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Assessing Institutional Dynamics of Governance Compliance in Emerging Markets: The GCC Real Estate Sector

Rekha Pillai ¹, Husam-Aldin N. Al-Malkawi ¹ and M. Ishaq Bhatti ^{2,*}

¹ Faculty of Business and Law, The British University in Dubai, Dubai P.O. Box 345015, United Arab Emirates; rekha.pillai@buid.ac.ae (R.P.); husam.almalkawi@buid.ac.ae (H.-A.N.A.-M.)

² La Trobe Business School, La Trobe University, Melbourne, VIC 3083, Australia

* Correspondence: i.bhatti@latrobe.edu.au

Abstract: The real estate sector has emerged as the bedrock of the Gulf Cooperation Council (GCC) economies, and it has remained resilient despite the various unprecedented micro- and macro-economic shocks devouring the world's economies. However, wavering investor attitudes and minimal exposure to real estate investment vehicles, coupled with weak regulatory frameworks, have led to dramatic downturns in the sector. Transparency about what is happening in real estate is imperative if the success of high-profile initiatives is to continue and much depends on good corporate governance (CG) in the sector. Using the most recent data from 2019, the current study applies the CG Index (CGI) and CG Deviation Index (CGDI) constructs to the real estate (RE) sector in the GCC in an effort to develop vital indicators for future RE investment decisions in the GCC region. The results indicate that the highest CG adherence levels are being achieved in Dubai, followed by Abu Dhabi and Saudi Arabia. The authors attribute these countries' success in CG adherence to the entrepreneurial identity of them RE firms as well as to their governance capacity, their socio-cognitive capability, and the level of regulatory enforcement within the context of their dominant governance logic. It should be noted that there are variations in adherence levels throughout each region. The results also agree with prior literature that a higher CGS leads to a lower CGD score, and vice versa. At this point, encouraging more real estate investment trust (REIT) formations in the GCC could ensure value propositions, such as liquidity, to both investors and RE companies as well as solid governance fundamentals. This is strongly recommended for increasing the RE presence and its contribution to the GDP of each country.

Keywords: real estate; corporate governance index; corporate governance deviation index; GCC countries

JEL Classification: G34; C43; N25



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1. Introduction

The investment landscape in the Gulf Cooperation Council (GCC) is undergoing a paradigm shift due to China becoming much more influential in the MENA region, which will concern the GCC due to the Chinese government's need to maintain their oil supply through the proposed Belt and Road Initiative (BRI) (Fulton 2017). The China–GCC BRI cooperation constitutes several facets of economic integration in the form of financial integration, policy coordination, unhindered trade, and free movement of labor, all of which have paved the way for an unprecedented association between the two economies. Moreover, this shift is a complex phenomenon as the axis of economic power moves from the West to the East, and oil-based economies of GCC countries are struggling due to high fluctuations in oil prices, renewed diversification strategies, expansionary policies, and an influx of FDI. These factors are acting as a boost to the real estate (RE) sector after a long period of uncertainty following the collapse of the RE bubble in 2008 as well as recent revelations documented in the Panama papers and the devastating impact of COVID-19 on

the international economy¹. According to [Schulte and Kolb \(2005\)](#), RE exhibits features such as immobility, the long value-chain involvement of several parties, heavy investment stakes, a lack of market transparency, irregular property valuations, and insufficient control over possible conflicts of interest, all of which are in stark contrast to other asset classes. [Sing and Sirmans \(2007\)](#) attribute this difficulty in determining a fair market value of RE assets as the outcome of imperfect information in the market, thereby leaving RE investors susceptible to quasi-rent problems ([KPMG 2017](#)). Furthermore, [Geltner and Ling \(2006\)](#) added that in contrast to common stocks, direct RE transactions are not being done with complete honesty, and the indices capable of comparing market movements, observing volatility, and correlating various assets instead serve as investment guides to evaluate the success of an asset class.

That said, the 2008 global financial crisis (GFC), and the chain of scandals that followed, undermined investor trust, and the result is a system to document environmental, social, and corporate governance (ESG) issues as well as to recognize and manage risks (for examples, see [Nguyen and Bhatti 2012](#); [Al Rahahleh et al. 2017](#); [Misman and Bhatti 2020](#)). [Zingales \(1998\)](#) suggests that CG can be viewed as “the complex set of constraints that shape the ex-post bargaining over the quasi-rents generated by a firm” (p. 498). Although the doctrine of a universal CG code is not feasible due to the adoption of various economic systems by different countries around the world, if nations share a unanimity within their constitutional frameworks, IMF has expressed the possibility of adopting a CG model. On this note, the feasibility, and the applicability of a uniform CGI for GCC countries stem from the similar legal, social, and political frameworks under which these countries operate. The rationale derives its base from the theory that institutions (formal and informal) influence the strategic decisions taken by firms ([Peng et al. 2009](#)). Although informal institutions (e.g., religious groups, cultural traditions, and societal norms) are well placed in the GCC, the formal structures of GCC countries exhibit an integrated framework where centralized authority is heavily influenced by local institutional traditions, and vice versa. [Hertog \(2012\)](#) remarks that such centralization can act as a substitute for formal structures especially when the state apparatus is inadequately equipped for such tasks. Such growth-supportive institutions, as they are rightly named, are pertinent for factor allocation, and a classic example of a growth-supportive formal institution would include the implementation of property rights. To understand how firms function within restricted conditions across national governance systems, [Merton \(1968\)](#) emphasizes context-sensitive, middle-range theories as useful tenets in interpreting why variations in CG adherence exist. [Phillips and Zuckerman \(2001\)](#) also enumerate the relevance of “context matters”, which has assisted governance research in developing new insights into social conformity dynamics. For the former argument, [Aguilera et al. \(2018\)](#) purport that governance discretion is the by-product of two different forces, namely “agentic organizational characteristics”, such as experience, scanning, and insight stemming from a firm’s entrepreneurial identity, and “normative context”, which earmarks a set of acceptable and legitimate behaviors mandated by the incumbent governance logic. They affirm that although regulatory executions are key contextual contingencies that require firms to be compliant, or non-compliant, with governance practices, it is a firm’s entrepreneurial identity that leads it to adopt robust governance practices beyond those legitimized by the national government (see [Webb et al. 2009](#)). The former statement does not undermine the fact that companies do not exist in isolation and that economic advancement is possible only with successful stakeholder management that is based on trust, respect, and mutual benefit. However, the devastating effects of corporate greed, agency issues ([Khan et al. 2020](#)), misconduct, and integrity failures from corporate giants, such as Enron and Lehman brothers to name a few, are classic examples of firms overstepping ethical boundaries or circumventing the existing governance laws.

