Factors Influencing the Adoption of IFRS in the MENA Region: A Neo-Institutional Approach

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Abstract

This study examines the factors shaping the choices of countries in the Middle East and North Africa (MENA) region in adopting International Financial Reporting Standards (IFRS), using a neo-institutional isomorphism framework. Analysing data from 19 countries spanning two decades (1996–2015) and comprising 380 country-year observations, this research reveals that internal coercive and mimetic institutional pressures are key influencers behind IFRS adoption in the region. Specifically, governance quality improvement and openness to international trade emerge as crucial determinants. This highlights the predominant role of social and political contexts over economic motivations in driving IFRS adoption in the MENA region. Furthermore, the findings indicate that foreign aid and internal accounting have minimal impact on IFRS adoption in the region.

1. Introduction

The mandatory adoption of the International Financial Reporting Standards (IFRS[1]) in European Union (EU) countries in 2005 stands out as a landmark event in accounting history (Daske et al., 2008). Subsequently, non-EU nations have demonstrated varied reactions to the proliferation of global accounting regulations. In the literature, the reasons for these divergent responses to IFRS adoption can be classified into two main categories. The first category focuses on the potential benefits of IFRS adoption for firms by analysing its economic impacts at the firm level. Studies in this domain have consistently reached similar conclusions (Kim, 2016; Klish et al., 2022). The second category explores the broader factors influencing a country's decision to embrace or reject IFRS by examining the social context at the country level. This line of research has only recently begun to develop, with limited studies and inconsistent findings (Judge et al., 2010; Hassan et al., 2014; El-Helaly et al., 2020).

Despite the widespread acceptance of IFRS, with over 140 countries committed to its use as the singular global accounting standard, countries in the Middle East and North Africa (MENA) region have exhibited varied responses to its global diffusion. A perplexing pattern emerges in the adoption of IFRS within the region, considering that most countries share linguistic (Arabic), religious (Islamic), and cultural traits such as strong hierarchical social structures, family allegiance, and informal social ties among individuals (Boolaky et al., 2018; Sarhana et al., 2019). However, these shared cultural similarities do not appear to result in uniform attitudes towards, or processes of, IFRS adoption—almost half of MENA

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[1] The International Accounting Standards (IAS) were initially set forth by the International Accounting Standards Committee (IASC), which later became the International Accounting Standards Board (IASB) in 2001 (Deloitte, 2015). Subsequent standards issued by the IASB are collectively referred to as IFRS, although they do not replace the original IAS. The distinction between IAS and IFRS reflects the transition from the IASC to the IASB (Institute of Chartered Accountants in England and Wales (ICAEW), 2015). For simplicity, both IAS and IFRS are referred to as IFRS throughout.

countries remain either non-adopters or partial adopters of IFRS (Al-Mannai & Hindi, 2015; Deloitte, 2017; Hassan et al., 2014; IFRS Foundation, 2017; PwC, 2015; QFMA, 2010).

Moreover, empirical research on IFRS adoption within the MENA region is sparse (Nurunnabi, 2018). Existing studies predominantly focus on individual countries, such as Irvine's investigation of the United Arab Emirates (UAE) (2008) and Hassan et al.'s examination of Iraq (2014), further highlighting this gap. The lack of comprehensive literature on MENA's collective approach to IFRS adoption impedes our understanding of how these nations collectively address the intricate institutional pressures inherent in IFRS adoption. This also restricts insights into strategic responses aimed at integration within the globalized business landscape.

To bridge this research gap, this study utilizes a neo-institutional approach to explore the factors influencing IFRS adoption in the MENA region. It seeks to identify the factors that play a significant role in shaping the decision-making processes related to IFRS adoption in the region and elucidate the reasons behind their prominence. When cultural similarities fail to significantly contribute to a region's adoption status, institutional factors emerge as powerful explanatory variables. Adopting IFRS entails organisational responses to international trends and transformations. Institutional factors necessitate adjustments within a country's institutional framework, including enhancements in information quality such as financial reporting standards, audit quality assurance, operational mechanisms within markets, and the requisite legislative support to facilitate these changes (Chua & Taylor, 2008). The fundamental principle of institutional theory lies in the connection between organizational practices, such as IFRS adoption, and the broader social values that underpin and sustain organisational legitimacy (Guerreiro et al., 2012). By analysing these values (institutional factors), this study illuminates their relative importance in the MENA region's

decisions regarding IFRS adoption, offering insights into how these nations navigate the complex landscape of global accounting standards and institutional pressures.

This study examines data from 19 MENA countries spanning 20 years, from 1996 to 2015 (see Table 2), covering both pre- and post-2005 periods, with 2005 marking a significant milestone through the mandated adoption of IFRS by EU countries. The objective is to comprehensively understand the factors influencing IFRS adoption in the region and how these factors evolve over time.

The dataset encompasses countries that have already adopted IFRS and those that have not, taking into account the strength of their financial accountability mechanisms and regulatory frameworks. With 380 country-year observations, this research stands as one of the most extensive studies on IFRS adoption in the MENA region. This rich dataset enables a thorough exploration of the factors shaping IFRS adoption patterns, providing valuable insights into the region's evolving alignment with global accounting standards.

This study finds that internal coercive and mimetic institutional pressures are the primary drivers of IFRS adoption in the MENA region. Governance quality, trade freedom, and openness to the global economy emerge as key factors influencing adoption. Notably, unlike previous studies, this research reveals that certain influential aid providers, such as the International Monetary Fund (IMF) and the World Bank (WB)—representing external coercive institutional pressures—and membership in the International Federation of Accountants (IFAC)—as an external normative institutional pressure—have limited impact on IFRS adoption in MENA countries. The implications and significance of these findings are discussed in Section 6, with further reflections on their unique contributions and broader implications in the final section (Section 7).

The remainder of this paper is organised as follows: Section 2 outlines the necessity of studies on IFRS adoption in the MENA region; Section 3 establishes the neo-institutional

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approach as the theoretical foundation; Section 4 presents the formulated hypotheses based on this approach; Section 5 describes the research design employed; Section 6 presents the empirical results and discusses the findings; and Section 7 concludes the study by elucidating its contributions, implications, and directions for future research.

2.   The need for IFRS adoption studies in the MENA region from an institutional perspective

The global institutionalisation of IFRS diffusion is regarded as a social process (Wahyuni, 2013) where countries deliberate and justify their decisions on whether to adopt global accounting standards for the sake of international accounting harmonisation and, if so, to what extent (Rodrigues & Craig, 2007). Consequently, the adoption of IFRS is systematically linked to a country's perception of the potential benefits derived from the network of IFRS adopters (Ramanna & Sletten, 2014).

Viewed through the lens of institutional theory, the adoption of IFRS intertwines organisational practices (e.g., accounting), the underlying social values guiding the organisation's operation, and the institutional context that upholds organisational legitimacy (Deegan & Unerman, 2006). Hence, understanding how a country's institutional context shapes the environment in which organisations pursue profits, both rationally and legally, is crucial (Guerreiro et al., 2012). From this perspective, research on IFRS adoption at the social and country levels can yield more insightful results compared to those focused solely on economic and firm levels. As Judge et al. (2010, p. 161) asserted, the 'IFRS adoption process is driven more by social legitimization pressures than economic logic'.

Although research has been conducted at the country level, cross-country studies on IFRS adoption remain insufficient. For instance, in a systematic review of 70 studies examining IFRS mandatory disclosure post-2005, Tsalavoutas et al. (2020) found that 55 of these studies

gathered firm-level data in a single country, primarily in small markets or less developed nations, while the remaining 15 studies utilized data from multiple countries, focusing on the largest firms listed in EU stock markets. This underscores the scarcity of studies on IFRS adoption utilizing cross-country data at the regional level, particularly in emerging economies.

Moreover, limited research has been conducted in MENA countries. For instance, Ben Othman and Kossentini (2015) investigated the country-level association between the extent of IFRS adoption and emerging stock market development from 2001 to 2007, encompassing 50 countries, but only including eight MENA nations. Another study by Nnadi and Soobaroyen (2015) examined the impact of IFRS promotion on foreign direct investment in developing countries over 20 years, involving 34 countries. However, their analysis included only four MENA countries. Despite being cross-country in nature, these studies have narrow scopes and limited data coverage.

Our multi-country study on IFRS adoption in the MENA region not only illuminates attitudes towards IFRS adoption and the extent of adoption across the various countries, but also identifies the main factors influencing adoption in the region. These factors serve as a focal point for reconciling and harmonising the IFRS adoption process, given that IFRS offers more comprehensive disclosure requirements than most national accounting standards (Ding et al., 2007; El-Helaly et al., 2020). In essence, a study focusing on the MENA region can explore both the homogeneity and heterogeneity of IFRS adoption.

3.   **Neo-institutional approach**

The concept of institutional isomorphism (DiMaggio & Powell, 1983) offers a robust theoretical framework for understanding social phenomena in organisational behaviour. It elucidates how organisations, under institutional pressures, intentionally or unintentionally

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adopt similar structures to gain legitimacy. DiMaggio and Powell (1983) posited that organisations operating in comparable institutional environments tend to display similar behaviour after long-term interactions (Martínez-Ferrero & García-Sánchez, 2017).

DiMaggio and Powell's (1983) institutional theory has been widely used in the IFRS development and adoption literature (e.g., Albu et al., 2014; Alon & Dwyer, 2014; Guerreiro et al., 2012; Hassan, 2008; Irvine, 2008; Mir & Rahaman, 2002; Wahyuni, 2013). This is because the institutionalisation of global IFRS adoption entails a social process wherein a country evaluates its economy, institutional environment, and accounting standards and profession to decide whether to fully, partially, or not adopt IFRS (i.e., country-specific factors). This pivotal decision significantly influences a country's attractiveness for foreign trade and investment and facilitates harmonisation between global and local accounting reporting standards (Boolaky et al., 2020; Guerreiro et al., 2012).

