

**COUNTRY ATTRIBUTES ON THE ADOPTION OF THE
IFRS FOR SMEs**

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Abstract

Small and Medium-sized Entities (SMEs) are crucial in the global economy and the urge to develop a standard for these companies rapidly arose. The International Accounting Standards Board (IASB) contribution began in 2009 with the issuing of the International Financial Reporting Standard for SMEs (IFRS for SMEs). The IFRS for SMEs adoption is a decision that is up to each country to make. However, little is known about the reasons that drive countries to require, to permit or to prohibit the standard. This dissertation investigates 120 countries worldwide during 2018 and 2019 and aims to study the influence of multiple competitiveness attributes of each country to understand the reasons of a country may i) require, ii) permit, iii) prohibit but use similar standards or iv) prohibit and use different standards. A multinomial logistic regression was conducted revealing that overall, countries that have a higher competitiveness level in institutions, health, skills, product market and financial system are more likely to require the IFRS for SMEs. Meanwhile, countries more competitive in infrastructures, Information and Communications Technology (ICT) adoption, macroeconomic stability, business dynamism and innovation capability are more likely to not require the IFRS for SMEs. Understanding and recognizing the attributes that distinguish a country where the IFRS for SMEs is required from one where it is permitted or prohibited may be important to governments, accounting standards setters, and regulators.

Keywords: Small and Medium-sized Entities (SMEs), Accounting harmonization, IFRS for SMEs, Competitiveness attributes

JEL classification system: M41, O57

Resumo

As Pequenas e Médias Empresas (PMEs) são fundamentais na economia global e a necessidade de desenvolver normas para estas entidades rapidamente surgiu. A contribuição do *International Accounting Standards Board* (IASB) começou em 2009, através da emissão da *International Financial Reporting Standard* para PMEs (IFRS para PMEs). A adoção da IFRS para PMEs é uma decisão que cabe a cada país. Contudo, pouco se sabe acerca da razão que leva a que um país exija, permita ou proíba a norma. Esta dissertação investiga 120 países internacionalmente, entre 2018 e 2019 e procura analisar a influência de vários atributos de competitividade de cada país para entender o que leva a que um país possa i) exigir, ii) permitir, iii) proibir mas usar normas semelhantes ou iv) proibir e usar normas distintas. Foi realizada uma regressão logística multinomial que revela que na generalidade, os países que possuem um elevado nível de competitividade em instituições, saúde, habilidades, produto de mercado e sistema financeiro são mais propensos a exigirem a IFRS para PMEs. Por outro lado, países mais competitivos em infraestruturas, adoção das Tecnologias da Informação e Comunicação (TIC), estabilidade macroeconómica, dinamismo de negócio e capacidade de inovação são mais prováveis não exigirem a IFRS para PMEs. Compreender e reconhecer os atributos que distinguem um país onde a IFRS para PMEs é exigida de um país onde esta é permitida ou proibida, pode ser importante para Governos, entidades que desenvolvem normas contabilísticas e organismos reguladores.

Palavras-chave: Pequenas e Médias Empresas (PMEs), Harmonização contabilística, IFRS para PMEs, Atributos de competitividade

JEL classification system: M41, O57

Contents

Introduction	1
1. Literature Review	3
1.1 International Accounting Harmonization in Small and Medium-sized Entities	3
1.2 Country attributes on the IFRS for SMEs adoption and development of hypothesis	7
2. Methodology	17
2.1 Sample and data	17
2.2 Dependent variable.....	18
2.3 Independent variables.....	19
2.4 Control variables	20
2.5 Research model	20
3. Results and findings	22
3.1 Descriptive Statistics	22
3.2 Multinomial regression analysis.....	26
3.2.1 Results from the first step.....	26
3.2.2 Results from the second step.....	32
3.2.3 Robustness and additional tests.....	40
3.3 Cluster analysis	41
4. Conclusion.....	45
References	47
Appendixes.....	52
Appendix A	53
Appendix B	55
Appendix C	56
Appendix D	57
Appendix E.....	60
Appendix F.....	63
Appendix G	64
Annexes	65
Annex A	66
Annex B.....	67

Table Contents

Table 1- Prior studies regarding the IAS and IFRS for SMEs adoption across countries	9
Table 2- Sample selection procedure	18
Table 3 – The Global Competitiveness Index 4.0	19
Table 4 – Selection of the variables used in the first step of the main analysis.....	21
Table 5 - Countries according to their status of adoption of the IFRS for SMEs	23
Table 6 - Descriptive statistics of the variables.....	25
Table 7 – Model fitting of the first step	26
Table 8 – Variables significance of the first step	27
Table 9 – Parameters estimates of the first step	30
Table 10 – Model fitting of the second step.....	32
Table 11 – Variables significance of the second step	32
Table 12 – Parameters estimates of the second step	37
Table 13 – Clusters composition: legal, status of adoption and GDP	42
Table 14 – Clusters composition: legal, status of adoption, GDP and competitiveness	44
Table A 1 - Variables used in this study	53
Table B 1 - Correlation matrix	55
Table C 1 - VIF values of the variables	56
Table D 1 - Parameters estimates for robustness test: DEV	57
Table E 1 - Parameters estimates for robustness test: ECOGROWTH.....	60
Table F 1 - List of countries that belong to each cluster: first phase	63
Table G 1 - List of countries that belong to each cluster: second phase	64
Table B. I - Pillars about competitiveness and the main topics that each pillar captures	67

Abbreviations

CIA - Central Intelligence Agency

ED - Exposure Draft

EU - European Union

FASB- Financial Accounting Standards Board

FDI - Foreign Direct Investment

GAAP – Generally Accepted Accounting Principles

GDP - Gross Domestic Product

IAS - International Accounting Standards

IASB - International Accounting Standards Board

ICT - Information and Communications Technology

IFRS - International Financial Reporting Standards

IFRS for SMEs - International Financial Reporting Standard for SMEs

SMEs - Small and Medium-sized Entities

UNCTAD - United Nations Conference on Trade and Development

VIF - Variance Inflation Factor

Introduction

Small and Medium-sized Entities (SMEs) are of great importance in many economies since they represent about 90% of businesses worldwide and are responsible for 50% of employment (World Bank, 2019a). With global competition, satisfying the international market and business requirements and ensuring economic growth became essential to most SMEs. Thus, the pressure to create international standards for smaller enterprises naturally arose. International Accounting Standards Board (IASB) has done a major contribution when issued in July 2009, the International Financial Reporting Standard for SMEs (IFRS for SMEs). IFRS for SMEs is a simpler version of full International Financial Reporting Standards (IFRS) suitable for smaller entities that are non-publicly accountable and must publish general purpose financial statements for external users (IASB, 2009).

The IFRS for SMEs implementation could be beneficial for the improvement of the financial reporting of SMEs, capital access, SMEs' reputation and considering that it could be the cheaper alternative available, it could also reduce financial reporting costs and burden costs (Ghio & Verona, 2018; Kılıç & Uyar, 2017; Kılıç, Uyar, & Ataman, 2014; Mohamed, Yasseen, & Omarjee, 2019; Pacter, 2009; Seifert & Lingberg, 2010). However, the opponents of the standard have identified many problems related to its adoption. The main issues are burden costs, inconsistencies with reporting framework and challenges in the adoption process due to its complexity (Evans et al., 2005; Kılıç & Uyar, 2017; Kılıç et al., 2014; Mahmood, Khan, Rehman, & Atta, 2018; Perera & Chand, 2015; Warren, Carter, & Napier, 2019).

The IFRS for SMEs is available for any jurisdiction but each jurisdiction has the own responsibility to establish which entities can use this standard (IASB, 2019a). Therefore, it is important to acknowledge possible reasons that drive countries to adopt IFRS for SMEs. Thus, the objective of this dissertation is to analyse the influence of several attributes, especially about competitiveness, on the adoption of the IFRS for SMEs across countries. There are political, economic, social and cultural variables that can affect the development and endorsement of IFRS (Viegas, 2017). Previous evidence provided by studies that analysed the IFRS for SMEs diffusion based on the impact of determinants at a country level is inconclusive. For instance, Bonito & Pais (2018), Kaya & Koch (2015) and Viegas (2017) state that prior application of full IFRS affects the countries' decision to use IFRS for SMEs while Sellami & Gafsi (2018) refer the opposite. Damak-Ayadi, Sassi, & Bahri (2020) and Viegas (2017) conclude that education influences the IFRS for SMEs adoption but others studies did not corroborate (Bonito & Pais, 2018; Sellami & Gafsi, 2018).

Country attributes on the adoption of the IFRS for SMEs

Prior researches, however, do not distinguish between countries where the adoption is mandatory or voluntary and do not include information about countries where that adoption is prohibited. Thus, this study contributes to filling this gap in the literature. Indeed, this dissertation explores the influence of multiple attributes based on the level of competitiveness of each country and classifies countries under 4 adoption status of IFRS for SMEs: (1) Country where IFRS for SMEs is required; (2) Country where IFRS for SMEs is permitted; (3) Country where IFRS for SMEs is prohibited but has similar national standards; and (4) Country where IFRS for SMEs is prohibited and has different national standards. This study uses a 120 worldwide country sample, takes competitiveness attributes as main independent variables, legal and economic factors as control variables and covers a period of 2 years, from 2018 to 2019.

First, a multinomial logistic regression is used to acknowledge which attributes and to what extent they affect the decision of a country choosing not to require the use of IFRS for SMEs rather than to require it. Findings reveal that countries that have a higher competitiveness level in institutions, health, skills, product market and financial system are more likely to require the IFRS for SMEs. Countries with a higher level of competitiveness in infrastructure are more likely to permit the use of the standard. Countries more competitive in their Information and Communications Technology (ICT) adoption, macroeconomic stability and business dynamism are more likely to prohibit the use of IFRS for SMEs and apply distinct national standards. Countries with a higher competitiveness level in innovation capability are more likely to not require the use of the IFRS for SMEs. Moreover, wealthier countries are more likely to require the standard when they must decide between permit or prohibit and use different standards and require. However, when the choice is between prohibit and use similar standards and require it, then they are more likely to not require the IFRS for SMEs. Second, a cluster analysis is used to recognize a pattern of countries' characteristics and their status of adoption of the IFRS for SMEs. The conclusion is the same as in the multinomial regression analysis although it slightly differs in the economic factor which reveals that the poorest countries require the standard. Additionally, were conducted robustness tests that confirm the results of the main analysis.

This study contributes to complement prior literature by expanding the analysis of the IFRS for SMEs adoption according to a more detailed country's classification about its adoption status. Furthermore, providing information about the attributes that distinguish a country where the IFRS for SMEs is required from one where the IFRS for SMEs is permitted or prohibited, it may be important to stakeholders, governments, preparers and users, regulators and accounting

standards setters, especially IASB that can take into consideration these findings to improve and to promote international accounting standards for SMEs adoption.

This dissertation is organized as follows. Section 1 discusses prior literature and the development of the research hypothesis; section 2 describes the methodology followed; section 3 discusses the results. In the last section, is discussed the main conclusions.

1. Literature Review

1.1 International Accounting Harmonization in Small and Medium-sized Entities

Globalization has changed the way businesses are made and has fostered a new economy. This economy is characterized by its higher international involvement through international markets, multinational companies, economic cooperation, and integration. With global competition, new opportunities for international investment arose, such as strategic alliances, partnerships, joint ventures, fusions, and acquisitions. Indeed, many firms and investors seek to expand and invest in foreign markets leading to a demand for a greater understanding of financial statements across countries (Elliott & Elliott, 2011; Kılıç et al., 2014). Thus, having financial and non-financial information perceived in a commonly understandable way became more crucial than ever. That need initiated the process of international accounting harmonization. This process that started in the 1960s contributes to the reduction of differences in accounting practices between countries, and to the increase of comparability and transparency levels of accounting information (Barlev & Haddad, 2007; Urif, 2015). According to Barlev & Haddad (2007), international accounting harmonization has provided information more relevant, increased better international resource allocation and enhanced the efficiency of global markets. Also, it has eased access to capital and assisted the consolidation of businesses globally (Buchanan, 2003).

Many accounting organizations, international businesses, and governments have made efforts to create a consistent set of accounting standards (Barlev & Haddad, 2007). The purpose of such standards is to facilitate the process of decision-making by having homogenous information that is comparable and reliable (Zeghal & Mhedhbi, 2006). Two organizations that stand out by their work of converging accounting practices are the Financial Accounting Standards Board (FASB) and International Accounting Standards Board (IASB). Other than that, the European Union (EU) plays an important role in the accounting harmonization by issuing accounting directives and regulations that contribute to the preparedness of common

financial reporting standards and minimization of the accounting differences among EU countries (Elliott & Elliott, 2011).

IASB is the organization responsible for the development of the International Financial Reporting Standards (IFRS). IASB's purpose is to create international accounting standards capable of improving transparency, accountability, and efficiency to financial markets globally (IASB, 2019b). IFRS are described as a set of understandable, enforceable and globally accepted accounting standards where high-quality is emphasized which encourages trust, growth and financial stability (IASB, 2019b). Thereby, there are more than 140 jurisdictions that have already adopted and required the IFRS standards for their listed entities and financial institutions (IASB, 2019c).

To satisfy the international market and business requirements, attract investment became crucial for the growth of several small and medium-sized entities (SMEs). A research conducted in Algeria by Zouita, Louail, & Mameche (2019) shows that the existence of SMEs have a positive effect on the Foreign Direct Investment (FDI) inflows, however, when the IFRS adoption in SMEs is considered the conclusion is that FDI inflows decrease. Nevertheless, other studies show that having harmonized financial reporting standards of high quality and comparability could help SMEs to gain access to foreign capital and improve their international recognition (Kılıç & Uyar, 2017; Perera & Chand, 2015; Sellami & Gafsi, 2018). This is in line with Francis, Khurana, Martin, & Pereira (2008) that concluded that firms with more growth opportunities and international engagement are more likely to voluntarily adopt International Accounting Standards (IAS).

SMEs are of great importance in many economies since they represent about 90% of businesses worldwide and are responsible for 50% of employment (World Bank, 2019a). For that reason, Perera and Chand (2015: 165) state that the "SME sector has been positioned as the most crucial sector and the backbone of many developed and developing economies around the world". Due to its importance and major involvement in the worldwide economy, the pressure to create standards for smaller enterprises arose. This urge was boosted by SMEs' concerns about the accounting complexity (Gassen, 2017) and the burden costs of using and complying with accounting standards such as full IFRS (Elliott & Elliott, 2011; Evans et al., 2005; Pacter, 2009; Perera & Chand, 2015). Thereby, IASB issued in July 2009, the International Financial Reporting Standard for SMEs (IFRS for SMEs) but is still working and looking for improvements. This standard is based on full IFRS principles and designed specifically for smaller entities that are non-publicly accountable and must publish general purpose financial

statements for external users (IASB, 2009). Therefore, there are more than 80 jurisdictions that have already adopted this standard (IASB, 2019c). In summary, IFRS for SMEs is a simpler version of full IFRS suitable for smaller entities that incorporates the needs of users of SMEs' financial statements and cost-benefit considerations (Deloitte, 2019).

According to Nobes (1998), the reason behind the existence of differences within financial reporting is the distinct purposes of that report. Thus, financial reporting should meet the needs of its specific users which differ with the size of entities and across countries (Albu, 2013; Bunea, Săcărin, & Minu, 2012; Chand, Patel, & White, 2015; Di Pietra et al., 2008; Evans et al., 2005; Gassen, 2017). The main users of SMEs' financial reporting are banks and creditors, tax authorities and shareholders as owners and administrators (Bunea et al., 2012; Gassen, 2017; Pacter, 2009). Moreover, the adoption of a standard for smaller entities is expected to be beneficial for many parties as auditors, creditors, accountants, banks and State, which is supported by Kılıç & Uyar (2017)'s study in Turkey.

