A Theory Documenting the Feasibility of a Global Capital Market from an Accounting Perspective

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Abstract: - Paper proposes a theory for testing the feasibility of a global capital market from an accounting perspective. The theory connects the area of accounting regulations and the place where the result of their application is put into use, namely the capital market. Quantifying this connection is done indirectly, by using two direct connections. First we quantify the similitude degree of the considered accounting regulations based on a detailed content analysis. Secondly we quantify to what extent the foresights of the considered accounting regulations are actually used in practice by companies being listed on the capital market. Once determined the two correlations we derive the link between a certain capital market and a set of accounting regulations that is different from the one officially being applied by companies listed in the considered market. The proposed theory is tested by considering accounting regulations issued by the IASB and the FASB and companies being listed on the LSE and the NYSE, focusing on financial assets' measurement. We conclude by validating the proposed theory based on the fact that we have dimensioned a conceptual and methodological algorithm that was applied and generated results allowing the interpretation of the feasibility of a global capital market between financial reporting theory and practice.

Key-Words: - feasibility, capital market, theory, accounting regulations, accounting practices

1 Introduction

The main objective of the paper is to develop and test a feasibility theory that focuses on capital markets and corresponding accounting elements. The first tendency of national jurisdictions when it comes to the dilemma of regulating accounting for financial instruments is to try and keep it under control. If we are to consider the significant number of financial scandals involving the use of financial instruments, the main problem with this approach would be that it doesn't seem to produce the expected results. Therefore, realities surrounding financial instruments have led to their corresponding financial reporting standards to be extremely controversial, long debated and amended over time. We should on the other hand also consider the predispositions being transferred through the financial sector whose development and nature favored and continues to favor the increased complexity of nowadays financial instruments. Under such circumstances, applying inadequate regulations can easily lead to negative effects, further stopping or slowing innovation and the market's condition.

We therefore have to face the dilemma of two principles which may prove to be contrasting. A first principle refers to national jurisdictions opting for accounting regulations that are personalized in accordance to their environment. This, in our opinion, represents a kind of harmonization that is tailored in accordance to national particularities. It is also our belief that such an approach could lead to slowing processes that might otherwise help accelerate the rhythm of development in less developed countries, further making it more difficult to keep pace with more developed countries. On the other hand there is always the option of endorsing accounting regulations which were developed based on the experiences of more

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developed economies. While the advantage consists in offering the chance to actually relate to the current stage of development in terms of financial reporting standards, this might in some cases be translated as moving away from the context of the particular considered environment.

The particular case of reporting for financial instruments makes our reflection even clearer. An approach being based on personalizing national accounting regulations based on the degree of development would for sure generate a large variety of results. Simply analyzing trading activity taking place on different stock exchanges is a first sign of this diversity. The option of endorsing accounting regulations that were tailored based on the experiences of countries in which capital markets allowed for significant development of financial engineering could also generate negative effects. Among these we must think about national regulations including foresights that are much too sophisticated when compared to the ability to manage the considered capital market. And still, the development of a global capital market represents the rational desideratum of investors all over the world, encouraging such an approach based on the advantage of uniformity and comparability of accounting information.

2 Theoretical Background

Based on these beliefs, we aim at using the advantage of the approached area, namely the development and dynamic of capital markets, in order to elaborate a theory referring to the feasibility of a global capital market (Global Capital Market Feasibility Theory – GCMF Theory) from an accounting perspective. This theory aims at linking the space of accounting regulations in the area of financial instruments and the space where the results of their application is put into use, namely capital markets. We aim at quantifying this link in an indirect manner, by deriving two direct connections. On one hand we can quantify the degree of similarities between accounting regulations based on a detailed analysis of their foresights. On the other hand, the extent to which these foresights are actually put into practice within the capital market can also be quantified based on analyzing financial statements belonging to entities listed on the selected capital markets.

The reason why we have chosen to formulate this hypothesis in the shape of a theory for the feasibility of a global capital market is based on the results such an analysis can generate. Although the analysis is focused on accounting issues, quantifying all the above mentioned connections assumes reflecting the manifestation of all involved factors at one moment in time. Such a theory actually helps reflect the manifestation of the involved factors at a particular moment in time that is being considered. We can therefore obtain several such reflections in accordance to the moment being considered for the theory's application. Following the manner in which results evolve can also represent the input for developing forecasts.