However, institutional theory, assuming organisational homogeneity in adoption decisions, falls short in explaining the diversity of IFRS adoption across organisations and countries worldwide (Guerreiro et al., 2012). In contrast, neo-institutional theory (North, 1991; Scott, 1995) proves more 'appropriate for explaining and predicting what forces spur or constrain IFRS adoption' (Judge et al., 2010, p. 162), as it addresses a key limitation of the former theory—heterogeneity. Neo-institutional theory views IFRS adoption and diffusion as responses to changing pressures organisations and countries face regarding international trends, providing a mechanism for them to attain legitimacy (Chua & Taylor, 2008; Guerreiro et al., 2012).

According to Suchman (1995, p. 574), legitimacy refers to the 'generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions'. From a neo-institutional perspective, a country opting for IFRS seeks legitimacy within the prevailing

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institutional environment by adhering to professionally recognised and internationally accepted accounting standards (Alon & Dwyer, 2014; Boolaky et al., 2020; Judge et al., 2010). Neo-institutional theory also considers country-specific factors, such as historical, economic, legal, cultural, and political features, which significantly influence the decision to adopt (Boolaky et al., 2020; Ding et al., 2007). Additionally, it accommodates various dynamic perspectives on IFRS diffusion, allowing scholars to differentiate between internal and external pressures driving adoption (Boolaky et al., 2020).

The neo-institutional theory encompasses the following three dimensions:

Coercive institutional pressures: Coercive isomorphism refers to pressures exerted on organisations, formally and informally, by other organisations on which they depend (DiMaggio & Powell, 1983). It is seen as a mechanism of authority and power (Scott, 1995), often leading to rapid and high-level compliance with imposed changes (Guerreiro et al., 2012).

Mimetic institutional pressures: As described by DiMaggio and Powell (1983, p. 152), mimetic isomorphism occurs when 'organizations […] model themselves after similar organizations in their field that they perceive to be more legitimate or successful'. This phenomenon is often associated with globalisation and institutionalisation. Organisations or nations aspiring to compete globally may adopt successful business models and practices from others to mitigate risks and lower costs (firm level). They may also embrace institutionalised professional codes and practices (e.g., IFRS) to enhance their legitimacy and global reputation (country level). This behaviour is described by Scott (2001, p. 61) as resting 'on pre-conscious, taken-for-granted understandings'.

Normative institutional pressures: Stemming primarily from professionalisation (DiMaggio and Powell, 1983), normative isomorphism results from unspoken values or expectations within a profession that have gained broad acceptance (Irvine, 2008).

Institutions like universities, professional associations, and regulators act as normative pressures by reinforcing and standardising practices through education and training programmes (Hassan, 2008). DiMaggio and Powell (1983) emphasized the role of educational institutions in shaping organisational norms, fostering homogeneity in acceptable behaviour among practitioners (Lundqvist et al., 2008).

Neo-institutional theory forms the basis for the hypotheses tested in this study.

4. Hypotheses development

4.1. Coercive institutional pressures

Coercive institutional isomorphism is characterised by internal and external pressures. Internally, at the country level, stakeholders exert pressure through laws, regulations, and political sanctions, shaping the legal environment and driving coercive institutional isomorphism (Martínez-Ferrero & García-Sánchez, 2017). For instance, legislation promoting privatisation significantly influences accounting regulations, enhancing public accountability and facilitating IFRS adoption (Al-Akra et al., 2009). Conversely, weak legal systems and corruption hinder effective IFRS implementation (Nurunnabi, 2014). Essentially, the legal environment plays a crucial role in information disclosure and auditing (García-Sanchez et al., 2016; Martínez-Ferrero & García-Sánchez, 2017).

Externally, coercive institutional pressures stem from transnational entities such as the WB and IMF, along with bodies such as the Financial Stability Board, IFAC, International Organization of Securities Commissions, and the Organization for Economic Cooperation and Development, which support WB/IMF initiatives (Boolaky et al., 2020). Developing countries reliant on foreign aid are subject to conditions from these entities, including economic reforms and the adoption of international standards like IFRS (Alon & Dwyer, 2014; Boolaky et al., 2020; Chua & Taylor, 2008).

The WB and IMF have been noted to influence IFRS adoption, sometimes linking it to loan requirements (Picker et al., 2013). In Bangladesh, a key factor in adopting IFRS was pressure from international donor/lending institutions (Mir & Rahaman 2002). Similarly, Iraq and Ghana experienced coercive pressures to support economic reforms (Hassan et al., 2014; Assenso-Okofa et al., 2011).

In summary, we propose two hypotheses:

H1a: Countries facing higher internal coercive institutional pressures are more likely to adopt IFRS.

H1b: Countries facing higher external coercive institutional pressures are more likely to adopt IFRS.

4.2. *Mimetic institutional pressures*

Viewed through the lens of neo-institutional theory, mimetic institutional isomorphism—comprising internal and external mimetic pressures—is more prevalent in emerging countries than in developed ones. External mimetic pressures prompt developing nations to adopt 'off-the-shelf practices', such as IFRS, to enhance international competitiveness and attract investment (Hassan et al., 2014; Mir & Rahaman, 2002). Consequently, the widespread diffusion of IFRS has yielded benefits in countries such as Bahrain, Egypt, Iraq, and Romania (Albu et al., 2011; Hassan, 2008; Hassan et al., 2014; Joshi et al., 2008), often facilitated by the Big Four accounting firms (Boolaky et al., 2020).

However, resistance to IFRS diffusion exists, particularly in countries deeply entrenched in conservative cultural, religious, and political ideologies. This internal mimetic pressure stems from viewing IFRS adoption as conflicting with national identity and beliefs (Irvine & Lucas, 2006). For instance, in China, political sensitivity to foreign accounting theories is pronounced (Xiao et al., 2004), while in Syria, accountants face challenges in adapting to IFRS (Gallhofer et al., 2011). Nurunnabi (2014) highlighted the political influence on IFRS

implementation in Bangladesh. Additionally, some see IFRS adoption as a form of Western imperialism (Dedoulis & Caramanis, 2007), particularly threatening in countries where religion holds significant sway. In response, countries like Libya and Saudi Arabia have integrated IFRS with Shari'ah law or tailored it to fit religious principles (IFRS Foundation, 2015; General National Congress, 2013).

Based on this discussion, we propose the following hypotheses:

H2a: Countries experiencing higher internal mimetic pressures are more likely to adopt IFRS.

H2b: Countries facing higher external mimetic pressures are more likely to adopt IFRS.

4.3.   *Normative institutional pressures*

Normative pressure, driven by the accounting profession's pursuit of improved financial reporting quality, stands as a pivotal force shaping accounting practices globally. For instance, Wahyuni (2013) highlighted Malaysia's independent decision to embrace IFRS, while Hassan (2008) highlighted Egypt's accounting landscape transformation influenced by political philosophy, aligning it with international standards. The efficacy of local accounting bodies in facilitating IFRS adoption is paramount, achieved through cultivating competent preparers and auditors committed to new standards, along with continuous support and collaboration with international accounting bodies like IFAC.

Various studies have employed proxies to gauge normative institutional pressures, including educational levels, the number of certified public accountants (CPA), the presence of Big Four firms, and IFAC membership (Hassan, 2008; Judge et al., 2010; Hassan et al., 2014). While both educational attainment and CPA counts reflect internal pressures, this study opts not to use high school attainment as a proxy, given its foundational importance across professions (Turner, 1993). Furthermore, despite academic inflation, driven notably by

oil wealth enabling widespread access to education in the MENA region, high school attainment's correlation with IFRS adoption remains modest.

Certified public accountants may offer a more appropriate measure of internal normative institutional pressure. However, data availability constraints across 19 countries over 20 years impede its comprehensive analysis, potentially limiting result generalisability. Similarly, obtaining data on Big Four firms in the MENA region presents challenges. Consequently, external normative institutional pressures are proxied by IFAC membership in this study. Hence, we hypothesise the following:

H3: Higher external normative institutional pressures correlate with increased likelihood of IFRS adoption within a country.

5. Research design

5.1. Sample selection

The study sample encompasses the entire MENA region, characterised by Islamic influence, linguistic cohesion, a hybrid legal system, and oil dependency. It spans 19 countries[2] over two decades, from 1996 to 2015, resulting in 380 country-year observations. To gather data on the adoption of IFRS in MENA countries, three primary sources—IFRS Foundation (2017), Deloitte (2017), and PwC (2015)—were utilised. To ensure the accuracy and reliability of the data, the consistency of these sources was cross-checked by comparing each country's laws, mitigating the limitations observed in previous studies that relied on only one or two sources.

