsilon_{i,t}$	0.5605	0.0888	Weak: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 X_{i,t-1} + \varepsilon_{i,t}$	0.9854	-0.0009
Absence: $Y_{i,t} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 X_{i,t} + \varepsilon_{i,t}$	0.5030	-0.0009	Absence: $Y_{i,t} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 X_{i,t} + \varepsilon_{i,t}$	0.5056	-0.0004
HUNGARY	DEBT/OPRE	ROI	ITALY	DEBT/OPRE	ROI
Semi-strong: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \varepsilon_{i,t}$	0.3128	0.0897	Semi-strong: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \varepsilon_{i,t}$	0.4627	0.0366
Weak: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 X_{i,t-1} + \varepsilon_{i,t}$	0.3523	0.5119	Weak: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 X_{i,t-1} + \varepsilon_{i,t}$	0.5054	0.0435
Absence: $Y_{i,t} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 X_{i,t} + \varepsilon_{i,t}$	0.7622	0.4594	Absence: $Y_{i,t} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 X_{i,t} + \varepsilon_{i,t}$	0.7569	0.0536
POLAND	DEBT/OPRE	ROI	SLOVAKIA	DEBT/OPRE	ROI
Semi-strong: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \varepsilon_{i,t}$	0.2856	0.2335	Semi-strong: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \varepsilon_{i,t}$	0.3138	0.3591
Weak: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 X_{i,t-1} + \varepsilon_{i,t}$	0.4160	0.3734	Weak: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 X_{i,t-1} + \varepsilon_{i,t}$	0.4426	0.3268
Absence: $Y_{i,t} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 X_{i,t} + \varepsilon_{i,t}$	0.8794	0.4991	Absence: $Y_{i,t} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 X_{i,t} + \varepsilon_{i,t}$	0.6830	0.3372
UK	DEBT/OPRE	ROI	USA	DEBT/OPRE	ROI
Semi-strong: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \varepsilon_{i,t}$	0.2283	0.0032	Semi-strong: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \varepsilon_{i,t}$	0.3999	0.2150
Weak: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 X_{i,t-1} + \varepsilon_{i,t}$	0.3942	0.0161	Weak: $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 X_{i,t-1} + \varepsilon_{i,t}$	0.9417	0.2154
Absence: $Y_{i,t} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 X_{i,t} + \varepsilon_{i,t}$	0.3607	0.0659	Absence: $Y_{i,t} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 X_{i,t} + \varepsilon_{i,t}$	0.7020	0.3680

Based on the panel regressions results, we find that Germany, only, presents a semi-strong form of efficiency. We notice that this is the only Country where regression (i) has the highest adjusted R-squared (47%), if regressed on the Intensity of debt. Hence, we can say that, in Germany, financing decisions are related mainly to the current level of risks. In fact, when moving to regression (ii) for the weak and (iii) for the absence form of efficiency, R-squared decreases. At the second step of efficiency (i.e. Separation Theorem), Germany confirms efficiency. In fact, on one hand, financing decisions are strongly correlated with the mix of business risks and, on the other hand, the investment decisions are not correlated with risks. In this context, the management can take decisions in a risk neutral framework, since the appetite for risk of the financial system selects the investment worthiness.

Out of the European aggregate, France and Spain are the second ranked countries according to both the first and second steps of efficiency. As far as the financing efficiency is concerned, we classify the two Countries as having a “weak form of efficiency.” If we compare the adjusted R-squared in regression applied to Intensity of debt, the regression (ii) has the highest one (France: 99%; Spain: 56%). Hence, we can say that in these Countries financing decisions relate to both current and past risks. Additionally, in these two Countries, there is also capital allocation efficiency given that the separation between investment and financing decisions works.

Poland, Czech Republic, Hungary and Slovakia, are the worst ones in terms of financing efficiency. In fact, the regression (iii) has the highest adjusted R-squared (Poland: 88%; Czech Republic: 77%; Hungary: 76%; Slovakia: 68%). This means that banks are not interested in present or past risks but they decide according to an incremental approach, by considering their past decisions, only. Additionally, the separation between investing and financing decisions is not present. Both decisions are correlated with the mix of business risks.

Italy is an intermediate and anomalous case: while there is no financing efficiency (the regression on the “absence of efficiency” has the highest R-squared equal to 76%), the separation of investing and financing decisions seems to work. In fact, investing decisions are neutral toward risks while financing relate strongly with past decisions.

By looking at Anglo-Saxon Countries we find that, while both can be classified as having a weak form of efficiency, in UK the separation between investing and financing decisions seems to work, but not the same for USA.

Discussing the empirical evidence

The classification of financing efficiency, as reported in Table 8, let us run some cross-checks with results in Tables 5 to 7, i.e. with the rankings based on Risk of Default, Missing Opportunities and Inefficient Debt Pricing.

Looking at the ranking based on “Risk of Default”, you may find clear relationships with the efficiency degree of each Country as defined in term of better debt allocating system. In fact, USA, France and UK are among the top five Countries in Table 5.

By considering the “Missing Opportunities” indicator, the situation is slightly different. Some of the Countries with the worst situation in terms of Risk of Default, are on the top of the ranking stated in Table 6 and vice versa. However, we want to underline, as mentioned above, that the rankings are adjusted by the Expected GDP growth. It is important to understand that the first rank for Italy it is not due to a low value of missing opportunities, but it is due to the low value of the expected GDP growth. At the same time, the last position of USA is affected by the higher value of the expected GDP growth and not by the higher value of missing opportunities.

Lastly, focusing on “Inefficient Debt Pricing” (Table 7), you find proof that some of the most efficient Countries have a better debt allocating system if compared to the less efficient ones.

The only exception for any cross-check is the case of Germany, where you must also consider qualitative factors in the German practice of evaluating the firms’ merit of credit. In our model these kind of factors are not included, this is why we obtained results apparently contrasting: Germany is ranked as an intermediate Country in Risk of Default (Table 5), Missing Opportunities (Table 6) and Inefficient Debt Pricing (Table 7), while looking at the whole system, Germany presents a semi-strong form of efficiency (Table 8). Future research will attempt at improving the Rating methodology for Germany by adding qualitative factors to narrow the gaps.

More discussions about the results from the intersection of the efficiency level of each Country (Table 8) and the rankings (Tables from 5 to 7), it is important to control some specificities of the Anglo Saxon Countries (UK and USA) versus the European Countries. In fact, analyzing the data we observed that the UK and the USA have both a lower level of debt financing compared to the European aggregate. To confirm this observation, we perform a t-test of difference on the gross level of debt (Equation [5]) of three groups of Countries: USA, UK and Europe.

$$\text{Gross Debt – to – equity ratio} = GDEB/EQUITY_t = GFP_t /SHFD_t \quad [5]$$

This control is required since the financial systems of the Anglo-Saxon Countries (i.e. USA and UK, where Basel regulation is not fully applied) are more market-oriented than those of the other Countries (more banking-oriented). Accordingly, the use of equity in corporate financing is wider. Companies using more equity should have lower than level-1 debt-to-equity ratio. This is direct consequence of the expectation that Anglo-Saxon Countries may have more developed equity capital markets (e.g. private equity and stock listing). Equity may compete with banks in fund provisioning and, this way, being more disciplinant in controlling the corporate risk sharing inside the financial system than the Basel practices are. In fact, we should find out that the Anglo-Saxon Countries present a lower amount of debt financing and, at the same time, a bigger efficiency in its allocation, we will be able to grade more the true efficacy of Basel regulation.

One issue with comparing sample means is the fact that the UK average value for the gross debt-to-equity ratio (Equation [5]) is biased by few outliers. For this reason, we truncate the sample by

eliminating 10% of the outer tails (5% of each side of the distribution, hence retaining 90% of the data).

The hypothesis of the t-test is as follows:
$$\begin{cases} H_0: \mu_i \leq \mu_j \\ H_1: \mu_i > \mu_j, \end{cases}$$

Where μ represents the gross level of debt to equity ratio (Table 9) in our sample.

Table 9: t-test of difference on sample means-GDEB/EQUITY

Sample	Sample mean (complete sample)	90% sample in the middle (quantiles)
EU	1.36	na
UK	8.93	0.95
USA	-0.14	na

Samples without "anomalous" firms			
Compared samples	t-stat	95% confidence interval	p-value
UK vs USA	1.724243728	[-∞, 2.1363]	0.9577
UK vs EU	-2.031546821	[-∞, -0.0771]	0.0211
USA vs EU	-2.254599271	[-∞, -0.40502]	0.0121

Table 9 confirms that both the US and the UK have lower bank debt financing practices as compared to Europe. This implies that these two Anglo-Saxon Countries have more developed capital markets (via private equity or public markets), which are key competitors to the banking system. This has key implications on the efficacy of Basel regulation, as we shall see from the results of our rankings.

The empirical data for both the UK and the US are classifiable as having a weak form of efficiency, given that the regression on these form of efficiency are the ones with the highest R squared (USA:94%, UK:39% Table 8). Differently, while the UK is also efficient from a capital allocation perspective, the USA is not, given that both investing and financing decisions are correlated with the mix of business risks.

Given this evidences, we estimate the allocation matrices adjusted by debt-to-equity ratio for both USA and UK. (Table 10 and 11).

Table 10: Allocative matrices adjusted by debt-to-equity ratio – USA

		Rating		Rating					
				positive	negative				
DEB/EQUITY<1	DEBT/OPRE	higher	40.44%	8.32%	DEB/EQUITY>1	DEBT/OPRE	higher	78.04%	16.55%
		lower	35.91%	15.33%			lower	2.03%	3.38%
	INTE/DEBT	Rating		Rating					
		positive	negative	positive		negative			
INTE/DEBT	lower	45.76%	6.07%	INTE/DEBT	lower	77.99%	8.49%		
	higher	30.56%	17.62%		higher	13.51%	n.a.		

Table 11: Allocative matrices adjusted by debt-to-equity ratio - UK

		Rating					Rating				
			positive	negative			positive	negative			
DEB/EQUITY<1	DEBT/OPRE	higher	7.88%	28.89%	DEB/EQUITY>1	DEBT/OPRE	higher	15.12%	71.30%		
		lower	25.72%	37.51%			lower	5.42%	8.16%		
			Rating					Rating			
			positive	negative				positive	negative		
INTE/DEBT	lower	14.64%	31.23%	INTE/DEBT	lower	21.88%	64.01%				
	higher	18.54%	35.59%		higher	14.11%	n.a.				

Substituting these results in Table 5 we note that the USA and the UK rank in the first two positions of the “Risk of Default” (USA= 8%; UK =29%. Table 12).

Table 12: Adjusted allocative rankings - Risk of Default

LEVEL OF DEBT		
Ranking	Country	Risk of Default (II Quadrant)
1	USA	8.32%
2	UK	28.89%
3	Poland	38.98%
4	France	40.38%
5	Italy	41.81%
6	Germany	41.98%
7	Spain	43.11%
8	Slovakia	44.56%
9	Czech Republic	46.71%
10	Hungary	48.94%

Therefore, we can conclude that Anglo-Saxon Countries, where Basel regulation is not fully applied, present a more developed equity market and more efficiency in debt allocation.

Concluding remarks

This paper aims to detect if the Basel regulation really contributes to the efficiency of the financial system, particularly the banking sector and the credit for small and medium size enterprises. By comparing empirical evidences in Anglo-Saxon Countries and Continental Europe ones, we give some insights, since the formers (USA, particularly) adopt the Basel framework less intensively, while the latter fully adopt it.

While the Basel-adopting Countries strike-out more homogenous results, the USA case clearly diverts from standards and UK case gives no unique tendency because of sample composition. USA appears more efficient in allocating the bank allowances (i.e. data show lower risk of default and lower mispricing). Minor diversions are reported for missing opportunities, even if the more efficient US equity market may explain this evidence: high growth companies access equity financing.

As final concluding remark, we can state that a stronger competition between debt and equity funding could contribute more than further banking regulation to achieve higher efficiency of the financial system. Benefits could be particularly strong for small and medium enterprises.