As mentioned, IFRS for SMEs is based on users' needs, however, many opponents of the standard argue that those needs are not being addressed in the IFRS for SMEs framework. For instance, Mohamed, Yasseen, & Omarjee (2019) and Di Pietra et al. (2008) refer that the standard was not designed to meet the needs of tax authorities and management. Deaconu, Buiga, & Strouhal (2012) explored the IFRS for SMEs exposure draft acceptance and revealed that users were more reluctant than the standard setters and preparers. A study conducted by Quagli & Paoloni (2012) about EU countries evidences that banks and creditors are hesitant to approve the IFRS for SMEs, also when questioned about the utility of IFRS for SMEs over national standards, the majority of users consider the latter more useful. Besides, users have lower participation in the due process of IFRS for SMEs (Bautista-Mesa, Muñoz-Tomás, & Horno-Bueno, 2019; Perera & Chand, 2015). In addition, Ram & Newberry (2013) cite IASB explaining that the starting point for the development of this standard was the already existed IFRS and not exactly the users' needs. Thereby, it can be concluded that users' perceptions about IFRS for SMEs standard and the fulfilment of their needs are inconsistent with the IFRS for SMEs principles, consequently, its benefit is debatable.

Concerning the cost-benefits analysis, previous studies reveal that firm's size is an important factor because accounting practices differ between entities (Eierle & Haller, 2009; Evans et al., 2005). There have been concerns about the costly process of adopting IFRS for SMEs (Ghio & Verona, 2018; Kılıç & Uyar, 2017). For instance, changing to an international standard could be an expensive action if national standards and IFRS for SMEs are different (Nobes, 2010;

Perera & Chand, 2015). That change will imply burden costs regarding training, investing in a new accounting system (Kılıç & Uyar, 2017; Mahmood et al., 2018), collecting financial information and maintaining compliance (Kılıç & Uyar, 2017; Litjens, Bissessur, Langendijk, & Vergoossen, 2012). Despite being less costly compared with the full IFRS, the adoption of the IFRS for SMEs is still an obstacle for many small entities, particularly in emerging countries (Kılıç et al., 2014). As a matter of fact, Chand et al. (2015) concluded that costs of compliance with IFRS for SMEs are easier to overcome by large SMEs operating in developed economies than smaller SMEs operating in emerging economies.

Regardless the efforts to reduce financial requirements, measurement and recognition topics, IFRS for SMEs continue being too complex for the understanding of smaller entities (Kılıç et al., 2014; Perera & Chand, 2015; Quagli & Paoloni, 2012). That can be justified by the employees' lack of knowledge, expertise, training (Kılıç & Uyar, 2017; Kılıç et al., 2014; Perera & Chand, 2015) and interpretation difficulties of the standard (Kılıç & Uyar, 2017; Kılıç et al., 2014).

Furthermore, the ambiguity about the scope of IFRS for SMEs is perceived as a disadvantage to the extent that there are many criteria and definitions of SME that can difficult the understanding of which entities are eligible to use the standard (Evans et al., 2005; Kılıç & Uyar, 2017; Perera & Chand, 2015; Ram & Newberry, 2013; Warren et al., 2019). Besides, due to its misleading title and scope, IASB has been criticized for having created IFRS for SMEs to fit the needs of all types of companies in a single standard (Warren et al., 2019).

Another problem of this standard lies in its development process, namely preparers' concerns may not be included in the standard setting process (Perera & Chand, 2015). This is consistent with Eierle & Haller (2009)'s finding that there are only a few SMEs that need to provide internationally comparable accounting information to their stakeholders and Quagli & Paoloni (2012)'s study that concluded that this standard is more useful to entities with great international engagement. Thereby, IFRS for SMEs may not satisfy the needs and challenges that most of the SMEs face resulting in its none or poor adoption. For that reason, IASB should also consider the circumstances in which preparers perceive costs and benefits (Litjens et al., 2012).

At the same time, smaller entities could also profit from the application of IFRS for SMEs (Eierle & Haller, 2009). This new set of standards are expected to increase financial reporting comparability (Bohušová & Blašková, 2012; Ghio & Verona, 2018), transparency and quality (Pacter, 2009; Sellami & Gafsi, 2018). Thus, IFRS for SMEs could assist entities to improve

Country attributes on the adoption of the IFRS for SMEs

their visibility, attract foreign investment, develop business opportunities, enhance competitiveness (Ghio & Verona, 2018) and ease the access to financial capital (Ghio & Verona, 2018; Seifert & Lingberg, 2010).

Such advantages are highlighted in many studies. For instance, Gassen (2017) concluded that countries adopting IFRS for SMEs show higher levels of private firm financial transparency. A research conducted by Kılıç et al. (2014) reveals that emerging countries are most likely to adopt IFRS for SMEs to improve financial reporting, country's image and access to capital. Besides, looking at the professional perspective, accountants consider financial reporting comparability, effectiveness, reliability (Kılıç et al., 2014; Mahmood et al., 2018), transparency (Kılıç & Uyar, 2017; Kılıç et al., 2014; Mahmood et al., 2018) and quality (Kılıç & Uyar, 2017) as the most advantageous aspects of the IFRS for SMEs implementation. Moreover, many believe that access to international resources is affected by IFRS for SMEs adoption (Kılıç & Uyar, 2017). Meanwhile, Perera & Chand (2015) argue that there are many factors other than high quality and comparable financial statements that difficult access to international capital.

Another benefit of IFRS for SMEs is the reduction of financial reporting costs and burden (Kılıç & Uyar, 2017; Mohamed et al., 2019; Pacter, 2009; Seifert & Lingberg, 2010). In his study, Gassen (2017) discovered that this standard can be useful in emerging countries accounting where private firms have full IFRS as their only option to reduce preparation costs and to solve complexity problems, considering that the IFRS for SMEs could be less costly. In general, jurisdictions that chose to adopt IFRS for SMEs evaluate it positively however, some countries have manifest that its use does not reduce their accounting costs (Gassen, 2017).

In summary, the main challenges of applying IFRS for SMEs are related to burden costs, technical issues and ambiguity of its setting, while the primary advantages are the improvement of financial reporting, the ease to access capital and reduction of financial reporting costs. Hence, these along with other attributes may motivate countries to adopt or not adopt this international standard.

1.2 Country attributes on the IFRS for SMEs adoption and development of hypothesis

There are political, economic, social and cultural variables that can affect the development and endorsement of IFRS (Viegas, 2017). Indeed, country-level factors have shown to be relevant in the IAS adoption decision specifically in countries less developed and with weaker institutions (Francis et al., 2008). The effect of microeconomic and macroeconomic factors in

Country attributes on the adoption of the IFRS for SMEs

the adoption of accounting practices has been explored in prior studies. Zeghal & Mhedhbi (2006) took the lead in analysing such factors regarding the adoption of IAS by developing countries. Their findings reveal that a high literacy rate and economic growth, belonging to the Anglo-American culture, and having capital markets are common aspects within adopters.

The IFRS for SMEs is available for any jurisdiction but each jurisdiction has the own responsibility to establish which entities can use this standard (IASB, 2019a). According to IASB, there are more than 80 jurisdictions that have already adopted IFRS for SMEs (IASB, 2019c). Nevertheless, as aforementioned, there are still too many inconsistencies that prevent this number to be higher and, in certain cases, the IFRS for SMEs is just not suitable for each national environment (Obradović, 2018). Therefore, it is important to acknowledge possible reasons that drive countries to adopt IFRS for SMEs. Table 1 summarizes prior researches that have explored the IAS and IFRS for SMEs adoption across countries.

Country attributes on the adoption of the IFRS for SMEs

Table 1- Prior studies regarding the IAS and IFRS for SMEs adoption across countries

Authors	Title	Journal	Methodology	Sample	Variables		Summary of Findings
					Dependent	Independent	
Zeghal & Mhedhbi, 2006	<i>An analysis of the factors affecting the adoption of international accounting standards by developing countries</i>	The International Journal of Accounting	Logit regression	64 developing countries	Countries' adoption of IAS 0= Non-adopters 1= Adopters	<ul style="list-style-type: none"> - Growth of Gross Domestic Product (GDP) per capita; - Literacy rate; - Degree of external economic openness; - Cultural membership in a group of countries; - Existence of a capital market. 	<p>Countries are more likely to adopt IAS with:</p> <ul style="list-style-type: none"> - High literacy rate; - Anglo-American culture; - Capital markets. <p>External economic openness and economic growth are statistically insignificant.</p>
Francis et al., 2008	<i>The role of firm-specific incentives and country factors in explaining voluntary IAS adoptions: Evidence from private firms</i>	European Accounting Review	Logit regression	3,722 SMEs from 56 countries	Firm's use of international accounting standards 1= Firm use international accounting standards 0= Otherwise	<p>Firms:</p> <ul style="list-style-type: none"> - Expected growth rate in investment; - Financing from external sources; - Owners' nationality; - Export sales; - Ownership; - Size. <p>Countries:</p> <ul style="list-style-type: none"> - GDP per capita; - Legal development (court system); - Financing constraints; - Corruption; - Judicial functioning; - Financial development; - Legal system. 	<p>Country factors dominate firm incentives in less economically developed countries.</p> <p>Firms are more likely to voluntarily adopt IAS with:</p> <ul style="list-style-type: none"> - More growth opportunities; - Foreign owners; - Greater external financing needs; - Larger size; - Engagement in exportation; - Organization as limited liability corporations.

Country attributes on the adoption of the IFRS for SMEs

Table 1- Continued

Authors	Title	Journal	Methodology	Sample	Variables		Summary of Findings
					Dependent	Independent	
Masca, 2012	<i>Influence of cultural factors in adoption of the IFRS for SMEs</i>	Procedia Economics and Finance	Descriptive Analysis	27 public authorities and standard setters 17 accountants and auditors	Institutions' opinion about using IFRS for SMEs	-----	The opinion of organizations and institutions about using IFRS for SMEs on a large scale in the legal framework in Europe is influenced by the accounting culture of the geographical area in which they operate.
Deaconu et al., 2012	<i>SMEs financial reporting: Attitudes towards IFRS for SMEs</i>	Studia Ubb, Oeconomica	Multiple Correspondence Analysis; Cluster Analysis	131 responses from comment letters from 45 countries	Items of the Exposure Draft's (ED) questions	<ul style="list-style-type: none"> - Accounting System; - Economy type; - Respondent type. 	Respondents from countries with Continental-European accounting system show more reserves in accepting the IFRS for SMEs than Anglo-Saxon respondents; Developed countries are more reluctant than emergent countries in their responses about the ED; Preparers show more acceptance and users more rejection of the ED.
Bohušová & Blašková, 2012	<i>In what ways are countries which have already adopted IFRS for SMEs different</i>	Acta Universitatis Agriculturae Et Silviculturae Mendelianae Brunensis	Statistical Analysis	50 countries around the world	Comparison between countries which have already adopted the IFRS for SMEs with those which have not adopted it	<ul style="list-style-type: none"> - GDP per capita; - Strength of auditing. 	Countries that are economically weak with a lower quality of a financial reporting system are expected to adopt the IFRS for SMEs.

Country attributes on the adoption of the IFRS for SMEs

Table 1- Continued

Authors	Title	Journal	Methodology	Sample	Variables		Summary of Findings
					Dependent	Independent	
Kaya & Koch, 2015 ¹	<i>Countries' adoption of the International Financial Reporting Standard for Small and Medium-sized Entities (IFRS for SMEs) – Early empirical evidence</i>	Accounting and Business Research	Logit regression	128 countries around the world	Countries' adoption of IFRS for SMEs 0= Non - adopters 1= Mandatory/voluntary adopters	<ul style="list-style-type: none"> - Availability of local Accepted Accounting Principles (GAAP); - Application of full IFRS; - Governance quality; - Legal system; - Tax and accounting relationship; - Tax revenue; - Ease of access to loans; - Strength of auditing and reporting standards; - Ease of doing business; - Foreign Aid; - Imports of goods and services; - Education Level. 	<p>Generally Principles for SMEs with:</p> <ul style="list-style-type: none"> - No local GAAP; - Prior application of full IFRS; - Common law system; - Lower governance quality; - Lower levels of tax revenues; - Limited financing possibilities; - Weak auditing and financial reporting environments; - Weak business conditions. <p>Tax and accounting relationship, foreign aid, imports, and education are insignificant factors.</p>
Viegas, 2017	<i>A influência de fatores macroeconómicos e sociais na adoção das IFRS para PME nos países em desenvolvimento</i>	Master dissertation	Logistic regression	60 developing countries around the world	Adoption decision of IFRS for SMEs 0 = Non - adopters 1= Require/ Permit	<p>Institutional development:</p> <ul style="list-style-type: none"> - Corruption; - Political stability; - Governance quality; - Rule of Law; - Regulatory quality; - GDP per capita. <p>External openness:</p> <ul style="list-style-type: none"> - Exportation; - Foreign Investment. <p>Education/Knowledge:</p> <ul style="list-style-type: none"> - Education Level; - IFRS familiarity. 	<p>Countries are more likely to adopt IFRS for SMEs with:</p> <ul style="list-style-type: none"> - Higher institutional development; - Higher education; - Prior adoption of full IFRS; - Higher GDP per capita. <p>Level of external openness is statistically insignificant</p>

¹ This study starts by analysing countries' adoption of IFRS for SMEs according to 3 groups: (1) Non-Adopters; (2) Voluntary-Adopters; and (3) Mandatory-Adopters. However, the authors combine voluntary and mandatory adopters into the group "Adopters" due to the small number of countries that require the IFRS for SMEs.

Country attributes on the adoption of the IFRS for SMEs

Table 1- Continued

Authors	Title	Journal	Methodology	Sample	Variables		Summary of Findings
					Dependent	Independent	
Sellami & Gafsi, 2018	<i>What drives developing and transitional countries to adopt the IFRS for SMEs? An institutional perspective</i>	The Journal of Corporate Accounting & Finance	Logit regression	70 developing and transitional countries around the world	Country's adoption of IFRS for SMEs 0= Non-adopters 1= Adopters	<ul style="list-style-type: none"> - Importance of SMEs sector; - Country's reliance on external funding; - Degree of external openness; - Education level; - Prior adoption of full IFRS; - Tax system; - Governance quality. 	<p>IFRS for SMEs adoption is positively associated with:</p> <ul style="list-style-type: none"> - SMEs' importance; - Reliance on external funding; - External openness. <p>IFRS for SMEs adoption is negatively associated with:</p> <ul style="list-style-type: none"> - Tax system; - Governance quality. <p>Education and prior adoption of full IFRS are nonsignificant factors.</p>
Bonito & Pais, 2018	<i>The macroeconomic determinants of the adoption of IFRS for SMEs</i>	Revista de Contabilidad – Spanish Accounting Review	Logit regression	84 countries around the world	Country's adoption of IFRS for SMEs 0= Non-adopters 1= Adopters	<ul style="list-style-type: none"> - Education level; - Availability of national standards for SMEs; - Familiarity with IFRS; - Legal system; - Foreign Aid; - Quality of the national financial accounting standards; - Relationship between accounting and tax. 	<p>Countries are more likely to adopt IFRS for SMEs with:</p> <ul style="list-style-type: none"> - No specific set of national financial accounting standards; - Common law system; - Experience and familiarity with IFRS. <p>Education level, foreign aid, quality of the national financial accounting standards and the relationship between accounting and tax do not show evidence of affecting the decision to adopt.</p>

Country attributes on the adoption of the IFRS for SMEs

Table 1- Continued

Authors	Title	Journal	Methodology	Sample	Variables		Summary of Findings
					Dependent	Independent	
Zahid & Simga-Mugan, 2019	<i>An analysis of IFRS and SME-IFRS adoption determinants: A worldwide study</i>	Emerging Markets Finance & Trade	Logit regression	145 countries around the world	Timing of IFRS adoption; Extend of IFRS adoption; IFRS for SMEs adoption 0= Non-adoption 1= Adoption	- Business freedom (regulatory efficiency); - Trade freedom (market openness); - Cultural values; - Legal origin; - GDP Growth Rate; - Inflation; - Literacy; - Unemployment; - Log of Average Population.	Countries are more likely to adopt IFRS for SMEs with: - Lower regulatory efficiency; - Lower market openness; - Slower economic growth; - Common law origin. Adoption of IFRS for publicly listed companies, adoption timing, adoption extent, cultural values, inflation, literacy, unemployment, and size have no significant relation with IFRS for SMEs adoption.
Damak-Ayadi, Sassi, & Bahri, 2020	<i>Cross-country determinants of IFRS for SMEs adoption</i>	Journal of Financial Reporting and Accounting	Logit regression	177 countries around the world	Adoption of IFRS for SMEs by country 0= Non-adopters 1= Adopters	- Law enforcement quality; - Culture; - Trading networks; - Economic growth; - Political system; - Tax system; - Coercive isomorphism (foreign aid); - Mimetic isomorphism (direct import of goods and services); - Normative isomorphism (literacy rate).	IFRS for SMEs adoption is positively associated with: - Quality of law enforcement; - Culture; - Trading networks; - Economic growth; - Coercive isomorphism; - Normative isomorphism. Political system, tax system, mimetic isomorphism and quality of audit and financial reports have no significant relation with IFRS for SMEs adoption.