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[2] Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, United Arab Emirates, Palestine, and Yemen (Somalia was dropped due to data unavailability)

5.2.   *Econometric modelling*

This study explores the institutional isomorphic factors affecting IFRS adoption in MENA countries. The dependent variable is binary, represented by values of 0 and 1, where 0 signifies non-IFRS adopters and 1 indicates IFRS adopters. Owing to the binary nature of the outcome, linear regression models are unsuitable for estimation. The linear model, lacking in heterogeneity, is as follows (Frees, 2004):

$$y_{it} = x_{it}{}' \beta + \varepsilon_{it} \ \dots\dots (1)$$

Given that:

$$E(\varepsilon_{it}) = 0$$

Then,

$$E(y_{it}) = p_{it} = x_{it}{}' \beta \ and \ Var \ (y_{it}) = x_{it}{}' \beta (1 - x_{it}{}' \beta) \ \dots\dots (2)$$

However, this linear probability model possesses several drawbacks that are not compatible with the current study. The most significant limitation is that the dependent variable represents a probability between 0 and 1, whereas the linear combination, $x_{it}{}' \beta$, ranges from negative to positive infinity, resulting in implausible fitted values (Baltagi, 2005; Frees, 2004). However, logistic regression accommodates the model's nonlinearity by employing nonlinear functions (logit) of the explanatory variables (Baltagi, 2005). The overarching model for the study is estimated using subject-specific models (random effects and fixed effects) and population-averaged models (population-averaged model and ordinary logit model).

The general empirical model, incorporating heterogeneity, is as follows:

$$Y_{it} = \beta_0 + \beta_k X_{k,it} + u_i + \varepsilon_{it} \ \dots\dots (3)$$

$$IFRS \ Adoption_{it} = Intecept + \beta_1 Governance \ Quality_{it} + \beta_2 Foreign \ Aid_{it} +$$

$$\beta_3 Trade \ Freedom_{it} + \beta_4 Import \ Penetration_{it} + \beta_5 IFAC \ membership_{it} + u_i + \varepsilon_{it}$$

Thus, the model observes

$$y_{it} = \begin{cases} 0 & y_{it}^* \leq 0 \\ 1 & y_{it}^* > 0 \end{cases}$$

When the linear probability model is applied to the linear model above, several issues arise. Therefore, the following logistic regression model is used to account for the nonlinearity of the model using the nonlinear functions (logit) of the explanatory variables:

$\Pr(y_{it} = 1 \mid x_{it}, u_i) = F(x_{it}'\beta + u_i)$ ……. (4)

Where

- $i = 1, \ldots, 19$ $(Number\ of\ Countries)$

- $t = 1996, \ldots, 2015_i$ $(Years\ for\ each\ Country)$

- $y_{it} =$ Binary variable that takes the value of (1) if IFRS were fully adopted for a given MENA country in a given year, and (0) otherwise.

- $x_{it} =$ All explanatory variables (i.e., Government Effectiveness, Regulatory Quality, Rule of Law, Foreign Aid, Trade Freedom, Import Penetration, and IFAC Membership) for country (i) over year (t).

- $u_i =$ Subject (Country)-specific heterogeneity $\sim N[0, \sigma_u^2]$ that is constant across t for each i.

- $F(.) =$ Non-linear 'link' function (logit)

- $\varepsilon_{it} =$ Error term that is logistically distributed

Given the following assumptions:

- Subject-specific models (Modelling heterogeneity):
o Random-effects logistic model: $Corr(x_{it}, u_i) = 0$
o Fixed-effects logistic model: $Corr(x_{it}, u_i) \neq 0$
- Population-averaged models (ignoring heterogeneity, i.e., no u_i):
o Population-averaged model: Using a generalised estimating equation (GEE) approach and applying exchangeable working correlations (Steele, 2009; Wooldridge, 2002).

o Ordinary logistic regression (OLR): Robust standard errors clustered around countries.

5.3. Variable measurements and data sources

5.3.1 Coercive isomorphism variables (independent variables)

Three of the six worldwide governance indicators (WGI)—Government Effectiveness, Regulatory Quality, and Rule of Law—serve as proxies for *governance quality* in MENA countries, evaluating internal coercive isomorphism. These indicators gauge the strength of governmental enforcement of the rule of law, regulatory standards, and legal measures (Kaufmann, 2016). Table A.1 of the Appendix provides definitions of the study's dependent and independent variables, along with their respective data sources. The selection of these WGI is justified by their significance in the MENA region, where governments shape governance quality and profoundly impact the adoption of accounting standards (Kaufmann et al., 2007; Levins, 2013). This study contends that legislation pertaining to the enforcement of accounting standards, be it IFRS or local GAAP, along with associated entities such as accounting standards bodies, stock market regulatory boards, auditors and accountants' associations, and central banks, which directly enforce these standards, should be scrutinized.

In terms of measuring coercive external pressures, the literature posits that international aid/lending organisations like the IMF and WB can sway nations towards IFRS adoption (Hassan et al., 2014; Irvine, 2008; Judge et al., 2010; Picker et al., 2013). While Reports on the Observance of Standards and Codes (ROSCs) were considered, their coverage of the MENA region is limited. Only 24 reports were issued during the study period of 1996-2015, with eight countries in the sample being reported only once over two decades, and six countries not at all (IMF, 2017). Consequently, ROSCs were deemed unsuitable, and foreign aid emerged as an alternative measure. Foreign aid captures the external coercive institutional

isomorphism exerted by the WB and IMF on nations. Data for foreign aid calculations are sourced from the WB's World Development Indicators (2016). Foreign aid computation involves a combination of four indicators representing aid from the IMF and WB: net financial flows from the International Bank for Reconstruction and Development (IBRD),[3] a member of the WB; net financial flows from the International Development Association (IDA)[4], also a WB member; and net financial flows from the IMF, categorized as concessional[5] and non-concessional[6] (World Bank, 2016). Analysis reveals that several MENA countries received varying levels of aid assistance, as indicated by two or three indicators, while others received none. Table A.2 presents data indicating that seven countries in the sample receiving foreign aid did not adopt IFRS, while six IFRS adopters did not receive such aid. Four countries adopted IFRS and received foreign aid, reinforcing the correlation between foreign aid and IFRS adoption, as shown in Table 3 (correlation: -0.267). This correlation, calculated using foreign aid as a binary classification, assesses its association with IFRS conversion in the MENA region, probing for any connection between aid packages and IFRS adoption.[7] For clarity, Table A.3 outlines a country sample per

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[3] Net financial flows, IBRD: These represent the net amount received by the borrower during the year, calculated as disbursements of loans and credits minus repayments of principal. The IBRD is the founding and largest member of the World Bank Group. Data is presented in current US dollars (World Bank, 2016).

[4] Net financial flows, IDA: Similarly, these net financial flows received by the borrower during the year comprise disbursements of loans and credits minus repayments of principal. The IDA serves as the concessional loan window of the World Bank Group. Data is expressed in current US dollars (World Bank, 2016).

[5] Net financial flows, IMF concessional: This category represents the net financial flows received by the borrower during the year, calculated as disbursements of loans and credits minus repayments of principal. The IMF offers concessional lending through its Extended Credit Facility, Standby Credit Facility, and Rapid Credit Facility. Data is provided in current US dollars (World Bank, 2016).

[6] Net financial flows, IMF non-concessional: These net financial flows received by the borrower during the year consist of disbursements of loans and credits minus repayments of principal. The IMF offers non-concessional lending through credit provided to its members, primarily to address balance of payments needs. Data is presented in current US dollars (World Bank, 2016).

[7] Our findings diverge from the initial argument, indicating a lack of impact of foreign aid on the adoption of IFRS. To delve deeper, we examined the correlation between the number of foreign aid sources and IFRS adoption in the MENA region. However, the correlation yielded anomalous results, with a coefficient of -0.245. This outcome was anticipated, given the high correlation of 0.90 between binary and ordinal representations of foreign aid, suggesting they measure the same variable similarly. Foreign aid was categorized ordinally based on the number of sources. Notably, our observations revealed that 51% of the sample had no foreign aid, 12% had one source, 25% had two sources, and 12% had three or four sources simultaneously. Yet, despite this approach,

foreign aid/IFRS adoption group as presented in Table A.2, providing a contextual understanding of the analysis. Each category in Table A.3 offers an example for illustration purposes; the complete dataset is available upon request. The formal foreign aid variable is a dummy variable amalgamating the four indicators for every country-year, where a dummy value of (0) denotes no foreign aid across any indicator and (1) indicates foreign aid recorded in any of the four indicators. In this study, *foreign aid* serves as a proxy for external coercive institutional pressure on a country.

5.3.2 Mimetic isomorphism variables (independent variables)

A country's openness to globalisation facilitates the movement of capital and investment opportunities across borders (Ball, 2006; Walton et al., 2003), leading to increased international trade. Local firms in host countries, when collaborating with multinational corporations (MNCs), often mimic the internationally recognised business practices of these MNCs to penetrate and succeed in international markets. Consequently, a country's openness to international trade indicates the extent to which local firms are likely to adopt the practices of their trading partners. Thus, the proxy variables for internal mimetic isomorphism, used to gauge local firms' exposure to MNCs, include *trade freedom,* while external pressure from

converting foreign aid from binary to ordinal did not align with our previous arguments. Responding to feedback, we further explored the correlation by measuring the level, rather than the mere presence, of aid. This analysis also revealed minimal correlation, with a coefficient of 0.04, reaffirming the weak influence of foreign aid on IFRS adoption. Our study's results suggest that the economic diversity within the MENA region may dampen the potential impact of foreign aid on IFRS adoption. Unlike previous studies focused on individual countries, our research spans the MENA region over more than one continent and various regimes. This divergence underscores the ongoing debate regarding regional economic disparities. Furthermore, our findings contribute to the broader discourse on regional dynamics. For instance, Shubita's (2015) study demonstrated differing market reactions to earnings quality across the Gulf Corporation Council, challenging the assumption of homogeneity within the MENA region. In our study's five models, foreign aid consistently yielded insignificant coefficients, reinforcing our initial findings. These results underscore the need for further investigation into regional dynamics and their implications.

involvement beyond the country's borders (e.g., with trading partners) is measured through *import penetration.*

5.3.3 Normative isomorphism variable (independent variable)

The proxy variable for external normative institutional isomorphism is IFAC membership. This choice stems from DiMaggio and Powell's (1983) correlation of normative isomorphism with mandatory compliance requirements set by professional organisations. IFAC membership necessitates local firms to transition from traditional accounting practices, initially rooted in national culture, norms, and values, to new globally accepted accounting standards (Martínez-Ferrero & García-Sánchez, 2017). Thus, IFAC membership serves as an indicator of the extent to which a country's accounting profession aligns with international standards. This proxy variable finds support in the literature (see Boolaky et al., 2020; Riahi & Khoufi, 2019).