Appendix

Table 1 - (extract from Mantovani and Castellan, 2015)

Index	Unit	Formula derived from ORBIS	Definition
Technology features			
CA/FIAS _t	%	CUAS _t /FIAS _t	Current rate of assets
CA/CL _t	%	CUAS _t /CULI _t	Current equilibrium
WKCA/FIAS _t	%	WKCA _t /FIAS _t	Relative intensity of working capital
FIAS/OPRE _t	%	$\frac{[(FIAS_t + FIAS_{t-1}) / 2]}{OPRE_t}$	Absolute intensity of fixed assets
RLFA _t	--	$\frac{[(FIAS_t + FIAS_{t-1}) / 2]}{DEPR_t}$	Residual Life of Fixed Assets
Financial strategy			
DEB/EBITDA _t	--	$\frac{[(NFP_t^* + NFP_{t-1}^*) / 2]}{EBTA_t}$	Years for debt re-financing
DEBLT _t	%	CUAS _t /NFP _t *	Long term debt rate
DEB/EQUITY _t	--	NFP _t */SHFD _t	Debt-to-equity ratio
DEB/OPRE _t	--	$\frac{[(NFP_t^* + NFP_{t-1}^*) / 2]}{OPRE_t}$	Intensity of debt
LEV _t	--	$\frac{OPPL_t}{OPPL_t - INTE_t}$	Financial leverage
INTE/DEB _t	%	$\frac{INTE_t}{[(NFP_t^* + NFP_{t-1}^*)/2]}$	Financial interest rate
Operating risks			
WKCA/OPRE _t	%	$\frac{[(WKCA_t + WKCA_{t-1}) / 2]}{OPRE_t}$	Absolute intensity of working capital
DOL – volume _t	--	AV _t /OPPL _t	Degree of operative leverage on volume changes
DOL – price _t	--	$\left[\frac{MDCU_t^{***}}{(MDCU_t^{***} - x)} - 1 \right] * 100$	Degree of op. lev. on price changes of x (x=1%)
CRED – DEBT _t	dd	$\frac{(CRED_t + CRED_{t-1})/2}{MATE_t/365} - \frac{(DEBT_t + DEBT_{t-1})/2}{-}$	Difference between delays on payments to creditors and payments from debtors
Rate of return			
ROI _t	%	$\frac{OPPL_t}{[(CIN_t^{***} + CIN_{t-1}^{***})/2]}$	Return on Investment
Adjusted ROI _t	%	$\frac{EBTA_t - STOK_t + STOK_{t-1}}{[(CIN_t^{****} + CIN_{t-1}^{****})/2]}$	Alternative Return on Investment
ROE _t	%	$\frac{PL_t}{[(SHFD_t + SHFD_{t-1})/2]}$	Return on Equity
ROS _t	%	OPPL _t /OPRE _t	Return on Sales
AV/STAF _t	%	AV _t /STAF _t	Work productivity (cost of employees)

AV/EMPL _t	%	AV/EMPL _t	Work productivity (number of employees)
EBIT/INT _t	--	OPPL _t /INTE _t	Interest Coverage
FCFC/OPRE _t	%	$\frac{EBTA_t + WKCA_{t-1} - WKCA_t}{OPRE_t}$	Margin of Free Cash Flow Characteristic
FCFO/OPRE _t	%	$\frac{FCFC_t - (DEPR_t + FIAS_t - FIAS_{t-1})}{OPRE_t}$	Margin of Free Cash Flow Operative
TAX _t	%	TAXA _t /OPPL _t	Tax rate

Self elaborated account values

*NFP _t	€	LOAN _t + LTDB _t - CASH _t	Net Financial Position
**GFP _t	€	LOAN _t + LTDB _t	Gross Financial Position
***MDCU _t	%	AV _t /OPRE _t	Contribution Margin
****CIN _t	€	FIAS _t + WKCA _t	Total Net Investments

Tables 2 - Descriptive statistics for the final sample

Italy	Mean	Weighted		Standard Deviation	France	Mean	Weighted		Standard Deviation
		Mean	Median				Mean	Median	
CA/FIAS _t	8.06	7.39	2.63	25.06	CA/FIAS _t	38.91	38.64	4.89	388.53
CA/CL _t	1.69	1.71	1.23	37.31	CA/CL _t	4.59	1.61	1.33	4962.96
WKCA/OPRE _t	0.23	0.23	0.19	0.33	WKCA/OPRE _t	0.24	0.19	0.11	9.63
WKCA/FIAS _t	2.97	2.86	0.80	11.71	WKCA/FIAS _t	9.41	9.13	0.85	111.71
CRED-DEBD _t	130.03	127.78	77.64	189.88	CRED-DEBD _t	34271.30	41925.00	189.48	700871.00
DEBL _t	0.24	0.26	0.00	2.68	DEBL _t	0.14	0.15	0.00	4.67
FCFC/OPRE _t	0.08	0.08	0.07	0.19	FCFC/OPRE _t	0.07	0.07	0.07	18.14
FCFO/OPRE _t	0.00	0.00	0.02	0.63	FCFO/OPRE _t	12.39	6.11	0.04	3951.62
LEV _t	1.30	1.31	1.10	10.57	LEV _t	1.06	1.05	1.01	2.08
DOL _t (volume)	6.72	6.96	5.08	44.12	DOL _t (volume)	9.55	8.82	4.77	312.38
DOL _t (price)	4.97	4.74	3.46	12.34	DOL _t (price)	2.97	3.12	2.10	5.31
FIAS/OPRE _t	0.51	0.49	0.20	1.37	FIAS/OPRE _t	1.90	1.29	0.09	76.72
INTE/DEB _t	-0.14	-0.11	0.04	2.53	INTE/DEB _t	-0.04	-0.05	0.00	7.36
DEB/OPRE _t	0.19	0.19	0.09	0.59	DEB/OPRE _t	-0.11	-0.07	-0.05	26.91
DEB/EBITDA _t	1.85	1.89	1.02	28.55	DEB/EBITDA _t	-1.77	-1.57	-0.58	65.71
DEB/EQUITY _t	1.82	1.77	0.39	7.65	DEB/EQUITY _t	-0.53	-0.32	-0.28	93.10
ROE _t	0.08	0.07	0.05	1.44	ROE _t	0.21	0.20	0.16	3.69
ROI _t	0.13	0.12	0.07	1.02	ROI _t	0.25	0.25	0.13	24.28
Adjusted ROI _t	0.21	0.20	0.14	1.54	Adjusted ROI _t	0.30	0.31	0.20	26.89
EBIT/INT _t	183.41	178.72	2.99	2354.44	EBIT/INT _t	1842.79	2275.80	10.65	35075.90
ROS _t	0.04	0.04	0.04	0.15	ROS _t	-0.02	0.01	0.04	9.80
TAX _t	0.37	0.38	0.37	1.97	TAX _t	0.16	0.16	0.22	5.98
AV/STAF _{t-1}	1.59	1.55	1.39	5.56	AV/STAF _{t-1}	2.05	2.24	1.19	20.22
AV/EMPL _t	59.80	59.59	51.14	46.75	AV/EMPL _t	n.a.	n.a.	n.a.	n.a.
RLFA _t	10.9729	10.732	6.32	19.2818	RLFA _t	94.6566	85.999	6.26461	1327.06

IS BASEL THE RIGHT GATEWAY FOR A MORE EFFICIENT DEBT MARKET? AN INTERNATIONAL COMPARISON

Spain	Mean	Weighted Mean	Median	Standard Deviation
CA/FIAS _t	6.62	7.08	1.13	34.64
CA/CL _t	5.64	4.57	1.61	25.86
WKCA/OPRE _t	0.77	0.63	0.25	6.50
WKCA/FIAS _t	3.51	3.75	0.46	25.97
CRED-DEBD _t	-7.09	-5.24	-15.49	143.18
DEBLT _t	0.51	0.53	0.63	12.23
FCFC/OPRE _t	0.17	0.15	0.12	5.72
FCFO/OPRE _t	-0.21	-0.17	0.05	8.64
LEV _t	1.60	1.52	1.07	19.19
DOL _t (volume)	5.67	6.01	3.13	43.64
DOL _t (price)	3.93	4.38	2.78	18.05
FIAS/OPRE _t	5.22	3.93	0.47	22.19
INTE/DEB _t	-0.12	-0.07	0.04	9.38
DEB/OPRE _t	1.38	1.13	0.17	8.65
DEB/EBITDA _t	2.65	2.39	1.36	36.60
DEB/EQUITY _t	0.95	0.86	0.24	15.37
ROE _t	0.06	0.07	0.05	3.17
ROI _t	0.10	0.11	0.05	6.03
Adjusted ROI _t	0.12	0.13	0.09	5.43
EBIT/INT _t	24.58	24.85	2.61	109.08
ROS _t	0.04	0.04	0.05	5.95
TAX _t	0.14	0.10	0.21	9.36
AV/STAF _{t-1}	3.79	3.50	1.55	14.82
AV/EMPL _t	n.a.	n.a.	n.a.	n.a.
RLFA _t	35.199	30.436	12.148	73.5458

Germany	Mean	Weighted Mean	Median	Standard Deviation
CA/FIAS _t	16.44	13.27	1.25	178.71
CA/CL _t	34.27	32.16	1.84	722.22
WKCA/OPRE _t	0.15	0.15	0.11	0.40
WKCA/FIAS _t	4.95	4.09	0.30	72.96
CRED-DEBD _t	1747.11	1476.60	20.73	43704.40
DEBLT _t	0.49	0.47	0.32	5.30
FCFC/OPRE _t	0.09	0.09	0.09	0.38
FCFO/OPRE _t	0.02	0.02	0.04	0.71
LEV _t	1.36	1.33	1.09	10.51
DOL _t (volume)	8.99	9.98	4.16	163.37
DOL _t (price)	3.99	3.90	2.67	75.48
FIAS/OPRE _t	7.17	3.13	0.27	726.14
INTE/DEB _t	-1.17	-1.20	0.04	17.09
DEB/OPRE _t	0.47	0.36	0.03	4.89
DEB/EBITDA _t	1.21	1.03	0.33	14.22
DEB/EQUITY _t	0.67	0.57	0.06	9.78
ROE _t	0.17	0.16	0.06	2.62
ROI _t	0.16	0.14	0.08	5.51
Adjusted ROI _t	0.28	0.27	0.15	5.00
EBIT/INT _t	1420.66	1281.60	3.71	65250.60
ROS _t	0.05	0.06	0.05	2.61
TAX _t	0.20	0.19	0.15	5.04
AV/STAF _{t-1}	4.99	3.12	1.36	134.27
AV/EMPL _t	110.21	95.62	68.65	225.88
RLFA _t	74.069	52.111	8.53863	1450.34

Poland	Mean	Weighted Mean	Median	Standard Deviation
CA/FIAS _t	8.04	5.89	1.50	31.62
CA/CL _t	2.46	2.27	1.57	3.07
WKCA/OPRE _t	0.13	0.13	0.11	0.16
WKCA/FIAS _t	2.79	2.07	0.52	13.32
CRED-DEBD _t	489.13	464.54	41.37	1810.57
DEBLT _t	0.24	0.23	0.00	1.22
FCFC/OPRE _t	0.09	0.09	0.08	0.13
FCFO/OPRE _t	0.05	0.04	0.04	0.26
LEV _t	1.16	1.16	1.04	1.24
DOL _t (volume)	6.49	7.04	3.51	50.87
DOL _t (price)	n.a.	n.a.	n.a.	n.a.
FIAS/OPRE _t	0.59	0.66	0.20	1.12
INTE/DEB _t	-0.25	-0.29	0.00	15.80
DEB/OPRE _t	0.01	0.01	-0.01	0.27
DEB/EBITDA _t	0.10	0.06	-0.04	8.85
DEB/EQUITY _t	0.05	0.05	-0.03	1.17
ROE _t	0.20	0.17	0.13	0.63
ROI _t	0.25	0.21	0.12	0.80
Adjusted ROI _t	0.32	0.28	0.21	0.96
EBIT/INT _t	172.61	184.94	10.08	763.80
ROS _t	0.06	0.06	0.05	0.10
TAX _t	0.19	0.18	0.19	0.49
AV/STAF _{t-1}	2.17	2.21	1.52	3.25
AV/EMPL _t	27047.90	26523.00	19851.40	24765.70
RLFA _t	46.182	50.543	7.24761	204.238