[Bhagat et al. \(2008\)](#) document that this intensified interest in CG is a precursor to constructing a corporate governance index (CGI) as it combines the various elements of a firm’s governance system into one index that will be used to judge the quality of

governance. However, [Hyden and Court \(2002\)](#) argue that the ambiguity and implications in the governance concept led to the nonexistence of any standardized or systematic technique in the data collection efforts necessary for preparing such an index (as cited in [Al-Malkawi et al. 2014](#), p. 133). The history of commercial real estate indices is relatively short, and these indices are subject to a range of bias. This is based on the premise that RE companies may be impacted by diverse sets of governance mechanisms as this asset class exhibits asymmetry in information due to increased transaction costs and illiquidity ([Friday et al. 1999](#)). More specifically, [Bauer et al. \(2010\)](#) and [Bianco et al. \(2007\)](#) assert that only internal CG mechanisms seem to be value enhancing when compared to external governance mechanisms in the RE market. They attribute the same theory to the strong institutional governance settings surrounding REITs².

As far as the GCC is concerned, REIT legislation was introduced in 2006 with Dubai's Emirates REIT being the first to form and was subsequently followed by Abu Dhabi, Saudi Arabia, Bahrain, and Oman, all of whom have set regulatory frameworks to support REITs ([Chesterons 2020](#)). [Stevens \(2020\)](#) is of the opinion that GCC REIT growth is expected to see a surge as property owners consider the GCC as a fund creator to provide additional liquidity to their operations, apart from retaining shares up to 75% of the equity in the fund. However, recent findings by [Goodwin Insights \(2019\)](#) report a major positive shift of perception regarding board specifications and shareholder rights by REITs and how they view CG.

The objective of this paper is four-fold. Firstly, the paper confines the developed conventional and unconventional un-weighted corporate governance indices (CGIs) ([Pillai and Al-Malkawi 2016](#); [Al-Malkawi and Bhatti 2020](#)) to all the listed companies, specifically to the real estate sector in the GCC, to arrive at the level of governance implemented by these companies in GCC countries, and this should bridge the perceived gap in real estate literature on this region. Secondly, the paper strives to employ the CGI to signal robust governance practices as well as to serve as the most up-to-date reference value during portfolio diversification decisions, especially those highly influenced by the region's structural, political, and economic characteristics. Thirdly, the application of a non-conventional corporate governance deviation index (CGDI) provides an additional dimension to the CGI results derived for countries with a high CGI, which are expected to reflect a lower CGDI, and vice versa. Finally, the study aims to report the implications from the results that will later serve as recommendations for enhancing CG in the GCC's real estate sector.

On a positive note, JLL's Global Real Estate Transparency Survey in 2020 declared Dubai as the most transparent real estate market in the MENA region and thus moved it to the top of the "semi-transparent category", where it sits on par with Tier 1 BRIC nations (Brazil, Russia, India, and China) and other fast-growing MIST nations (Mexico, Indonesia, South Korea, and Turkey). Meanwhile, Saudi Arabia has moved into the "semi-transparent" category for the first time, mainly due to minor improvements in open data platforms. In addition, Abu Dhabi's RE transparency has remained relatively stable over the past two years. Kuwait and Qatar remain in the "low transparency" category although initial steps have been taken by the Qatar regime to introduce new regulatory and registration procedures. For example, the state's new RE development law requires developers to register an escrow account for every project. Oman is still in the 'opaque' sector, and this suggests the absence of initiatives in its RE domain. If enhanced transparency is evidence of fair CG till date, no studies have emerged to justify the rationale behind the progressions, the stagnancies, or the regressions reported in the survey, nor have there been any studies attempting to unveil the extent of CG adherence in the RE sector in the GCC. This inadequacy of research and perceived gap in RE governance knowledge and literature serve as keen motivators to conduct an original study of five GCC countries to gauge the extent of CG adherence in the RE sector. This is done by applying the CGI and CGDI constructs developed in related research ([Al-Malkawi et al. 2014](#); [Pillai and Al-Malkawi 2016](#)) for all listed companies in the GCC and considering the application of the constructs to RE research as local evaluation is significant for local legitimacy in governance

assessment (Gisselquist 2014). The paper contributes to governance literature by providing up-to-date insights on CG practices and adherence in the RE industry. The index derived will encourage countries to heighten their efforts in upgrading their governance standards as it translates into risk minimization and economic growth in the form of enhanced foreign direct investment. The RE sector serves as an enabler of other economic sectors and the governance index so derived can provide a reference value for potential FDI as Keenan (2014) explicitly states regarding the positive governance value–trading value nexus in the RE industry. In addition, the index derived in this paper will serve as a benchmark for future researchers to compare the increase or decrease in governance adherence levels in the RE industry. Currently, lagging CG; public skepticism; the inability to unlock capital markets; the vagaries of individual state jurisdiction, even apart from the growing political fragmentations; and heightened economic challenges compounded by a complex business climate have posed innumerable risk factors for RE investors in the GCC (Iqbal et al. 2021). These complications lead to reputational damage and dissuade investors from broadening their portfolios to include niche opportunities such as investing in family-owned business projects. To navigate through these uncertainties, investors need additional reference values with which to review their investment strategies when selecting and expanding their portfolios.