5.3.4 IFRS adoption status (dependent variable)

This study gathers information on the IFRS status of MENA countries from three primary sources: the IFRS Foundation (2017), Deloitte (2017), and PwC (2015). Table A.4 provides details on the coding of IFRS adoption utilized in this study. To address limitations observed in prior studies, which relied on only one or two sources to differentiate between IFRS adoption and non-IFRS adoption, an additional verification was conducted to ensure the consistency of these sources with the relevant laws and regulations of each country (see Table A.5).

6.   Results and discussion

6.1.   Descriptive statistics and bivariate analysis

Tables 1, 2, and 3 provide descriptive statistics and correlations of the variables under study. As anticipated, Table 3 confirms a statistically significant positive association between IFRS adoption and internal coercive isomorphic pressure (*governance quality*). Furthermore, both proxy variables for mimetic isomorphic pressures (*trade freedom* and *import penetration*) show positive and significant relationships with IFRS adoption, with the highest correlation coefficient of 0.483 observed for *trade freedom*. Conversely, IFRS adoption exhibits a negative correlation with external coercive pressure (*foreign aid*). However, there is no correlation between IFRS adoption and normative isomorphic pressure (*IFAC Membership*).

Insert Table 1 here.

Insert Table 2 here.

Insert Table 3 here.

6.2.   Empirical results

In Table 4, Model (1) presents the results of the random effects regression, assuming no correlation between individual countries' specific characteristics and explanatory variables. In this model, the odds ratio of internal coercive institutional isomorphism, as measured by the *governance quality* variable[8] (ranging from -250 weak to 250 strong), shows a statistically significant result. Specifically, an improvement of one score in the ranking of governance quality in a country corresponds to a 7.69% increase in the odds of adopting IFRS.

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[8] The original scale, ranging from -2.5 (weak) to 2.5 (strong), was adjusted to a scale of -250 (weak) to 250 (strong) by a factor of 100, reflecting the use of odds ratios (Acock, 2016). This transformation ensures that parameter estimates and odds ratios accurately depict the effect of a one-unit change in the predictor variable. Thus, both parameter estimates and odds ratios were multiplied accordingly to maintain meaningful interpretations of the predictor's impact. The Governance Quality variable consists of three Worldwide Governance Indicators (Government Effectiveness, Regulatory Quality and Rule of Law) ranging from approximately -250 (weak) to 250 (strong) governance performance; it is measured based on the average of the three indicators.

Similarly, for internal mimetic institutional isomorphism, measured by the *trade freedom* variable, the result is statistically significant. Each increase in the ratio score indicating a country's openness to trade with the outside world corresponds to a 17.23% increase in the odds of IFRS adoption.

Model (2) employs a fixed-effects logistic regression approach, eliminating unchanged variables over time and subject-specific fixed characteristics, retaining only changing observations. These results align with those of the random-effects regression, albeit with slightly lower magnitudes in the odds reported. Concerning the *governance quality* variable, an improvement of one score in the ranking of governance quality corresponds to a 7.30% increase in the odds of adopting IFRS. Similarly, for the *trade freedom* variable, each increase in the ratio score indicating a country's openness to trade with the outside world corresponds to a 16.77% increase in the odds of IFRS adoption.

Note that in Model (2), the IFAC membership variable is excluded due to its unchanged status for a given country over the years, resulting in no effect in the fixed-effects model.

Insert Table 4 here.

After establishing the panel effect of the data and detecting heterogeneity using Breusch and Pagan's Lagrange Multiplier test, subject-specific models were employed and reported in both random- and fixed-effects models. The Hausman test insignificantly favours the random-effects estimator over the fixed-effects estimator, indicating its appropriateness and preference. Nonetheless, the fixed-effects model was included in the analysis for two main reasons. First, the overall significance of the fixed-effects model justifies its reporting. Second, it ensures comparability as per the Hausman test.

The odds ratios derived from the population-averaged logistic models presented in Table 4 corroborate the findings of the subject-specific models. However, there are differences in magnitude between the estimates. Notably, the subject-specific estimations exhibit larger

magnitudes than those in the population-averaged models for statistically significant variables. This discrepancy is expected, as population-averaged effects typically tend to be smaller than subject-specific effects (Rodriguez, 2013), particularly with a high variation of intra-class correlation, as reported in Model (1) (ρ=0.9430). Rabe-Hesketh and Skrondal (2012) asserted that estimated odds ratios are more extreme for random effects logistic regression compared to the OLR model. They further explained that this discrepancy arises because OLR fits overall population-averaged or marginal probabilities, whereas random-effects logistic regression fits subject-specific or conditional probabilities for individual units (countries in this study).

The GEE population-averaged model reveals an even smaller magnitude than OLR. On average, for the MENA countries in the study, the odds of adopting IFRS increased by 1.81% for each score improvement in internal coercive institutional isomorphism (Model 3), and the odds of adopting IFRS increased by 2.51% for each score increase in trade freedom imposed by the country (Model 3). In contrast, OLR results indicate that the odds of IFRS adoption increased by 2.62% for each score improvement in the governance quality variable (Model 4). Regarding the trade freedom variable, the magnitude is even larger than that of the same variable in the GEE model; specifically, the odds of adopting IFRS increase by 6.68% for each score increase in the trade freedom that the country implements (Model 4). One exception is that the OLR estimations suggest that the odds of adopting IFRS increase by 4.51% at the 0.05 significance level for each ratio increase in the goods and services imported by the country (Model 4). These empirical results indicate that the motivations behind IFRS adoption are internal, not external. This study employs different sets of models with appropriate statistical and econometric techniques to test the hypotheses, considering the panel nature of the collected data. H1a and H2a are accepted.

Additionally, this study examines the levels of IFRS adoption in the MENA region instead of focusing solely on two strict outcomes. Table A.6 presents the descriptive statistics of the studied variables using IFRS adoption levels. By investigating IFRS adoption levels, this study examines the main analysis of binary IFRS adoption, along with the effect (if any) of partial IFRS adoption, given the independent variables over the years. IFRS adoption levels are utilized to further test the regression estimation results obtained by testing IFRS adoption as a binary dependent variable. We employ a multilevel mixed-effects ordered logistic regression to fit the mixed-effects logistic model for the dependent ordered variable (IFRS adoption levels). Table 5 illustrates the regression results for IFRS adoption levels on institutional isomorphic variables using mixed-effects ordered logistic regression (Model 5). These results also support and emphasise previous findings, as both internal coercive isomorphic and mimetic institutional pressures are positive and statistically significant.

Insert Table 5 here.

A robustness check was performed to identify countries that adopted international accounting standards before 2001, predating the establishment of the International Accounting Standards Board. The aim was to ensure that the research findings were not influenced by early-adopting countries. Four countries in the MENA region—Jordan, Kuwait, Oman, and Lebanon—adopted IFRS before this date. As a result, 80 country-year observations were excluded, leaving a remaining sample of 300 country-year observations. The regression results of the revised sample support those of the original sample.

6.3.   *Discussion of findings*

The primary discovery of this research lies in identifying internal coercive institutional pressures, measured through governance quality, encompassing government effectiveness, regulatory quality, and the rule of law, as the main driving force behind IFRS adoption in

MENA countries. This finding aligns with numerous prior studies in the existing literature. For example, Tsalavoutas et al. (2020), in an extensive review of 70 papers, indicated positive outcomes associated with IFRS implementation in countries with strong government enforcement and legislative frameworks. Similar conclusions are echoed in studies by Ben-Hassoun et al. (2018), Tahat et al. (2018), and Sarhana et al. (2019).

This underscores the crucial role of governance quality as an internal coercive pressure within MENA countries, elucidating how governance mechanisms shape these nations' inclination towards IFRS adoption. Specifically, competent and resilient government institutions are likely to compel regional organisations to adhere to IFRS guidelines (Sarhana et al., 2019). The quality of regulations, including those related to accounting standards, influences organisations' motivations for IFRS adoption, as clear and coherent regulations reduce uncertainty and promote compliance (Judge et al., 2008; Sarhana et al., 2019). A robust rule of law ensures that organisations face consequences for non-compliance with IFRS, as legal pressures drive them to embrace these standards to avoid penalties and legal complications (De George et al., 2016).

Despite the diverse levels of economic development and accounting practices among MENA countries, homogeneity exists in their approach to IFRS adoption, influenced by the control exerted through local governments' legislative and governance frameworks (Albu et al., 2014).

Second, this study provides evidence that external coercive pressures, in the form of foreign aid from the WB and IMF, negatively impact IFRS adoption within the MENA region. This finding diverges from several studies (Boolaky et al., 2020; Hassan et al., 2014; Judge et al., 2010; Mir & Rahaman, 2002; Picker et al., 2013; Tahat et al., 2018), which emphasize the influence of major international aid entities, such as the IMF and WB, in

pressuring countries with limited economic resources towards IFRS implementation, particularly in African nations (Boolaky et al., 2020).