As aforementioned, switching from the national accounting system to IFRS can result in burden costs. Thus, in a scenario of transition, countries where tax and distribution are linked to accounting, will face a major change in profit. Therefore, such countries would be more reluctant to allow the use of IFRS for SMEs because of their loss of control of tax and distribution (Nobes, 2010; Sellami & Gafsi, 2018). Nevertheless, Bonito & Pais (2018), Damak-Ayadi et al. (2020) and Kaya & Koch (2015) did not provide any evidence that the relationship between accounting and taxation is related to countries' decision of adopting IFRS for SMEs.

Previous findings reveal that countries that do not have developed their own national financial accounting standards for smaller entities are more likely to adopt IFRS for SMEs (Bonito & Pais, 2018; Kaya & Koch, 2015). Furthermore, a country that already adopts full IFRS is more likely to use IFRS for SMEs (Bonito & Pais, 2018; Kaya & Koch, 2015; Viegas, 2017). The reason behind that is the IFRS for SMEs principles based on full IFRS, hence, a country already familiar with the latter can use and understand IFRS for SMEs more easily. However, Sellami & Gafsi (2018) state that prior use of full IFRS does not affect the choice to adopt IFRS for SMEs in developing and transitional countries. Also, Gassen (2017) concluded that jurisdictions where firms have the option to apply IFRS for SMEs, most of them prefer either national reporting regimes or full IFRS which is consistent with the study conducted by Obradović (2018) in the Republic of Serbia.

Education is one of the factors that has been under investigation. So far, the findings of its impact on the decision of adopting this standard are inconclusive. Viegas (2017) concluded that developing countries with higher education are more likely to adopt the standard, and Damak-Ayadi et al. (2020) discovered that normative isomorphism, measured by the literacy rate has a positive effect on the IFRS for SMEs adoption. However, some researches did not provide any evidence that relates education to the countries' decision (Bonito & Pais, 2018; Kaya & Koch, 2015; Sellami & Gafsi, 2018; Zahid & Simga-Mugan, 2019).

Moreover, some studies indicate that countries are more likely to adopt IFRS for SMEs with lower governance quality (Kaya & Koch, 2015; Sellami & Gafsi, 2018), effective law enforcement (Damak-Ayadi et al., 2020) and weak quality of auditing and financial reporting system (Bohušová & Blašková, 2012; Kaya & Koch, 2015). Nevertheless, the research conducted by Viegas (2017) reveals that developing countries with higher institutional development tend to adopt this standard.

The openness of the economy of a country to others is explored by several authors. Some study the impact of external investment while others look at the trade of good and services perspective. Sellami & Gafsi (2018)'s study concludes that FDI is positively related to IFRS for SMEs adoption which supports one of the IFRS for SMEs adoption benefits, the ease to access capital. Zahid & Simga-Mugan (2019) discovered that countries with lower market openness and trade are more likely to adopt the IFRS for SMEs. In addition, Damak-Ayadi et al. (2020) revealed that when a country has trade partners that have adopted the standard, the likelihood of adopting the IFRS for SMEs increases but the openness of a country to others do not have a significant impact on its adoption. Kaya & Koch (2015) and Viegas (2017) did not provide any evidence that external openness affects the adoption decision.

Furthermore, the analysis of other determinants reveals that the likelihood to adopt IFRS for SMEs increases with limited financing possibilities (Kaya & Koch, 2015), poor business conditions (Kaya & Koch, 2015; Zahid & Simga-Mugan, 2019), higher levels of entities financial transparency (Gassen, 2017), greater SMEs' importance (Sellami & Gafsi, 2018) and higher country's dependence on external funding (Damak-Ayadi et al., 2020; Sellami & Gafsi, 2018). On the other hand, Bonito & Pais (2018) and Kaya & Koch (2015) were unable to find evidence that foreign aid influences the adoption decision.

Environmental factors and accounting culture are still major determinants regarding the country's accounting policies and practices once it could affect organizations and institutions' opinions about the use and adoption of accounting standards (Masca, 2012; Zeghal & Mhedhbi, 2006). For instance, Deaconu et al. (2012) concluded that there is a higher approval of IFRS for SMEs in the Anglo-Saxon accounting systems than in the Continental-European accounting systems. Additionally, Damak-Ayadi et al. (2020) found that Anglo-Saxon culture is positively associated with the adoption of the IFRS for SMEs and Quagli & Paoloni (2012) refer that German-speaking and Latin Countries are generally against the standard. Consistent with these studies are other authors' findings which reveal that a country is more likely to adopt IFRS for SMEs if its legal system origin is common-law (Bonito & Pais, 2018; Kaya & Koch, 2015; Zahid & Simga-Mugan, 2019).

Previous studies, however, explore the likelihood of the adoption of IFRS for SMEs and its determinants, but do not distinguish between countries where the adoption is mandatory or voluntary, and do not include information about those where that adoption is prohibited. While all prior researches use variables that seem to influence the voluntary/mandatory adopters versus non-adopters' decision, the same variables could not explain the choice between a more

detailed classification of adopters and non-adopters. Thus, there is a gap in the literature related to the reasons why countries may require, permit or prohibit the adoption of IFRS for SMEs, for which this study contributes. So, this work introduces a research designed to analyse the influence of multiple attributes based on the level of competitiveness of each country. Competitiveness has an important role in economic, political, technological, environmental and social contexts and it became critical with globalization, not only within entities but also among countries (World Economic Forum, 2018). World Economic Forum (2018:ix) has stated that “all economies must invest in broader measures of competitiveness today to sustain growth and income in the future.” Therefore, improving competitiveness results in enhancing economic growth and so, boosting life conditions. For less developed and emerging countries, having economic growth is essential to invest in education and health systems and improve nutrition (World Economic Forum, 2019). This work aware whether, on one hand, a country that wants to achieve a higher level of competitiveness and therefore boost its national economy could see IFRS for SMEs as a solution once it could improve its SMEs’ visibility, comparability, capital and develop business opportunities. On the other hand, a country with higher levels of competitiveness could not perceive a beneficial use of IFRS for SMEs and then could decide not to adopt it. Thus, in this study, the hypothesis developed to examine the relationship between the level of competitiveness and the use of IFRS for SMEs is only one but tested within different classifications of countries. In addition, the level of competitiveness is going to be detailed in several attributes according to the methodology followed by the World Economic Forum (2018, 2019) which permits the hypothesis to be tested using twelve different country attributes. As such, this study aims to explain the probability of a country being in a specific IFRS for SMEs adoption status given different competitiveness attributes compared to the institutional environment where IFRS for SMEs is required. Assuming this latter as the baseline, the hypothesis is as follows:

H1: The probability of a country to decide to not require the use of IFRS for SMEs depends on a more marked difference in its level of competitiveness relative to a country where the use of IFRS for SMEs is required.

The legal system and the wealth of a country are going to be included as control variables. Indeed, many studies explored the IFRS for SMEs adoption at the economic perspective indicating that countries economically weak (Bohušová & Blašková, 2012), with slower economic growth (Zahid & Simga-Mugan, 2019) and emerging and developing countries tend

to adopt IFRS for SMEs in its accounting regime (Deaconu et al., 2012). This can be explained by the fact that emerging countries in comparison with developed ones do not have any or a great financial reporting system for small entities and want to improve their capital and reputation (Chand et al., 2015; Kaya & Koch, 2015; Kılıç et al., 2014). At the same time, the effect of the quality of the national financial accounting standards in the adoption of IFRS for SMEs was not validated by Bonito & Pais (2018) nor Damak-Ayadi et al. (2020). In summary, the analysis of the relationship between the development of a country and its adoption status of IFRS for SMEs standard has shown that less developed and emerging countries and so, countries with lower economic indicators are more likely to adopt it. Also, as the aforementioned, legal system seems to have influences on the country's accounting systems (Bonito & Pais, 2018; Damak-Ayadi et al., 2020; Deaconu et al., 2012; Kaya & Koch, 2015; Masca, 2012; Quagli & Paoloni, 2012; Zahid & Simga-Mugan, 2019; Zeghal & Mhedhbi, 2006).

2. Methodology

The objective of this dissertation is to analyse the influence of several country attributes based on the level of competitiveness on the country's adoption of the IFRS for SMEs. The starting point of this work is the gap found in the literature about the adoption of the IFRS for SMEs standard regarding the countries' classification based on its status of adoption. That is, previous studies have analysed the IFRS for SMEs implementation under the perspective of voluntary/mandatory adopters and non-adopters. Hence, this research seeks to expand this country's classification about its status of adoption. The hypothesis in this dissertation aims to test if the likelihood of a country deciding to not require IFRS for SMEs depends on the discrepancies between its level of competitiveness relative to the countries where IFRS for SMEs is required. This work uses a quantitative research approach to find which and in what extend those attributes contribute to the country's probability of choosing not to require the standard over requiring it and then, to be able to identify a pattern. Thereby, it was collected worldwide information about the country's status of adoption and other variables regarding the period of 2018 and 2019. Then, it was created a database which was applied and analysed with the support of SPSS Statistics.

2.1 Sample and data

To identify countries according to their status of adoption of IFRS for SMEs, a 166-country dataset was compiled. The country sample was retrieved from the IFRS official website, in

particular from the IFRS Foundation’s jurisdiction profiles (IASB, 2019d). This source was also used by Bonito & Pais (2018), Damak-Ayadi et al. (2020), Kaya & Koch (2015), Zahid & Simga-Mugan (2019) and Zeghal & Mhedhbi (2006) to construct the sample of their research. To avoid duplicate data, it was exempted from the sample the EU profile. Due to the lack of information about the adoption of the IFRS for SMEs standard, 4 countries were exempted from the sample. Also, it was collected data on country’s competitiveness level from the World Economic Forum (World Economic Forum, 2018, 2019), data on countries’ origin about their legal system from Central Intelligence Agency (CIA) World Factbook (CIA, 2019) and data about country’s economic indicators from World Bank (World Bank, 2019b, 2020) and United Nations Conference on Trade and Development (UNCTAD) (UNCTAD, 2019a, 2019b). Hence, starting from 161 countries and excluding the ones with unavailable information to all variables in the study period of this research, the final sample is composed of 120 countries across the world. Table 2 summarises the sample selection procedure. This work covers a period of 2 years, from 2018 to 2019. As a result, it was obtained 240 observations.

Table 2- Sample selection procedure

Total of countries	166
(-) Profiles with duplicate information	(1)
(-) Countries without information about the IFRS for SMEs adoption status	(4)
(-) Countries with no information about the competitiveness level for both years of the study period (2018 and 2019)	(41)
(=) Total of countries in the sample	120

2.2 Dependent variable

To identify and classify countries by status of adoption of IFRS for SMEs was analysed data from IFRS Foundation’s jurisdiction profiles (IASB, 2019d). In prior researches, such Bonito & Pais (2018), Damak-Ayadi et al. (2020), Sellami & Gafsi (2018), Viegas (2017) and Zahid & Simga-Mugan (2019), the countries’ adoption of IFRS for SMEs was studied as a binary dependent variable where 0 is for non-adopters and 1 for mandatory or voluntary adopters. However, the present study classifies its country sample under 4 categories, which is a distinctiveness of prior studies: (1) Country where IFRS for SMEs is required; (2) Country where IFRS for SMEs is permitted; (3) Country where IFRS for SMEs is prohibited but has similar national standards; and (4) Country where IFRS for SMEs is prohibited and has different

Country attributes on the adoption of the IFRS for SMEs

national standards. Note that, if the country's accounting regime requires only the use of full IFRS then that country is also classified as belonging to the first group i.e: IFRS for SMEs is required. Hence, the dependent variable of this dissertation is the countries' adoption of IFRS for SMEs (IFRSforSME) which has 4 categories. Thus, IFRSforSME can take the value of 1, 2, 3 and 4 according to their status of adoption.

2.3 Independent variables

To analyse the countries decision concerning its IFRS for SMEs adoption status, a set of variables regarding country competitiveness are identified. For this research, the period study is the years 2018 and 2019. The data about the competitiveness variables was collected from the World Economic Forum, in particular from The Global Competitiveness Report 2018 (World Economic Forum, 2018) and The Global Competitiveness Report 2019 (World Economic Forum, 2019). In those reports were extracted scores about 12 pillars of competitiveness and the total score of competitiveness of each country. The overall score is calculated by the simple average of the 12 pillars. In turn, each pillar is the aggregation of normalized scores from specific indicators that measure the differences between countries (see Annex A about the indicators used in each pillar). Each pillar variable is measured by scores on a 0 to 100 scale. Table 3 shows in more detail the pillars of competitiveness used in this dissertation.

Table 3 – The Global Competitiveness Index 4.0

<i>Enabling environment</i>	<i>Markets</i>
Institutions	Product Market
Infrastructure	Labour Market
ICT adoption	Financial System
Macroeconomic Stability	Market Size
<i>Human capital</i>	<i>Innovation ecosystem</i>
Health	Business Dynamism
Skills	Innovation Capability

Source: World Economic Forum, *The Global Competitiveness Report 2019*, p.2, 2019

2.4 Control variables

This research uses legal system origin and the wealth of a country as control variables. Information on countries' origin about their legal system was gathered from the CIA World Factbook (CIA, 2019). The origin of the countries' legal system is a binary variable. Thus, LEGAL takes the value 1 if the country has only a common-law system and 0 otherwise. Moreover, the economic indicator used in this study that measures the wealth of a country is the gross domestic product (GDP). That data is available on the World Bank's website (World Bank, 2019b, 2020) and the UNCTAD's website (UNCTAD, 2019a, 2019b). Thus, LNGDP is the natural logarithm of the countries' gross domestic product in US dollars.

2.5 Research model

Initially, a descriptive analysis is used to characterize the sample according to the status adoption of the IFRS for SMEs, legal system, economic development, and competitiveness. To describe countries were analysed the mean values for the quantitative variables and the frequencies for the qualitative variable.

The majority of the previous studies that explored the influence of determinants in the country decision of adopting IFRS for SMEs used a logistic regression model, in particular, a dichotomous model (Bonito & Pais, 2018; Damak-Ayadi et al., 2020; Kaya & Koch, 2015; Sellami & Gafsi, 2018; Viegas, 2017; Zahid & Simga-Mugan, 2019; Zeghal & Mhedhbi, 2006). However, and given that the dependent variable used in this work has 4 categories, a multinomial logistic regression analysis was conducted which is the most accurate model to use in such cases. In this case, one category is taken as the baseline. This study considers the status of the IFRS for SMEs adoption such as required, permitted, prohibited but national standard similar and prohibited with different national standard as the categories of the dependent variables, with the first taken as the reference category. This main analysis is used to acknowledge which attributes and to what extent they affect the decision of a country choosing not to require the use of IFRS for SMEs standard rather than to require it. Then to test the hypothesis presented in this study, it is used the following multinomial logit model:

$$\log \frac{\text{Prob}(\text{IFRSforSME} = j)}{\text{Prob}(\text{IFRSforSME} = 4)} = \alpha_{j0} + \beta_{j1} \text{COMP}_{Attributes} + \beta_{j2} \text{Controls} + \varepsilon \quad (1)$$

Country attributes on the adoption of the IFRS for SMEs

Where:

β_{ji} represents the marginal effect of a one-unit increase in the independent variable on the log-odds of being in category j, rather than the reference category (j=1=IFRS for SMEs is required).