We consider that testing our theory has the ability to provide useful information regarding capital markets and accounting regulations being applied. The obtained results would specially benefit accounting standard setting bodies when considering the development of joint projects and their feasibility.

We therefore start by testing the proposed theory on a narrow topic in financial reporting. The particular field of financial instruments enjoys the advantage given through capital markets offering the possibility to group entities exactly through the place where the components whose accounting implications are being tested enter the trading process.

Accounting research literature comprises studies approaching the issue of accounting regulations' impact on capital markets documenting significant results being relevant and in agreement with the main idea of the proposed theory. [10] test the hypothesis in accordance to which firms at national level have the tendency to become listed on stock exchanges that involve a financial reporting system that is similar to their national Generally Accepted Accounting Principles (GAAP). They start their analysis based on the idea that both contracts being signed in the US by American entities as well as US GAAPs are grounded through the national culture and institutional climate, therefore making reporting based on US GAAPs more authentic when compared to applying some foreign accounting regulations. [1] were also emphasizing the fact that contract signing in American markets is based on numbers that are obtained through application of US GAAPs, while listing on international capital markets creates the context to evaluate the informational relevance of these contracts, being grounded on national regulations, from the perspective of foreign regulations. As a consequence, foreign investors' assessment of these contracts through the lens of the regulations corresponding to the market within which they act, or in other words in the rational context of some other regulations, might generate effects that are not in fact informational relevant, but rather represent the effect of some differences in mental programming that characterizes a certain capital market. Furthermore, the potential reached level of this impact actually depends on the existent differences between national accounting regulations considering the listed entity and those regulations characterizing the market where listing takes place.

A consequence of acknowledging the impact of the above mentioned differences is the inversely proportional relation with the probability of listing within a foreign capital market. In other words, the higher the differences between the accounting regulations of the country to which the entity belongs and those of the capital market where it aims to list, the lower is the probability of that listing becoming reality.

A study which has a similar objective with that of the proposed theory was developed by [5], examining the association between the level of financial information being presented within capital markets and the development of the considered markets. The starting point of their study is still different, [5] taking into consideration the systems that are used by stock exchanges in presenting information rather than information actually being presented by companies. They therefore analyze the connection between stock exchanges' policies and information regarding the market's development level (such as liquidity, trading activity and dimensions of the capital markets through the gross domestic product). [5] document that the level of the stock exchange's reporting system (involving regulations regarding the information being provided and measures being taken for its application and supervision) is positively associated with the development level of the capital market when some explanatory variables (such as legal system, investors' protection, market's dimensions) are being controlled for.

The particularities of the European setting, where different accounting regulations continued to exist in parallel with the development of a gradual harmonization process of the fundamental legal framework and where the adoption of the international referential by some entities anticipated its necessity, is approached by [3]. Their study documents that the integration of financial markets would have already contributed to the intermediating the economic consequences of accounting diversity and that implicitly the adoption of the international accounting referential would have a short time effect on capital markets.

[7] analyzes another interesting aspect, namely the reasons why the informational content of earnings being reported by foreign entities listed in the US varies with the segmentation of the capital market in their country of origin. It is documented that indirect barriers in developing investments (such as accounting regulations and liquidity differences) are rather responsible for the reduction of investment volumes than direct ones (such as investment restrictions). We consider the results of this study to represent an argument for the role being played by information presented through financial reporting when considering the process of global capital markets' integration, but also for the proposed theory.

The proposed theory will be tested by considering the accounting regulations being issued by the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB). Considering the complexity of accounting for financial instruments, we found it opportune to first test the theory by looking at financial assets' measurement in analyzing the changes of a global capital market from the perspective of entities applying the two considered sets of accounting standards. Developing content analysis of the two considered sets of accounting standards indicated a series of aspects that require particular attention when dealing with financial assets' measurement for reporting purposes. In accordance to the foresights of the two sets of accounting regulations, we can only speak about using a certain measurement base for financial assets after previously classifying them within one of the possible categories. Despite the fact that the international accounting referential is considered to be principle based we must underline the fact that when it comes to accounting for financial instruments we observe a higher rigor in describing certain aspects when compared to the American one. This is also due to the numerous amendments that were necessary for the standards in the approached area that is an extremely dynamic one.