2. Literature Review

The increasing relevance of the CG concept in the RE sector and, specifically, REITs has generated much academic attention, and much governance literature has been published with a great deal of research on the impact of CG on RE performance. As suggested by Friday (1997), Ghosh and Sirmans (2006), Eichholtz and Kok (2008), and many others, the RE sector has a distinctive governance structure that stems from the features of RE as an asset class. Recently, a chain of studies focusing on the impact of CG on various organizational dimensions in the RE sector surfaced in the literature. For example, Feng et al. (2020) investigated the relationship between CG and capital structure in 119 Chinese RE-listed firms for the period 2014–2018. The fixed and random effects regression revealed that board size and ownership concentration had a direct relationship with capital structure. Surprisingly, Hsieh et al. (2020) purport that CG mechanisms, namely concentrated ownership structures and higher institutional holdings, catalyze companies' green initiatives. Even more recently, Soewignyo et al. (2021) studied Indonesian RE companies for the period 2015–2019 and reported a statistically insignificant effect of CG factors on firm performance. Concurrently, David et al. (2021) assessed the impact of CG mechanisms on Hong Kong and Malaysian REITs and concluded that board size and independent directors on audit committees had a significant effect on Malaysian REIT performance while CEO duality and the number of independent directors had no significant impact on Hong Kong REITs. A critical appraisal of the studies signals a common pathway towards CG–FP research with little emphasis given to the CG adherence levels. Another string of research is evident in the CG–REIT performance arena. REITs invest in income-generating properties and distribute a fair percentage of dividends to shareholders while increasing capital appreciation opportunities and total equity. In foreign countries, this uniqueness is augmented due to the peculiar regulatory requirements that are attached to a tax-transparent REIT structure. Although many theoretical and empirical papers examining the relationship between internal governance mechanisms and REITs have been published (Cannon and Vogt 1995; Ling and Ryngaert 1997; Friday et al. 1999; Ambrose and Linneman 2001; Ghosh and Sirmans 2003; Hartzell et al. 2006; Han 2006; Bianco et al. 2007; Bauer et al. 2010; Prima 2014; Xu et al. 2016; and Omokhomion et al. 2018; among others), research focusing on the quality of CG adherence measured by the indices remains sparse. Bianco et al. (2007) revealed that CG makes only a weak contribution to enhancing REIT performance in a sample of 53 U.S. REITs in 2006. They posited that this could be partially attributed to two factors: firstly, the relatively rare occurrence of hostile takeovers in REIT markets and

secondly, the unique characteristics of REITs (see also [Nosipho and Omokolade \(2019\)](#) for similar findings in South African REITs).

[Chong et al. \(2016\)](#) examined the impact of CG on Singaporean REITs from 2008 to 2012 by employing the APREA-developed CGI (R-Index) using the generalized method of moments (GMM) as an estimation technique. The results showed a direct CG–firm performance relationship although Singapore’s REITs fall under a highly regulated framework. Additionally, [Omokhomion et al. \(2018\)](#) performed a qualitative study on REIT governance and investment decision making where management style, board issues, transparency, and market maturity were identified as vital factors in the CG–investment-decision nexus. [Nosipho and Omokolade \(2019\)](#) evaluated the impact of CGI on South African REITs using GMM estimators and discovered a positive relationship between the two variables. On a similar note, [Ramachandran et al. \(2018\)](#) investigated the relationship between CG performance on REITs in Singapore and Malaysia by applying the R-index to decipher whether R-index scores were related to improved performance. The scorecard applicable to both Singaporean and Malaysian REITs covers 27 governance attributes spanning eight main categories that are inclusive of external and internal CG provisions. A regression analysis using SEM revealed that all attributes in the R-index, except management ownership, were significantly correlated to improved performance, though the R-index being used to score CG practices in Asia is still very new. In the same vein, [Lecomte and Ooi \(2013\)](#) employed the R-Index to examine the link between corporate performance and the quality of CG surrounding REITs in Singapore (S-REITs). The results revealed that S-REITs with higher CG tended to register better risk-adjusted returns and exhibited less information asymmetry, yet they did not perform especially well in operational terms. [Bauer et al. \(2010\)](#) employed a broader CG index, namely the Corporate Governance Quotient index, on 21 S-REITs and noted that CG had little impact on accounting measures of performance.

A review of prior literature explicitly revealed that CG in RE is largely confined to REITs in western and Asian countries where taxes are high. However, the results obtained do not mirror the CG situation in GCC countries³ where CG follows its own structural idiosyncrasies and has a nascent REIT framework. This is where simple indices incorporating a regions’ structural, political, and economic fundamentals need to be developed to accurately gauge CG. [Pillai and Al-Malkawi \(2016\)](#) used both conventional and non-conventional indices to gauge the quality of CG adherence in listed companies in the GCC as of 2012. Although CGIs have been constructed by [Elghuweel \(2015\)](#) for Oman, [Hassan \(2012\)](#) for UAE, [Fallatah and Dickins \(2012\)](#) for Saudi Arabia, and [Al-Malkawi et al. \(2014\)](#) for the GCC, a major gap exists in RE concentrations. Therefore, the study at hand will supplement contemporary RE literature by applying the CGI and corporate governance deviation index (CGDI) on listed RE companies in the GCC as of 2019, making this study the first of its kind in RE governance literature. This is done to extract information on the extent of CG compliance before venturing into assessing its impact on firm performance.