COMP_{Attributes} compile 12 pillars about competitiveness that then will be divided and analysed in detail.

Equation (1) is tested in two steps. First, it was run a model where COMP_{Attributes} includes INST, MACRO, SKILLS, FINANCIAL, MARKET and BUSINESS as main variables and uses LEGAL and LNGDP as controls (see Appendix A for the definitions of the variables used in this dissertation). The selection of these pillars was based on the similarities between what each pillar seeks to capture (see Annex B for topics captured by each pillar about competitiveness) and the variables already studied by other researchers even though the measurement criteria could be different. Table 4 shows how it was made the association between the variables studied previously and the pillars about competitiveness for the first step of the multinomial regression analysis.

Table 4 – Selection of the variables used in the first step of the main analysis

Independent variables	Variables used previously	Authors
<i>Institutions</i>	Court system; Corruption; Judicial functioning; Strength of auditing and reporting standards; Governance quality; Regulatory quality; Rule of law; Law enforcement.	Bohušová & Blašková, 2012; Bonito & Pais, 2018; Damak- Ayadi et al., 2020; Francis et al., 2008; Kaya & Koch, 2015; Sellami & Gafsi, 2018; Viegas, 2017.
<i>Macroeconomic Stability</i>	Inflation; External funding; Foreign aid.	Bonito & Pais, 2018; Damak- Ayadi et al., 2020; Kaya & Koch, 2015; Sellami & Gafsi, 2018; Zahid & Simga-Mugan, 2019.
<i>Skills</i>	Education level; Literacy rate.	Bonito & Pais, 2018; Damak- Ayadi et al., 2020; Kaya & Koch, 2015; Sellami & Gafsi, 2018; Viegas, 2017; Zahid & Simga- Mugan, 2019; Zeghal & Mhedhbi, 2006.

Country attributes on the adoption of the IFRS for SMEs

Table 4 – Continued

Independent variables	Variables used previously	Authors
<i>Financial System</i>	Financing constraints; Financial development; Capital market; Access to loans.	Francis et al., 2008; Kaya & Koch, 2015; Zeghal & Mhedhbi, 2006.
<i>Market Size</i>	External openness (Exports, Foreign investment); Imports; Market openness.	Damak-Ayadi et al., 2020; Kaya & Koch, 2015; Sellami & Gafsi, 2018; Viegas, 2017; Zahid & Simga-Mugan, 2019; Zeghal & Mhedhbi, 2006.
<i>Business Dynamism</i>	Ease of doing business; Business freedom.	Kaya & Koch, 2015; Zahid & Simga-Mugan, 2019.

Second, to make a wider analysis, which is the basis of this study, Equation (1) is run again where $COMP_{Attributes}$ includes all the 12 pillars of competitiveness (main variables) and with $LEGAL$ and $LNGDP$ as controls. With this analysis, it is possible to identify which competitiveness attributes have an impact on the country's choice to not require the IFRS for SMEs over to require it and discover a pattern that justifies the status of adoption of the IFRS for SMEs standard across countries. Additionally, it was conducted robustness test to confirm the results of the multinomial regression analysis.

Finally, a cluster analysis was conducted to group and identify similar countries. This is used as a complementary analysis to recognize a pattern of characteristics between countries and their status of adoption of the IFRS for SMEs standard. First, this analysis was performed using the dependent variable, i.e: $IFRS_{forSME}$ and the control variables $LEGAL$ and $LNGDP$. On a second phase, it was also included the variable regarding the total score of competitiveness level of a country i.e: $TOTSCORE$. These phases can assist to identify differences in how countries are clustered when the competitiveness variable is introduced.

3. Results and findings

3.1 Descriptive Statistics

According to Table 5, Panel A and Panel B, there are 43 countries where the use of IFRS for SMEs is required and 16 countries that permit the IFRS for SMEs standard, respectively. Panel

Country attributes on the adoption of the IFRS for SMEs

C illustrates that 13 countries belong to a group of countries that prohibit IFRS for SMEs but have similar national standards and Panel D shows that there are 48 countries where IFRS for SMEs is prohibited and their national standards are different.

Table 5 - Countries according to their status of adoption of the IFRS for SMEs

Panel A: IFRS for SMEs is required			
<i>N= 43</i>			
Azerbaijan	El Salvador	Malawi	Serbia
Bahrain	Georgia	Mauritius	South Africa
Bosnia and Herzegovina	Ghana	Montenegro	Tanzania
Botswana	Guatemala	Nicaragua;	Trinidad and Tobago
Brazil	Honduras	Nigeria	Uganda
Chile	Jamaica	Oman	United Arab Emirates
Colombia	Jordan	Panama;	Uruguay
Costa Rica	Kenya	Peru	Venezuela
Cyprus	Kuwait	Qatar	Yemen
Dominican Republic	Lesotho	Rwanda	Zimbabwe
Ecuador	Macedonia	Saudi Arabia	
Panel B: IFRS for SMEs is permitted			
<i>N= 16</i>			
Argentina	Eswatini	Namibia	Singapore
Armenia	Gambia	Netherlands	Switzerland
Australia	Israel	Pakistan	Ukraine
Cambodia	Kazakhstan	Paraguay	Zambia
Panel C: IFRS for SMEs is prohibited but has similar national standards			
<i>N= 13</i>			
Bangladesh	Indonesia	New Zealand	United Kingdom
China	Iran	Philippines	
Estonia	Ireland	Sri Lanka	
Hong Kong SAR	Malaysia	Turkey	
Panel D: IFRS for SMEs is prohibited and has different national standards			
<i>N= 48</i>			
Albania	Croatia	Italy	Poland
Angola	Czech Republic	Japan	Portugal
Austria	Denmark	Latvia	Romania
Belgium	Egypt	Lithuania	Russia
Bolivia	Finland	Luxembourg	Slovakia
Brunei Darussalam	France;	Mali	Slovenia
Bulgaria	Germany	Malta	South Korea
Cameroon	Greece	Mexico	Spain
Canada	Guinea	Moldova	Sweden
Chad	Hungary	Mongolia	Thailand
Chinese Taipei	Iceland	Nepal	United States
Côte d'Ivoire	India	Norway	Vietnam

Country attributes on the adoption of the IFRS for SMEs

According to the results shown in Table 6 is possible to identify some differences among the 4 groups of countries regarding their status of adoption of the IFRS for SMEs. In general and looking at the competitiveness total score, the higher means belong to countries where the standard is prohibited (Group 3 and Group 4), indeed, these means are above the average of the full sample. Meanwhile, the lowest mean is in countries where the IFRS for SMEs is required (Group 1). The pillars of competitiveness also follow this tendency, that is the means of INST, INFRA, ICT, MACRO, HEALTH, SKILLS, FINANCIAL, MARKET, BUSINESS and INNOV are higher in countries where the IFRS for SMEs is prohibited, specifically in countries that have national standards similar to IFRS for SMEs (Group 3), in comparison with countries where IFRS for SMEs is required (Group 1). Nevertheless, the PRODUCT and LABOUR variables show higher means in the group of countries that permit IFRS for SMEs (Group 2) and countries that prohibit it but use similar standards (Group 3).

Furthermore, regarding the economic variable, Table 6 reveals that the groups of countries that prohibit the IFRS for SMEs (Group 3 and Group 4) present higher values and the group of countries where IFRS for SMEs is required (Group 1) show a lower mean.

Table 6 demonstrates that the group of countries that require the IFRS for SMEs standard (Group 1) and the group of countries that prohibit IFRS for SMEs with their national standard distinct (Group 4) have the lowest percentage of countries with a common-law system in their composition (7% and 6.2%, respectively). In contrast, countries that permit (Group 2) and countries that prohibit the IFRS for SMEs standard but have a similar standard (Group 3) show a higher percentage of countries with only a common-law system (12.5% and 15.4%, respectively).

Therefore, these findings reveal that overall, the group of countries where IFRS for SMEs is required (Group 1) shows lower competitiveness scores, lower GDP, and a lower percentage of countries with a common-law system. Countries where IFRS for SMEs is permitted (Group 2) reveal a higher percentage of countries with only a common-law system. Countries where the standard is prohibited but their national standards are similar to the IFRS for SMEs (Group 3) show the highest competitiveness scores, GDP and percentage of countries with a common-law system. Countries where the IFRS for SMEs is prohibited and use different standards (Group 4) exhibit a high competitiveness level and GDP, and a low percentage of countries with a legal system as common-law. It can be concluded that less competitive and poor countries require the IFRS for SMEs and countries more competitive, richer, and with a common-law system belong to the groups where the IFRS for SMEs is prohibited.

Country attributes on the adoption of the IFRS for SMEs

Table 6 - Descriptive statistics of the variables

	IFRSforSME														
	1			2			3			4			Pooled		
	IFRS for SMEs is required			IFRS for SMEs is permitted			IFRS for SMEs is prohibited but has similar national standards			IFRS for SMEs is prohibited and has different national standards			Full sample		
	Mean	Median	Std. Dev	Mean	Median	Std Dev	Mean	Median	Std Dev	Mean	Median	Std Dev	Mean	Median	Std Dev
<i>Independent Variables</i>															
TOTSCORE	57.2	58.0	8.4	61.8	57.0	14.0	68.3	71.0	10.1	66.0	67.0	12.5	62.5	62.0	11.9
INST	52.3	51.2	9.4	57.4	52.8	13.0	61.7	58.0	12.6	59.0	58.0	11.8	56.7	55.4	11.7
INFRA	61.6	64.0	13.1	68.7	67.4	15.7	73.3	75.4	11.1	72.6	76.3	15.5	68.2	69.2	15.1
ICT	49.3	49.4	16.2	54.3	55.8	19.1	62.9	66.3	15.6	62.3	67.1	19.1	56.7	58.1	18.7
MACRO	75.9	74.3	17.8	77.1	74.5	17.9	87.9	98.6	15.6	87.4	90.0	15.2	82.0	84.9	17.4
HEALTH	73.7	79.2	18.0	73.6	75.0	21.5	84.4	86.5	9.9	80.8	85.8	18.1	77.7	81.9	18.3
SKILLS	58.3	60.0	10.5	63.5	67.3	15.8	68.4	64.1	11.0	66.3	70.1	15.0	63.3	64.3	13.7
PRODUCT	55.1	55.0	7.3	58.1	55.5	9.6	59.3	58.4	10.8	57.6	57.4	7.8	57.0	56.4	8.4
LABOUR	58.1	58.9	5.9	63.1	62.6	10.0	63.3	64.7	11.6	61.9	62.9	9.2	60.9	60.2	8.8
FINANCIAL	59.5	59.2	10.9	63.9	55.5	16.0	69.1	68.1	12.9	66.1	63.9	15.0	63.8	61.6	14.0
MARKET	49.7	48.8	12.7	54.1	61.3	17.3	70.6	71.3	14.1	60.7	60.0	17.2	56.9	55.4	16.8
BUSINESS	56.9	56.5	8.3	61.8	58.7	11.4	66.5	69.2	10.1	64.0	64.4	11.1	61.4	61.2	10.7
INNOV	35.0	33.0	7.0	46.2	37.3	20.7	51.0	52.3	14.8	52.2	48.4	19.2	45.1	38.8	17.4
<i>Control Variables</i>															
LNGDP	24.72	24.65	1.38	25.21	25.81	2.00	26.86	26.64	1.47	25.98	26.20	1.91	25.52	25.38	1.84
LEGAL	0	93%		87.5%			84.6%			93.8%			91.7%		
	1	7%		12.5%			15.4%			6.2%			8.3%		

3.2 Multinomial regression analysis

Before the multinomial regression analysis, it was analysed the correlation matrix and the Variance Inflation Factor (VIF) values in order to examine the correlations within the variables. The results indicate a very strong correlation (0.977) between the variable MARKET and LNGDP as well as a high VIF (39.279 and 47.086, respectively) (see Appendix B for the correlation matrix and Appendix C for the VIF values). Thereby, the variable MARKET was exempted from the multinomial analysis to answer the multicollinearity problem.

As stated, this work develops two steps of the multinomial regression and analyses results based on the reference category which is the group where IFRS for SMEs is required (Group 1). Hence, the outputs consist of the likelihood of a country belonging to a certain adoption status of the IFRS for SMEs relative to the reference category. Therefore, the multinomial analysis generates 3 logits, being logit 1 relative to Permit vs Require, logit 2 is about the comparison Prohibit with national standards similar to the IFRS for SMEs vs Require and logit 3 concerns the comparison Prohibit with national standards different to the IFRS for SMEs vs Require.

3.2.1 Results from the first step

To verify the model fitting, generally, is used the -2 log likelihood test which illustrates the model improvement with the introduction of variables. The model gets better if there is a reduction from the intercept model which is the model without variables, to the final model (Institute for Digital Research & Education, 2020; Petrucci, 2009). Regarding the first step, Table 7 indicates that the quality of the model improves when independent variables are added to the model (from 596.976 to 525.385).

Table 7 – Model fitting of the first step

Model	Model Fitting Criteria		Likelihood Ratio Tests	
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	596.976			
Final	525.385	71.591	21	0.000

Furthermore, it can be observed in Table 8 that MACRO, FINANCIAL and the control variable LNGDP are statistically significant at a 0.05 level. This means that these are the main attributes that have a significant contribution to the model of the first step and so, influence the country decision of requiring (Group 1) or not requiring the IFRS for SMEs, i.e: permitting (Group 2),

Country attributes on the adoption of the IFRS for SMEs

prohibiting the standard but use similar standards (Group 3) and prohibiting the IFRS for SMEs with different national standards (Group 4).

Table 8 – Variables significance of the first step

	Likelihood Ratio Tests		
	Chi-Square	df	Sig.
Intercept	0.000	0	---
INST	2.076	3	0.557
MACRO	15.049	3	0.002
SKILLS	0.218	3	0.975
FINANCIAL	8.044	3	0.045
BUSINESS	2.809	3	0.422
LNGDP	23.571	3	0.000
LEGAL	1.338	3	0.720

Table 9 exhibits the results of the multinomial logistic regression of 3 logits. The estimated multinomial logistic regression coefficients are represented in column *B*. Additionally, Table 9 reveals the odds ratios for the predictors which are represented in column *Exp(B)*. The odds ratio of a coefficient shows how the risk of the outcome being in the comparison group relative to the risk of the outcome being in the referent group i.e: IFRS for SMEs is required (Group 1) changes with the variable under analysis (Institute for Digital Research & Education, 2020). In other words, it measures the impact that the variable has on the probability of a country choosing another status of adoption rather than require the use of IFRS for SMEs (Group 1).

Looking at the logit 1 (Permit vs Require), it can be observed that MACRO is significant at a 0.10 level. The variable has a negative coefficient (-0.037) meaning that higher competitiveness score in this attribute leads to a smaller likelihood of deciding to permit the use of IFRS for SMEs (Group 2) instead of requiring the standard (Group 1). MACRO has an odds ratio of 0.963. Hence, for a unit increase in the score of macroeconomic stability, the probability of a country deciding to permit (Group 2) reduces by 96%. Thereby, countries with higher competitiveness score in macroeconomic stability are more likely to require the IFRS for SMEs (Group 1).

The multinomial analysis reveals that for logit 2 (Prohibit with national standards similar to the IFRS for SMEs vs Require) the variables FINANCIAL and LNGDP are significant at a 0.05 level. Regarding FINANCIAL, it can be concluded that it has a negative coefficient (-0.085). This indicates that the higher the competitiveness score about the financial system, the smaller

Country attributes on the adoption of the IFRS for SMEs

is the logit of a country deciding to prohibit the use of IFRS for SMEs but use identical standards (Group 3) relative to require it (Group 1). In contrast, the economic variable has a positive sign (0.764) which shows that the wealthier the country, the higher the probability of that country choose to prohibit the IFRS for SMEs but have similar national standards (Group 3) instead of requiring it (Group 1). The variable FINANCIAL has an odds ratio of 0.919 so, given a one unit increase in the score of the financial system of a country, the likelihood of that country choosing to prohibit the IFRS for SMEs but its national standards being similar (Group 3) would be 0.919 times more likely. LNGDP shows an odds ratio of 2.146 meaning that for a unit increased in ln of GDP the odds of opting for prohibiting the IFRS for SMEs but apply identical standards (Group 3) over requiring (Group 1) would be expected to increase by a factor of 2.146. In other words, countries more competitive in their financial system are more likely to require the IFRS for SMEs (Group 1) while wealthier countries are more likely to prohibit the IFRS for SMEs but use identical national standards (Group 3).