Czech Republic	Mean	Weighted Mean	Median	Standard Deviation
CA/FIAS _t	8.84	8.20	1.56	53.59
CA/CL _t	2.92	2.84	1.74	4.12
WKCA/OPRE _t	0.14	0.14	0.09	0.59
WKCA/FIAS _t	1.85	1.80	0.38	9.70
CRED-DEBD _t	291.90	300.98	13.02	2385.10
DEBLT _t	0.16	0.16	0.00	7.31
FCFC/OPRE _t	0.09	0.09	0.08	0.22
FCFO/OPRE _t	0.01	0.02	0.03	0.43
LEV _t	1.18	1.18	1.05	1.75
DOL _t (volume)	6.70	6.59	4.22	28.57
DOL _t (price)	4.22	4.47	2.98	7.90
FIAS/OPRE _t	0.72	0.63	0.22	3.06
INTE/DEB _t	0.02	0.02	0.02	2.90
DEB/OPRE _t	0.02	0.02	-0.02	0.86
DEB/EBITDA _t	-0.26	-0.16	-0.23	16.15
DEB/EQUITY _t	0.03	0.06	-0.07	2.69
ROE _t	0.17	0.15	0.09	5.88
ROI _t	0.35	0.32	0.11	4.91
Adjusted ROI _t	0.45	0.42	0.19	5.01
EBIT/INT _t	103.97	116.48	6.52	1149.30
ROS _t	0.05	0.05	0.04	0.16
TAX _t	0.12	0.13	0.14	0.27
AV/STAF _{t-1}	1.71	1.71	1.38	2.91
AV/EMPL _t	21.60	22.58	16.90	17.91
RLFA _t	19.954	17.913	7.4422	112.91

Hungary	Mean	Weighted Mean	Median	Standard Deviation		Slovakia	Mean	Weighted Mean	Median	Standard Deviation
CA/FIAS _t	4.55	32.16	1.17	24.36		CA/FIAS _t	4.25	4.00	1.08	9.64
CA/CL _t	1.92	2.36	1.32	2.34		CA/CL _t	1.76	1.75	1.28	1.62
WKCA/OPRE _t	0.15	0.19	0.13	0.14		WKCA/OPRE _t	0.16	0.16	0.12	0.51
WKCA/FIAS _t	1.20	6.92	0.40	4.19		WKCA/FIAS _t	1.16	1.14	0.36	3.53
CRED-DEBD _t	355.04	3938.40	26.17	2070.80		CRED-DEBD _t	941.33	842.07	53.20	4473.58
DEBLT _t	0.09	0.15	0.00	0.68		DEBLT _t	0.17	0.18	0.00	0.67
FCFC/OPRE _t	0.10	0.08	0.08	0.12		FCFC/OPRE _t	0.14	0.14	0.11	0.49
FCFO/OPRE _t	0.04	-0.02	0.04	0.18		FCFO/OPRE _t	0.01	0.01	0.04	0.77
LEV _t	1.28	1.20	1.09	2.87		LEV _t	1.23	1.23	1.06	1.22
DOL _t (volume)	7.34	19.68	3.96	62.67		DOL _t (volume)	6.46	6.50	3.46	30.06
DOL _t (price)	5.18	4.13	3.66	11.23		DOL _t (price)	4.69	4.61	3.33	7.66
FIAS/OPRE _t	0.44	0.90	0.29	0.56		FIAS/OPRE _t	1.05	1.02	0.35	4.44
INTE/DEB _t	-0.17	-2.05	0.05	2.82		INTE/DEB _t	-0.14	3508.60	0.02	3.12
DEB/OPRE _t	-0.02	0.07	-0.02	0.20		DEB/OPRE _t	0.02	-0.16	-0.01	0.62
DEB/EBITDA _t	-0.19	0.65	-0.25	7.39		DEB/EBITDA _t	-0.13	0.03	-0.07	11.98
DEB/EQUITY _t	-0.07	0.13	-0.08	1.12		DEB/EQUITY _t	0.14	-0.04	-0.02	2.16
ROE _t	0.18	0.93	0.11	1.11		ROE _t	0.16	0.18	0.09	0.64
ROI _t	0.14	0.24	0.09	0.54		ROI _t	0.17	0.15	0.08	1.00
Adjusted ROI _t	0.22	0.32	0.17	0.59		Adjusted ROI _t	0.31	0.15	0.20	1.70
EBIT/INT _t	268.35	292.38	4.44	5633.74		EBIT/INT _t	168.73	0.29	6.11	6013.07
ROS _t	0.06	0.01	0.05	0.10		ROS _t	0.05	203.52	0.05	0.35
TAX _t	0.09	0.15	0.07	0.34		TAX _t	0.14	0.05	0.16	0.25
AV/STAF _{t-1}	2.17	19.50	1.58	5.29		AV/STAF _{t-1}	2.67	0.14	1.54	8.14
AV/EMPL _t	22588.00	31543.00	16086.50	26255.90		AV/EMPL _t	n.a.	n.a.	n.a.	n.a.
RLFA _t	11.0551	47.735	7.36826	55.2886		RLFA _t	10.0654	2.6924	5.8829	21.6425

UK	Mean	Weighted Mean	Median	Standard Deviation		USA	Mean	Weighted Mean	Median	Standard Deviation
CA/FIAS _t	73.16	61.73	2.45	902.54		CA/FIAS _t	3.47	2.85	0.88	9.67
CA/CL _t	7.05	6.77	1.31	157.89		CA/CL _t	2.97	2.90	1.82	8.18
WKCA/OPRE _t	0.20	0.19	0.08	1.39		WKCA/OPRE _t	0.14	0.15	0.12	0.22
WKCA/FIAS _t	11.92	10.25	0.29	276.70		WKCA/FIAS _t	1.18	0.98	0.28	3.53
CRED-DEBD _t	61.61	62.38	42.47	86.97		CRED-DEBD _t	n.a.	n.a.	n.a.	n.a.
DEBLT _t	0.39	0.39	0.03	2.99		DEBLT _t	0.50	0.55	0.00	2.54
FCFC/OPRE _t	0.08	0.09	0.08	0.86		FCFC/OPRE _t	-0.03	0.03	0.11	1.07
FCFO/OPRE _t	0.05	0.06	0.05	1.55		FCFO/OPRE _t	-0.19	-0.12	0.02	1.24
LEV _t	0.79	0.88	1.02	40.49		LEV _t	1.07	1.11	1.01	1.74
DOL _t (volume)	5.21	5.42	3.36	68.01		DOL _t (volume)	1.86	2.14	1.18	6.08
DOL _t (price)	4.15	4.09	2.62	14.65		DOL _t (price)	3.86	4.77	2.33	32.00
FIAS/OPRE _t	2.92	2.72	0.16	38.68		FIAS/OPRE _t	1.72	1.58	0.49	6.92
INTE/DEB _t	0.04	0.04	0.04	0.96		INTE/DEB _t	-0.33	-0.11	0.05	7.44
DEB/OPRE _t	1.72	1.57	0.15	10.19		DEB/OPRE _t	-0.04	0.00	0.05	9.24
DEB/EBITDA _t	2.36	2.35	0.91	33.26		DEB/EBITDA _t	0.79	0.93	0.53	16.11
DEB/EQUITY _t	4.04	4.84	0.18	606.54		DEB/EQUITY _t	0.11	0.17	0.01	12.32
ROE _t	0.84	0.47	0.11	89.47		ROE _t	0.14	0.09	0.08	8.61
ROI _t	0.16	0.16	0.08	19.34		ROI _t	0.06	0.06	0.07	1.11
Adjusted ROI _t	0.37	0.34	0.17	10.42		Adjusted ROI _t	n.a.	n.a.	n.a.	n.a.
EBIT/INT _t	131.51	124.51	3.07	1653.19		EBIT/INT _t	-2.30	17.63	2.27	404.07
ROS _t	0.01	0.02	0.05	2.54		ROS _t	-1.85	-0.82	0.04	27.79
TAX _t	0.18	0.18	0.22	1.82		TAX _t	0.12	0.15	0.08	0.59
AV/STAF _{t-1}	1.86	1.85	1.30	6.38		AV/STAF _{t-1}	6.13	10.17	1.34	46.88
AV/EMPL _t	86474.70	87789.00	54900.80	200312.00		AV/EMPL _t	n.a.	n.a.	n.a.	n.a.
RLFA _t	103.085	91.619	6.62797	820.71		RLFA _t	20.364	17.986	10.5891	71.3343

Table 3 - Results of the test of efficiency of Financial System on a Country by Country basis

IS BASEL THE RIGHT GATEWAY FOR A MORE EFFICIENT DEBT MARKET? AN INTERNATIONAL COMPARISON

CZECH REPUBLIC Variable	Semi-strong		Weak		Absence	
	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t
const	0.1924 *** (0.0000)	0.0169 * (0.0412)	0.1842 *** (0.0000)	-0.0210 (0.0606)	0.1847 *** (0.0000)	-0.0208 *** (0.0078)
CA/FIAS _t	0.0002 (0.1267)	0.0000 (0.9530)	0.0004 * (0.0519)	0.0000 (0.7052)	0.0004 *** (0.0006)	0.0000 (0.6414)
CA/FIAS _{t-1}			-0.0001 (0.7796)			
CA/CL _t	0.0021 (0.3649)	0.0044 *** (0.0002)	0.0050 (0.1752)	0.0061 ** (0.0010)	0.0040 (0.2351)	0.0096 *** (0.0000)
CA/CL _{t-1}			-0.0029 (0.3254)			
WKCA/OPRE _t	-0.1305 *** (0.0042)	0.1213 *** (0.0000)	-0.2008 ** (0.0137)	0.7697 *** (0.0000)	-0.1806 *** (0.0014)	0.3970 *** (0.0000)
WKCA/OPRE _{t-1}			0.0490 (0.5117)			
WKCA/FIAS _t	-0.1305 ** (0.0437)	-0.0004 (0.1783)	0.0009 (0.2527)	-0.0006 (0.1413)	0.0002 (0.7217)	-0.0005 * (0.0557)
WKCA/FIAS _{t-1}			-0.0007 (0.4152)			
CRED-DEBD _t	-0.0002 (0.5897)	0.0014 *** (0.0000)	-0.0001 (0.9203)	0.0020 *** (0.0000)	-0.0002 (0.6552)	0.0015 *** (0.0000)
CRED-DEBD _{t-1}			-0.0004 (0.7750)			
DEBLT _t						
DEBLT _{t-1}						
FCFC/OPRE _t						
FCFC/OPRE _{t-1}						
FCFO/OPRE _t	0.0268 * (0.0667)	-0.0491 *** (0.0000)	0.0083 (0.7275)	0.0568 *** (0.0000)	0.0045 (0.8254)	0.0532 *** (0.0000)
FCFO/OPRE _{t-1}			0.0026 (0.8757)			
LEV _t	-0.0011 (0.7754)	0.0033 (0.1012)	-0.0007 (0.8736)	0.0033 (0.1443)	-0.0010 (0.8236)	0.0018 (0.3145)
LEV _{t-1}			-0.0014 (0.7566)			
DOI _t (volume)	0.0000 (0.9832)	-0.0001 (0.4652)	0.0000 (0.9943)	-0.0001 (0.6563)	0.0000 (0.9998)	0.0000 (0.8354)
DOI _{t-1} (volume)			-0.0001 (0.6293)			
DOI _t (price)	0.0000 (0.9626)	0.0001 (0.8369)	-0.0001 (0.9642)	0.0006 (0.3087)	-0.0004 (0.7434)	-0.0008 (0.1088)
DOI _{t-1} (price)			0.0001 (0.9342)			
FIAS/OPRE _t	0.0065 ** (0.0457)	0.1112 *** (0.0000)	-0.0035 (0.5668)	0.1270 *** (0.0000)	-0.0030 (0.4263)	0.0472 *** (0.0000)
FIAS/OPRE _{t-1}			0.0002 (0.9676)			
INT/DEB _t	-0.0006 (0.8640)	0.0015 (0.4178)	0.0000 (0.9974)	0.0004 (0.8649)	-0.0002 (0.9618)	0.0003 (0.8522)
INT/DEB _{t-1}			-0.0009 (0.8382)			
DEB/OPRE _t	-0.0032 (0.7170)		0.0072 (0.5840)		0.0016 (0.8686)	
DEB/OPRE _{t-1}			-0.0074 (0.6340)			0.5249 *** (0.0000)
DEB/EBITDA _t	0.0003 (0.4775)		0.0000 (0.8923)		0.0000 (0.8915)	
DEB/EBITDA _{t-1}			0.0003 (0.2601)			
DEB/EQUITY _t	-0.0001 (0.8010)		0.0026 ** (0.0354)		0.0004 (0.4845)	
DEB/EQUITY _{t-1}			-0.0010 (0.3607)			
ROE _t	-0.0030 (0.1979)	0.0007 (0.5599)	-0.0014 (0.6419)	0.0002 (0.8811)	-0.0027 (0.2947)	0.0003 (0.7434)
ROE _{t-1}			0.0007 (0.7773)			
ROI _t		-0.0006 (0.7852)				0.0012 (0.5420)
ROI _{t-1}					0.0588 *** (0.0000)	
Adjusted ROI _t						
Adjusted ROI _{t-1}						
EBIT/INT _t	0.0000 (0.0673)	0.0000 (0.7006)	0.0000 (0.1993)	0.0000 (0.0548)	0.0000 (0.1209)	0.0000 (0.5063)
EBIT/INT _{t-1}			0.0000 (0.7504)			
ROS _t	0.2128 (0.0000)	-0.3949 *** (0.0000)	0.1677 *** (0.0001)	-0.7068 *** (0.0000)	0.1857 *** (0.0000)	-0.7152 *** (0.0000)
ROS _{t-1}			0.0242 (0.5888)			
TAX _t	0.0340 (0.1145)	-0.0197 (0.0691)	0.0299 (0.2754)	-0.0063 (0.6484)	0.0302 (0.2530)	-0.0247 ** (0.0222)
TAX _{t-1}			-0.0207 (0.4009)			
AV/STAF _t		0.0004 *** (0.0010)			0.0000 (0.8749)	
AV/STAF _{t-1}			-0.0001 (0.8291)			
AV/EMPL _t	-0.0001 (0.7567)					0.0002 (0.1550)
AV/EMPL _{t-1}						
RFA _t	-0.0001 (0.1354)	-0.0002 *** (0.0000)	0.0000 (0.8993)		0.0000 (0.5147)	-0.0001 *** (0.0000)
RFA _{t-1}			0.0000 (0.8550)			
R-squared	0.0019	0.1872	0.0017	0.1796	0.0056	0.4416
Adj. R-squared	0.0019	0.1871	0.0017	0.1795	0.0056	0.4414
p-value (F-stat)	0.0000	0.0000	0.0021	0.0000	0.0000	0.0000