3. The Construction of CGI and CGDI-A Recap

The construction of the conventional corporate governance index (CGI) and non-conventional corporate governance deviation index (CGDI) enumerated in [Al-Malkawi et al. \(2014\)](#) and [Pillai and Al-Malkawi \(2016\)](#) will be replicated for the RE sector in the present study. A brief outline of both constructs is described to remove ambiguities and assess the results. The CGI preparation is in line with the “broad but shallow approach” (see [Klapper and Love 2004](#)), OECD guidelines, and respective CG country codes. The CGI constructed for the GCC countries examines 30 attributes classified under three main governance categories, namely (1) disclosure, (2) board effectiveness, and (3) shareholder rights (see Appendix A 1–3 for related provisions in governance codes). Each attribute is given a dichotomous value of 1 or 0, where 1 represents the presence/adherence of the attribute discussed and 0 represents the absence/non-adherence ([Garay and Gonzalez 2008](#); [Gompers et al. 2003](#); [Leal and Carvalhal-da-Silva 2005](#); [Lei 2007](#)). The scores obtained for each firm on each of the set parameters are aggregated to represent an un-weighted

CGI. Fisher et al. (2012), Garay and Gonzalez (2008), Gompers et al. (2003), and Leal and Carvalho-da-Silva (2005) outline several benefits of the unweighted model. These include the following: the applicability of developing indices when the market capitalization weights among representative stocks are disproportionate; the symmetrical treatment of every attribute under a sub-index; reproducible and less subjective results; and finally, the absence of any specific theoretical model to underpin the relevance of the attributes chosen (see also Bhagat et al. 2008; Al-Malkawi et al. 2014). The maximum value attainable for a completely governance-adhering company is 30 and is subsequently converted into a percentage to arrive at the corporate governance score (CGS) for each company (see Appendix A).

The scores obtained for each company are aggregated and divided by the number of companies in each country to arrive at the CGI for each country (see Appendix A). The CGI for the GCC can act as another reference value for consideration prior to portfolio diversification, and yearly constructions of such indices can help to supervise the progress made, if any, in CG adherence. The equal-weighted approach for CGS assigns the same score for several firms even if they have adopted attributes other firms have refrained from accepting. The inability of the CGS to report on companies that have not adhered to attributes commonly adhered to by others is another limitation of the score. To distinguish among such firms and to further validate the results, Fan and Yu (2012) suggest the construction of a non-conventional CGDI (see Appendix A on page 15) that can be simultaneously applied alongside the CGI for each firm⁴. They argue that companies receive a low CGDI if they adopt most adopted attributes in their home country while they receive a higher CGDI if they do not adopt many commonly adopted attributes or adopt attributes rarely adopted by others. As argued by Heckert and Heckert (2002), Warren (2003), Spreitzer and Sonenshein (2004), and Mitchell and Ambrose (2007), the extent of firms' adherence or non-adherence to fair standards of CG is driven mainly by their entrepreneurial character and function. This study contributes to the governance literature through the construction of a CGDI that is the first of its kind. To the best of our knowledge, it is the first to be formulated for the GCC and the MENA region with sole reference to the RE sector.

4. Data

The present study formulates a CGI for five countries in the Persian Gulf region, namely UAE (a separate index for Dubai and Abu Dhabi), Qatar, Kuwait, Oman, and Saudi Arabia as of 30 September 2019 from a sample of 59 real estate companies listed on these respective countries' stock exchanges. The data is collected from several sources such as annual reports, company websites (if existing), stock exchanges, and the Zughaihi and Kabbani Financial Consultants website, which is better known as Gulf Base (refer to www.gulfbase.com; accessed on 31st September 2020). There are 66 listed RE companies as of 31 September 2019; however, seven companies were eliminated due to reasons such as the unavailability of their websites or a lack of relevant information for the study. Of the 59 remaining companies, 10 belong to the UAE, four belong to Qatar, 10 are from Saudi Arabia, 34 are from Kuwait, and one is from Oman. In addition, Bahrain was excluded from the study as no companies have been listed under the RE sector. The sample represents 95% of the total companies and is thereby considered to be an apt representation of the listed RE companies in the GCC stock markets. This ensures the effective applicability of the results obtained to describe the governance situation of the RE sector throughout the GCC.

5. Results and Discussions

5.1. Results of Validity Test

Vital tests for instrument validity are the face and content validity tests. Expert judgement was employed to measure the content validity of the questionnaire and attest to whether the attributes were representative for the entire domain the instrument sought to measure. The Kuder–Richardson Formula 20 (KR 20), which examines the reliability

for dichotomous variables, was conducted to judge the soundness of the instrument in obtaining the desired output (see Rashid et al. 2018). The KR20 score derived for the current instrument was 0.72 and was above the acceptable standards of 0.7 (Nunnally and Bernstein 1994).

5.2. Results of Descriptive Statistics

In Table 1 below, we summarized statistics of the CGI, which was constructed according to the attributes for the five selected GCC countries. The table shows that the mean value of CGI 70 reflects the fact that 70% of the attributes incorporated in the construct had been adopted by the sampled RE companies. The range is 56 (max 93–min 37), which denotes a wide variation in the governance qualities in the nations studied. The radical difference between the minimum and maximum results (max 88–min 27) for the sub-index board effectiveness implies there is a void in adherence to robust board-effectiveness-enhancing factors. A wide variation is also noticed in the max–min results for disclosure and shareholder rights, which reflects wide variations in the adherence levels by the firms. The skewness–kurtosis statistics (−0.878, 0.969) show that the data analyzed is negatively skewed and non-normally distributed.

Table 1. Summary statistics for CGI.

| | Mean (%) | Std. Dev. (%) | Range (%) | Minimum (%) | Maximum (%) | Skewness | Kurtosis |
|---------------------|-----------|---------------|-----------|-------------|-------------|---------------|--------------|
| Disclosure | 67 | 22 | 59 | 36 | 96 | −0.15 | −1.25 |
| Board Effectiveness | 64 | 22 | 61 | 27 | 88 | −0.942 | 0.89 |
| Shareholders Rights | 68 | 18 | 48 | 50 | 98 | 0.84 | 0.75 |
| CGI | 70 | 19.39 | 56 | 37 | 93 | −0.878 | 0.969 |

5.3. Results: Adherence to CG

Table 2 shows the frequency of adherence by the companies in each country to each attribute studied in the paper. As can be seen in Table 2, the results for the first sub-index “disclosure” revealed that most companies (75% and above) maintained a website, reported their financial information online or on their respective stock exchange, and disclosed the accounting standard they follow and related party transactions. However, only 65% of them employed one of the “Big Four” auditors for external auditing, with the only company listed in Oman employing local auditors. The results lend support to the findings reported by Baatwah et al. (2014) that documented unfavorable audit report timelines resulting from the brevity of tenure as the core reason for non-employment of the Big Four auditors in Oman. Conversely, in Qatar, we found that the auditors’ tenure was five years (assumed to be a long, stable period), which could explain why 100% of the sampled RE companies in Qatar employed a Big Four auditor. Disclosures on corporate social responsibility, CG reports, credit ratings, and details on board meetings and board member attendance were only adhered to by 55% or less of the companies.