This finding proves intriguing yet unanticipated, not only due to its contrast with the aforementioned research outcomes but also because foreign financial aid from global organisations often spurs capital market reform and the adoption of international accounting standards and auditing practices closely linked to a country's foreign trade and import dynamics (Irvine, 2008). Hassan et al. (2014) highlighted how coercive influences from Western trade partners and international aid institutions prompted Iraq to adopt IFRS for its listed companies. The WB's review of the financial sector and its subsequent recommendations included proposals for implementing enhanced financial reporting and auditing systems alongside improved corporate governance to emphasise the development of the banking sector and capital markets (Hassan et al., 2014).

Potential explanations for these unexpected findings are as follows: (1) Some wealthier MENA nations (e.g., Kuwait, Saudi Arabia, and the UAE) do not actively seek financial aid from influential lending institutions, thereby diminishing the impactful pressures of the IMF and WB on IFRS adoption within these states. (2) Certain MENA countries carry legacies of colonisation or persistent external influences, fostering a preference for independent decision-making. (3) The adverse correlation between foreign aid (WB and IMF) and IFRS adoption in the MENA region may signify deep-rooted concerns encompassing sovereignty, cultural values, institutional capabilities, and the perceived trade-offs between costs and benefits. However, additional empirical evidence is required to validate these conjectures.

Third, internal mimetic institutional pressures, as measured by the Trade Freedom Index (reflecting exposure to MNCs through internal openness to the world), positively impact IFRS adoption. This finding aligns with previous studies by Irvine (2008), Judge et al. (2010), and Martínez-Ferrero et al. (2017), which all confirm that using the same accounting

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language (IFRS) can simplify cross-border trade and investment and reduce barriers to commerce.

Furthermore, This study introduces novelty by distinguishing between internal and external mimetic institutional pressures. The results suggest an intriguing insight: similar to the impact of coercive pressure, MENA countries' decisions to adopt IFRS are internally driven. In other words, internal transparency, represented by increased free trade, plays a more substantial role than the influence of trading partners (import penetration) on IFRS adoption. This indicates that MENA countries may be motivated by a desire to enhance their global economic standing through free trade. Consequently, IFRS adoption can be interpreted as a strategic move to signal transparency, attract investment, and foster economic growth.

Finally, IFAC membership is utilised to measure normative pressures, but the findings do not indicate a significant role for IFAC membership in IFRS adoption in the MENA region. This outcome differs from the conclusions of other studies. For instance, Boolaky et al. (2020) observed a strong correlation between international audit firms, the duration of IFAC membership, and a country's decision to adopt IFRS across all 54 African countries. This finding suggests that countries with well-structured professional bodies and active local accounting professions tend to implement IFRS. Hassan et al. (2014) affirmed that the normative pressure stemming from IFAC membership in Iraq proved beneficial for accounting training and education, consequently facilitating IFRS adoption.

Our results can be supported by the following rationales: (1) The MENA region comprises countries with diverse levels of institutional development. Some countries already have well-established accounting standards and regulatory bodies that set and monitor these standards. In such cases, the influence of external bodies, such as IFAC, may be less pronounced. (2) Institutions in MENA countries are often subject to significant cultural and political influences. Local factors can sometimes overshadow the influence of global or external

pressures. Decision-makers might prioritise local needs and preferences over conforming to international standards. Moreover, even if a country is a member of IFAC, mere membership does not guarantee strict adherence to its recommendations; enforcement mechanisms for ensuring compliance with international standards might be lacking or ineffective in some MENA countries. For instance, four countries (Egypt, Iraq, Kuwait, and Tunisia) have been active IFAC members since the 1980s; however, two are non-IFRS-adopters (IFRS Foundation, 2017). (3) Some MENA countries might focus more on regional harmonisation of accounting standards within organisations, such as the Gulf Cooperation Council or the Arab Federation of Accountants and Auditors. This regional focus could mean that external pressures from global bodies, such as IFAC, are not primary drivers of adoption. Nevertheless, further comparative studies are required to confirm or reject these conjectures.

Insert Table 6 here.

7. Conclusion, contributions, and implications

This study examined the dynamics of IFRS adoption within the MENA region utilizing a neo-institutional approach. Leveraging robust datasets and rigorous analyses, it explored the complexities of IFRS adoption within the region's intricate socioeconomic, political, and institutional landscapes. By scrutinising the factors driving IFRS adoption and shedding light on adoption patterns, this research evolves perspectives towards global accounting standards. Moreover, it offers valuable insights into the nuances and challenges surrounding IFRS adoption in the MENA region.

This study contributes to neo-institutional theory in three significant ways: First, it illuminates the responses to coercive pressures within the MENA region. While IFRS is globally recognised, its adoption in MENA countries is heavily influenced by local institutional factors, particularly governance quality. This encompasses government effectiveness, regulatory quality, and the rule of law. Essentially, IFRS undergoes a

'translation' process to align with locally accepted social constructs in the MENA context. Internal coercive pressures, stemming from economic, resource, cultural, religious, and educational factors, often outweigh external pressures such as financial aid. This highlights tensions between external pressures for conformity and local desires for autonomy and legitimacy.

Second, concerning mimetic institutional pressures, this study reveals institutional isomorphism through mimicry in the MENA region. This involves the integration of MENA economies into international business and capital markets. A positive relationship exists between factors such as trade freedom and local firms' exposure to MNCs following IFRS adoption. This suggests that MENA organisations, especially those trading with MNCs, adopt IFRS to emulate multinational firms, seeking legitimacy in global markets.

By mimicking the accounting practices of MNCs and their trade partners, MENA countries enhance local firms' legitimacy among international stakeholders. This aligns with neo-institutional theory, emphasising organisations' pursuit of legitimacy through conformity with prevailing norms. Such behaviour reflects a region's aspirations for economic development and global market integration. This insight provides valuable understanding of how regional organisations respond to globalisation and market integration pressures, aiming to position themselves competitively internationally.

Third, this study highlights the lack of significant correlation between IFAC membership and IFRS adoption. This suggests relatively low external normative institutional pressure from IFAC or the MENA accounting profession relative to the international accounting community. MENA countries may prioritise adherence to local norms over global accounting standards owing to reasons outlined in Section 6.3. Additionally, resource constraints pose challenges in aligning with international standards, including costs related to professional

training, infrastructure updates, and reporting system implementation. This underscores the nuanced approach MENA countries take in navigating external pressures from the international accounting framework, reflecting the complexity of factors influencing their decisions and the interplay between global standards and local institutional environments.

This study offers significant insights for policy and management across the MENA region. Policymakers and organisations can leverage these findings to comprehend the strategic advantages of embracing IFRS in a globalised economy. For instance, MENA governments could prioritise reinforcing governance mechanisms to facilitate IFRS adoption. Efforts should focus on enhancing government effectiveness, refining regulatory frameworks, and upholding the rule of law to ensure a seamless transition to international standards.

Furthermore, policymakers should strike a balance between accessing foreign aid and maintaining control over accounting standards, avoiding a one-size-fits-all approach to IFRS adoption. Active engagement in globalisation and international market integration is essential to address mimetic pressures by collaborating with foreign partners. This strategic approach aims to gain a competitive edge by attracting foreign investments and accessing international markets. Regional professional accounting bodies should carefully evaluate the balance between asserting regulatory autonomy in accounting standards and advancing international accounting regulations, including IFAC membership.

While conducting a unified study across MENA countries offers numerous advantages, it also presents limitations in understanding individual country variations. Future comparative analyses could explore diverse responses to coercive, mimetic, and normative pressures across MENA countries. These analyses could also assess how domestic institutions mediate the relationship between study variables and IFRS adoption, identifying the intricate interplay between institutional forces and unique factors influencing adoption or resistance to IFRS.

Additionally, comparing MENA countries with other regions can highlight similarities and differences in the paths of IFRS adoption. Investigating how MENA countries uphold their institutional resilience amidst global pressures may offer valuable insights for other regions facing similar challenges.

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Table 1. Panel descriptive statistics of the dependent and independent variables

Variables	Panel	Mean	Std. Dev	Min	Max	Observations	
IFRS Adoption	Overall	0.39	0.49	0	1	N =	380
	Between		0.42	0	1	n =	19
	Within		0.27	-0.56	1.09	T =	20
Governance Quality	Overall	-31.12	70.72	-187.43	112.60	N =	323
	Between		70.15	-152.22	74.20	n =	19
	Within		18.04	-92.44	23.48	T =	17
Foreign Aid	Overall	0.51	0.50	0	1	N =	380
	Between		0.47	0	0.95	n =	19
	Within		0.21	-0.44	1.16	T =	20
Trade Freedom	Overall	63.72	17.30	15	90	N =	328
	Between		13.52	40	78.79	n =	18
	Within		12.33	22.73	97.41	T-bar = 18.22	
Import Penetration	Overall	42.61	18.63	0.02	108.05	N =	350
	Between		15.44	17.41	73.91	n =	19
	Within		10.57	1.66	112.25	T = 18.42	
IFAC membership	Overall	0.37	0.48	0	1	N =	380
	Between		0.46	0	1	n =	19
	Within		0.17	-0.23	1.22	T =	20

Notes: Variables definitions (Table A.1).
Std. Dev denotes Standard Deviation.
N: Number of country-year observations.
n: Number of countries.
T: Number of years.