The analysis of logit 3 (Prohibit with national standards different to the IFRS for SMEs vs Require) shows that the variables MACRO, FINANCIAL and LNGDP are significant at a 5 % level. MACRO and LNGDP have a positive coefficient (0.039 and 0.403, respectively) meaning that the more competitive about macroeconomic stability and the richer the country is, the multinomial log-odds of deciding to prohibit IFRS for SMEs and have different national standards (Group 4) rather than require it (Group 1) increases. The variable FINANCIAL has a negative sign (-0.055) which demonstrates that the higher competitiveness score about the financial system the smaller is the logit for the choice of prohibiting IFRS for SMEs and apply different standards (Group 4) over require it (Group 1). Observing the variables odds ratio, for a unit increase in the score that measures the macroeconomic stability the likelihood of deciding to prohibit the IFRS for SMEs and use national standards different (Group 4) increases by 3.9%. FINANCIAL has an odds ratio of 0.946 which indicates that a unit increase in its score, the probability of a country deciding to prohibit the IFRS for SMEs and have national standards different (Group 4) would decrease by a factor of 0.946. Finally, for a unit increase in ln of GDP, the odds of opting for prohibiting the IFRS for SMEs and use different standards (Group 4) would be 1.496 times more likely. Thus, countries with higher scores in the macroeconomic stability variable and higher GDP are more likely to prohibit IFRS for SMEs and have different national standards (Group 4) while countries with a financial system more competitive are more likely to require the international standard (Group 1).

In conclusion, the level of competitiveness about institutions, skills, business dynamism and countries' legal system are nonsignificant attributes in the first step. Moreover, countries more competitive in the macroeconomic stability pillar in a scenario where they must choose between permitting and requiring the use of IFRS for SMEs, they tend to require it. Nevertheless, between deciding to prohibit its use and apply different national standards and require it, their choice is more likely to fall on the former. Starting from the assumption that higher scores in this pillar indicate that countries have lower debts and so are less dependent on external funding and foreign aid, the studies conducted by Damak-Ayadi et al., (2020) and Sellami & Gafsi (2018) are supported by the latest finding.

Furthermore, countries with higher scores in their financial system pillar are more likely to decide to require the IFRS for SMEs standard instead of not requiring it (Group 3 and Group 4). Considering that higher scores are associated with a more capitalised market, this finding confirms the Zeghal & Mhedhbi (2006)' study. However, and given that a higher score in the financial system of a country means that it has greater financing possibilities, this conclusion does not corroborate with Kaya & Koch (2015).

Finally, when deciding over the adoption status of the IFRS for SMEs, wealthier countries tend to not require the use of IFRS for SMEs that is, to decide to belong to the groups where it is prohibited (Group 3 and Group 4). This conclusion is in line with previous researches that concluded that less developed countries and countries with lower GDP are more likely to adopt the international standard (Bohušová & Blašková, 2012; Zahid & Simga-Mugan, 2019).

Therefore, it can be said that the results from the first step of the multinomial regression analysis suggest that there are differences about competitiveness attributes between countries and so, in their status of adoption of the IFRS for SMEs. Thus, the hypothesis of this study (H1) is confirmed.

Country attributes on the adoption of the IFRS for SMEs

Table 9 – Parameters estimates of the first step

Logit ^a		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)		
								Lower Bound	Upper Bound	
1	Intercept	-4.758	3.504	1.843	1	0.175				
	Permit	INST	0.045	0.046	0.974	1	0.324	1.046	0.956	1.144
		Vs	MACRO	-0.037	0.019	3.770	1	0.052	0.963	0.928
	Require		SKILLS	-0.008	0.027	0.079	1	0.778	0.992	0.942
		FINANCIAL	-0.006	0.031	0.032	1	0.858	0.994	0.936	1.057
		BUSINESS	0.056	0.045	1.591	1	0.207	1.058	0.969	1.155
		LNGDP	0.078	0.152	0.267	1	0.605	1.082	0.803	1.456
		[LEGAL=0]	-0.385	0.743	0.269	1	0.604	0.680	0.159	2.916
	[LEGAL=1]	0 ^b	---	---	0	---	---	---	---	---
2	Intercept	-22.841	4.694	23.674	1	0.000				
	Prohibit but have	INST	0.070	0.060	1.350	1	0.245	1.073	0.953	1.208
		similar national	MACRO	0.016	0.024	0.438	1	0.508	1.016	0.969
	standards		SKILLS	-0.015	0.037	0.155	1	0.693	0.985	0.916
		Vs	FINANCIAL	-0.085	0.040	4.472	1	0.034	0.919	0.850
	Require		BUSINESS	0.050	0.054	0.856	1	0.355	1.051	0.946
		LNGDP	0.764	0.190	16.123	1	0.000	2.146	1.478	3.116
		[LEGAL=0]	-0.070	0.860	0.007	1	0.935	0.932	0.173	5.032
	[LEGAL=1]	0 ^b	---	---	0	---	---	---	---	---

a. The reference category is: 1- IFRS for SMEs is required

b. This parameter is set to zero because it is redundant.

Country attributes on the adoption of the IFRS for SMEs

Table 9 – Continued

Logit ^a	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
3	Intercept	-13.611	2.892	22.151	1	0.000		
Prohibit and have different national standards Vs Require	INST	0.011	0.038	0.080	1	0.778	1.011	0.938 1.089
	MACRO	0.039	0.016	5.706	1	0.017	1.039	1.007 1.073
	SKILLS	-0.001	0.024	0.002	1	0.964	0.999	0.954 1.047
	FINANCIAL	-0.055	0.024	5.168	1	0.023	0.946	0.902 0.992
	BUSINESS	0.048	0.034	1.927	1	0.165	1.049	0.981 1.121
	LNGDP	0.403	0.123	10.731	1	0.001	1.496	1.176 1.905
	[LEGAL=0]	0.437	0.688	0.403	1	0.526	1.548	0.401 5.967
	[LEGAL=1]	0 ^b	---	---	0	---	---	--- ---

a. The reference category is: 1- IFRS for SMEs is required

b. This parameter is set to zero because it is redundant.

Country attributes on the adoption of the IFRS for SMEs

3.2.2 Results from the second step

Concerning the second step, the results in Table 10 reveal that when variables are introduced into the model there is a reduction between the intercept model and the final model (from 596.976 to 411.184). This means that the full model predicts significantly better than the null model. Besides, when the quality of the two steps is compared, it can be said that the second step is better because it presents a bigger reduction.

Table 10 – Model fitting of the second step

Model	Model Fitting Criteria		Likelihood Ratio Tests	
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	596.976			
Final	411.184	185.792	39	0.000

Table 11 demonstrates that the variables INST, INFRA, ICT, MACRO, HEALTH, PRODUCT, FINANCIAL, INNOV and LNGDP are statistically significant at a 0.05 level. Then, it can be concluded that these attributes have a bigger contribution to the final model and so a greater influence on the country's decision about the adoption status of the IFRS for SMEs. Also, when compared to the first step, it is noted that with the introduction of new variables, MACRO, FINANCIAL and LNGDP continue to be statistically significant and INST became significant.

Table 11 – Variables significance of the second step

Effect	Likelihood Ratio Tests		
	Chi-Square	df	Sig.
Intercept	0.000	0	---
INST	12.494	3	0.006
INFRA	9.422	3	0.024
ICT	8.603	3	0.035
MACRO	10.662	3	0.014
HEALTH	10.004	3	0.019
SKILLS	5.427	3	0.143
PRODUCT	11.369	3	0.010
LABOUR	5.167	3	0.160
FINANCIAL	8.110	3	0.044
BUSINESS	3.595	3	0.309
INNOVATION	68.008	3	0.000
LNGDP	30.079	3	0.000
LEGAL	0.055	3	0.997

Country attributes on the adoption of the IFRS for SMEs

Table 12 summarizes the coefficients of beta in column (*B*) and the odds ratio in column *Exp(B)*. Observing the odds ratio, it is possible to know the effect that each variable has in the likelihood of a country to choose another status of adoption face to the referent group i.e: IFRS for SMEs is required (Group 1).

Looking at logit 1 (Permit vs Require) it can be observed that INFRA, HEALTH and INNOV are significant at 5% and LNGDP is significant at 0.10 level. INFRA and INNOV have a positive sign (0.136 and 0.204, respectively) which means that higher scores in such variables result on a higher probability of choosing to permit (Group 2) rather than require the IFRS for SMEs (Group 1). On the other hand, the variable HEALTH and LNGDP have a negative coefficient (-0.057 and -0.477, respectively) indicating that the higher competitiveness on health and higher GDP, the smaller is the multinomial log-odds of a country deciding to permit (Group 2) instead of requiring the IFRS for SMEs (Group 1). The odds ratio of the infrastructure pillar is 1.146 which reveal that for a unit increase in its score the likelihood of a country deciding to permit (Group 2) increases by 15%. HEALTH has an odds ratio of 0.945, thus a unit increase in the score that measures the health of a country, the probability of that country deciding to permit (Group 2) would decrease by a factor of 0.945. The variable INNOV has an odds ratio of 1.227 so, given a one unit increase in the score of the innovation capability of a country, the probability of that country choosing to permit the use of the IFRS for SMEs (Group 2) would be 1.227 times more likely. LNGDP has an odds ratio of 0.620 meaning that one unit increase in the ln of the GDP, the odds of a country decide to permit the IFRS for SMEs (Group 2) reduces by 62%. Compared to the first step, when other variables were introduced MACRO became nonsignificant. These findings suggest that countries more competitive in their infrastructure and innovation capability are more likely to permit the IFRS for SMEs (Group 2) while countries more competitive in health and wealthier are more likely to require it (Group 1).

The results of logit 2 (Prohibit with national standards similar to the IFRS for SMEs vs Require) reveal that the statistically significant variables at a 0.05 level are PRODUCT and LNGDP, and at 10% is FINANCIAL. For PRODUCT and FINANCIAL, it can be observed a negative coefficient (-0.167 and -0.075, respectively) which means that the more competitive a country is in such pillars, the smaller is the likelihood of deciding to prohibit but use national standards similar to IFRS for SMEs (Group 3) face to require it (Group 1). The economic variable has a positive sign (1.014) and so has the opposite effect, meaning that the greater the GDP, the higher is the logit of a country deciding to prohibit the use of IFRS for SMEs but use identical standards (Group 3) relative to require it (Group 1). Observing the variables odds ratio, for a unit increase

Country attributes on the adoption of the IFRS for SMEs

in the score that measures product market the likelihood of deciding to prohibit the IFRS for SMEs and use national standards similar (Group 3) reduces by 85%. FINANCIAL has an odds ratio of 0.928 indicating that a unit increase in the level of competitiveness about the financial system, prohibiting the IFRS for SMEs but use identical national standards (Group 3) would be 0.928 times more likely. LNGDP has an odds ratio of 2.757 meaning that for a unit increase in ln of GDP the odds of opting for prohibiting the IFRS for SMEs but use identical standards (Group 3) over requiring (Group 1) would be expected to increase by a factor of 2.757. In comparison to the first step, logit 2 shows the same results. In other words, countries with higher scores in the product market and financial system are more likely to require the use of IFRS for SMEs (Group 1) and wealthier countries are more likely to prohibit its use but apply similar standards (Group 3).

Lastly, logit 3 (Prohibit with national standards different to IFRS for SMEs vs Require) shows INST, ICT, SKILLS, PRODUCT, FINANCIAL, INNOV and LNGDP as significant variables at 0.05 level and MACRO, HEALTH and BUSINESS are significant at 10%. INST, HEALTH, SKILLS, PRODUCT, FINANCIAL and LNGDP have a negative sign (-0.112, -0.037, -0.096, -0.159, -0.081, -0.410, respectively) meaning that higher scores about competitiveness in these attributes and higher GDP value, the probability of a country to decide to prohibit the standard and use different national standards (Group 4) rather than require it (Group 1) is smaller. In contrast, ICT, MACRO, BUSINESS and INNOV show a positive coefficient (0.060, 0.036, 0.074, 0.259, respectively). This indicates that the higher the levels of competitiveness in these pillars the higher is the logit of a country deciding to prohibit the use of IFRS for SMEs and use different standards (Group 4) relative to require it (Group 1). INST has an odds ratio of 0.894, and so, given a one unit increase in the score of institutions, the probability of a country choosing to prohibit the IFRS for SMEs and its national standards being different (Group 4) would reduce by 89%. For one unit increase in the ICT adoption score, the odds of opting for prohibiting the IFRS for SMEs and apply different standards (Group 4) over requiring the international standard (Group 1) would be expected to increase by a factor of 1.062. For a unit increase in the score that measures the macroeconomic stability of a country, the likelihood of deciding for prohibiting the IFRS for SMEs and use different national standards (Group 4) over requiring (Group 1) increases by 3.7%. The variable HEALTH has an odds ratio of 0.964 so, given a one unit increase in the score of the health indicator of a country, the probability of that country choosing to prohibit the IFRS for SMEs but use distinct national standards (Group 4) would be 0.964 times more likely. SKILLS has an odds ratio of 0.908 meaning that a unit increase in the level of competitiveness, the odds of a country choose to prohibit the

Country attributes on the adoption of the IFRS for SMEs

international standard and apply different standards (Group 4) reduces by 91%. The variable regarding the product market of a country has an odds ratio of 0.853 which indicates that a unit increase in its score the likelihood of a country decide to prohibit the IFRS for SMEs and have different national standards decreases by a 0.853 factor. The odds ratio of FINANCIAL is 0.923 and so, for a unit increase in this variable the odds of choosing to prohibit and have national standards distinct (Group 4) reduces by 92%. Concerning the business dynamism, for a unit increase in this competitiveness pillar, the probability of deciding to prohibit and apply different standards (Group 4) is 1.077 times more likely. INNOV has an odds ratio of 1.296 which reveals that the odds of prohibit the IFRS for SMEs and use different standards (Group 4) increases by 30%. For a unit increase in the ln of GDP the probability of prohibit the international standard and use different standards (Group 4) would be expected to decrease by 66%. Compared to the first step of the main analysis, the results about MACRO and FINANCIAL are the same while the LNGDP variable reveals the opposite. In conclusion, countries more competitive in ICT adoption, macroeconomic stability, business dynamism and innovation capability are more likely to prohibit the use of the IFRS for SMEs and have different national standards (Group 4) while countries more competitive in institutions, health, skills, product market and financial system and wealthier are more likely to require it (Group 1).

Overall, the level of competitiveness about the labour market and the origin of the countries' legal system are nonsignificant attributes. Furthermore, countries more competitive in the institutions pillar decide to require the IFRS for SMEs. Considering that higher scores mean better governance quality and stronger auditing and financial reporting, this finding does not corroborate with the discoveries of Bohušová & Blašková (2012), Kaya & Koch (2015) and Sellami & Gafsi (2018). However, it supports the idea defended by Damak-Ayadi et al. (2020) and Viegas (2017) about developing countries. Moreover, countries more competitive in the infrastructure are more likely to permit the IFRS for SMEs. Countries with higher scores in the ICT adoption decide to prohibit the use of IFRS for SMEs and apply distinct standards. The results of the macroeconomic stability pillar differ slightly from the first to the second step of the multinomial analysis. However, given the better quality of the latter, the final conclusion is that countries more competitive in the macroeconomic stability pillar choose to prohibit the IFRS for SMEs and have different national standards, which corroborates with Damak-Ayadi et al. (2020) and Sellami & Gafsi (2018). Countries with a more competitive level in health decide to require the use of IFRS for SMEs. Regarding the pillar about skills, it can be said that countries more skilled choose to require the standard which is in line with the findings of Damak-Ayadi et al. (2020) and Viegas (2017). Additionally, countries with a higher level of

competitiveness in product market decide to require the standard. Concerning the financial system attribute, the second step came into the same conclusion as the first, that is, countries more competitive in their financial system decide to require the IFRS for SMEs. Countries with a higher score in the business dynamism pillar opt to prohibit and use different standards, which comply with Kaya & Koch (2015) and Zahid & Simga-Mugan (2019). Moreover, countries more competitive in their innovation capability in a scenario where they must choose between permit and require they decide to permit, however, between prohibit and use national standards different from the IFRS for SMEs and require, they opt to prohibit. At last, the economic variable in the second step presents a different result from the first step, however, the conclusion taken is from the second step given its better accuracy and quality. Thus, wealthier countries between prohibit the use of IFRS for SMEs and use similar standards and require it, they choose to prohibit but when they have to decide over prohibit the IFRS for SMEs and use different standards or permit instead require, they option falls into the latter.