GERMANY Variable	Semi-strong		Weak		Absence	
	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t
const	0.1176 *** (0.0000)	-0.1176 *** (0.0000)	0.1069 *** (0.0000)	-0.0998 *** (0.0000)	0.0819 *** (0.0000)	-0.0332 *** (0.0000)
CA/FIAS _t	0.0006 *** (0.0000)	0.0000 (0.1767)	-0.0001 (0.4666)	0.0000 (0.2936)	0.0001 (0.4077)	0.0000 (0.7302)
CA/FIAS _{t-1}			0.0000 (0.7236)			
CA/CL _t	0.0000 (0.5862)	0.0000 *** (0.0000)	0.0000 (0.7605)	0.0000 *** (0.0000)	0.0000 (0.6138)	0.0000 * (0.0283)
CA/CL _{t-1}				0.0000 *** (0.0000)		
WKCA/OPRE _t	-0.2229 ** (0.0017)	0.5730 *** (0.0000)			-0.2383 * (0.0157)	0.0879 *** (0.0000)
WKCA/OPRE _{t-1}			-0.1885 * (0.0313)	0.6539 *** (0.0000)		
WKCA/FIAS _t	-0.0004 (0.2896)	0.0000 (0.9817)	0.0008 (0.3157)	0.0001 (0.6565)	0.0003 (0.5199)	0.0000 (0.4209)
WKCA/FIAS _{t-1}			-0.0003 (0.6255)	0.0000 (0.9937)		
CRED-DEBD _t	0.0000 (0.9760)	-0.0001 (0.1792)	0.0000 (0.9699)	-0.0001 (0.4442)	0.0000 (0.9759)	0.0000 (0.4483)
CRED-DEBD _{t-1}			0.0000 (0.9675)	0.0000 (0.9258)		
DEBLT _t						
DEBLT _{t-1}						
FCFC/OPRE _t						
FCFC/OPRE _{t-1}						
FCFO/OPRE _t	-0.0078 (0.7702)	0.0174 * (0.0177)	-0.0094 (0.7883)	0.0952 *** (0.0000)	-0.0257 (0.5198)	-0.0130 * (0.0119)
FCFO/OPRE _{t-1}			0.0135 (0.6383)	0.0300 *** (0.0004)		
LEV _t	-0.0001 (0.9478)	0.0002 (0.3973)	0.0001 (0.9309)	-0.0001 (0.8121)	0.0002 (0.8312)	-0.0001 (0.3565)
LEV _{t-1}			-0.0007 (0.4485)	0.0003 (0.3024)		
DOI _t (volume)	0.0000 (0.7216)	0.0000 (0.2382)	0.0000 (0.8307)	0.0000 (0.4108)	0.0000 (0.8625)	0.0000 (0.8151)
DOI _{t-1} (volume)			0.0000 (0.9730)	0.0000 * (0.0321)		
DOI _t (price)	0.0027 *** (0.0000)	0.0001 (0.3959)	0.0039 *** (0.0000)	0.0002 (0.3067)	0.0024 *** (0.0001)	0.0002 * (0.0365)
DOI _{t-1} (price)			-0.0003 (0.6026)	0.0000 (0.8500)		
FIAS/OPRE _t	0.0067 (0.5708)	0.3431 *** (0.0000)	0.0072 (0.5362)	0.3268 *** (0.0000)	0.0119 (0.3378)	0.0659 *** (0.0000)
FIAS/OPRE _{t-1}						
INT/DEB _t	-0.0004 (0.1833)	0.0001 (0.1101)	-0.0001 (0.6735)	0.0001 (0.4169)	-0.0004 (0.1873)	0.0000 (0.7519)
INT/DEB _{t-1}			-0.0007 * (0.0294)	0.0001 (0.2593)		
DEB/OPRE _t	0.0084 (0.7098)				0.0104 (0.6638)	
DEB/OPRE _{t-1}			0.0064 (0.7853)			0.8634 *** (0.0000)
DEB/EBITDA _t	-0.0003 (0.4363)		-0.0003 (0.4357)		-0.0003 (0.4849)	
DEB/EBITDA _{t-1}			-0.0003 (0.3934)			
DEB/EQUITY _t	-0.0001 (0.4579)		-0.0001 (0.7401)		-0.0001 (0.5024)	
DEB/EQUITY _{t-1}			-0.0001 (0.8141)			
ROE _t	0.0170 *** (0.0000)	0.0009 (0.3421)	0.0115 ** (0.0052)	0.0001 (0.9436)	0.0143 *** (0.0002)	-0.0002 (0.6961)
ROE _{t-1}			0.0082 * (0.0375)			
ROI _t						
ROI _{t-1}					0.2160 *** (0.0000)	
Adjusted ROI _t		0.0007 (0.6343)		-0.0005 (0.7566)		-0.0002 (0.7909)
Adjusted ROI _{t-1}				-0.0005 (0.7591)		
EBIT/INT _t	0.0001 *** (0.0000)	0.0000 (0.0707)	0.0001 *** (0.0000)	0.0000 * (0.0327)	0.0001 *** (0.0000)	0.0000 (0.6109)
EBIT/INT _{t-1}			0.0000 ** (0.0015)			
ROS _t	1.1401 *** (0.0000)	-0.1654 *** (0.0000)	1.2935 *** (0.0000)	-0.1573 *** (0.0000)	1.0512 *** (0.0000)	0.0005 (0.9559)
ROS _{t-1}			-0.2316 * (0.0233)	-0.1465 *** (0.0000)		
TAX _t	0.0012 (0.8258)	-0.0016 (0.2806)	0.0001 (0.9768)	-0.0014 (0.3368)	0.0000 (0.9953)	-0.0002 (0.7394)
TAX _{t-1}			-0.0020 (0.6817)	-0.0009 (0.5241)		
AV/STAF _t		0.0003 *** (0.0000)	-0.0001 (0.7696)	0.0003 *** (0.0009)	-0.0002 (0.3086)	0.0000 (0.1252)
AV/STAF _{t-1}			-0.0002 (0.6065)	0.0000 (0.7509)		
AV/EEMPL _t	-0.0002 (0.2690)					
AV/EEMPL _{t-1}						
RFA _t	0.0000 (0.6806)	0.0000 *** (0.0002)	0.0000 (0.8005)	0.0000 * (0.0158)	0.0000 (0.6870)	0.0000 (0.5143)
RFA _{t-1}			0.0000 (0.9517)	0.0000 (0.0986)		
R-squared	0.0225	0.4871	0.0255	0.4785	0.0752	0.8900
Adj. R-squared	0.0224	0.4868	0.0254	0.4777	0.0752	0.8892
p-value (F-stat)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

IS BASEL THE RIGHT GATEWAY FOR A MORE EFFICIENT DEBT MARKET? AN INTERNATIONAL COMPARISON

SPAIN Variable	Semi-strong		Weak		Absence	
	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t
const	0.0875 *** (0.0000)	0.0559 *** (0.0004)	0.0761 *** (0.0000)	-0.0051 (0.7569)	0.0425 *** (0.0000)	-0.0225 (0.0853)
CA/FIAS _t			0.0004 *** (0.0000)	-0.0004 (0.3600)		
CA/FIAS _{t-1}			0.0005 *** (0.0000)			
CA/CL _t	0.0000 (0.8428)	-0.0115 *** (0.0000)	0.0001 (0.5032)	-0.0088 *** (0.0000)	-0.0001 (0.6391)	-0.0064 *** (0.0000)
CA/CL _{t-1}			-0.0004 ** (0.0022)	-0.0051 *** (0.0000)		
WKCA/OPRE _t	0.0040 *** (0.0001)	0.3493 *** (0.0000)	0.0087 *** (0.0000)	0.3960 *** (0.0000)	0.0025 ** (0.0054)	0.2940 *** (0.0000)
WKCA/OPRE _{t-1}				-0.0231 *** (0.0003)		
WKCA/FIAS _t	0.0002 (0.0585)	-0.0004 (0.4847)			0.0001 (0.3286)	-0.0006 (0.2637)
WKCA/FIAS _{t-1}				0.0002 (0.7521)		
CRED-DEBD _t	0.0000 (0.5166)	0.0002 ** (0.0095)	0.0000 (0.2431)	0.0004 ** (0.0030)	0.0000 (0.5739)	0.0004 *** (0.0000)
CRED-DEBD _{t-1}			0.0000 (0.6512)	-0.0002 (0.1875)		
DEBLT _t						
DEBLT _{t-1}						
FCFC/OPRE _t						
FCFC/OPRE _{t-1}						
FCFO/OPRE _t			-0.0006 (0.4804)			
FCFO/OPRE _{t-1}						
LEV _t	-0.0003 * (0.0490)	0.0036 *** (0.0006)	-0.0003 (0.0924)	0.0023 * (0.0129)	-0.0002 (0.2118)	0.0011 (0.1931)
LEV _{t-1}			-0.0002 (0.2662)	0.0023 * (0.0218)		
DOL _t (volume)	0.0000 (0.4640)	0.0000 (0.9056)	0.0000 (0.5793)	0.0001 (0.4559)	0.0000 (0.6376)	0.0000 (0.8981)
DOL _{t-1} (volume)			0.0000 (0.9251)	-0.0001 (0.6311)		
DOL _t (price)	-0.0001 (0.6981)	-0.0018 (0.1702)	-0.0011 *** (0.0000)	-0.0004 (0.7749)	-0.0008 *** (0.0001)	-0.0017 (0.1238)
DOL _{t-1} (price)			0.0002 (0.3623)	0.0000 (0.9766)		
FIAS/OPRE _t	-0.0051 *** (0.0000)	0.2313 *** (0.0000)	-0.0056 *** (0.0000)	0.1361 *** (0.0000)	-0.0033 *** (0.0000)	0.1014 *** (0.0000)
FIAS/OPRE _{t-1}			-0.0001 (0.9240)	0.1245 *** (0.0000)		
INT/DEB _t	0.0003 (0.6237)	0.0015 (0.6934)	0.0005 (0.4836)	0.0006 (0.8830)	0.0003 (0.5918)	0.0005 (0.8861)
INT/DEB _{t-1}			0.0002 (0.7252)	0.0023 (0.4948)		
DEB/OPRE _t	-0.0031 ** (0.0059)		-0.0072 *** (0.0006)		-0.0010 (0.3360)	
DEB/OPRE _{t-1}			-0.0013 (0.5772)			0.5589 *** (0.0000)
DEB/EBITDA _t	-0.0001 * (0.0417)		0.0000 (0.8928)		0.0000 (0.4661)	
DEB/EBITDA _{t-1}			0.0000 (0.5322)			
DEB/EQUITY _t	-0.0019 *** (0.0000)		-0.0013 *** (0.0009)		-0.0010 ** (0.0015)	
DEB/EQUITY _{t-1}			-0.0009 * (0.0106)			
ROE _t	0.0564 *** (0.0000)	-0.0335 (0.0582)	0.0423 *** (0.0000)	-0.0427 ** (0.0066)	0.0379 *** (0.0000)	0.0006 (0.9635)
ROE _{t-1}			0.0366 *** (0.0000)	-0.0243 (0.1628)		
ROI _t		-0.0856 (0.2792)				
ROI _{t-1}				-0.1941 * (0.0150)	0.4561 *** (0.0000)	
Adjusted ROI _t		-0.0577 (0.3939)		-0.1295 *** (0.0009)		-0.0763 * (0.0166)
Adjusted ROI _{t-1}				0.0529 (0.3977)		
EBIT/INT _t	0.0000 ** (0.0060)	0.0000 (0.1367)	0.0000 (0.0529)	0.0000 (0.1441)	0.0000 (0.1413)	0.0000 (0.4777)
EBIT/INT _{t-1}			0.0000 (0.0877)	0.0000 (0.2912)		
ROS _t	0.3109 *** (0.0000)	-0.0840 (0.1464)	0.3551 *** (0.0000)	0.9181 *** (0.0000)	0.2146 *** (0.0000)	-0.0035 (0.9420)
ROS _{t-1}			0.0971 *** (0.0000)	-0.4507 *** (0.0000)		
TAX _t	0.0018 (0.1410)	-0.0023 (0.7552)	0.0019 (0.1493)	0.0233 ** (0.0010)	0.0006 (0.5904)	0.0019 (0.7585)
TAX _{t-1}			0.0023 (0.0821)	-0.0265 *** (0.0003)		
AV/STAF _t	0.0002 (0.5377)	0.0081 *** (0.0000)	0.0019 *** (0.0000)	-0.0087 *** (0.0002)	0.0004 (0.2015)	0.0016 (0.3063)
AV/STAF _{t-1}			-0.0023 *** (0.0000)	0.0199 *** (0.0000)		
AV/EMPL _t						
AV/EMPL _{t-1}						
RFA _t	0.0000 (0.6059)	-0.0001 *** (0.0000)	0.0000 (0.9838)	-0.0001 *** (0.0000)	0.0000 (0.7773)	0.0000 ** (0.0056)
RFA _{t-1}			0.0000 (0.8061)	-0.0001 *** (0.0000)		
R-squared	0.0831	0.4490	0.1303	0.5130	0.2689	0.6938
Adj. R-squared	0.0830	0.4486	0.1300	0.5119	0.2686	0.6931
p-value (F-stat)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