The second sub-index, which refers to the board effectiveness and composition, is a focal point of concern. Although 94% of the businesses were devoid of duality, only 75% of them maintained an audit committee, and 69% maintained nomination and remuneration committees. A risk management committee was reported for only 19% of the total companies studied. Non-executive directors were present in 79% of the companies while 95% of them maintained a favorable board size of between five and eleven people. The board qualifications were revealed by only 58% of the companies studied while 59% of them had independent directors constituting one-third of the total board size. The directors’ shareholdings were available for 26% of these companies, and 63% of them had directors holding directorships in less than 10 companies.

Table 2. Frequency of adherence to corporate governance attributes.

| DISCLOSURE | SAUDI | QATAR | ABUDHABI | DUBAI | KUWAIT | OMAN | GCC |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 1. The company has a website | 71.42 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 95.24 |
| 2. Annual reports for the company are available | 71.42 | 100.00 | 100.00 | 100.00 | 88.00 | 1.00 | 76.74 |
| 3. The company reports follow the Accounting Standard | 71.00 | 100.00 | 100.00 | 100.00 | 88.00 | 100.00 | 93.17 |
| 4. The company employs one of the Big 4 auditors | 36.00 | 100.00 | 100.00 | 100.00 | 53.00 | 0.00 | 65.00 |
| 5. The compensation of the board members is available | 36.00 | 75.00 | 100.00 | 100.00 | 47.00 | 0.00 | 60.00 |
| 6. Information on risk management is available | 71.00 | 0.00 | 100.00 | 100.00 | 76.00 | 0.00 | 58.00 |
| 7. The annual reports specify potential conflicts of | 71.00 | 100.00 | 100.00 | 100.00 | 76.00 | 100.00 | 91.17 |
| 8. The company furnishes details on the CSR | 21.00 | 75.00 | 25.00 | 100.00 | 47.00 | 0.00 | 44.67 |
| 9. The company has a corporate governance report | 36.00 | 50.00 | 75.00 | 100.00 | 35.00 | 0.00 | 49.33 |
| 10. The company furnishes details about the credit rating | 14.00 | 75.00 | 25.00 | 50.00 | 24.00 | 0.00 | 31.33 |
| 11. Details regarding meetings and board attendance | 36.00 | 50.00 | 100.00 | 100.00 | 44.00 | 0.00 | 55.00 |
| COUNTRY AVERAGE | 48.62 | 75.00 | 84.09 | 95.45 | 61.64 | 27.36 | 65.42 |
| BOARD EFFECTIVENESS AND COMPOSITION | | | | | | | |
| 12. The CEO and board chairman are different persons | 71.00 | 100.00 | 100.00 | 100.00 | 91.00 | 100.00 | 93.67 |
| 13. The company has an internal audit committee | 64.00 | 100.00 | 100.00 | 100.00 | 85.00 | 0.00 | 74.83 |
| 14. The company has a nomination committee | 57.00 | 75.00 | 100.00 | 100.00 | 82.00 | 0.00 | 69.00 |
| 15. The company has a remuneration committee | 57.00 | 75.00 | 100.00 | 100.00 | 82.00 | 0.00 | 69.00 |
| 16. The company has a risk management committee | 14.00 | 0.00 | 0.00 | 17.00 | 82.00 | 0.00 | 18.83 |
| 17. The company has at majority non-executive directors. | 64.00 | 50.00 | 100.00 | 100.00 | 59.00 | 100.00 | 78.83 |
| 18. The board size is between 5 and 11 | 71.00 | 100.00 | 100.00 | 100.00 | 97.00 | 100.00 | 94.67 |
| 19. The qualifications of the board members are revealed | 50.00 | 50.00 | 100.00 | 100.00 | 50.00 | 0.00 | 58.33 |
| 20. The independent directors form 1/3 of the total | 64.00 | 50.00 | 100.00 | 100.00 | 41.00 | 0.00 | 59.17 |
| 21. The directors' shareholdings are available | 29.00 | 50.00 | 0.00 | 67.00 | 9.00 | 0.00 | 25.83 |
| 22. The directors hold no more than 10 directorships in | 50.00 | 100.00 | 100.00 | 83.00 | 44.00 | 0.00 | 62.83 |
| COUNTRY AVERAGE | 53.73 | 68.18 | 81.82 | 87.91 | 65.64 | 27.27 | 64.09 |
| SHAREHOLDER RIGHTS | | | | | | | |
| 23. The details of the shareholders are revealed on its website | 71.00 | 75.00 | 100.00 | 83.00 | 94.00 | 100.00 | 87.17 |
| 24. The company reports on the forthcoming and completed shareholder meetings | 71.00 | 75.00 | 100.00 | 100.00 | 18.00 | 0.00 | 60.67 |
| 25. The ratio of nationals versus foreign shareholding is available on its website/stock exchange | 71.00 | 0.00 | 0.00 | 100.00 | 0.00 | 100.00 | 45.17 |
| 26. The authorized percentage of shareholdings by a non-national is available | 71.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 28.50 |
| 27. The company has a section dealing with investors | 50.00 | 75.00 | 100.00 | 100.00 | 65.00 | 0.00 | 65.00 |
| 28. There is an option for lodging complaints. | 71.00 | 100.00 | 100.00 | 100.00 | 65.00 | 0.00 | 72.67 |
| 29. Dividend declarations are available to shareholders. | 71.00 | 100.00 | 100.00 | 100.00 | 65.00 | 1.00 | 72.83 |
| 30. The market price of share is available to shareholders | 71.00 | 100.00 | 100.00 | 100.00 | 94.00 | 1.00 | 77.67 |
| COUNTRY AVERAGE | 68.38 | 65.63 | 75.00 | 97.88 | 50.13 | 25.00 | 63.71 |