We must also mention the fact that the international accounting referential defines a category that does not exist within the American accounting referential, namely loans and receivables. Some slight differences are also found with regard to the use of fair value in cases when its measurement is problematic, the American regulations recommending the use of models for their valuation, while the IASB for example accepting cost as measurement base for financial assets in the available for sale category that do not have an active market.

After quantifying the similitude degree between the two considered sets of accounting regulations we analyzed the manner in which each of them are being applied by entities within the two considered capital markets declaring to fill their financial statements in accordance to these regulations, all from the perspective of financial assets measurement. The remainder of our paper is therefore organized as follows: the first part discusses research methodology aspects, the second develops the analysis aimed to test the proposed theory and the final one presents the obtained results that are used in arguing for the validity of the theory.

3 Research Methodology

The possibility for a global capital market to exist depends on a series of factors with distinct and different influence and interaction. Such a factor which we consider determinant is the accounting regulation and financial reporting process, and implicitly the result of this process, accounting regulations.

Testing the proposed theory from the perspective of accounting regulations acting on the capital market assumes two distinctive dimensions of the developed analysis. The first one refers to the compatibility degree between accounting regulations, more precisely between two sets of accounting regulations considered at one moment in time. The second dimension follows the first one by focusing on accounting practices. In other words, testing the theory basically imposes on one hand the analysis of accounting regulations and on the other the analysis of accounting practices.

With reference to the two aimed dimensions of our analysis we are actually trying to quantify the compatibility degree of accounting practices while considering a certain degree of similitude between the two sets of considered accounting regulations. In other words the major objective of our theory is to determine the feasibility of a global capital market while considering two or more stock exchanges.

Based on the above presented reasoning we propose a manner of quantifying the feasibility degree of a global capital market (γφ Index) when considering two analyzed capital markets. The computation formula which we propose is as follows:

$$\gamma\varphi = \max\left[\mathrm{AccP_{R1}} - \left(1 - \mathrm{AccS_{R1/R2}}\right); \mathrm{AccP_{R2}} - \left(1 - \mathrm{AccS_{R1/R2}}\right)\right]$$

where:

$\gamma\varphi$ represents the feasibility of a global capital market

$\mathrm{AccP_{R1}}$ represents the compatibility degree between accounting practices and the first set of considered accounting regulations

$\mathrm{AccP_{R2}}$ represents the compatibility degree between accounting practices and the second set of considered accounting regulations

$\mathrm{AccS_{R1/R2}}$ the level of similitude between the two sets of considered accounting regulations

The essence of this indicator is based on the fact that the minimum certitude or the feasibility is given by the maximum of the values being recorder for the two considered situations. When interpreting the proposed indicator by considering similarities and dissimilarities involved within a comparison process, we may say that the feasibility of a global capital market is given by the difference between the harmony of accounting practices and diversity of accounting regulations. In accordance to this approach, the proposed computation formula can also be expressed as following:

$$\gamma\varphi = \max\left[\left(\mathrm{AccP_{R1}} + \mathrm{AccS_{R1/R2}}\right) - 1; \left(\mathrm{AccP_{R2}} + \mathrm{AccS_{R1/R2}}\right) - 1\right]$$

Regardless of the computation formula being used for the γφ Index, based on the further proposed approach the potential values to be obtained will be either negative or positive. A positive recorded value documents the feasibility of a global capital market, while a negative recorded value documents the lack of feasibility.

In relation to the above formulated approach, we must mention the fact that both the compatibility degree of accounting practices (AccPR1, AccPR2) and the similarity degree of accounting regulations (AccSR1/R2) assume particular methodological aspects in order to be dimensioned. The object of the measurement is in the first case accounting practice (material accounting harmonization) and in the second accounting regulation (formal accounting harmonization). Furthermore, γφ Index's computation imposes the use of the same measurement instrument for both accounting practices and accounting regulations in order to ensure uniformity.

When it comes to measuring formal and/or material accounting harmonization, accounting research literature uses a series of instruments or indexes such as the (H) Index, (C) Index and (I) Index, Spearman's Coefficient, Jaccard's Coefficients, the Euclidian Distance, Roger & Tanimoto's Coeficient etc. Jaccard's coefficients have been previously used in measuring the level of similarities between two sets of accounting regulations in studies such as [2, 4, 6, 9, 11], but also in quantifying the compatibility degree between accounting regulations and accounting practices in studies such as [8]. We have therefore chosen to use Jaccard's coefficients in dimensioning the two components of the proposed γφ Index. The

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developed research methodology will be further applied by considering the accounting regulations being issued by the FASB and the IASB and listed companies officially applying them.