FRANCE Variable	Semi-strong		Weak		Absence	
	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t
const	0.1741 *** (0.0000)	0.1528 *** (0.0000)	0.1641 *** (0.0000)	0.0830 *** (0.0000)	0.1521 *** (0.0000)	0.3212 *** (0.0000)
CA/FIAS _t	0.0000 (0.1765)	0.0000 (0.3932)	0.0000 (0.8675)	0.0000 (0.9457)	0.0000 (0.2080)	0.0000 (0.8730)
CA/FIAS _{t-1}			0.0000 (0.6846)	-0.0002 *** (0.0001)		
CA/CL _t	0.0055 * (0.0470)	-0.0555 *** (0.0000)	0.0059 (0.1034)	-0.0546 *** (0.0000)	0.0040 (0.1323)	-0.0357 *** (0.0000)
CA/CL _{t-1}			0.0035 (0.3087)	-0.0243 *** (0.0000)		
WKCA/OPRE _t	0.1649 *** (0.0000)	6.5399 *** (0.0000)	0.0077 (0.8327)	1.3420 *** (0.0000)	0.0067 (0.8195)	1.5214 *** (0.0000)
WKCA/OPRE _{t-1}			-0.0284 (0.4894)	-0.3482 *** (0.0000)		
WKCA/FIAS _t	0.0001 (0.1657)	-0.0002 * (0.0500)	0.0000 (0.7042)	-0.0002 *** (0.0032)	0.0001 (0.2073)	-0.0001 (0.1853)
WKCA/FIAS _{t-1}			0.0001 (0.5541)	-0.0008 *** (0.0000)		
CRED-DEBD _t	0.0000 (0.7459)	0.0000 (0.5536)	0.0000 (0.6151)	0.0000 (0.5996)	0.0000 (0.8913)	0.0000 (0.6822)
CRED-DEBD _{t-1}			0.0000 (0.6754)	0.0000 (0.8607)		
DEBLT _t						
DEBLT _{t-1}						
FCFC/OPRE _t	0.1440 *** (0.0000)	5.2178 *** (0.0000)				
FCFC/OPRE _{t-1}						
FCFO/OPRE _t	-0.0193 (0.0874)	-2.6485 *** (0.0000)	0.0295 *** (0.0005)	-0.0262 *** (0.0000)	0.0273 *** (0.0006)	0.0511 *** (0.0000)
FCFO/OPRE _{t-1}						
LEV _t	0.0011 (0.7952)	-0.0078 (0.1547)	0.0005 (0.902)	0.0000 (0.9981)	0.0006 (0.8803)	-0.0042 (0.3414)
LEV _{t-1}			0.0022 (0.6008)	-0.0016 (0.5882)		
DOI _t (volume)	0.0000 (0.9611)	-0.0002 (0.1398)	0.0000 (0.9448)	-0.0001 (0.1733)	0.0000 (0.8965)	-0.0002 * (0.0448)
DOI _{t-1} (volume)			-0.0001 (0.2783)	-0.0001 (0.2668)		
DOI _t (price)	-0.0020 (0.2407)	-0.0083 *** (0.0003)	-0.0026 (0.1612)	-0.0019 (0.1380)	-0.0015 (0.3688)	-0.0126 *** (0.0000)
DOI _{t-1} (price)			0.0004 (0.8333)	-0.0015 (0.2686)		
FIAS/OPRE _t	0.0052 *** (0.0000)	-0.8748 *** (0.0000)	0.0014 (0.1813)	-1.0057 *** (0.0000)	0.0015 (0.1374)	-0.9810 *** (0.0000)
FIAS/OPRE _{t-1}			0.0008 (0.8941)	0.8208 *** (0.0000)		
INT/DEB _t	0.0031 (0.4429)	-0.0006 (0.9069)	0.0014 (0.7396)	0.0004 (0.9038)	0.0010 (0.8107)	0.0013 (0.7762)
INT/DEB _{t-1}			0.0051 (0.216)	0.0019 (0.5051)		
DEB/OPRE _t			0.0222 *** (0.0000)			
DEB/OPRE _{t-1}			-0.0304 ** (0.029)			-0.0083 *** (0.0000)
DEB/EBITDA _t	-0.0003 (0.3601)		-0.0004 (0.3466)		-0.0003 (0.3514)	
DEB/EBITDA _{t-1}			0.0000 (0.9688)			
DEB/EQUITY _t	-0.0022 (0.1687)		0.0001 (0.9661)		-0.0001 (0.9563)	
DEB/EQUITY _{t-1}			0.0008 (0.6208)			
ROE _t	0.0094 (0.0625)	-0.0008 (0.8991)	0.0160 *** (0.0022)	-0.0019 (0.6127)	0.0102 (0.0505)	0.0006 (0.9096)
ROE _{t-1}				-0.0069 (0.0491) **		
ROI _t		-0.0259 *** (0.0000)				-0.0094 (0.0554)
ROI _{t-1}					0.1267 *** (0.0000)	
Adjusted ROI _t				-0.0032 (0.3006)		
Adjusted ROI _{t-1}						
EBIT/INT _t	0.0000 * (0.0244)	0.0000 ** (0.0014)	0.0000 * (0.0865)	0.0000 (0.0777)	0.0000 (0.1056)	0.0000 * (0.0101)
EBIT/INT _{t-1}			0.0000 * (0.0881)	0.0000 (0.3304)		
ROS _t						
ROS _{t-1}			0.0650 *** (0.0003)	0.4402		
TAX _t	0.0076 (0.2417)	-0.0085 (0.3209)	0.0075 (0.2377)	-0.0078 (0.0846)	0.0069 (0.2816)	-0.0164 * (0.0168)
TAX _{t-1}			0.0116 * (0.0861)	-0.0093 (0.0507)		
AV/STAF _t	0.0005 (0.3627)	0.0011 (0.1507)	0.0005 (0.5016)	-0.0004 (0.4068)	0.0005 (0.3901)	0.0020 *** (0.0008)
AV/STAF _{t-1}			0.0000 (0.9525)	0.0009 (0.1104)		
AV/EMPL _t						
AV/EMPL _{t-1}						
RFA _t	0.0000 (0.4960)	0.0004 *** (0.0000)	0.0000 (0.8202)	0.0002	0.0000 (0.7720)	0.0004 *** (0.0000)
RFA _{t-1}			0.0000 (0.9852)	0.0000 (0.9922)		
R-squared	0.0015	0.9442	0.0023	0.9898	0.0195	0.9727
Adj. R-squared	0.0015	0.9439	0.0023	0.9890	0.0195	0.9723
p-value (F-stat)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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HUNGARY Variable	Semi-strong		Weak		Absence	
	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t
const	0.0954 *** (0.0000)	-0.0057 (0.4814)	0.0929 *** (0.0000)	0.0563 *** (0.0000)	0.0831 *** (0.0000)	-0.0058 (0.4081)
CA/FIAS _t	0.0010 (0.0574)	-0.0028 *** (0.0000)			0.0006 (0.2942)	-0.0020 *** (0.0002)
CA/FIAS _{t-1}			-0.0025 ** (0.0047)	-0.0015 (0.0578)		
CA/CL _t	0.0033 (0.1090)	-0.0086 *** (0.0000)	0.0078 (0.1353)	-0.0139 ** (0.0034)	0.0026 (0.4185)	-0.0003 (0.8511)
CA/CL _{t-1}			-0.0044 (0.4444)	-0.0264 *** (0.0000)		
WKCA/OPRE _t	-0.0901 * (0.0254)	0.3261 *** (0.0000)			-0.0940 * (0.0424)	0.1173 *** (0.0002)
WKCA/OPRE _{t-1}						
WKCA/FIAS _t	0.0041 * (0.0140)	0.0063 *** (0.0000)	0.0029 (0.3188)	0.0014 (0.5892)	0.0015 (0.4117)	0.0041 ** (0.0073)
WKCA/FIAS _{t-1}			0.0073 * (0.0457)	0.0064 (0.0522)		
CRED-DEBD _t	-0.0005 (0.0660)	0.0042 *** (0.0000)	-0.0022 *** (0.0009)	0.0000 (0.9877)	-0.0031 *** (0.0000)	0.0040 *** (0.0000)
CRED-DEBD _{t-1}						
DEBLT _t						
DEBLT _{t-1}						
FCFC/OPRE _t						
FCFC/OPRE _{t-1}						
FCFO/OPRE _t	-0.0156 (0.3127)	0.1649 *** (0.0000)	0.0068 (0.6346)	-0.0659 *** (0.0000)	-0.0264 (0.1773)	0.0410 ** (0.0024)
FCFO/OPRE _{t-1}			0.0195 (0.1239)	0.0972 *** (0.0000)		
LEV _t	-0.0002 (0.8347)	0.0009 (0.2718)	-0.0003 (0.7821)	0.0011 (0.2176)	-0.0001 (0.8812)	0.0005 (0.4981)
LEV _{t-1}			-0.0006 (0.5502)	0.0015 (0.0963)		
DOL _t (volume)	-0.0001 (0.3458)	-0.0001 (0.1617)	-0.0001 (0.5476)	-0.0002 * (0.0300)	-0.0001 (0.3502)	-0.0001 (0.5245)
DOL _{t-1} (volume)			-0.0001 (0.5878)	-0.0002 (0.0864)		
DOL _t (price)	-0.0003 (0.5577)	0.0009 * (0.0241)	-0.0002 (0.7537)	0.0019 *** (0.0009)	0.0000 (0.9596)	0.0005 (0.1069)
DOL _{t-1} (price)			0.0000 (0.9978)	0.0002 (0.5349)		
FIAS/OPRE _t	0.0074 (0.1372)	0.1788 *** (0.0000)	-0.0148 (0.0622)	0.2807 *** (0.0000)	0.0083 (0.0822)	0.0847 *** (0.0000)
FIAS/OPRE _{t-1}						
INT/DEB _t	-0.0001 (0.8644)	0.0013 * (0.0227)	-0.0001 (0.8580)	0.0005 (0.3595)	-0.0002 (0.7128)	0.0005 (0.2663)
INT/DEB _{t-1}			0.0000 (0.9878)	0.0008 (0.2262)		
DEB/OPRE _t	-0.0241 (0.0786)		0.0077 (0.7510)		-0.0199 (0.1532)	
DEB/OPRE _{t-1}			-0.0165 (0.5226)			0.5495 *** (0.0000)
DEB/EBITDA _t	0.0001 (0.8395)		0.0001 (0.8021)		0.0001 (0.7693)	
DEB/EBITDA _{t-1}			-0.0001 (0.8263)			
DEB/EQUITY _t	-0.0030 (0.1212)		-0.0127 *** (0.0003)		-0.0024 (0.1998)	
DEB/EQUITY _{t-1}			0.0003 (0.9344)			
ROE _t	0.0812 *** (0.0000)	0.0010 (0.8347)	0.0775 *** (0.0000)	0.0007 (0.8924)	0.0729 *** (0.0000)	0.0046 (0.2494)
ROE _{t-1}			0.0085 (0.2192)	0.0040 (0.5192)		
ROI _t		-0.0050 (0.7473)		-0.0041 (0.8079)		-0.0054 (0.6894)
ROI _{t-1}				0.0233 (0.1843)	0.0907 *** (0.0000)	
Adjusted ROI _t		-0.0131 (0.3329)		-0.0224 (0.1852)		-0.0139 (0.2820)
Adjusted ROI _{t-1}				-0.0305 * (0.0461)		
EBIT/INT _t	0.0001 *** (0.0000)	0.0000 * (0.0178)	0.0001 *** (0.0000)	0.0000 (0.2743)	0.0001 *** (0.0000)	0.0000 (0.2436)
EBIT/INT _{t-1}			0.0000 * (0.0332)	0.0000 (0.6610)		
ROS _t	0.5612 *** (0.0000)	0.0213 (0.5544)	0.4360 *** (0.0000)	0.1299 ** (0.0016)	0.4693 *** (0.0000)	-0.0138 (0.6671)
ROS _{t-1}			0.1625 * (0.0100)	-0.3942 *** (0.0000)		
TAX _t	0.0047 (0.6217)	-0.0067 (0.3862)	0.0059 (0.5892)	0.0017 (0.8666)	0.0061 (0.5804)	-0.0081 (0.1850)
TAX _{t-1}			0.0021 (0.7979)	0.0035 (0.6292)		
AV/STAF _t	-0.0001 (0.2356)	0.0014 *** (0.0000)	-0.0001 (0.8458)	0.0001 (0.7928)	-0.0001 (0.5556)	0.0006 *** (0.0000)
AV/STAF _{t-1}			-0.0001 (0.6232)	0.0019 *** (0.0000)		
AV/EMPL _t						
AV/EMPL _{t-1}						
RFA _t	-0.0003 (0.1581)	0.0019 *** (0.0000)			-0.0004 (0.1021)	0.0003 (0.1173)
RFA _{t-1}			0.0001 (0.7548)	-0.0012 *** (0.0000)		
R-squared	0.0541	0.3924	0.0878	0.3922	0.0768	0.6300
Adj. R-squared	0.0540	0.3915	0.0873	0.3900	0.0765	0.6283
p-value (F-stat)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