Table 2. Country sample descriptive statistics of the dependent and independent variables

COUNTRY-YEAR	Variable	IFRS adoption	IFRS Levels*	Governance quality	Foreign aid	Trade freedom	Import penetration	IFAC membership
ALGERIA	Mean	0.00	1.00	-74.743	0.95	60.295	26.127	0.00
	Std. Deviation	0.000	0.000	14.793	0.224	8.554	4.156	0.000
BAHRAIN	Mean	0.75	2.50	56.520	0.00	77.385	57.575	0.00
	Std. Deviation	0.444	0.889	6.569	0.000	4.554	8.538	0.000
EGYPT	Mean	0.00	1.00	-34.290	0.95	58.960	26.760	1.00
	Std. Deviation	0.000	0.000	21.025	0.224	12.750	4.751	0.000
IRAQ	Mean	0.60	2.55	-152.223	0.00	40.000	40.963	1.00
	Std. Deviation	0.503	0.605	22.541	0.000	0.000	18.617	0.000
JORDAN	Mean	0.95	2.95	23.277	0.95	67.300	73.910	1.00
	Std. Deviation	0.224	0.224	6.689	0.224	10.869	9.937	0.000
KUWAIT	Mean	1.00	3.00	22.580	0.00	78.470	32.372	1.00
	Std. Deviation	0.000	0.000	15.262	0.000	2.028	6.680	0.000
LEBANON	Mean	1.00	3.00	-33.255	0.95	66.420	55.182	0.30
	Std. Deviation	0.000	0.000	10.354	0.224	16.126	13.385	0.470
LIBYA	Mean	0.00	1.50	-126.104	0.00	56.305	38.408	0.00
	Std. Deviation	0.000	0.513	27.133	0.000	21.116	25.555	0.000
MAURITANIA	Mean	0.00	1.00	-60.710	0.95	55.985	56.232	0.00
	Std. Deviation	0.000	0.000	28.037	0.224	19.592	13.687	0.000
MOROCCO	Mean	0.00	1.40	-11.341	0.95	56.475	37.544	0.60
	Std. Deviation	0.000	0.503	8.566	0.224	15.421	8.463	0.503
OMAN	Mean	1.00	3.00	46.238	0.35	77.835	37.469	0.00
	Std. Deviation	0.000	0.000	8.958	0.489	6.155	7.495	0.000
PALESTINE	Mean	0.60	2.20	-60.480	0.00		66.678	0.15
	Std. Deviation	0.503	1.005	29.814	0.000		7.903	0.366
QATAR	Mean	0.30	2.00	59.495	0.00	77.812	30.380	0.00
	Std. Deviation	0.470	0.795	26.136	0.000	3.795	5.079	0.000
SAUDI ARABIA	Mean	0.00	2.00	2.478	0.00	69.205	29.053	1.00
	Std. Deviation	0.000	0.000	10.198	0.000	9.170	4.932	0.000
SUDAN	Mean	0.00	1.00	-134.340	0.95	42.314	17.407	0.00
	Std. Deviation	0.000	0.000	6.623	0.224	9.076	4.471	0.000
SYRIA	Mean	0.50	2.00	-97.299	0.75	40.089	34.142	0.00
	Std. Deviation	0.513	1.026	29.379	0.444	21.288	4.792	0.000
TUNISIA	Mean	0.00	1.00	6.503	0.95	46.680	48.750	1.00
	Std. Deviation	0.000	0.000	16.360	0.224	14.273	6.618	0.000
UNITED ARAB EMIRATES	Mean	0.65	2.50	74.198	0.00	78.785	62.071	0.00
	Std. Deviation	0.489	0.761	15.917	0.000	2.887	13.609	0.000
YEMEN	Mean	0.00	1.30	-97.785	0.95	66.645	39.429	0.00
	Std. Deviation	0.000	0.470	13.126	0.224	12.473	4.953	0.000

Notes: See Table A.1 for full variable definitions.

Table 3. Correlation matrix for all the variables[a]

Variables	IFRS adoption	Governance quality	Foreign aid	Trade freedom	Import penetration	IFAC membership
IFRS adoption						
Governance quality	0.375[Sp**]					
Foreign aid	-0.267[Ph**]	-0.256[Sp**]				
Trade freedom	0.483[Sp**]	0.404[Ps**]	-0.466[Sp**]			
Import penetration	0.351[Sp**]	0.181[Ps**]	-0.049[Sp]	0.277[Ps**]		
IFAC membership	0.061[Ph]	0.089[Sp]	0.015[Ph]	-0.061[Sp]	0.038[Sp]	

Notes: See Table A.1 for full variable definitions.

[a] Three types of correlations were used to accurately measure the strength of relationships between variables of different scales—continuous, ordinal, or binary. Due to these varying scales, some common correlation methods, such as Pearson correlation, may violate normality assumptions (Acock, 2016). Pearson correlation is appropriate for continuous variables, while Spearman's correlation is used when normality is violated or for ordinal data (Hauke & Kossowski, 2011). Phi correlation measures the association between two categorical variables (Field, 2009). This study adopts a strategy similar to Guerreiro et al. (2012). Specifically, Pearson correlations (Ps) are used for continuous variables, Spearman's rho (Sp) for continuous and ordinal data, and Phi correlations (Ph) for binary variables.

** Correlation is significant at 0.01 level.

* Correlation is significant at 0.05 level.

Table 4. Regression results (Odds Ratios) for IFRS adoption on institutional isomorphic variables

Dependent variable (IFRS adoption)	Model (1)	Model (2)	Model (3)	Model (4)
	Subject-Specific Models		Population Averaged Models	
Independent variables	**Random effects logistic regression**	**Conditional fixed-effects logistic regression**	**GEE Population Averaged Logistic Model [a]**	**Ordinary Logistic Regression [b]**
Governance quality	1.0769***	1.0730**	1.0181***	1.0262***
	(2.68)	(1.99)	(3.35)	(3.15)
Foreign aid	14.0975	25.6104	1.2725	1.4874
	(1.17)	(1.12)	(0.62)	(0.45)
Trade freedom	1.1723***	1.1677***	1.0251***	1.0668***
	(2.65)	(2.62)	(2.82)	(2.95)
Import penetration	0.9931	0.9828	0.9955	1.0451**
	(-0.14)	(-0.34)	(-0.47)	(2.30)
IFAC membership	0.1396	1.0000	0.8547	0.7153
	(-0.61)	(.)	(-0.38)	(-0.33)
Intercept	0.0000**		0.0900***	0.0011***
	(-2.44)		(-2.68)	(-3.40)
ln (σ_u^2)	3.9976			
σ_u	7.3802			
ρ	0.9430			
Likelihood Ratio χ^2		17.77***		
$Wald\ \chi^2$	12.07**		15.59***	28.99***
Log likelihood	-40.7283	-14.9425		
LR$^{\pm}$ test of ρ	108.58***			
Pseudo R^2				0.4324
Log pseudolikelihood				-95.0169
Number of Obs.	250	70	250	250
Number of Countries	18	5	18	
Integration points	150			

Notes: See Table A.1 for full variable definitions.

[a] The generalized estimating equation (GEE) approach is used in applying exchangeable working correlation.

[b] Robust standard errors clustered around countries.

± LR: Likelihood ratio

* p<0.10, ** p<0.05, *** p<0.01.

Table 5. Regression results for IFRS adoption levels on institutional isomorphic variables using mixed effects ordered logistic regression for the MENA countries

Dependent Variable (IFRS Adoption Levels)	Model (5)
Independent Variables	**Mixed Effects Ordered Logistic Regression**
Governance Quality	0.0410***
	(2.68)
Foreign Aid	-0.0529
	(-0.03)
Trade Freedom	0.0774***
	(3.35)
Import Penetration	0.0338
	(1.50)
IFAC membership	3.148
	(1.51)
IFRS rejected (cut1)	5.840*
	(1.84)
IFRS partially adopted (cut2)	9.783***
	(2.90)
Country σ^2	41.667
$Wald\ \chi^2$	24.68***
Log likelihood	-95.701
LR$^\pm$ test vs. Ologit$^\circ$ model	146.3
Number of Obs.	250
Number of Countries	18
Integration points	12

Notes: See Table A.1 for full variable definitions.
± LR: Likelihood Ratio.
° Ologit: Ordered Logistic Regression.
* p<0.10, ** p<0.05, *** p<0.01.

Table 6. Regression robustness findings (revised sample)

Dependent Variable (IFRS Adoption, Model 1,2,4) (IFRS Adoption Levels, Model 5)	Model (1)	Model (2)	Model (4)	Model (5)
Independent Variables	Subject specific Models			
	Random effects logistic regression	Conditional Fixed effects logistic regression	Ordinary Logistic Regression [a]	Mixed Effects Ordered Logistic Regression
Governance Quality	0.0573**	0.0645*	0.0270**	0.0204*
	(2.11)	(1.82)	(2.03)	(1.95)
Foreign Aid	4.059	23.15	-0.143	-3.3115*
	(1.05)	(0.00)	(-0.08)	(-1.75)
Trade Freedom	0.162**	0.159**	0.0322	0.0594**
	(2.14)	(2.24)	(0.79)	(2.38)
Import Penetration	0.0058	-0.0012	0.0442**	0.0360*
	(0.11)	(-0.02)	(2.01)	(1.68)
IFAC membership	0	0	0	1.5162
	(.)	(.)	(.)	(1.05)
IFRS rejected (cut1)				3.9831*
				(1.67)
IFRS partially adopted (cut2)				7.6771***
				(2.94)
Intercept	-15.73**		-5.424	
	(-2.20)		(-1.12)	
ln (σ_u^2)	2.9129			
σ_u	4.2907			
ρ	0.8484			
Country σ^2				5.7904
$Wald\ \chi^2$	8.43*	16.19†***	13.5***	29.45***
Log likelihood	-27.9720	-12.8971‡	-31.8639	-84.2138
LR± test of ρ	7.78***			10.99°***
Number of Obs.	119	53	119	184

Number of Countries	10	4	10 clusters	14
Integration points	80			12
Pseudo R^2			0.5465	

Notes: See Table A.1 for full variables definitions.