Shareholder rights are projected in the third sub-index, which also uncovered interesting details. Most companies (87%) released information on shareholders owning more than 5% of the shares in the respective companies while 61% of the companies announced relevant details of impending annual general meetings as well as provided the minutes of prior meetings. Table 2 reveals that 45% of the companies reported the ratio of national shareholdings to foreign shareholdings, and few companies (28%) reported the authorized percentage of shareholdings by non-nationals. Moreover, 65% of the firms studied maintained an investor corner on their website while at least 72% provided their contact details for stakeholder concerns. This revealed the market price of their shares and alerted investors to dividend declarations, respectively.

The overall CGI and attribute-wise scores received for the GCC countries and the ranking obtained by each country with respect to the attributes are highlighted in Tables 3 and 4, respectively.

Table 3. CGI score country wise and for GCC.

| | (CGI%) | Rank |
|--------------|--------|------|
| Dubai | 93 | 1 |
| Abu Dhabi | 80 | 2 |
| Saudi Arabia | 78 | 3 |
| Qatar | 70 | 4 |
| Kuwait | 60 | 5 |
| Oman | 37 | 6 |
| GCC | 69.6 | |

Table 4. Attribute scores: country wise.

| Country | Average Score (Disclosure) | Rank | Average Score (Board Effectiveness and Composition) | Rank | Average Score (Shareholders Rights) | Rank |
|--------------|----------------------------|------|---|------|-------------------------------------|------|
| Saudi Arabia | 48.62 | 5 | 53.7 | 5 | 68.38 | 3 |
| Qatar | 75 | 3 | 68.1 | 3 | 65.63 | 4 |
| Abu Dhabi | 84 | 2 | 81.82 | 2 | 75 | 2 |
| Dubai | 95 | 1 | 87.91 | 1 | 97.88 | 1 |
| Kuwait | 61.6 | 4 | 65.64 | 4 | 50.13 | 5 |
| Oman | 27.3 | 6 | 27.27 | 6 | 25 | 6 |

Table 3 reports the country-wise CGI score for RE companies where positions 1–3 are occupied by Dubai, Abu Dhabi, and Saudi Arabia, respectively. An unsatisfactory performance was shown by Oman whose scores portrayed a large diversion from the other countries, with only 37% of the attributes being adopted by the listed company⁵. Dubai's edge over its counterparts was evidently the outcome of a range of new government initiatives in the form of improved regulatory procedures, enhanced online apps, and unified lease forms to forge greater transparency and reduce speculation in the sector. The surging demand from international investors also needs to be addressed effectively and efficiently. The results validated the findings of JLL's Global Real Estate Index of 2020 in which Dubai was one of the top three improved countries globally in the "semi-transparent" category, thereby inching closer to the Dubai Land Department's mission to earmark Dubai as the world's premier real estate destination in terms of innovation and sustainability.

Moreover, PropTech tools, such as brokerage apps, open data, and block chain, could help the nation of Dubai transcend borders and become fully transparent and honest in their business dealings. The DLD Investment Map, a portal launched by Dubai's RE Investment Management and Promotion Center, is an integrated application on best practices that also permits online transactions through a secure government portal, providing another avenue for investors with smart devices. Meanwhile, a rental increase calculator provides timely information for tenants and landlords concerning rental details of both commercial and residential units. The Dubai RERA initiative in 2016 that introduced permits for all advertised property listings was another step towards assuring transparency. Earning its position as the most transparent real estate market in the Middle East in JLL's 2020 Global Real Estate Transparency Index (GRETI), the city has been termed a "hybrid" due to a raft of initiatives adopted to transform the quality of the RE landscape. Recent additions such as the new Dubai Data Law (Law 26 of 2015) seek to promote data sharing between government agencies and the private sector in an effort to eliminate any discrepancies.

In addition to the former initiatives, Hawkamah is working with RERA to develop a CG code for the RE sector in Dubai to strengthen CG practices, which is vital to protect property rights and maintain stakeholder confidence in the sector. The findings in this paper lend support to the arguments put forth by Webb et al. (2009) that support more centralized entrepreneurial identities and the recognition of new practices and opportunities, even if they are not perceived by outsiders to be legitimate with respect to existing institutional norms. In

the context of relatively lax regulatory enforcement that can be characterized as one where a lack of regulation is common and standards are obtuse, there is a highly constrained or non-existent will to prosecute and implement sanctions in a consistent fashion (Jackson 2007). Put plainly, firms operating in such a governance environment might easily consider the adoption of a governance practice incongruent with existing rules and laws, and they are unlikely to be inhibited or even stopped by the law due to its weak enforcement. In contrast, for firms operating in more prudent regulatory environments such as the UAE, they are less likely to deviate from compensation disclosure regulations within this governance environment. To summarize, even if a firm has reasonably wide governance discretion with an interest in implementing a misleading governance practice, it will be less likely to embrace that practice if the country's regulations are enforced consistently.

Following closely behind Dubai was Abu Dhabi in the second position, and this validated the efforts of the Abu Dhabi City Municipality in following RERA's lead to regulate an industry that contributed about 17% of Abu Dhabi's GDP in 2015. Regulatory advances such as the issuance of Law No. 3 in 2015 authorizing Abu Dhabi's Department of Municipal Affairs (DMA) to implement laws, issue licenses, and control the escrow accounts of RE developers was a major stride in ensuring transparency and security. The new training program for RE agents in 2016 was another small step adopted by the government to regulate the new market in accord with the government's "Vision 2030" statement. Overall, the results achieved for the UAE in 2019 were a testament to the concerted efforts taken by its government in terms of establishing the Hawkamah. This is an institute in Abu Dhabi that caters to CG issues in the MENA region with prudent and viable policies that support robust governance practices. The World Bank's "Doing Business 2018" report ranked the UAE 21st globally, and a top-ranked Arab country was another justification for this study's results.