ITALY Variable	Semi-strong		Weak		Absence	
	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t
const	0.1088 *** (0.0000)	0.2057 *** (0.0000)	0.0964 *** (0.0000)	0.2389 *** (0.0000)	0.0699 *** (0.0000)	0.0629 *** (0.0000)
CA/FIAS _t	0.0000 (0.1692)	0.0001 ** (0.0014)	0.0000 (0.8449)	0.0002 *** (0.0000)	0.0000 (0.1810)	0.0001 ** (0.0097)
CA/FIAS _{t-1}			0.0002 *** (0.0000)	0.0001 * (0.0216)		
CA/CL _t	0.0146 *** (0.0000)	-0.0965 *** (0.0000)	0.0134 *** (0.0000)	-0.0682 *** (0.0000)	0.0110 *** (0.0000)	-0.0367 *** (0.0000)
CA/CL _{t-1}			0.0016 (0.4936)	-0.0590 *** (0.0000)		
WKCA/OPRE _t						
WKCA/OPRE _{t-1}						
WKCA/FIAS _t	0.0000 (0.6345)	-0.0004 *** (0.0000)	-0.0002 (0.2886)	-0.0009 *** (0.0000)	0.0001 (0.5589)	-0.0006 *** (0.0000)
WKCA/FIAS _{t-1}						
CRED-DEBD _t	0.0000 (0.8822)	0.0003 *** (0.0000)	0.0000 (0.5022)	0.0004 *** (0.0000)	0.0000 (0.8191)	0.0002 *** (0.0000)
CRED-DEBD _{t-1}			0.0000 (0.7545)	0.0000 (0.2003)		
DEBLT _t						
DEBLT _{t-1}						
FCFC/OPRE _t						
FCFC/OPRE _{t-1}						
FCFO/OPRE _t	0.0099 *** (0.0000)	-0.1803 *** (0.0000)	0.0110 *** (0.0000)	-0.1832 *** (0.0000)	0.0084 *** (0.0000)	-0.1005 *** (0.0000)
FCFO/OPRE _{t-1}			0.0012 (0.6684)	-0.0031 (0.2533)		
LEV _t	-0.0002 (0.5683)	0.0004 (0.1764)	-0.0001 (0.7472)	0.0002 (0.5102)	-0.0001 (0.7916)	-0.0001 (0.5925)
LEV _{t-1}			0.0000 (0.9063)	0.0001 (0.8273)		
DOI _t (volume)	-0.0001 * (0.0287)	0.0001 (0.1093)	-0.0001 (0.0699)	0.0000 (0.5041)	-0.0001 (0.1569)	0.0000 (0.5490)
DOI _{t-1} (volume)			-0.0001 (0.1136)	0.0001 * (0.0259)		
DOI _t (price)	-0.0010 *** (0.0001)	-0.0012 *** (0.0000)	-0.0007 ** (0.0047)	-0.0008 ** (0.0022)	-0.0006 * (0.0124)	-0.0002 (0.1579)
DOI _{t-1} (price)			-0.0005 (0.1015)	-0.0008 ** (0.0066)		
FIAS/OPRE _t	0.0078 *** (0.0000)	0.1815 *** (0.0000)	0.0201 *** (0.0000)	0.1051 *** (0.0000)	0.0079 *** (0.0000)	0.0505 *** (0.0000)
FIAS/OPRE _{t-1}			-0.0117 *** (0.0000)	0.0942 *** (0.0000)		
INT/DEB _t	0.0005 (0.0883)	0.0027 *** (0.0000)	0.0005 (0.1303)	0.0022 *** (0.0000)	0.0005 (0.1030)	0.0012 *** (0.0000)
INT/DEB _{t-1}			0.0001 (0.8071)	0.0013 *** (0.0002)		
DEB/OPRE _t	-0.0153 *** (0.0000)		0.0194 *** (0.0006)		-0.0078 * (0.0295)	
DEB/OPRE _{t-1}			-0.0402 *** (0.0000)			0.7427 *** (0.0000)
DEB/EBITDA _t	-0.0003 * (0.0152)		-0.0002 (0.0960)		-0.0002 (0.0546)	
DEB/EBITDA _{t-1}			-0.0002 (0.0999)			
DEB/EQUITY _t	-0.0009 *** (0.0001)		-0.0004 (0.1312)		-0.0007 ** (0.0023)	
DEB/EQUITY _{t-1}			-0.0012 *** (0.0000)			
ROE _t	0.0234 *** (0.0000)	-0.0104 *** (0.0000)	0.0213 *** (0.0000)	-0.0122 *** (0.0000)	0.0194 *** (0.0000)	-0.0023 (0.1070)
ROE _{t-1}			0.0134 *** (0.0000)	-0.0111 *** (0.0000)		
ROI _t		-0.0209 *** (0.0010)		-0.0078 (0.2915)		0.0250 *** (0.0000)
ROI _{t-1}				-0.0368 *** (0.0000)	0.2177 *** (0.0000)	
Adjusted ROI _t		0.0043 (0.3661)		0.0005 (0.9316)		-0.0099 ° (0.0120)
Adjusted ROI _{t-1}				0.0117 * (0.0331)		
EBIT/INT _t	0.0000 *** (0.0000)	0.0000 *** (0.0000)	0.0000 *** (0.0000)	0.0000 * (0.0287)	0.0000 *** (0.0000)	0.0000 (0.3304)
EBIT/INT _{t-1}			0.0000 *** (0.0004)	0.0000 * (0.0499)		
ROS _t	0.4648 *** (0.0000)	-0.0699 *** (0.0000)	0.4721 *** (0.0000)	-0.3479 *** (0.0000)	0.3886 *** (0.0000)	-0.4956 *** (0.0000)
ROS _{t-1}			0.0759 *** (0.0001)	0.4309 *** (0.0000)		
TAX _t	0.0052 ** (0.0077)	-0.0074 *** (0.0001)	0.0047 * (0.0220)	-0.0042 * (0.0384)	0.0039 (0.0535)	-0.0009 (0.5540)
TAX _{t-1}			0.0046 * (0.0223)	-0.0082 *** (0.0000)		
AV/STAF _t	0.0000 (0.9483)	0.0002 (0.1021)	0.0001 (0.6794)	0.0000 (0.8571)	0.0000 (0.9435)	-0.0001 (0.4734)
AV/STAF _{t-1}			-0.0002 (0.4530)	0.0001 (0.5078)		
AV/EMPL _t						
AV/EMPL _{t-1}						
RFA _t	-0.0003 *** (0.0000)	0.0004 *** (0.0000)	-0.0002 * (0.0207)	0.0003 *** (0.0003)	-0.0002 *** (0.0002)	0.0001 * (0.0125)
RFA _{t-1}			-0.0002 (0.0649)	-0.0001 (0.1098)		
R-squared	0.0214	0.3750	0.0275	0.3897	0.0744	0.7054
Adj. R-squared	0.0214	0.3749	0.0275	0.3895	0.0744	0.7052
p-value (F-stat)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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POLAND Variable	Semi-strong		Weak		Absence	
	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t
const	0.1030 *** (0.0000)	0.0131 (0.3601)	0.0763 *** (0.0003)	0.0442 *** (0.0023)	0.0583 ** (0.0034)	-0.0423 *** (0.0000)
CA/FIAS _t	0.0031 *** (0.0000)	-0.0005 (0.0885)			0.0006 (0.1279)	-0.0020 *** (0.0000)
CA/FIAS _{t-1}			-0.0007 (0.4559)	0.0001 (0.8775)		
CA/CL _t	-0.0045 (0.2880)	-0.0784 *** (0.0000)	0.0091 (0.2548)	-0.1053 *** (0.0000)	0.0113 * (0.0159)	0.0134 *** (0.0000)
CA/CL _{t-1}			0.0035 (0.6239)	0.0294 *** (0.0000)		
WKCA/OPRE _t	-0.1629 * (0.0118)	0.2927 *** (0.0000)			-0.1658 ** (0.0057)	
WKCA/OPRE _{t-1}						
WKCA/FIAS _t	-0.0033 ** (0.0042)	0.0015 (0.0640)	0.0013 (0.1415)	0.0000 (0.9644)	0.0004 (0.7214)	0.0034 *** (0.0000)
WKCA/FIAS _{t-1}			0.0015 (0.4791)	0.0014 (0.3452)		
CRED-DEBD _t	-0.0111 *** (0.0000)	-0.0026 ** (0.0026)	-0.0056 ** (0.0234)	-0.0034 ** (0.0449)	-0.0014 (0.2642)	-0.0022 *** (0.0000)
CRED-DEBD _{t-1}			0.0033 (0.2242)	0.0031 (0.0948)		
DEBLT _t						
DEBLT _{t-1}						
FCFC/OPRE _t			0.0396 (0.3940)	0.1172 *** (0.0002)		0.0632 *** (0.0000)
FCFC/OPRE _{t-1}						
FCFO/OPRE _t	-0.0436 * (0.0289)	0.1305 *** (0.0000)	0.0066 (0.8276)	-0.0203 (0.3228)	-0.0310 (0.0834)	-0.0136 (0.1277)
FCFO/OPRE _{t-1}			0.0051 (0.8225)	-0.1165 *** (0.0000)		
LEV _t	-0.0003 (0.8955)	0.0033 * (0.0202)	-0.0005 (0.7521)	0.0045 *** (0.0000)	-0.0003 (0.8819)	0.0020 ** (0.0017)
LEV _{t-1}			-0.0005 (0.7960)	-0.0010 (0.4259)		
DOL _t (volume)	0.0000 (0.9954)	-0.0001 (0.6119)	0.0000 (0.9534)	-0.0001 (0.4596)	0.0000 (0.9864)	0.0000 (0.7792)
DOL _{t-1} (volume)			0.0000 (0.9778)	-0.0002 (0.1600)		
DOL _t (price)	0.0001 (0.9685)	0.0012 (0.1723)	0.0003 (0.8238)	0.0001 (0.8819)	0.0004 (0.7173)	0.0010 * (0.0219)
DOL _{t-1} (price)			0.0018 (0.1316)	0.0005 (0.5246)		
FIAS/OPRE _t	-0.0363 *** (0.0001)	0.1498 *** (0.0000)			-0.0274 ** (0.0019)	0.0480 *** (0.0000)
FIAS/OPRE _{t-1}			-0.0436 *** (0.0000)	0.1751 *** (0.0000)		
INT/DEB _t	0.0011 (0.6905)	0.0056 ** (0.0030)	0.0009 (0.7848)	0.0038 (0.1096)	0.0010 (0.6759)	0.0022 * (0.0422)
INT/DEB _{t-1}			-0.0004 (0.9142)	0.0053 ** (0.0252)		
DEB/OPRE _t	-0.0599 ** (0.0044)		0.0228 (0.3936)		-0.0077 (0.7528)	
DEB/OPRE _{t-1}						0.7182 *** (0.0000)
DEB/EBITDA _t	0.0004 (0.6231)		-0.0001 (0.8486)		0.0002 (0.7342)	
DEB/EBITDA _{t-1}			0.0006 (0.4955)			
DEB/EQUITY _t	-0.0034 (0.3796)		0.0002 (0.9493)		0.0006 (0.8611)	
DEB/EQUITY _{t-1}			0.0004 (0.9106)			
ROE _t	0.0188 * (0.0112)	-0.0029 (0.5733)	0.0133 ** (0.0269)	0.0026 (0.5151)	0.0157 * (0.0143)	-0.0001 (0.9676)
ROE _{t-1}			0.0244 *** (0.0002)	-0.0070 (0.1091)		
ROI _t		-0.0288 ** (0.0040)		0.0124 (0.3123)		-0.0215 *** (0.0001)
ROI _{t-1}					0.2414 *** (0.0000)	
Adjusted ROI _t						
Adjusted ROI _{t-1}				-0.0194 (0.1132)		
EBIT/INT _t	0.0000 *** (0.0004)	0.0000 *** (0.0003)	0.0000 *** (0.0009)	0.0000 (0.6198)	0.0000 *** (0.0006)	0.0000 ** (0.0054)
EBIT/INT _{t-1}			0.0000 (0.3564)	0.0000 *** (0.0014)		
ROS _t	1.5770 *** (0.0000)	1.0061 *** (0.0000)	1.2525 *** (0.0000)	-0.1831 (0.0883)	1.1300 *** (0.0000)	-0.0257 (0.5718)
ROS _{t-1}			-0.0883 (0.5672)	0.9509 *** (0.0000)		
TAX _t	-0.0004 (0.9753)	-0.0170 (0.0804)	-0.0029 (0.8277)	-0.0046 (0.6027)	-0.0006 (0.9611)	-0.0090 * (0.0386)
TAX _{t-1}			-0.0046 (0.7238)	-0.0029 (0.7414)		
AV/STAF _t	0.0117 *** (0.0002)	0.0017 (0.4308)	0.0026 (0.5010)	-0.0130 *** (0.0000)	0.0004 (0.8973)	0.0055 *** (0.0000)
AV/STAF _{t-1}			-0.0046 (0.2264)	0.0071 *** (0.0071)		
AV/EMPL _t						
AV/EMPL _{t-1}						
RFA _t	0.0000 (0.5739)	-0.0001 *** (0.0000)	0.0000 (0.2720)	-0.0001 *** (0.0000)	0.0000 (0.7099)	0.0000 (0.4678)
RFA _{t-1}						
R-squared	0.0784	0.2989	0.0630	0.4116	0.1715	0.8187
Adj. R-squared	0.0781	0.2977	0.0623	0.4073	0.1705	0.8142
p-value (F-stat)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