[a] Robust standard errors clustered around countries.

○Likelihood ratio test vs. ordered logistic regression model.

† Likelihood ratio χ^2

‡ Log pseudolikelihood

± LR: Likelihood ratio

* p<0.10, ** p<0.05, *** p<0.01.

Appendix

Table A.1. Variables definitions and data sources

Variable		Description	Source
Dependent variable			
IFRS adoption (Binary)		Binary variable that takes the value of (1) if IFRS were fully adopted for a given MENA country in a given year, corresponding to level 3 in IFRS adoption levels variable. It takes the value of (0) otherwise, indicating either level 1 or 2 in IFRS adoption levels.	The researchers, based on many sources (Deloitte, 2017; IFRS Foundation, 2017; PwC, 2015).
IFRS adoption levels (Ordinal)		Ordinal variable that takes the value of (3) if IFRS were fully adopted, indicating that IFRS is required for all entities, including banks, financial institution and listed companies. It takes the value of (2) if IFRS was partially adopted, signifying that IFRS is required for some companies, such as listed companies or banks and financial institutions, but not for all domestic companies. Finally, it takes the value of (1) if IFRS were not adopted for a given MENA country in a given year, indicating that IFRS is not permitted for any domestic, banks, financial institutional, or listed companies.	The researchers, based on many sources (Deloitte, 2017; IFRS Foundation, 2017; PwC, 2015).
Independent variables			
1. **Coercive isomorphism variables**			
Internal (Governance Quality)	**Government Effectiveness**	It ranges from approximately -250 (weak) to 250 (strong) governance performance.	Worldwide Governance Indicators (Kaufmann, 2016).
	Regulatory Quality	It ranges from approximately -250 (weak) to 250 (strong) governance performance.	Worldwide Governance Indicators (Kaufmann, 2016).
	Rule of Law	It ranges from approximately -250 (weak) to 250 (strong) governance performance.	Worldwide Governance Indicators (Kaufmann, 2016).
External	**Foreign Aid**	The four indicators represent foreign aid provided to nations by the World Bank and International Monetary Fund (IBRD, IDA, IMF concessional and IMF non-concessional) and are combined for every country year to form the foreign aid variable. It is a binary variable that takes the value of (1) if foreign aid was given for a given MENA country in a given year and (0) otherwise.	World Development Indicators (World Bank, 2016).
2. Mimetic isomorphism variables:			
Internal	**Trade Freedom**	Trade Freedom score is computed as the trade-weighted average tariff rate and Non-tariff barriers.	(The Heritage Foundation, 2017).
External	**Import Penetration**	Imports of goods and services as percentage of GDP.	World Development Indicators (World Bank, 2016).
3. Normative isomorphism variable			

External	IFAC membership	Binary variable that takes the value of (1) if a given MENA country is represented by an accounting professional body in the International Federation of Accountants (IFAC) and (0) otherwise.	International Federation of Accountants (IFAC, 2017).

Table A.2. Foreign Aid and IFRS adoption in the MENA region [a] (1996-2015)

Foreign Aid & Non-IFRS adopter		IFRS Adopter - No Foreign Aid		IFRS adoption & Foreign Aid		
Country	Year / Foreign Aid*	Country	Adoption Years	Country	Year (IFRS Adoption)	Year (Foreign Aid*)
Algeria	(1996 - 2014, 19 years)	Bahrain	(2001 - 2015, 15 years)	Jordan	(1997 - 2015, 19 years)	(1996 - 2014, 19 years)
Egypt	(1996 - 2014, 19 years)	Iraq	(2004 - 2015, 12 years)	Lebanon	(1996 - 2015, 20 years)	(1996 - 2014, 19 years)
Mauritania	(1996 - 2014, 19 years)	Kuwait	(1996 - 2015, 20 years)	Oman	(1996 - 2015, 20 years)	(1996 - 2002, 7 years)
Morocco	(1996 - 2014, 19 years)	Palestine	(2004 - 2015, 12 years)	Syria	(2006 - 2015, 10 years)	(1997-2011, 15 years)
Sudan	(1996 - 2014, 19 years)	Qatar	(2010 - 2015, 6 years)			
Tunisia	(1996 - 2014, 19 years)	United Arab Emirates	(2003 - 2015, 13 years)			
Yemen	(1996 - 2014, 19 years)					

Notes: See Table A.1 for full variables definitions.

[a] Libya and Saudi Arabia have not received foreign aid and did not adopt IFRS over the sample period (1996-2015).

* Foreign Aid: IBRD, IDA, IMF concessional and IMF non-concessional are four indicators represent foreign aid provided to nations by the World Bank and IMF. The definition of each indicator is stated in the footnotes 3 – 6 in section 5.3.1. Data Source: World Development Indicators (World Bank, 2016).

Table A.3. Country sample per group of foreign aid and IFRS adoption in the MENA region (1996-2015)

Group	Country Sample	Year	1. IBRD (WB)*	2. IDA (WB)*	3. IMF concessional*	4. IMF non-concessional*	Count of Foreign Aid given per year	Foreign Aid Variable**	IFRS adoption
Non-IFRS adopter & Foreign Aid	Sudan	1996				(35,595,000.000)	1	**1**	**0**
	Sudan	1997			(7,109,000.000)	(35,046,000.000)	2	**1**	**0**
	Sudan	1998				(57,188,000.000)	1	**1**	**0**
	Sudan	1999	(3,289,000.000)			(37,756,000.000)	2	**1**	**0**
	Sudan	2000	(2,112,000.000)	(2,248,000.000)		(54,195,000.000)	3	**1**	**0**
	Sudan	2001	(469,000.000)	(948,000.000)		(52,305,000.000)	3	**1**	**0**
	Sudan	2002		(259,000.000)		(22,001,000.000)	2	**1**	**0**
	Sudan	2003		(2,796,000.000)		(26,207,000.000)	2	**1**	**0**
	Sudan	2004		(1,840,000.000)		(31,285,000.000)	2	**1**	**0**
	Sudan	2005		(1,331,000.000)		(28,279,000.000)	2	**1**	**0**
	Sudan	2006		(2,033,000.000)		(26,972,000.000)	2	**1**	**0**
	Sudan	2007				(59,990,000.000)	1	**1**	**0**
	Sudan	2008		(1,232,000.000)		(65,510,000.000)	2	**1**	**0**
	Sudan	2009		(38,000.000)		(10,622,000.000)	2	**1**	**0**
	Sudan	2010				(5,808,000.000)	1	**1**	**0**
	Sudan	2011				(10,574,000.000)	1	**1**	**0**
	Sudan	2012				(7,367,000.000)	1	**1**	**0**
	Sudan	2013				(7,296,000.000)	1	**1**	**0**
	Sudan	2014				(10,719,000.000)	1	**1**	**0**
	Sudan	2015					0	0	0
IFRS Adopter - No Foreign Aid	UAE	1996					0	0	0
	UAE	1997					0	0	0
	UAE	1998					0	0	0
	UAE	1999					0	0	0
	UAE	2000					0	0	0
	UAE	2001					0	0	0
	UAE	2002					0	0	0
	UAE	2003					0	0	1
	UAE	2004					0	0	1
	UAE	2005					0	0	1
	UAE	2006					0	0	1

	Country	Year					
	UAE	2007			0	0	**1**
	UAE	2008			0	0	**1**
	UAE	2009			0	0	**1**
	UAE	2010			0	0	**1**
	UAE	2011			0	0	**1**
	UAE	2012			0	0	**1**
	UAE	2013			0	0	**1**
	UAE	2014			0	0	**1**
	UAE	2015			0	0	**1**
	Syria	1996			0	0	0
	Syria	1997	(262,376,000.000)	(10,014,000.000)	2	**1**	0
	Syria	1998	(21,586,000.000)	(1,459,000.000)	2	**1**	0
	Syria	1999	(21,217,000.000)	(1,459,000.000)	2	**1**	0
	Syria	2000	(14,154,000.000)	(1,459,000.000)	2	**1**	0
	Syria	2001	(7,869,000.000)	(1,459,000.000)	2	**1**	0
	Syria	2002	(6,154,000.000)	(1,459,000.000)	2	**1**	0
IFRS	Syria	2003	(7,536,000.000)	(1,459,000.000)	2	**1**	0
adopter	Syria	2004	(4,450,000.000)	(1,459,000.000)	2	**1**	0
&	Syria	2005		(1,459,000.000)	1	**1**	0
Foreign	Syria	2006		(1,459,000.000)	1	**1**	**1**
Aid	Syria	2007		(1,459,000.000)	1	**1**	**1**
	Syria	2008		(1,459,000.000)	1	**1**	**1**
	Syria	2009		(1,459,000.000)	1	**1**	**1**
	Syria	2010		(1,459,000.000)	1	**1**	**1**
	Syria	2011		(879,000.000)	1	**1**	**1**
	Syria	2012			0	0	**1**
	Syria	2013			0	0	**1**
	Syria	2014			0	0	**1**
	Syria	2015			0	0	**1**

Notes: See Table A.1 for full Variables definitions.

*The four indicators represent foreign aid provided to nations by the World Bank and IMF. The definitions of (IBRD, IDA, IMF concessional and IMF non-concessional) are stated in the footnotes 3 – 6 in section 5.3.1. Data Source: World Development Indicators (World Bank, 2016).