4 Results and Discussion

As previously mentioned, the main purpose of our study is to test the proposed theory referring to the feasibility of a global capital market. We will therefore use the above presented theoretical and methodological grounding by considering two capital markets that can are representative at a global level while also involving financial reporting practices in accordance to two different sets of accounting regulations. More precisely we will consider companies being listed on the London Stock Exchange (LSE) and the New York Stock Exchange (NYSE).

Considering the fact that the main objective of our study is to test the functionality of the proposed theory, a sample selection was applied by analyzing a number of 50 companies belonging to the two markets. Therefore a number of 25 companies were necessary to be considered for each of the two markets. The used selection criteria required entities to be listed on the main market, to be included in the main stock index and to only consider groups of entities.

A number of seven distinct elements were considered and analyzed for each of the 50 selected companies. These elements represented financial reporting issues related to financial assets' measurement referring to their (1) initial measurement and (2) subsequent measurement. The elements were established based on the foresights of the accounting regulations being issued by the FASB and the IASB, while the diversity of practices depends on the sample companies accounting practices. The following table synthesizes this approach:

Table 1. Elements considered for analysis

Elements		I	F	C
1.	***Financial assets at fair value through profit and loss***			
1.1	Initial measurement			
	1.1.1. Fair value plus transaction costs	0	0	1 or 0
	1.1.2. Fair value	1	1	1 or 0
1.2	Subsequent measurement			
	1.2.1. Cost	0	0	1 or 0
	1.2.2. Amortized cost	0	0	1 or 0
	1.2.3. Fair value through profit and loss	1	1	1 or 0
	1.2.4. Fair value in equity	0	0	1 or 0
	1.2.5. Impairment	0	0	1 or 0
2.	***Held to maturity investments***			
2.1	Initial measurement			
	2.1.1. Fair value plus transaction costs	1	1	1 or 0
	2.1.2. Fair value	0	0	1 or 0
2.2	Subsequent measurement			
	2.2.1. Cost	0	0	1 or 0
	2.2.2. Amortized cost	1	1	1 or 0
	2.2.3. Fair value through profit and loss	0	0	1 or 0
	2.2.4. Fair value in equity	0	0	1 or 0
	2.2.5. Impairment	1	1	1 or 0
3.	***Loans and receivables***			
3.1	Initial measurement			
	3.1.1. Fair value plus transaction costs	1	0	1 or 0
	3.1.2. Fair value	0	0	1 or 0
3.2	Subsequent measurement			
	3.2.1. Cost	0	0	1 or 0
	3.2.2. Amortized cost	1	0	1 or 0
	3.2.3. Fair value through profit and loss	0	0	1 or 0
	3.2.4. Fair value in equity	0	0	1 or 0
	3.2.5. Impairment	1	0	1 or 0
4.	***Available for sale financial assets***			
4.1	Initial measurement			
	4.1.1. Fair value plus transaction costs	1	1	1 or 0
	4.1.2. Fair value	0	0	1 or 0
4.2	Subsequent measurement			
	4.2.1. Cost	1	0	1 or 0
	4.2.2. Amortized cost	0	0	1 or 0
	4.2.3. Fair value through profit and loss	0	0	1 or 0
	4.2.4. Fair value in equity	1	1	1 or 0
	4.2.5. Impairment	1	1	1 or 0

Source: own analysis

Note: I (IASB), F (FASB), C (companies)

The information on sample companies' accounting practices was collected by analyzing the corresponding financial statements for the 2008 reporting period.