SLOVAKIA Variable	Semi-strong		Weak		Absence	
	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t
const	0.1598 *** (0.0000)	0.1177 (0.1122)	0.0823 (0.1026)	0.0028 (0.9720)	0.1413 *** (0.0014)	-0.0512 (0.3720)
CA/FIAS _t	0.0017 ** (0.0339)	-0.0003 (0.8268)	0.0022 (0.2438)	0.0036 (0.2082)	0.0029 ** (0.0461)	0.0003 (0.8754)
CA/FIAS _{t-1}			0.0057 ** (0.0392)	-0.0013 (0.7624)		
CA/CL _t	0.0073 (0.3192)	-0.0440 *** (0.0017)	0.0000 (0.9963)	-0.0158 (0.2196)	0.0020 (0.8027)	-0.0107 (0.2972)
CA/CL _{t-1}			-0.0005 (0.9483)	-0.1048 *** (0.0000)		
WKCA/OPRE _t			0.0024 (0.3512)			
WKCA/OPRE _{t-1}			-0.0103 (0.6880)			
WKCA/FIAS _t	-0.0011 (0.4922)	-0.0015 (0.6202)		0.0013 (0.7414)	-0.0024 (0.2892)	-0.0013 (0.6628)
WKCA/FIAS _{t-1}			-0.0189 *** (0.0020)	-0.0157 (0.1006)		
CRED-DEBD _t	0.0068 *** (0.0084)	-0.0032 (0.5162)	0.0035 (0.5661)	0.0546 *** (0.0000)	0.0071 ** (0.0172)	0.0018 (0.6314)
CRED-DEBD _{t-1}			-0.0046 (0.4530)	-0.0418 *** (0.0000)		
DEBLT _t						
DEBLT _{t-1}						
FCFC/OPRE _t	-0.0018 (0.8178)	-0.4535 *** (0.0000)			0.0018 (0.8653)	0.4056 *** (0.0000)
FCFC/OPRE _{t-1}				0.1431 *** (0.0000)		
FCFO/OPRE _t			-0.0029 (0.7599)	-0.5564 *** (0.0000)		-0.6049 *** (0.0000)
FCFO/OPRE _{t-1}				-0.0714 *** (0.0002)		
LEV _t	-0.0005 (0.9221)	-0.0024 (0.8028)	-0.0003 (0.9615)	-0.0033 (0.6881)	-0.0005 (0.9314)	-0.0007 (0.9173)
LEV _{t-1}			-0.0002 (0.9765)	0.0004 (0.9601)		
DOI _t (volume)	-0.0001 (0.8416)	-0.0004 (0.7317)	-0.0001 (0.9312)	-0.0001 (0.8954)	-0.0001 (0.8823)	-0.0002 (0.8302)
DOI _{t-1} (volume)			0.0001 (0.9016)	-0.0004 (0.7367)		
DOI _t (price)	-0.0077 *** (0.0004)	-0.0011 (0.7857)	-0.0124 *** (0.0000)	0.0007 (0.8783)	-0.0083 *** (0.0005)	0.0004 (0.9053)
DOI _{t-1} (price)			0.0140 *** (0.0000)	0.0008 (0.8638)		
FIAS/OPRE _t					0.0036 (0.4313)	0.1086 *** (0.0000)
FIAS/OPRE _{t-1}			0.0015 (0.8046)	0.1013 *** (0.0000)		
INT/DEB _t	0.0027 (0.7186)	0.0075 (0.5969)	-0.0002 (0.9808)	0.0041 (0.7802)	0.0031 (0.7134)	0.0009 (0.9326)
INT/DEB _{t-1}			0.0096 (0.4460)	0.0056 (0.7740)		
DEB/OPRE _t	-0.0002 (0.9721)		-0.0015 (0.8875)		-0.0017 (0.8299)	
DEB/OPRE _{t-1}			-0.0010 (0.9117)			0.3987 *** (0.0000)
DEB/EBITDA _t	-0.0003 (0.6197)		-0.0001 (0.8894)		-0.0003 (0.6475)	
DEB/EBITDA _{t-1}			0.0000 (0.9943)			
DEB/EQUITY _t	-0.0010 (0.6484)		0.0000 (0.9883)		-0.0004 (0.8769)	
DEB/EQUITY _{t-1}			0.0006 (0.8060)			
ROE _t	0.0167 (0.1984)	-0.0119 (0.6348)	0.0222 (0.2434)	-0.0104 (0.7273)	0.0264 (0.1449)	-0.0112 (0.6315)
ROE _{t-1}			0.0008 (0.9577)	-0.0048 (0.8435)		
ROI _t				-0.0098 (0.8425)		
ROI _{t-1}				-0.0158 (0.7578)	0.0581 *** (0.0000)	
Adjusted ROI _t		-0.0008 (0.9678)		0.0048 (0.9020)		-0.0022 (0.8771)
Adjusted ROI _{t-1}				0.0073 (0.8585)		
EBIT/INT _t	0.0003 *** (0.0067)	0.0000 (0.9798)	-0.0001 (0.3767)	0.0000 (0.9850)	0.0002 ** (0.0435)	-0.0001 (0.6427)
EBIT/INT _{t-1}			0.0018 *** (0.0000)	-0.0002 (0.6390)		
ROS _t	0.0219 (0.3107)	0.4307 *** (0.0000)	0.0820 (0.1591)	0.2538 *** (0.0056)	0.1196 * (0.0621)	0.7752 *** (0.0000)
ROS _{t-1}			0.0207 (0.7770)	0.0865 (0.4320)		
TAX _t	0.0149 (0.7031)	-0.0155 (0.8369)	0.0108 (0.8126)	0.0368 (0.6051)	0.0112 (0.8045)	-0.0063 (0.9151)
TAX _{t-1}			0.0088 (0.8391)	-0.0164 (0.8083)		
AV/STAF _t	0.0008 (0.7048)	-0.0152 *** (0.0002)	0.0030 (0.5282)	0.0118 (0.1135)	0.0009 (0.7215)	0.0060 * (0.0770)
AV/STAF _{t-1}			-0.0014 (0.7483)	0.0476 *** (0.0000)		
AV/EMPL _t						
AV/EMPL _{t-1}						
RFA _t	-0.0001 (0.5375)	0.0100 *** (0.0000)			-0.0003 (0.3281)	0.0020 *** (0.0000)
RFA _{t-1}			0.0000 (0.9206)	0.0033 *** (0.0000)		
R-squared	0.0061	0.3291	0.0226	0.5814	0.0105	0.6976
Adj. R-squared	0.0061	0.3282	0.0224	0.5771	0.0104	0.6948
p-value (F-stat)	0.0051	0.0000	0.0000	0.0000	0.0001	0.0000