Table A.4. Levels of IFRS adoption per country (Coding)

Country	Sources* / Codes	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	PwC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Deloitte	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	IFRS F.**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Algeria	IFRS Adoption Levels	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	IFRS Adoption	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PwC						3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Deloitte			No specific date given except 2001			3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS F.						3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Bahrain	IFRS Adoption Levels	1	1	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS Adoption	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	PwC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Deloitte	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	IFRS F.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Egypt	IFRS Adoption Levels	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	IFRS Adoption	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PwC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Deloitte	N/A	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS F.	N/A	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Iraq	IFRS Adoption Levels	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS Adoption	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
Jordan	PwC	N/A	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Deloitte	N/A	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Country	Metric																				
	IFRS F.	N/A	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS Adoption Levels	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS Adoption	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Kuwait	PwC	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Deloitte	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS F.	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS Adoption Levels	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS Adoption	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lebanon	PwC	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Deloitte	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS F.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	IFRS Adoption Levels	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS Adoption	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Libya	PwC	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2
	Deloitte	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2
	IFRS F.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	IFRS Adoption Levels	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2
	IFRS Adoption	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mauritania	PwC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Deloitte	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	IFRS F.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	IFRS Adoption Levels	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	IFRS Adoption	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Country		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Morocco	PwC	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
	Deloitte	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
	IFRS F.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	IFRS Adoption Levels	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
	IFRS Adoption	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oman	PwC	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Deloitte	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS F.	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS Adoption Levels	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS Adoption	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Palestine	PwC									3	3	3	3	3	3	3	3	3	3	3	3
	Deloitte	No specific date given except 2004								3	3	3	3	3	3	3	3	3	3	3	3
	IFRS F.									3	3	3	3	3	3	3	3	3	3	3	3
	IFRS Adoption Levels	1	1	1	1	1	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS Adoption	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
Qatar	PwC							2	2	2	2	2	2	2	2	3	3	3	3	3	3
	Deloitte	No specific date given except 2002						2	2	2	2	2	2	2	2	3	3	3	3	3	3
	IFRS F.							2	2	2	2	2	2	2	2	3	3	3	3	3	3
	IFRS Adoption Levels	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3
	IFRS Adoption	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
Saudi Arabia	PwC	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Deloitte	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	IFRS F.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	IFRS Adoption Levels	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Country	Measure																				
	IFRS Adoption	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PwC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Deloitte	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	IFRS F.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Somalia	IFRS Adoption Levels	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	IFRS Adoption	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PwC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Deloitte	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	IFRS F.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sudan	IFRS Adoption Levels	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	IFRS Adoption	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PwC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Deloitte	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	IFRS F.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3	3	3	3	3	3	3	3	3	3
Syria	IFRS Adoption Levels	1	1	1	1	1	1	1	1	1	1	3	3	3	3	3	3	3	3	3	3
	IFRS Adoption	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	PwC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Deloitte	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	IFRS F.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tunisia	IFRS Adoption Levels	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	IFRS Adoption	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
United Arab Emirates	PwC	No specific date given except 1999		2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3
	Deloitte			2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS F.			2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3

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	IFRS Adoption Levels	1	1	1	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3
	IFRS Adoption	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	PwC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Deloitte	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
	IFRS F.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
Yemen [e9]	IFRS Adoption Levels	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
	IFRS Adoption	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes: See Table A.1 for full variable definitions.

*Sources: PwC (2015), Deloitte (2017), IFRS Foundation (2017). Codes: Researchers.

** IFRS F.: IFRS Foundation.

N/A: Not Available.

Several notable points arise regarding select countries highlighted in bold:

Iraq: The adoption of IFRS stemmed primarily from coercive institutional pressure imposed by the US-led coalition—also known as the Coalition Provisional Authority—as a means of reforming Iraq's economy and capital market post-occupation in 2004 (Hassan et al., 2014). **Qatar:** Al-Mannai and Hindi (2015) contend that banks in Qatar implemented IFRS in compliance with the requirements set forth by the Qatar Central Bank. Furthermore, recent legislation, Law No. 8 of 2010, mandates that listed firms adhere to International Accounting Standards as stipulated by the Qatar Financial Markets Authority (QFMA, 2010). **Syria:** Several laws and regulations explicitly mandate the full adoption of IFRS Standards. For instance, Article 65(b) of the 2006 Stock Exchange Law specifies: "All entities subject to the supervision of the Commission shall comply with the Accounting Standards prescribed by the International Accounting Standards Board in arranging all financial statements and data" (IFRS Foundation, 2016b). **United Arab Emirates:** The decision to adopt IFRS was communicated by the UAE Central Bank through Circular No. 20/99, dated January 25, 1999, which mandated compliance for all banks and companies (PwC, 2015). Additionally, the UAE Commercial Companies Law No. 2 of 2015, effective from July 1, 2015, requires all companies to adhere to international accounting standards and practices in their financial reporting (IFRS Foundation, 2016c; PwC, 2015). **Yemen**: The Central Bank mandates the use of IFRS Standards in the published financial statements of all banking institutions (IFRS Foundation, 2016d).

Table A.5. IFRS adoption in the MENA region

Countries	IFRS required for Listed companies	IFRS required for banks and other financial institutions	IFRS required for SME	IFRS permitted
Algeria	No stock exchange in Algeria.	No	No	No
Bahrain	Yes	Yes	Yes	N/A
Egypt	No	No	No	No
Iraq	Yes	Yes	Yes, but they are either full IFRS or IFRS for SME	N/A
Jordan	Yes	Yes	Yes, but they are either full IFRS or IFRS for SME	N/A
Kuwait	Yes	Yes	No	N/A
Lebanon	Yes	Yes	Yes	N/A
Libya	Yes	No, except for CBL and banks listed in LSM	No, IFRS is prohibited. Local GAAP is used	Yes
Mauritania	No stock exchange in Mauritania.	No	No	No
Morocco	No, listed companies other than banks are permitted to use IFRS	Yes, whether listed or not.	No, IFRS is prohibited. Moroccan GAAP is used	Yes, listed companies other than banks are permitted to use IFRS
Oman	Yes	Yes	No, but SME use full IFRS version	N/A
Palestine	Yes	Yes	Yes, but they are either full IFRS or IFRS for SME	N/A
Qatar	Yes	Yes, except Islamic financial institutions as they are permitted to use AAOIFI standards	No	N/A
Saudi Arabia	No, but there is a going plan for adoption 2012-2017	Yes, whether listed or not.	No, IFRS is prohibited. SCOPA standards are used	Yes, IFRS permitted for listed companies if SCOPA standards do not cover
Syria	Yes	Yes	No	N/A
Tunisia	No, IFRS is prohibited. Tunisian GAAP is used	No, IFRS is prohibited. Tunisian GAAP is used	No, IFRS is prohibited. Tunisian GAAP is used	No, IFRS is prohibited. Tunisian GAAP is used

United Arab Emirates	Yes	Yes, except Islamic financial institutions.	No, but SME are permitted to use IFRS for SME	N/A
Yemen	N/A, there is no Stock Exchange	Yes	No	Yes, Large and Medium size companies are permitted to apply IFRS

N/A: Not Applicable.

Sources: (Al-Mannai & Hindi, 2015; Deloitte, 2017; Hassan et al., 2014; IFRS Foundation, 2017; PwC, 2015; QFMA, 2010).

The Saudi Arabian Monetary Authority requires all banks and insurance companies to use IFRS. This includes both listed and unlisted banks and insurance companies, though currently there is only one unlisted bank and no unlisted insurance companies. All other entities, irrespective of size, are required to use local GAAP as issued by the Saudi Organization for Chartered and Professional Accountants (IFRS Foundation, 2016a). The listing rules of the Dubai Financial Market PJSC do not specify a specific accounting framework to be used in the financial statements of listed companies. IFRS are permitted and are used by most listed companies. Some financial institutions use Financial Accounting Standards issued by the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) (IFRS Foundation, 2016c).

Table A.6. Descriptive statistics of the explanatory variables based on the IFRS adoption level for the MENA countries.

Variable	IFRS Adoption Levels	N	% TN	Mean	Std. Dev	Min	Max
Governance Quality	Non IFRS adopter	133	41.2%	-58.57	53.84	-182.76	70.53
	Partial IFRS adopter	56	17.3%	-38.07	78.67	-187.43	89.90
	Full IFRS adopter	134	41.5%	-0.97	70.58	-171.57	112.60
Foreign Aid	Non IFRS adopter	169	44.5%	0.77	0.42	0	1
	Partial IFRS adopter	64	16.8%	0.20	0.41	0	1
	Full IFRS adopter	147	38.7%	0.34	0.48	0	1
Trade Freedom	Non IFRS adopter	145	44.2%	53.28	16.97	15.00	78.40
	Partial IFRS adopter	62	18.9%	68.77	14.62	34.60	90.00
	Full IFRS adopter	121	36.9%	73.64	10.82	36.60	83.80
Import Penetration	Non IFRS adopter	160	45.7%	36.54	16.88	0.02	82.48
	Partial IFRS adopter	55	15.7%	40.62	18.01	23.29	108.05
	Full IFRS adopter	135	38.6%	50.61	18.02	21.79	94.21
IFAC membership	Non IFRS adopter	169	44.5%	0.27	0.44	0	1
	Partial IFRS adopter	64	16.8%	0.56	0.50	0	1
	Full IFRS adopter	147	38.7%	0.41	0.49	0	1

Notes: See Table A.1 for full variable definitions.

Std. Dev denotes Standard Deviation.

N: Number of country-year observations.

% TN: Percentage of country-year observations of total sample