Based on the information obtained by analyzing the foresights of the considered accounting regulations and the financial statements of our sample companies we further calculated the required Jaccard's Coefficients and the γφ Index. A synthesis of the obtained results in presented in the following table:

Table 2. Synthetic results of testing the theory

Analysis elements	**Obtained values**
Jaccard's Coefficients (compatibility level) • IFRS versus US GAAP (SFAS) • IFRS versus accounting practices LSE • US GAAP versus accounting practices NYSE	 0.6670 0.3927 0.5979
Global Capital Market Feasibility Theory (γφ index)	0.2649
Number of observations	1,400
Sets of accounting regulations	2
Sample entities	50

Source: own analysis

Applying the proposed computation formula in determining the feasibility of a global capital market led to a final value of 0.2649 for the proposed γφ Index. This was based on the following obtained results of our study:

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$$\gamma\varphi = \max[0.3927 - (1 - 0.6670); 0.5979 - (1 - 0.6670)]$$
$$\gamma\varphi = \max[0.0597; 0.2649]$$
$$\boldsymbol{\gamma\varphi = 0.2649}$$

Interpreting the obtained results we might say that the documented feasibility of a global capital market in the considered setting is of 26.49%. In other words, the feasibility of a global capital market, when considering the London Stock Exchange and the New York Stock Exchange as components, is of 26.49%. Furthermore, an even more important conclusion is that being able to formulate the previous findings based on the developed conceptual and methodological algorithm documents the sustainability of the proposed theory, namely the Global Capital Market Feasibility Theory.

Interpreting the obtained results in more detail and in correlation to the conceptual approach of our feasibility theory, we can say that in case companies being listed on the LSE would be asked to start applying US GAAPs, we have documented that in terms of financial assets' measurement their accounting practices already correspond with the American referential foresights for 5.97%. From the other point of view, we notice that companies being listed on the NYSE already have accounting practices that correspond with the foresights of the IFRS for 26.49% when looking at financial assets' measurement.

We therefore conclude by underlining the validity of the proposed theory based on the fact that we have dimensioned a conceptual and methodological algorithm that was applied and generated results that allowed the interpretation of the feasibility of a global capital market between financial reporting theory and practice.

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References:
[1] R. Ball, S.P. Kothari, and A. Robin, The Effect of International Institutional Factors on Properties of Accounting Earnings, *Journal of Accounting and Economics*, Vol. 29, 2000, pp. 1–52.
[2] C.G. Bonaci, D. Matis, and R.V. Mustata, Framework for Documenting National Accounting Practices' Orientation Towards IAS/IFRS, *Journal of International Management Studies*, Vol. 10, No. 3, 2010, pp. 125-132.
[3] C. Dargenidou, S. McLeay, and I. Raonic, I., Expected Earnings Growth and the Cost of Capital: An Analysis of Accounting Regime Change in the European Financial Market, *Abacus*, Vol. 42, No. 3-4, 2006, pp. 388–414.
[4] A. Fontes, L. Rodrigues, and R. Craig, Measuring Convergence of National Accounting Standards with International Financial Reporting Standards, *Accounting Forum*, Vol. 29, 2005, pp. 415–236.
[5] C.A. Frost, E.A. Gordon, and A.F. Hayes, Stock Exchange Disclosure and Market Development: An Analysis of 50 International Exchanges, *Journal of Accounting Research*, Vol. 44 , No. 3, 2006, pp. 437-483.
[6] P. Garrido, A. Leon, and A. Zorio, Measurement of Formal Harmonization Progress: The IASC Experience, *The International Journal of Accounting*, Vol. 37, 2002, pp. 1–26.
[7] T. Kang, Global Market Segmentation and Patterns in Stock Market Reaction to US Earnings Announcements: Further Evidence, *Journal of International Financial Management and Accounting*, Vol. 16, No. 2, 2005, pp. 123-141.
[8] A. Morais, and A. Fialho, Do Harmonized Accounting Standards Lead to Harmonized Accounting Practices? An Empirical Study of IAS 39 Measurement Requirements in Some European Union Countries, *Australian Accounting Review*, Vol. 18, No. 3, 2008, pp. 224-236.
[9] R.V. Mustata, C.G. Bonaci, D. Matis, and J. Strouhal, Using Econometric Tools for Accounting Harmonization Measurement, *International Journal of Mathematical Models and Methods in Applied Sciences*, Vol. 5, No. 2, 2011, pp. 316-323.
[10] G.A. Ndubizu, and R.S.O. Wallace, Contracts Valuation Assessment Noise and Cross-Border Listing of Equities on U.S. and U.K. Stock Markets, *The International Journal of Accounting*, Vol. 38, 2003, pp. 397–420.
[11] J. Strouhal (Ed.), *International Harmonization of SMEs Financial Reporting in Emerging CEE Countries*, Stevens Point: WSEAS Press, 2011.