Saudi Arabia's rise on the CG ladder was mainly due to the consistent efforts taken by the Saudi CMA in increasing the effectiveness of their CG framework. It published enforcement actions to punish non-adherence to CG practices, which included a naming-and-shaming policy as part of the penalizations. The Saudi Bourse increased the permissible limit of foreign shareholdings in one of the world's most restricted major stock exchanges, an initiative that enabled FDI in the country to soar. A greater choice of available REITs and an increase in property fair values in the portfolio leading to higher dividend distributions saw investors increasing their focus on income generation and dividend yields as more performance information became available. However, in comparison with global and developed markets' REIT indices, Saudi Arabian REITs provided better dividend yield to investors. As of September 2020, the Saudi REIT index dividend yield was 5.8%, as compared to the dividend yields by MSCI World REIT and S&P Global REIT, which were 3.47% and 4.46%, respectively (Al Jarira Capital 2020). Furthermore, the mushrooming of REITs has increased competition and thus translated to a more cautionary approach in accepting world class practices in terms of CG. That said, the board of Saudi Arabia's Capital Market Authority (CMA) issued a resolution on March 1, 2021, favoring amendments to REIT regulations and thereby enhancing investor protection and improving REIT governance.

The mediocre performance of Qatar and Kuwait, as shown in Table 3, were in line with the JLL (2020) reports, which placed them in the "low transparency" category. Although they fared better than Saudi Arabia in disclosures and board effectiveness and composition (see Table 4), their performance under the shareholder rights attribute was abysmally low (Al-Saidi and Al-Shammari 2014), which accounted for their lower overall scores. This suggested that these two countries were yet to establish a mandated and well-structured CG framework. Progress had been stalled in Kuwait due to the delayed compliance with CG codes by the end of 2016. Such delayed enforcements postponed the adoption of solid governance practices as entities were immune from punitive measures (see Aguilera et al. 2018). Initiatives were implemented in Qatar to improve the RE market's transparency by introducing new regulatory and registration procedures, such as the state's new RE development law requiring developers to register an escrow account for every project. Most of these initiatives remain in their infancy

due to the disconnect between adopting regulations and enforcing them, with Qatar recording limited overall improvement in real estate market transparency over the past two years. The unsatisfactory performance of Oman in Table 3 explained why the country was in the “opaque” quadrant, as per the JLL 2020 report. Although Oman pioneered the development of a CG code in 2002 along with consistent efforts by the Capital Market Authority (CMA) to enhance and expand their existing CG policies, robust, reliable, and detailed data were all missing for Oman⁶.

5.4. Results of Corporate Governance Deviation Index (CGDI)

As mentioned previously, this study also calculated a CGDI score in addition to the CGS for each firm and country. In Section 4, the CGS (see Appendix A for CGS calculation) calculated for each firm based on an un-weighted approach led to several firms receiving the same score. The CGDI (see Appendix A for calculation) score for each firm was calculated from the CGS of the respective firm, and the average of the CGDI score and CGS was calculated to yield the results for the whole country. The results thus calculated are shown in Table 5 below.

Table 5. Average CGS and CGDI score: a comparison.

| Country | Average CGS | Average CGDI |
|--------------|-------------|--------------|
| Dubai | 28 | 0.11 |
| Abu Dhabi | 24 | 0.06 |
| Saudi Arabia | 23.5 | 0.35 |
| Qatar | 21 | 0.23 |
| Kuwait | 18 | 0.30 |
| Oman | 11 | 0.31 |
| GCC | 20.9 | 0.22 |

Table 5 confirms that countries with a low CGS, such as Kuwait, Qatar, and Oman, had refrained from embracing several CG attributes in the construct, whereas countries with a high CGS clearly revealed that they had adopted most of the common and rare attributes studied in the construct. Fan and Yu (2012) explain the former in the sense that if a firm adopts many common attributes and thus achieves a higher CGS, it will receive a lower CGD score, and vice versa. They also argue that a higher CGD implies the lack of adoption of attributes commonly adopted by the other governance-adhering companies. The results revealed in Table 5 justified the proposition of the other authors. The countries that emerged as the top three when calculating the CGS, namely Dubai, Abu Dhabi, and Saudi Arabia, had comparatively higher average CG scores than their counterparts, Qatar, Kuwait, and Oman. It was also shown that the top three countries with higher average CG scores had lower CGD scores while the other three countries had lower average CG scores and higher CGD scores. In the prior sections of this paper, CGD scores offer a better explanation for those companies who have the same CG score. In this case, we showed that a higher CGD score indicated that the specific company did not adopt as many common attributes as it should have. This is applicable to the results for Saudi Arabia and Abu Dhabi, where their average CG scores were almost the same (23.5 and 24, respectively), but there was a significant difference in their deviation scores (0.35 and 0.06, respectively). This difference suggests that apart from the adopted attributes, Saudi Arabia did not have many of the attributes that were adopted in Abu Dhabi, such as retaining the services of Big Four auditors, releasing an official governance report, documenting directors’ remuneration, and adhering to their CSR. Considering the above reports and facts, our results agreed with the proposition put forth by Fan and Yu (2012) that a higher CGS leads to a lower CGD score and that variations in CGD scores reflect the extent of adherence to common attributes. Since the GCC is considered as a separate region with different political, legal,

economic, and financial features that distinguish it from other regions, the results revealed in this research can be applied primarily to the governance structures of these countries.