In conclusion, the hypothesis of this research (H1) is validated by the multinomial regression analysis results, indeed, differences in the competitiveness level of several attributes affect the probability of a country to decide to permit or prohibit the use of the IFRS for SMEs relative to require its use. For instance, looking at a specific attribute of two countries with an opposite competitiveness level, their status of adoption is also opposite. That is, if one has a higher competitiveness level in the attribute in question and requires the IFRS for SMEs then, the other with a lower competitiveness level does not require the use of the standard.

Country attributes on the adoption of the IFRS for SMEs

Table 12 – Parameters estimates of the second step

Logit 1- Permit vs Require ^a	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
Intercept	10.376	7.169	2.095	1	0.148			
INST	-0.105	0.066	2.583	1	0.108	0.900	0.792	1.023
INFRA	0.136	0.049	7.648	1	0.006	1.146	1.040	1.262
ICT	-0.019	0.033	0.326	1	0.568	0.981	0.919	1.047
MACRO	-0.035	0.022	2.578	1	0.108	0.965	0.925	1.008
HEALTH	-0.057	0.023	5.976	1	0.014	0.945	0.902	0.989
SKILLS	-0.059	0.050	1.371	1	0.242	0.943	0.854	1.041
PRODUCT	-0.076	0.066	1.297	1	0.255	0.927	0.814	1.056
LABOUR	0.103	0.068	2.294	1	0.130	1.108	0.970	1.266
FINANCIAL	-0.042	0.037	1.300	1	0.254	0.959	0.892	1.031
BUSINESS	0.026	0.054	0.234	1	0.628	1.026	0.924	1.140
INNOV	0.204	0.050	16.550	1	0.000	1.227	1.112	1.353
LNGDP	-0.477	0.245	3.797	1	0.051	0.620	0.384	1.003
[LEGAL=0]	-0.163	0.940	0.030	1	0.862	0.850	0.135	5.358
[LEGAL=1]	0 ^b	---	---	0	---	---	---	---

a. The reference category is: 1.- IFRS for SMEs is required

b. This parameter is set to zero because it is redundant.

Country attributes on the adoption of the IFRS for SMEs

Table 12 – Continued

Logit 2- Prohibit but have similar national standards vs Require ^a	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
Intercept	-29.340	9.987	8.631	1	0.003			
INST	0.121	0.080	2.284	1	0.131	1.128	0.965	1.319
INFRA	0.012	0.058	0.041	1	0.839	1.012	0.902	1.135
ICT	0.022	0.034	0.417	1	0.518	1.022	0.956	1.093
MACRO	0.015	0.026	0.326	1	0.568	1.015	0.965	1.067
HEALTH	0.027	0.033	0.696	1	0.404	1.028	0.964	1.095
SKILLS	-0.043	0.059	0.531	1	0.466	0.958	0.853	1.076
PRODUCT	-0.167	0.074	5.034	1	0.025	0.846	0.731	0.979
LABOUR	0.018	0.087	0.043	1	0.836	1.018	0.859	1.207
FINANCIAL	-0.075	0.043	3.082	1	0.079	0.928	0.854	1.009
BUSINESS	0.087	0.070	1.530	1	0.216	1.091	0.951	1.252
INNOV	0.009	0.058	0.024	1	0.876	1.009	0.901	1.131
LNGDP	1.014	0.331	9.360	1	0.002	2.757	1.440	5.279
[LEGAL=0]	-0.034	1.022	0.001	1	0.974	0.967	0.130	7.168
[LEGAL=1]	0 ^b	---	---	0	---	---	---	---

a. The reference category is: 1.- IFRS for SMEs is required

b. This parameter is set to zero because it is redundant.

Country attributes on the adoption of the IFRS for SMEs

Table 12 – Continued

Logit 3- Prohibit and have different national standards vs Require ^a	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
Intercept	15.787	5.533	8.141	1	0.004			
INST	-0.112	0.055	4.167	1	0.041	0.894	0.803	0.996
INFRA	0.071	0.043	2.667	1	0.102	1.073	0.986	1.169
ICT	0.060	0.026	5.275	1	0.022	1.062	1.009	1.117
MACRO	0.036	0.019	3.774	1	0.052	1.037	1.000	1.076
HEALTH	-0.037	0.021	3.021	1	0.082	0.964	0.925	1.005
SKILLS	-0.096	0.043	5.111	1	0.024	0.908	0.836	0.987
PRODUCT	-0.159	0.053	9.053	1	0.003	0.853	0.769	0.946
LABOUR	-0.043	0.055	0.613	1	0.434	0.958	0.860	1.067
FINANCIAL	-0.081	0.031	6.908	1	0.009	0.923	0.869	0.980
BUSINESS	0.074	0.045	2.745	1	0.098	1.077	0.987	1.175
INNOV	0.259	0.043	36.137	1	0.000	1.296	1.191	1.411
LNGDP	-0.410	0.196	4.374	1	0.036	0.664	0.452	0.975
[LEGAL=0]	-0.157	0.800	0.039	1	0.844	0.854	0.178	4.100
[LEGAL=1]	0 ^b	---	---	0	---	---	---	---

a. The reference category is: 1.- IFRS for SMEs is required

b. This parameter is set to zero because it is redundant.

3.2.3 Robustness and additional tests

In order to confirm the results obtained in the previous multinomial analysis, it was performed robustness and additional tests. Prior studies analyse the adoption of the IFRS for SMEs considering the country's development. For instance, Sellami & Gafsi (2018), Viegas (2017) and Zeghal & Mhedhbi (2006) study the adoption of this standard on a developing countries perspective. Besides, Bonito & Pais (2018) took the country's development as a control variable and Deaconu et al. (2012) concluded that developing countries are more likely to adopt the international standard. Thus, this research uses DEV as a binary variable where 1 is for developing countries and 0 for others (United Nations, 2019). For this purpose, it was only taken into consideration the second step as it is the analysis that predicts more accurately. The results do not substantially differ from the second step of the main analysis when is added the dummy variable for development (see Appendix D for the Parameters Estimates output). In logit 1, the results reveal the same conclusion except for the economic variable that became statistically insignificant. In logit 2, the PRODUCT and LNGDP variables as in the second step are statistically significant at 5%. FINANCIAL improved its significance to a 0.05 level and INST became significant at 10%. The conclusion for product market, financial system and the economic variable is the same, and for institutions is that countries with higher scores decide to prohibit the use of IFRS for SMEs and have similar national standards. On the other hand, logit 3 is where the analysis differs. Looking at the results from the second step and this new analysis, MACRO, FINANCIAL, BUSINESS and LNGDP became nonsignificant and INST lost its significance to 10%, however, its conclusion and the remaining findings continue the same. Other than that, DEV is statistically significant at a 0.05 level and reveals that developing countries are more likely to decide to require the use of IFRS for SMEs. Therefore, this finding is in line with Deaconu et al. (2012).

Furthermore, this work uses the variable GDP growth to study the effect of the economic growth in the adoption of the IFRS for SMEs as Damak-Ayadi et al. (2020), Zahid & Simga-Mugan (2019) and Zeghal & Mhedhbi (2006). Thus, LNGDP was replaced for ECOGROWTH (see Appendix E for the Parameters Estimates output) which measures the countries' GDP growth rate (UNCTAD, 2019a, 2019b; World Bank, 2019b, 2020). Overall, the findings do not substantially alter however, there are a few changes in the significance of the variables in logits, mainly in the LABOUR variable. For instance, in logit 1, the difference is that MACRO and LABOUR became significant at 10% and 5%, respectively and the new variable (ECOGROWTH) is statistically significant at a 0.05 level. The results of these alterations show

Country attributes on the adoption of the IFRS for SMEs

that higher scores in macroeconomic stability indicator lead to a country to decide to require the use of the IFRS for SMEs. Meanwhile, countries with a higher level of competitiveness in labour and higher economic growth decide to permit the use of the standard. The remaining variables show the same conclusions as in the second step of the multinomial analysis. Logit 2 exhibits different outcomes, namely in the variables' statistical significance. Indeed, FINANCIAL became nonsignificant, PRODUCT lost its significance to 10%, LABOUR, INNOV and ECOGROWTH are significant at 5% and BUSINESS became significant at a 0.10 level. The conclusion in logit 2 is that countries more competitive in the product and labour market attributes choose to require the IFRS for SMEs, while countries that have higher scores of competitiveness in business dynamism, innovation capability and higher economic growth decide to prohibit but use standards similar to IFRS for SMEs. Lastly, in logit 3 the variables MACRO, SKILLS and BUSINESS became nonsignificant, and ECOGROWTH is significant at 0.05 level. The findings reveal that countries with higher economic growth decide to prohibit the use of IFRS for SMEs and have different national standards. All the remaining variables show the same results as in logit 3 of the second step of the main analysis. In summary, the economic growth is statistically significant in the countries' adoption decision of IFRS for SMEs revealing that countries with higher economic growth decide to not require the use of the IFRS for SMEs which supports the findings of Zahid & Simga-Mugan (2019).

3.3 Cluster analysis

The purpose of this analysis is to group and identify countries with similar characteristics. First, it was used the dependent variable i.e: IFRSforSME and the two control variables i.e: LEGAL and LNGDP. The output shows 4 groups and Appendix F reveals the cluster where each country was grouped. Table 13 shows in detail the countries' characteristics of each cluster. The first cluster is composed of 46 countries who do not have a common-law system. Also, the majority of countries that belong to Cluster 1 are countries where the IFRS for SMEs is prohibited and their national standards are different (97.8%) and have an GDP mean of 25.95. Cluster 2 has 26 countries and none of them has a common-law system. This cluster presents the highest GDP mean (26.68) and 42.3% is formed by countries that require the IFRS for SMEs, 26.9% are countries that permit the use of IFRS for SMEs and 30.8% are countries that prohibit the IFRS for SMEs but have identical national standards. Cluster 3 is characterized by 38 countries with a legal system origin other than a common-law system, which 76.3% require the IFRS for SMEs and have a mean of GDP of 23.94. Finally, Cluster 4 is composed of 10 countries which have a common-law system, 30% of countries in this cluster require the IFRS for SMEs, 20% permit

Country attributes on the adoption of the IFRS for SMEs

it, 20% prohibit the use of IFRS for SMEs but apply similar standards and the remaining 30% prohibit the standard and have different national standards. Moreover, this cluster exhibits a GDP mean of 26.50.

Thereby, from the grouping of countries and its characteristics, it can be said that countries, where the IFRS for SMEs is required are in the cluster with a lower GDP mean. Countries that permit the standard usually are in the cluster that shows the highest GDP mean but also in the cluster where countries have the lowest mean of GDP. Most countries where the use of the IFRS for SMEs is prohibited but the standards applied are similar are in a cluster characterized by the highest GDP mean. Countries that prohibit the IFRS for SMEs and have a different national standard are in a cluster that has an average GDP. The cluster with countries with a common-law system is also composed of countries with a higher mean of GDP, however, regarding the adoption of the IFRS for SMEs, this cluster is more homogeneous and so there is no significant difference within the status of adoption. Thus, the legal system origin does not contribute to the decision about the status of adoption of the international standard.

Table 13 – Clusters composition: legal, status of adoption and GDP

		Clusters				Total		
		1	2	3	4			
LEGAL	0	% within LEGAL	41.8%	23.6%	34.5%	0.0%	100.0%	
		% within Clusters	100.0%	100.0%	100.0%	0.0%	91.7%	
		% of Total	38.3%	21.7%	31.7%	0.0%	91.7%	
	1	% within LEGAL	0.0%	0.0%	0.0%	100.0%	100.0%	
		% within Clusters	0.0%	0.0%	0.0%	100.0%	8.3%	
		% of Total	0.0%	0.0%	0.0%	8.3%	8.3%	
	IFRSforSME	1	% within IFRS for SME	0.0%	25.6%	67.4%	7.0%	100.0%
			% within Clusters	0.0%	42.3%	76.3%	30.0%	35.8%
			% of Total	0.0%	9.2%	24.2%	2.5%	35.8%
2		% within IFRS for SME	0.0%	43.8%	43.8%	12.5%	100.0%	
		% within Clusters	0.0%	26.9%	18.4%	20.0%	13.3%	
		% of Total	0.0%	5.8%	5.8%	1.7%	13.3%	
3		% within IFRS for SME	7.7%	61.5%	15.4%	15.4%	100.0%	
		% within Clusters	2.2%	30.8%	5.3%	20.0%	10.8%	
		% of Total	0.8%	6.7%	1.7%	1.7%	10.8%	
4		% within IFRS for SME	93.8%	0.0%	0.0%	6.3%	100.0%	
		% within Clusters	97.8%	0.0%	0.0%	30.0%	40.0%	
		% of Total	37.5%	0.0%	0.0%	2.5%	40.0%	
LNGDP			25.95	26.68	23.94	26.50	25.52	

Country attributes on the adoption of the IFRS for SMEs

Secondly, it was conducted a cluster analysis where it was also considered the competitiveness variable. Hence, the variables used were IFRSforSME, LEGAL, LNGDP and TOTSCORE. Appendix G shows in detail 4 clusters and the countries that composed each cluster. Comparing the two phases, it can be concluded that when the competitiveness variable is introduced countries are grouped differently. Table 14 demonstrates the composition of each cluster. The first cluster is formed by 40 countries who do not have a common-law system and most countries (72.5%) prohibit the use of IFRS for SMEs and apply different standards. Countries grouped in this cluster presents a GDP mean of 25.24 and a level of competitiveness mean of 59.7. Cluster 2 is composed of 47 countries which 85.1% require the IFRS for SMEs, shows the lowest means of GDP (24.53) and total score of competitiveness (56.4). Cluster 3 has 10 countries who are characterized by having a common-law system. Also, 30% of countries in this cluster require the international standard, 20% permit it, 30% prohibit the IFRS for SMEs but have different national standards, and 20% prohibit it but apply similar standards. This cluster reveals a GDP mean of 26.50 and a high mean of competitiveness level (68.4). Lastly, Cluster 4 is composed of 21 countries with a legal system different than common-law and about 69.6% of these countries prohibit the use of the IFRS for SMEs and apply different standards. Moreover, countries that belong to this cluster have the highest means of GDP (27.60) and score about competitiveness (77.4).

In summary and according to the results obtained in this second phase, most countries that require the IFRS for SMEs are in a cluster that has the lowest GDP mean and level of competitiveness. Many countries that permit the use of the IFRS for SMEs are in clusters with lower GDP means and score of competitiveness. Countries where the IFRS for SMEs is prohibited but have similar national standards are in a cluster that registers low means of GDP and level of competitiveness but also can be observed in the cluster with the highest mean of GDP and level of competitiveness. Finally, most countries that prohibit the use of IFRS for SMEs and apply different standards are reunited in a cluster that has low means of GDP and competitiveness level. Countries that have a common-law system are grouped in a cluster that has a high GDP and competitiveness score but as concluded in the first phase of the cluster analysis, there are no major differences within the adoption status of the IFRS for SMEs of such countries. Hence, once again, the legal system variable does not influence the status of adoption of the international standard.