IS BASEL THE RIGHT GATEWAY FOR A MORE EFFICIENT DEBT MARKET? AN INTERNATIONAL COMPARISON

UK Variable	Semi-strong		Weak		Absence	
	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t
const	0.1477 *** (0.0000)	0.0853 *** (0.0000)	0.1843 *** (0.0000)	0.0886 *** (0.0001)	0.1754 *** (0.0000)	-0.0580 *** (0.0000)
CA/FIAS _t	0.0001 (0.3028)	0.0001 (0.1351)	0.0001 (0.2838)	0.0000 (0.6350)	-0.0001 (0.6238)	0.0000 (0.4153)
CA/FIAS _{t-1}			0.0002 ** (0.0652)	0.0001 (0.3303)		
CA/CL _t	0.0059 ** (0.0887)	0.0249 *** (0.0000)	0.0000 (0.9998)	0.0179 *** (0.0000)	0.0067 * (0.0680)	0.0076 *** (0.0000)
CA/CL _{t-1}			0.0063 (0.2442)	0.0241 *** (0.0000)		
WKCA/OPRE _t	-0.1195 (0.3136)	-1.1915 *** (0.0000)		-1.0739 *** (0.0000)	-0.1638 (0.2123)	-0.2010 *** (0.0001)
WKCA/OPRE _{t-1}			-0.1930 (0.1193)			
WKCA/FIAS _t	-0.0002 (0.4392)	-0.0002 (0.2754)	-0.0003 (0.1696)	-0.0001 (0.4768)	0.0001 (0.5710)	0.0000 (0.6068)
WKCA/FIAS _{t-1}						
CRED-DEBD _t						
CRED-DEBD _{t-1}						
DEBLT _t						
DEBLT _{t-1}						
FCFC/OPRE _t						
FCFC/OPRE _{t-1}						
FCFO/OPRE _t	0.0096 (0.7500)	-0.7371 *** (0.0000)	0.0377 (0.1975)	-0.4201 *** (0.0000)	0.0002 (0.9944)	-0.1954 *** (0.0000)
FCFO/OPRE _{t-1}			-0.0364 (0.2671)	-0.1577 *** (0.0000)		
LEV _t	-0.0002 (0.8772)	-0.0002 (0.8681)	0.0000 (0.9830)	-0.0001 (0.9134)	-0.0002 (0.9298)	-0.0001 (0.8382)
LEV _{t-1}			-0.0002 (0.8955)	-0.0001 (0.9140)		
DOL _t (volume)	0.0000 (0.8506)	0.0000 (0.9194)	-0.0001 (0.7708)	-0.0001 (0.6865)	-0.0001 (0.8043)	0.0001 (0.3227)
DOL _{t-1} (volume)			-0.0001 (0.6647)	0.0000 (0.9774)		
DOL _t (price)	-0.0009 (0.5650)	-0.0016 (0.1329)	-0.0003 (0.8240)	-0.0016 (0.1622)	-0.0011 (0.5297)	0.0003 (0.5821)
DOL _{t-1} (price)			-0.0013 (0.4318)	-0.0020 (0.1352)		
FIAS/OPRE _t	0.0029 (0.7963)	0.7522 *** (0.0000)		0.7659 *** (0.0000)	0.0027 (0.8360)	0.2975 *** (0.0000)
FIAS/OPRE _{t-1}			-0.0299 *** (0.0063)			
INT/DEB _t	0.0003 (0.9883)	0.0027 (0.8216)	0.0025 (0.8699)	0.0015 (0.9037)	-0.0012 (0.9508)	-0.0005 (0.9466)
INT/DEB _{t-1}			-0.0005 (0.9730)	0.0016 (0.8978)		
DEB/OPRE _t	-0.0049 (0.5835)		0.0210 ** (0.0113)		-0.0131 (0.2134)	
DEB/OPRE _{t-1}						0.7069 *** (0.0000)
DEB/EBITDA _t	0.0000 (0.9261)		0.0000 (0.8824)		0.0000 (0.9897)	
DEB/EBITDA _{t-1}			-0.0001 (0.6267)			
DEB/EQUITY _t	0.0000 (0.7863)		-0.0001 (0.7467)		0.0000 (0.7942)	
DEB/EQUITY _{t-1}			-0.0001 (0.8276)			
ROE _t	0.0000 (0.9996)	0.0000 (0.9609)	0.0000 (0.9634)	0.0000 (0.9371)	0.0000 (0.9794)	0.0000 (0.9257)
ROE _{t-1}			0.0000 (0.9881)	0.0000 (0.8654)		
ROI _t				0.0158 ** (0.0112)		
ROI _{t-1}					-0.0166 *** (0.0083)	
Adjusted ROI _t		-0.0008 (0.8264)				0.0005 (0.8255)
Adjusted ROI _{t-1}				0.0050 (0.3008)		
EBIT/INT _t	0.0000 (0.2861)	0.0000 (0.5170)	0.0000 (0.9172)	0.0000 (0.3736)	0.0000 (0.2694)	0.0000 (0.8095)
EBIT/INT _{t-1}			0.0000 * (0.0559)	0.0000 (0.6104)		
ROS _t	0.8785 *** (0.0000)	-1.5983 *** (0.0000)	0.5942 *** (0.0000)	-1.5441 *** (0.0000)	0.6367 *** (0.0000)	-0.2393 *** (0.0000)
ROS _{t-1}			0.2273 *** (0.0002)	-1.2689 *** (0.0000)		
TAX _t	0.0020 (0.8099)	0.0030 (0.6102)	0.0021 (0.7856)	0.0046 (0.4726)	0.0020 (0.8276)	0.0071 ** (0.0423)
TAX _{t-1}			-0.0018 (0.8105)	0.0007 (0.9162)		
AV/STAF _t	-0.0011 (0.7988)	0.0119 *** (0.0001)	0.0077 (0.1887)	0.0092 * (0.0621)	0.0021 (0.6676)	-0.0091 *** (0.0000)
AV/STAF _{t-1}			-0.0080 (0.2216)	0.0141 ** (0.0106)		
AV/EMPL _t						
AV/EMPL _{t-1}						
RFA _t	0.0000 (0.4675)	0.0000 ** (0.0299)	0.0000 (0.9009)	0.0000 (0.1278)	0.0000 (0.5722)	0.0000 *** (0.0002)
RFA _{t-1}			0.0000 (0.8203)	0.0000 ** (0.0460)		
R-squared	0.0095	0.4851	0.0094	0.5099	0.0059	0.8463
Adj. R-squared	0.0095	0.4848	0.0094	0.5090	0.0059	0.8455
p-value (F-stat)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

USA Variable	Semi-strong		Weak		Absence	
	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t	ROI _t	DEB/OPRE _t
const	-0.3303 (0.1919)	3.4726 *** (0.0000)	-0.1234 (0.1536)	3.6704 *** (0.0000)	-0.1844 * (0.0931)	2.8898 *** (0.0000)
CA/FIAS _t	-0.2848 *** (0.0000)	0.0057 (0.9188)	-0.2180 *** (0.0000)	0.0047 (0.9495)	-0.1593 *** (0.0000)	-0.0791 (0.1150)
CA/FIAS _{t-1}			0.0151 (0.6920)			
CA/CL _t	0.1007 (0.1966)	-1.0265 *** (0.0000)	0.1125 *** (0.0029)	-1.2015 *** (0.0000)	0.0852 ** (0.0118)	-0.6015 *** (0.0000)
CA/CL _{t-1}				0.3144 (0.1948)		
WKCA/OPRE _t	0.3718 *** (0.0000)	-0.5792 *** (0.0000)		-0.5919 *** (0.0000)	0.1945 *** (0.0000)	0.0739 (0.5112)
WKCA/OPRE _{t-1}			0.0938 *** (0.0022)			
WKCA/FIAS _t		-0.0176 (0.8780)	0.0092 (0.7349)	-0.0630 (0.7165)	0.0013 (0.2924)	0.1084 *** (0.0000)
WKCA/FIAS _{t-1}			0.2278 *** (0.0000)	-0.0100 (0.9380)		
CRED-DEBD _t						
CRED-DEBD _{t-1}						
DEBLT _t						
DEBLT _{t-1}						
FCFC/OPRE _t	-0.0005 (0.8621)					
FCFC/OPRE _{t-1}						
FCFO/OPRE _t						
FCFO/OPRE _{t-1}			-0.0011 (0.5847)	0.0165 (0.2526)		
LEV _t	0.0019 (0.9632)	-0.0007 (0.9926)	0.0015 (0.9005)	0.0081 (0.9161)	0.0024 (0.8893)	0.0073 (0.9079)
LEV _{t-1}			0.0032 (0.8038)	-0.0024 (0.9763)		
DOLE (volume)	0.0028 (0.7690)	-0.0025 (0.8832)	0.0002 (0.9296)	-0.0024 (0.8833)	0.0013 (0.7389)	-0.0016 (0.9087)
DOLE _{t-1} (volume)			0.0024 (0.4920)	0.0022 (0.9213)		
DOLE (price)	0.0012 (0.7126)	-0.0004 (0.9403)	0.0008 (0.5380)	0.0004 (0.9623)	0.0009 (0.5167)	0.0000 (0.9952)
DOLE _{t-1} (price)			-0.0002 (0.8926)	-0.0014 (0.8503)		
FIAS/OPRE _t				0.0252 (0.8157)		0.0343 (0.7064)
FIAS/OPRE _{t-1}						
INT/DEB _t	-0.0346 (0.5708)	0.0589 (0.5839)	-0.0584 *** (0.0005)		-0.0149 (0.5519)	
INT/DEB _{t-1}			-0.2110 *** (0.0018)	-0.5048 (0.2473)		
DEB/OPRE _t	0.0153 (0.2620)		-0.0289 *** (0.0000)		-0.0030 (0.6723)	
DEB/OPRE _{t-1}			0.0881 *** (0.0000)			
DEB/EBITDA _t	0.0003 (0.9610)		0.0009 (0.7276)		0.0004 (0.8889)	
DEB/EBITDA _{t-1}			-0.0007 (0.7150)			
DEB/EQUITY _t	-0.0046 (0.7137)		-0.0016 (0.6428)		-0.0032 (0.5296)	
DEB/EQUITY _{t-1}			0.0013 (0.7413)			
ROE _t	0.1072 *** (0.0003)	-0.0174 (0.7387)	-0.0017 (0.9269)	0.0178 (0.8742)	0.0983 *** (0.0000)	-0.0072 (0.8821)
ROE _{t-1}			-0.0333 (0.0943)	-0.0495 (0.6967)		
ROI _t				-0.0718 (0.6904)		
ROI _{t-1}					0.0072 (0.5222)	
Adjusted ROI _t		0.0706 (0.1059)				
Adjusted ROI _{t-1}				-0.0096 (0.8400)		
EBIT/INT _t	0.0001 (0.4404)	0.0002 (0.4262)	0.0001 (0.2786)	0.0001 (0.8649)	0.0001 * (0.0675)	0.0002 (0.3858)
EBIT/INT _{t-1}			0.0001 (0.2609)	0.0002 (0.6142)		
ROS _t						
ROS _{t-1}				-0.0344 (0.4041)		
TAX _t	0.0156 (0.8638)	-0.0238 (0.8821)	0.0039 (0.9195)	0.0124 (0.9604)	0.0074 (0.8781)	-0.0359 (0.7908)
TAX _{t-1}			0.0138 (0.6686)	-0.0600 (0.7720)		
AV/STAF _t	0.0007 (0.5001)	0.0001 (0.9581)	0.0001 (0.8846)	0.0007 (0.7452)	0.0004 (0.3684)	0.0002 (0.8951)
AV/STAF _{t-1}			0.0006 (0.1269)	0.0001 (0.9837)		
AV/EMPL _t	0.0010 (0.6378)	-0.0480 *** (0.0000)	-0.0039 *** (0.0000)	-0.0823 *** (0.0000)	-0.0002 (0.8269)	-0.0762 *** (0.0000)
AV/EMPL _{t-1}						
RFA _t						
RFA _{t-1}						
R-squared	0.0608	0.4941	0.4972	0.6568	0.1394	0.6156
Adj. R-squared	0.0601	0.4894	0.4826	0.6393	0.1376	0.6090
p-value (F-stat)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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² Basel Committee on Banking Supervision, Bank for International Settlements 2014.

³ Basel Committee on Banking Supervision, Bank for International Settlements 2010.

⁴ Bureau van Dijk provides complete balance sheet data in the Global Standard Format for global companies. This limits the possibility to have detailed data for a specific company.

⁵ The period of analysis was chosen in order to develop a rating methodology that identifies risks-returns relations in a through-the-cycle perspective (seven years of rating).

⁶ In Appendix – Table 3 the complete output of the regressions for each Country.