Country attributes on the adoption of the IFRS for SMEs

Table 14 – Clusters composition: legal, status of adoption, GDP and competitiveness

		Clusters				Total	
		1	2	3	4		
LEGAL	0	% within LEGAL	36.4%	42.7%	0.0%	20.9%	100.0%
		% within Clusters	100.0%	100.0%	0.0%	100.0%	91.7%
		% of Total	33.3%	39.2%	0.0%	19.2%	91.7%
	1	% within LEGAL	0.0%	0.0%	100.0%	0.0%	100.0%
		% within Clusters	0.0%	0.0%	100.0%	0.0%	8.3%
		% of Total	0.0%	0.0%	8.3%	0.0%	8.3%
IFRSforSME	1	% within IFRS for SME	0.0%	93.0%	7.0%	0.0%	100.0%
		% within Clusters	0.0%	85.1%	30.0%	0.0%	35.8%
		% of Total	0.0%	33.3%	2.5%	0.0%	35.8%
	2	% within IFRS for SME	25.0%	43.8%	12.5%	18.8%	100.0%
		% within Clusters	10.0%	14.9%	20.0%	13.0%	13.3%
		% of Total	3.3%	5.8%	1.7%	2.5%	13.3%
	3	% within IFRS for SME	53.8%	0.0%	15.4%	30.8%	100.0%
		% within Clusters	17.5%	0.0%	20.0%	17.4%	10.8%
		% of Total	5.8%	0.0%	1.7%	3.3%	10.8%
	4	% within IFRS for SME	60.4%	0.0%	6.3%	33.3%	100.0%
		% within Clusters	72.5%	0.0%	30.0%	69.6%	40.0%
		% of Total	24.2%	0.0%	2.5%	13.3%	40.0%
LNGDP			25.24	24.53	26.50	27.60	25.52
TOTSCORE			59.7	56.4	68.4	77.4	62.5

In conclusion, the cluster analysis supports the findings obtained in the multinomial regression analysis. Concerning the competitiveness attributes, the cluster analysis reveals that countries less competitive are in the group where the IFRS for SMEs is required. This discovery is in line with the multinomial analysis which in general, conclude that countries with higher competitiveness level decide not to require the IFRS for SMEs. However, this conclusion must be interpreted with caution, note that the main analysis studies the competitiveness level of each country in detail by exploring this at several attributes, and the cluster analysis only considers the average score about the competitiveness of each country. The findings of the legal system origin are identical to the main analysis which is that this indicator does not have a significant effect on the decision about the use of the IFRS for SMEs. Finally, the conclusion regarding the economic variable about countries with the highest GDP choosing to prohibit the IFRS for SMEs but use similar standards is in line with the multinomial analysis. However, the discovery about countries with the lowest GDP being in the cluster where the IFRS for SMEs is required

is not the same as in the main analysis, which indicates that in a scenario of choice between permit or prohibit and have different national standards and require the IFRS for SMEs, wealthier countries decide to require the international standard.

4. Conclusion

Prior studies explore the adoption of IFRS for SMEs at a country level and its determinants, but do not distinguish between those where the adoption is mandatory or voluntary, and do not include information about countries where that adoption is prohibited. Hence, in order to fill this gap in the literature, this dissertation analyses attributes based on the competitiveness level of each country to study possible reasons that drive countries to require the IFRS for SMEs, permit it, prohibit it but have similar national standards or to prohibit it and use different national standards. Using a sample of 120 countries worldwide and a multinomial logistic regression, the results reveal that legal system origin does not contribute to countries' decision about the IFRS for SMEs adoption status, while competitiveness and economic attributes influence their decision. In particular, the findings show that countries that have a higher competitiveness level in institutions, health, skills, product market and financial system are more likely to require the IFRS for SMEs. Countries more competitive in their infrastructure are more likely to permit the use of the IFRS for SMEs. Additionally, countries more competitive in ICT adoption, macroeconomic stability and business dynamism are more likely to prohibit the use of IFRS for SMEs and have distinct national standards. Also, countries with a higher competitiveness level in their innovation capability are more likely to not require the IFRS for SMEs once, between permit vs require and prohibit and use different standards vs require, the choice falls into the not require option. Moreover, wealthier countries are more likely to require the standard when they must decide between permit or prohibit and use different standards and require. However, when the choice is between prohibit and use similar standards and require, then they are more likely to not require the IFRS for SMEs. As a result, the hypothesis of this research (H1) is validated by the multinomial regression analysis.

Additionally, the cluster analysis reveals that the legal system is not an important factor in countries' decision about the IFRS for SMEs adoption status and that competitiveness level and GDP have an impact in the countries' decision and so, in the way of each country is clustered. The countries' characteristics that composed each group lead to the conclusion that the poorest and the less competitive countries decide to require IFRS for SMEs and, countries with lower GDP and competitiveness level decide to permit the standard or to prohibit it. At the same time,

Country attributes on the adoption of the IFRS for SMEs

countries with the highest GDP and competitiveness level also belong to the cluster of countries that have decided to prohibit the IFRS for SMEs but use identical national standards. Therefore, countries with the lowest GDP and competitiveness level decide to require the IFRS for SMEs while wealthier and more competitive countries decide not to require it. This finding supports the multinomial regression analysis in the competitiveness part, however, the conclusion about the economic factor is slightly different, once the multinomial analysis reveals that wealthier countries can also decide to require the international standard.

Moreover, the robustness tests conducted in this study confirm the results obtained in the main analysis. Furthermore, they reveal that developing countries are more likely to decide to require the IFRS for SMEs and that countries with higher economic growth opt to not require its use.

Understanding the diffusion of the IFRS for SMEs as well as country attributes that distinguish a country where the IFRS for SMEs is required from one where the international standard for SMEs are permitted or prohibited, it may be important to stakeholders, governments, preparers and users, regulators, and accounting standards setters, especially for IASB that can take into consideration these findings to improve and promote international accounting standards for SMEs adoption. Indeed, IASB is currently conducting a second comprehensive review of the IFRS for SMEs and is collecting information, since January 2020, on possible updates to align IFRS for SMEs with full IFRS (IASB, 2020). In particular, this study can be useful for countries where this standard may be under consideration.

The main limitations of the present study involve database construction, namely, the adoption status of each country which was obtained from the IASB website. Due to the incomplete and unclear information about the financial reporting framework for SMEs in jurisdiction profiles, the classification of countries based on the adoption status could be biased. This suggests to IASB that information about the IFRS for SMEs adoption disclosed by each country need to be clarified and more important, should be harmonized. Hence, this dissertation can assist further researches regarding the countries' classification of the adoption of IFRS standards.

This study uses common-law vs not common-law to explore the impact of the legal system of a country in the adoption status of the IFRS for SMEs, thus further research could address the effect of legal environment on the status adoption of IFRS for SMEs using different indicators. Finally, it would be interesting, in the future, to investigate the impact of competitiveness attributes of countries on accounting practices and policies.

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Appendixes

Country attributes on the adoption of the IFRS for SMEs

Appendix A

Variables used in this study

Table A 1 - Variables used in this study

Variable	Label	Definition
<i>Dependent Variable</i>		
<i>Countries' adoption of IFRS for SMEs</i>	IFRSforSME	1 if the IFRS for SMEs is required; 2 if the IFRS for SMEs is permitted; 3 if the IFRS for SMEs is prohibited but the country has similar national standards and 4 if the IFRS for SMEs is prohibited and the country has different national standards
<i>Independent Variables</i>		
<i>Institutions</i>	INST	Competitiveness level about institutions in a country
<i>Infrastructure</i>	INFRA	Competitiveness level about the infrastructure in a country
<i>ICT adoption</i>	ICT	Competitiveness level about the ICT (Information and Communications Technology) adoption in a country
<i>Macroeconomic Stability</i>	MACRO	Competitiveness level about the macroeconomic stability in a country
<i>Health</i>	HEALTH	Competitiveness level about the health in a country
<i>Skills</i>	SKILLS	Competitiveness level about the skills in a country
<i>Product Market</i>	PRODUCT	Competitiveness level about the product market in a country
<i>Labour Market</i>	LABOUR	Competitiveness level about the labour market in a country
<i>Financial System</i>	FINANCIAL	Competitiveness level about the financial system in a country
<i>Market Size</i>	MARKET	Competitiveness level about the market size in a country
<i>Business Dynamism</i>	BUSINESS	Competitiveness level about the business dynamism in a country
<i>Innovation Capability</i>	INNOV	Competitiveness level about the innovation capability in a country

Country attributes on the adoption of the IFRS for SMEs

Appendix A (continued)

Variables used in this study

Table A 1 - Continued

Variable	Label	Definition
<i>Control Variables</i>		
<i>GDP</i>	LNGDP	Natural logarithm of the countries' gross domestic product in US dollars
<i>Countries' legal system origin</i>	LEGAL	1 if the country has only a common-law system and 0 otherwise
<i>Additional variables</i>		
<i>Overall Score</i>	TOTSCORE	Average of the 12 pillars of competitiveness
<i>Countries' development</i>	DEV	1 if the country is a developing country and 0 otherwise
<i>Economic growth</i>	ECOGROWTH	Countries' gross domestic product growth rate

Country attributes on the adoption of the IFRS for SMEs

Appendix B

Pearson Correlation Matrix of the variables

Table B 1 - Correlation matrix

	IFRSforSME	INST	INFRA	ICT	MACRO	HEALTH	SKILLS	PRODUCT	LABOUR	FINANCIAL	MARKET	BUSINESS	INNOV	LNGDP	LEGAL
IFRSforSME	1	0.256**	0.321**	0.317**	0.311**	0.194**	0.261**	0.131*	0.180**	0.213**	0.318**	0.300**	0.431**	0.328**	-0.011
INST	0.256**	1	0.818**	0.793**	0.731**	0.626**	0.833**	0.858**	0.854**	0.827**	0.352**	0.869**	0.844**	0.438**	0.178**
INFRA	0.321**	0.818**	1	0.859**	0.659**	0.818**	0.884**	0.765**	0.664**	0.783**	0.564**	0.777**	0.833**	0.617**	0.061
ICT	0.317**	0.793**	0.859**	1	0.643**	0.749**	0.877**	0.724**	0.712**	0.703**	0.387**	0.724**	0.747**	0.458**	0.011
MACRO	0.311**	0.731**	0.659**	0.643**	1	0.504**	0.617**	0.676**	0.643**	0.707**	0.339**	0.718**	0.658**	0.397**	0.122
HEALTH	0.194**	0.626**	0.818**	0.749**	0.504**	1	0.791**	0.597**	0.508**	0.643**	0.412**	0.597**	0.660**	0.489**	0.044
SKILLS	0.261**	0.833**	0.884**	0.877**	0.617**	0.791**	1	0.741**	0.766**	0.731**	0.389**	0.784**	0.803**	0.479**	0.088
PRODUCT	0.131*	0.858**	0.765**	0.724**	0.676**	0.597**	0.741**	1	0.805**	0.760**	0.320**	0.811**	0.727**	0.384**	0.149*
LABOUR	0.180**	0.854**	0.664**	0.712**	0.643**	0.508**	0.766**	0.805**	1	0.721**	0.202**	0.837**	0.732**	0.281**	0.214**
FINANCIAL	0.213**	0.827**	0.783**	0.703**	0.707**	0.643**	0.731**	0.760**	0.721**	1	0.504**	0.782**	0.829**	0.576**	0.239**
MARKET	0.318**	0.352**	0.564**	0.387**	0.339**	0.412**	0.389**	0.320**	0.202**	0.504**	1	0.445**	0.603**	0.977**	0.141*
BUSINESS	0.300**	0.869**	0.777**	0.724**	0.718**	0.597**	0.784**	0.811**	0.837**	0.782**	0.445**	1	0.816**	0.510**	0.196**
INNOV	0.431**	0.844**	0.833**	0.747**	0.658**	0.660**	0.803**	0.727**	0.732**	0.829**	0.603**	0.816**	1	0.697**	0.167**
LNGDP	0.328**	0.438**	0.617**	0.458**	0.397**	0.489**	0.479**	0.384**	0.281**	0.576**	0.977**	0.510**	0.697**	1	0.161*
LEGAL	-0.011	0.178**	0.061	0.011	0.122	0.044	0.088	0.149*	0.214**	0.239**	0.141*	0.196**	0.167**	0.161*	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Country attributes on the adoption of the IFRS for SMEs

Appendix C

Collinearity of the variables

Table C 1 - VIF values of the variables

	Collinearity Statistics with all variables		Collinearity Statistics without MARKET variable	
	Tolerance	VIF	Tolerance	VIF
LEGAL	0.837	1.195	0.837	1.195
INST	0.100	10.038	0.101	9.936
INFRA	0.082	12.249	0.100	9.974
ICT	0.178	5.603	0.178	5.603
MACRO	0.396	2.524	0.397	2.518
HEALTH	0.251	3.985	0.272	3.674
SKILLS	0.109	9.206	0.115	8.687
PRODUCT	0.209	4.774	0.210	4.769
LABOUR	0.156	6.427	0.157	6.357
FINANCIAL	0.210	4.751	0.211	4.750
MARKET	0.025	39.279	----	----
BUSINESS	0.160	6.237	0.162	6.158
INNOV	0.108	9.244	0.130	7.709
LNGDP	0.021	47.086	0.327	3.059

Dependent Variable: IFRSforSME

Country attributes on the adoption of the IFRS for SMEs

Appendix D

Parameters estimates of the Multinomial logistic regression with the country's development variable (DEV)

Table D 1 - Parameters estimates for robustness test: DEV

Logit 1- Permit vs Require ^a	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
Intercept	7.944	7.091	1.255	1	0.263			
INST	-0.087	0.065	1.837	1	0.175	0.916	0.807	1.040
INFRA	0.128	0.050	6.643	1	0.010	1.137	1.031	1.253
ICT	-0.020	0.033	0.365	1	0.546	0.980	0.919	1.046
MACRO	-0.033	0.022	2.243	1	0.134	0.967	0.926	1.010
HEALTH	-0.058	0.023	6.269	1	0.012	0.944	0.902	0.988
SKILLS	-0.058	0.053	1.208	1	0.272	0.944	0.851	1.047
PRODUCT	-0.066	0.066	0.989	1	0.320	0.937	0.823	1.066
LABOUR	0.094	0.069	1.874	1	0.171	1.099	0.960	1.258
FINANCIAL	-0.031	0.041	0.550	1	0.458	0.970	0.895	1.051
BUSINESS	0.011	0.054	0.042	1	0.837	1.011	0.910	1.124
INNOV	0.180	0.049	13.304	1	0.000	1.197	1.087	1.318
LNGDP	-0.361	0.242	2.216	1	0.137	0.697	0.434	1.121
[LEGAL=0]	-0.254	0.931	0.074	1	0.785	0.776	0.125	4.810
[LEGAL=1]	0 ^b	----	----	0	----	----	----	----
[DEV=0]	0.476	0.777	0.376	1	0.540	1.610	0.351	7.376
[DEV=1]	0 ^b	----	----	0	----	----	----	----

a. The reference category is: 1 – IFRS for SMEs is required

b. This parameter is set to zero because it is redundant.

Country attributes on the adoption of the IFRS for SMEs

Appendix D (continued)

Parameters estimates of the Multinomial logistic regression with the country's development variable (DEV)

Table D 1 - Continued

Logit 2- Prohibit but have similar national standards vs Require ^a	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
Intercept	-34.175	10.595	10.405	1	0.001			
INST	0.142	0.081	3.056	1	0.080	1.152	0.983	1.350
INFRA	0.002	0.061	0.001	1	0.976	1.002	0.889	1.130
ICT	0.018	0.034	0.293	1	0.589	1.018	0.953	1.088
MACRO	0.019	0.025	0.542	1	0.462	1.019	0.969	1.071
HEALTH	0.031	0.034	0.873	1	0.350	1.032	0.966	1.102
SKILLS	-0.014	0.064	0.044	1	0.833	0.987	0.870	1.119
PRODUCT	-0.190	0.077	6.113	1	0.013	0.827	0.712	0.961
LABOUR	0.069	0.097	0.507	1	0.477	1.071	0.886	1.294
FINANCIAL	-0.107	0.049	4.679	1	0.031	0.899	0.816	0.990
BUSINESS	0.082	0.070	1.356	1	0.244	1.085	0.946	1.246
INNOV	0.014	0.059	0.056	1	0.812	1.014	0.904	1.138
LNGDP	1.123	0.343	10.734	1	0.001	3.075	1.570	6.022
[LEGAL=0]	-0.321	1.045	0.094	1	0.759	0.725	0.093	5.630
[LEGAL=1]	0 ^b	----	----	0	----	----	----	----
[DEV=0]	-1.248	1.015	1.511	1	0.219	0.287	0.039	2.101
[DEV=1]	0 ^b	----	----	0	----	----	----	----

a. The reference category is: 1 – IFRS for SMEs is required

b. This parameter is set to zero because it is redundant.

Country attributes on the adoption of the IFRS for SMEs

Appendix D (continued)

Parameters estimates of the Multinomial logistic regression with the country's development variable (DEV)

Table D 1 - Continued

Logit 3- Prohibit and have different national standards vs Require ^a	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
Intercept	7.944	7.091	1.255	1	0.263			
INST	-0.087	0.065	1.837	1	0.175	0.916	0.807	1.040
INFRA	0.128	0.050	6.643	1	0.010	1.137	1.031	1.253
ICT	-0.020	0.033	0.365	1	0.546	0.980	0.919	1.046
MACRO	-0.033	0.022	2.243	1	0.134	0.967	0.926	1.010
HEALTH	-0.058	0.023	6.269	1	0.012	0.944	0.902	0.988
SKILLS	-0.058	0.053	1.208	1	0.272	0.944	0.851	1.047
PRODUCT	-0.066	0.066	0.989	1	0.320	0.937	0.823	1.066
LABOUR	0.094	0.069	1.874	1	0.171	1.099	0.960	1.258
FINANCIAL	-0.031	0.041	0.550	1	0.458	0.970	0.895	1.051
BUSINESS	0.011	0.054	0.042	1	0.837	1.011	0.910	1.124
INNOV	0.180	0.049	13.304	1	0.000	1.197	1.087	1.318
LNGDP	-0.361	0.242	2.216	1	0.137	0.697	0.434	1.121
[LEGAL=0]	-0.254	0.931	0.074	1	0.785	0.776	0.125	4.810
[LEGAL=1]	0 ^b	----	----	0	----	----	----	----
[DEV=0]	0.476	0.777	0.376	1	0.540	1.610	0.351	7.376
[DEV=1]	0 ^b	----	----	0	----	----	----	----

a. The reference category is: 1 – IFRS for SMEs is required

b. This parameter is set to zero because it is redundant.

Country attributes on the adoption of the IFRS for SMEs

Appendix E

Parameters estimates of the Multinomial logistic regression with the economic growth variable (ECOGROWTH)

Table E 1 - Parameters estimates for robustness test: ECOGROWTH

Logit 1- Permit vs Require ^a	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
Intercept	-0.670	3.045	0.048	1	0.826			
INST	-0.104	0.064	2.647	1	0.104	0.901	0.794	1.022
INFRA	0.118	0.049	5.801	1	0.016	1.125	1.022	1.239
ICT	-0.015	0.034	0.197	1	0.657	0.985	0.922	1.053
MACRO	-0.046	0.024	3.538	1	0.060	0.955	0.911	1.002
HEALTH	-0.061	0.024	6.616	1	0.010	0.940	0.897	0.985
SKILLS	-0.008	0.052	0.026	1	0.872	0.992	0.896	1.098
PRODUCT	-0.056	0.065	0.728	1	0.393	0.946	0.832	1.075
LABOUR	0.131	0.066	3.930	1	0.047	1.140	1.001	1.298
FINANCIAL	-0.038	0.040	0.943	1	0.332	0.962	0.891	1.040
BUSINESS	-0.043	0.053	0.648	1	0.421	0.958	0.864	1.063
INNOV	0.169	0.042	16.208	1	0.000	1.184	1.090	1.285
ECOGROWTH	0.217	0.109	3.963	1	0.047	1.242	1.003	1.539
[LEGAL=0]	-0.141	0.939	0.023	1	0.880	0.868	0.138	5.471
[LEGAL=1]	0 ^b	----	----	0	----	----	----	----

a. The reference category is: 1 – IFRS for SMEs is required

b. This parameter is set to zero because it is redundant.

Country attributes on the adoption of the IFRS for SMEs

Appendix E (continued)

Parameters estimates of the Multinomial logistic regression with the economic growth variable (ECOGROWTH)

Table E 1 - Continued

Logit 2- Prohibit but have similar national standards vs Require ^a	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
Intercept	-2.889	3.877	0.555	1	0.456			
INST	-0.037	0.071	0.280	1	0.597	0.963	0.839	1.106
INFRA	0.043	0.058	0.551	1	0.458	1.044	0.932	1.169
ICT	0.058	0.037	2.450	1	0.118	1.060	0.985	1.139
MACRO	-0.005	0.031	0.027	1	0.870	0.995	0.937	1.057
HEALTH	0.012	0.035	0.114	1	0.735	1.012	0.944	1.084
SKILLS	0.015	0.065	0.054	1	0.816	1.015	0.894	1.153
PRODUCT	-0.124	0.072	2.953	1	0.086	0.883	0.767	1.018
LABOUR	-0.166	0.081	4.191	1	0.041	0.847	0.723	0.993
FINANCIAL	-0.032	0.042	0.572	1	0.449	0.969	0.892	1.052
BUSINESS	0.133	0.071	3.497	1	0.061	1.142	0.994	1.313
INNOV	0.135	0.048	7.703	1	0.006	1.144	1.040	1.258
ECOGROWTH	0.699	0.172	16.570	1	0.000	2.011	1.437	2.815
[LEGAL=0]	-1.077	0.973	1.226	1	0.268	0.341	0.051	2.292
[LEGAL=1]	0 ^b	----	----	0	----	----	----	----

a. The reference category is: 1 – IFRS for SMEs is required

b. This parameter is set to zero because it is redundant.

Country attributes on the adoption of the IFRS for SMEs

Appendix E (continued)

Parameters estimates of the Multinomial logistic regression with the economic growth variable (ECOGROWTH)

Table E 1 - Continued

Logit 3- Prohibit and have different national standards vs Require ^a	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
Intercept	7.290	2.586	7.950	1	0.005			
INST	-0.119	0.055	4.594	1	0.032	0.888	0.797	0.990
INFRA	0.035	0.045	0.606	1	0.436	1.035	0.949	1.130
ICT	0.075	0.028	7.086	1	0.008	1.078	1.020	1.139
MACRO	0.026	0.020	1.677	1	0.195	1.027	0.987	1.068
HEALTH	-0.037	0.023	2.698	1	0.100	0.963	0.921	1.007
SKILLS	-0.032	0.045	0.510	1	0.475	0.968	0.887	1.058
PRODUCT	-0.156	0.054	8.211	1	0.004	0.856	0.769	0.952
LABOUR	-0.050	0.057	0.763	1	0.383	0.951	0.851	1.064
FINANCIAL	-0.087	0.032	7.517	1	0.006	0.916	0.861	0.975
BUSINESS	0.022	0.044	0.258	1	0.611	1.023	0.938	1.114
INNOV	0.254	0.040	39.794	1	0.000	1.289	1.191	1.395
ECOGROWTH	0.352	0.097	13.041	1	0.000	1.422	1.175	1.721
[LEGAL=0]	-0.239	0.850	0.079	1	0.779	0.788	0.149	4.164
[LEGAL=1]	0 ^b	----	----	0	----	----	----	----

a. The reference category is: 1 – IFRS for SMEs is required

b. This parameter is set to zero because it is redundant.

Country attributes on the adoption of the IFRS for SMEs

Appendix F

Results of the Cluster Analysis using countries' adoption status of the IFRS for SMEs, legal system, and GDP

Table F 1 - List of countries that belong to each cluster: first phase

Cluster 1			Cluster 2		Cluster 3		Cluster 4
N= 46			N= 26		N= 38		N=10
Albania	Hungary	Thailand	Argentina	Turkey	Armenia	Malawi	Australia
Angola	Iceland	Vietnam	Bangladesh	Ukraine	Azerbaijan	Mauritius	India
Austria	Italy		Brazil	United Arab Emirates	Bahrain	Montenegro	Jamaica
Belgium	Japan		Chile	Venezuela	Bosnia and Herzegovina	Namibia	Nepal
Bolivia	Latvia		Colombia		Botswana	Nicaragua	New Zealand
Brunei Darussalam	Lithuania		Hong Kong SAR		Cambodia	Oman	Singapore
Bulgaria	Luxembourg		Indonesia		Costa Rica	Panama	Tanzania
Cameroon	Mali		Iran		Cyprus	Paraguay	Trinidad and
Canada	Malta		Ireland		Dominican Republic	Rwanda	Tobago
Chad	Mexico		Israel		Ecuador	Serbia	United Kingdom
China	Moldova		Kazakhstan		El Salvador	Sri Lanka	United States
Chinese Taipei	Mongolia		Kuwait		Estonia	Uganda	
Côte d'Ivoire	Norway		Malaysia		Eswatini	Uruguay	
Croatia	Poland		Netherlands		Gambia	Yemen	
Czech Republic	Portugal		Nigeria		Georgia	Zambia	
Denmark	Romania		Pakistan		Ghana	Zimbabwe	
Egypt	Russia		Peru		Guatemala		
Finland	Slovakia		Philippines		Honduras		
France	Slovenia		Qatar		Jordan		
Germany	South Korea		Saudi Arabia		Kenya		
Greece	Spain		South Africa		Lesotho		
Guinea	Sweden		Switzerland		Macedonia		

Country attributes on the adoption of the IFRS for SMEs

Appendix G

Results of the Cluster Analysis using countries' adoption status of the IFRS for SMEs, legal system, GDP, and competitiveness

Table G 1 - List of countries that belong to each cluster: second phase

Cluster 1		Cluster 2			Cluster 3		Cluster 4	
<i>N= 40</i>		<i>N= 47</i>			<i>N= 10</i>		<i>N=21</i>	
Albania	Latvia	Armenia	Kenya	Uruguay	Australia	Austria	Sweden	
Angola	Lithuania	Azerbaijan	Kuwait	Venezuela	India	Belgium	Switzerland	
Argentina	Luxembourg	Bahrain	Lesotho	Yemen	Jamaica	Canada		
Bangladesh	Mali	Bosnia and Herzegovina	Macedonia	Zambia	Nepal	China		
Bolivia	Malta	Botswana	Malawi	Zimbabwe	New Zealand	Chinese Taipei		
Brunei Darussalam	Moldova	Brazil	Mauritius		Singapore	Denmark		
Bulgaria	Mongolia	Cambodia	Montenegro		Tanzania	Finland		
Cameroon	Pakistan	Chile	Namibia		Trinidad and Tobago	France		
Chad	Philippines	Colombia	Nicaragua		United Kingdom	Germany		
Côte d'Ivoire	Poland	Costa Rica	Nigeria		United States	Hong Kong SAR		
Croatia	Portugal	Cyprus	Oman			Ireland		
Czech Republic	Romania	Dominican Republic	Panama			Israel		
Egypt	Slovakia	Ecuador	Paraguay			Italy		
Estonia	Slovenia	El Salvador	Peru			Japan		
Greece	Sri Lanka	Eswatini	Qatar			Malaysia		
Guinea	Thailand	Gambia	Rwanda			Mexico		
Hungary	Turkey	Georgia	Saudi Arabia			Netherlands		
Iceland	Ukraine	Ghana	Serbia			Norway		
Indonesia	Vietnam	Guatemala	South Africa			Russia		
Iran		Honduras	Uganda			South Korea		
Kazakhstan		Jordan	United Arab Emirates			Spain		

Annexes

Annex A

Indicators used in each pillar

Institutions

Organized crime; Homicide rate; Terrorism incidence; Reliability of police services; Social capital; Budget transparency; Judicial independence; Efficiency of legal framework in challenging regulations; Freedom of the press; Burden of government regulation; Efficiency of legal framework in settling disputes; E-Participation Index; Future orientation of government; Incidence of corruption; Property rights; Intellectual property protection; Quality of land administration; Strength of auditing and reporting standards; Conflict of interest regulation; Shareholder governance.

Infrastructure

Road connectivity index; Quality of roads; Railroad density; Efficiency of train services; Airport connectivity; Efficiency of air transport services; Liner Shipping Connectivity Index; Efficiency of seaport services; Electrification rate; Electric power transmission and distribution losses; Exposure to unsafe drinking water; Reliability of water supply.

ICT adoption

Mobile-cellular telephone subscriptions; Mobile-broadband subscriptions; Fixed-broadband Internet subscriptions; Fibre Internet subscriptions; Internet users.

Macroeconomic stability

Inflation; Debt dynamics.

Health

Healthy life expectancy.

Skills

Mean years of schooling; Extent of staff training; Quality of vocational training; Skillset of graduates; Digital skills among population; Ease of finding skilled employees; School life expectancy; Critical thinking in teaching; Pupil-to-teacher ratio in primary education.

Product market

Distortive effect of taxes and subsidies on competition; Extent of market dominance; Competition in services; Prevalence of non-tariff barriers; Trade tariffs; Complexity of tariffs; Efficiency of the clearance process; Services trade openness.

Labour market

Redundancy costs; Hiring and firing practices; Cooperation in Labour-employer relations; Flexibility of wage determination; Active Labour policies; Workers' rights; Ease of hiring foreign labour; Internal Labour mobility; Reliance on professional management; Pay and productivity; Female participation in Labour force; Labour tax rate.

Financial system

Domestic credit to private sector; Financing of SMEs; Venture capital availability; Market capitalization; Insurance premium; Soundness of banks; Non-performing loans; Credit gap; Banks' regulatory capital ratio.

Market size

Gross domestic product PPP; Imports.

Business dynamism

Cost of starting a business; Time to start a business; Insolvency recovery rate; Insolvency regulatory framework; Attitudes toward entrepreneurial risk; Willingness to delegate authority; Growth of innovative companies; Companies embracing disruptive ideas.

Innovation capability

Diversity of workforce; State of cluster development; International co-inventions; Multi-stakeholder collaboration; Scientific publications; Patent applications; R&D expenditures; Quality of research institutions; Buyer sophistication; Trademark applications.

Source: World Economic Forum, *The Global Competitiveness Report 2019- Economy profiles*, 2019

Annex B

Pillars about competitiveness and what each pillar captures

Table B. I - Pillars about competitiveness and the main topics that each pillar captures

Pillars	Topics captured by the pillar about competitiveness
<i>Institutions</i>	Security, property rights, social capital, checks and balances, transparency and ethics, public-sector performance, and corporate governance.
<i>Infrastructure</i>	Quality and extension of transport infrastructure and utility infrastructure.
<i>ICT adoption</i>	Diffusion of specific information and communication technologies.
<i>Macroeconomic Stability</i>	Inflation and sustainability of fiscal policy.
<i>Health</i>	Health adjusted life expectancy.
<i>Skills</i>	Skills of the workforce and the quantity and quality of education.
<i>Product Market</i>	The extent to which a country provides an even playing field for companies to participate in its markets. The extent of market power, openness to foreign firms and the degree of market distortions.
<i>Labour Market</i>	The extent to which human resources can be reorganized and the extent to which human resources are leveraged.
<i>Financial System</i>	Availability of credit, equity, debt, insurance and other financial products, and the mitigation of excessive risk-taking and opportunistic behaviour of the financial system.
<i>Market Size</i>	Size of the domestic and foreign markets to which a country's firms have access, namely, the value of consumption, investment, and exports.
<i>Business Dynamism</i>	Private sector's capacity to create and adopt new technologies and new ways to organize work, through a culture of change, risk, new business models, and administrative rules that allow firms to enter and exit the market easily.
<i>Innovation Capability</i>	Quantity and quality of formal research and development; the extent to which a country's environment encourages collaboration, connectivity, creativity, diversity and confrontation across different visions and angles and the capacity to turn ideas into new goods and services.

Source: World Economic Forum, *The Global Competitiveness Report 2018*, p. 39, 41 and 42, 2018