6. Concluding Remarks and Limitations

The GCC real estate (RE) market—although in its formative stages—has been in the spotlight as the member countries have the advantage of strong political, social, economic, and regulatory indicators. However, transparency and honesty in business dealings are required in terms of conforming to the required CG in the RE industry. Although CG codes have been enacted in most of these nations, the true spirit of CG arises when the practices are fully integrated into the structural and operational framework of an organization, thus improving the quality of their accountability and governance. The current study constructed a CGI and CGDI for the GCC RE sector by merging the numerous dimensions of a firm's governance system into two indices that have the potential to serve as vital indicators for RE investment decisions in the GCC region. The indices will provide objective information to assist investors in discovering which companies champion good governance, which may translate into better returns in the future. These indices will encourage companies to commit to improved standards of governance to attract FDI and maintain customer trust. The results derived from this study indicate the highest CG adherence levels by Dubai, followed by Abu Dhabi and Saudi Arabia, thus validating their position on the 2020 MENA RE transparency index. We attribute a firm's entrepreneurial identity as well as its governance capacity, socio-cognitive capability, and degree of regulatory enforcement within the context of a dominant governance logic as vital reasons for variations in adherence levels.

At this point, encouraging more REIT formations in the GCC that ensure value propositions, such as liquidity, to both investors and RE companies and solid governance fundamentals is strongly recommended to increase the RE presence and its contribution to national GDP. Apart from the former initiative, it is advisable for Hawkamah, the existing governance ombudsman, to enter into more private–public partnerships to promote and emphasize standardized, world-class international CG practices. These could be uniformly applied to GCC countries as they all share commonalities in their political, social, and economic domains. Such integrations and standardizations would compel firms to obtain solid credit ratings before they issue debt, to be more transparent in financial reporting, to promote laws that prevent insider trading, and to improve education for investors.

That said, the designed construct comes with its own limitations such as the number of attributes studied, the non-inclusion of external governance mechanisms, and the unweighted approach followed in the construction of the indices. Moreover, the inclusion of only one RE company⁷ in Oman limits the validity of generalizing the results to the whole country. In addition, the relationship between CG adherence and firm performance has not yet been verified. This suggests that much more needs to be done to design a comprehensive RE industry system of governance in the GCC and to determine whether CG translates to enhanced firm performance. Additionally, understanding and navigating issues involving under-conformity, over-conformity, and maintaining the status quo with existing governance mechanisms in countries' legal regimes suggest the need for further research on this subject. Future research can also examine the CG adherence levels in GCC REITs and gradually test their effect on performance. Finally, the GCC economies can only maintain their existing competitive advantage by incorporating reformist policies such as solid succession planning, innovation, and adherence to robust governance practices. The CG regimes of GCC countries should move away from referring to their governance efforts as a “tick the box” activity. Instead, they should uphold the concept as a holistic and self-nurturing process.

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Appendix A

1. Annexure (1) of the Oman governance code specifies that the annual reports should be understandable while Article 20 (20.3) of the Qatar governance code specifies that companies must follow IFRS/IAS or ISA standards of reporting. In addition, Annexure (4) (7) (7.2) of the Oman governance code specifies the existence of a website for imparting information. 1. Section D (06) of the Dubai governance code for an SME specifies that the company should utilize international accounting standards. 2. Section D (06) of the Dubai governance code for SME, Article 9 of the Oman governance code, and Article 19 of the Qatar governance code specify that the company should utilize the assistance of an external auditor. 3. Article 9 of the Saudi governance code and Annexure 1 of the Oman governance code specify the disclosure of management compensation. 4. Section D (07) of the Dubai governance code for SME specifies that companies should adopt a formal rule for the identification of business risks. 5. Article 19 of the Oman governance code and Article 13 of the Qatar governance code specify the rules for related party transactions. 6. Section E of the Dubai governance code for SME specifies that companies report their corporate social responsibilities online. 7. Principle 8 of the Bahrain governance code, Article 26 of the Oman governance code, and Article 30 of the Qatar governance codes specify the requirement of a corporate governance report. 8. Bahrain corporate governance code Principle 1 (1.1), Section C (05) of the Dubai governance code for SME, and Annexure 2: (2.2) of the Oman governance code specify the necessity of revealing information related to board meetings and attendance policy.
2. Principle 7 of the Bahrain governance code 2010, Article 5 of the Saudi CGC, and Article 24 of the Qatar governance code outlines the necessity of making the shareholders aware of all pertinent information regarding shareholder meetings. Section B (03) of the Dubai governance code for SME outlines the necessity of informing the shareholders in advance the details of the Annual General meeting. 1. Principle 1 (1.3) of the Bahrain governance code, Section C (05) of the Dubai governance code for SME, Article 12 of the Saudi governance code, Article 3 of the Oman governance code, and Annexure 7: (7.1) of the Oman governance code also outline the importance of avoiding board duality. 2. Principle 1 (1.7) of the Bahrain governance code, Article 9 of the Saudi governance code, and Articles 13, 14, and 15 of the Qatar governance code also specify the importance of these three committees while Article 13 specifies the formation of these committees. However, the Bahrain governance code recommends that the companies also have an executive committee and a risk management committee. 3. Section 1 (1.3) of the Bahrain governance code, Article 9 of the Saudi governance code, Section C (04) of the Dubai governance code, Article 3 of the Oman governance code, and Article 9 of the Qatar governance code also mention the necessity for distinction between executive and non-executive directors. 4. Annexure 4 (2) (2.3) of the Oman governance code specifies that the number of directorships be disclosed. 5. Principle 4 of the Bahrain governance code outlines the necessity of having qualified people on board and Section 3 (Article (5.1) of the Qatar governance code specifies that the company shall be managed by an effective board while Article 9.3 clearly states that the board members should be qualified

3. Annexure 4 (8.3) of the Oman governance code specifies that shareholders be informed about the share-holding pattern of the company. Section A (01) of the Dubai corporate governance code and Article 28 of the Qatar governance code state that the companies share structure and ownership details should be disclosed to shareholders. Article 7 of the Saudi governance code and Article 27 of the Qatar governance code specify the rights of shareholders to be aware of dividend announcement.

4. The CGI components.

The components for computing the CGI for the RE companies in GCC countries are based on 30 attributes classified under three main governance categories, of which 11 attributes belong to disclosure, 11 belong to board effectiveness, and eight belong to shareholder rights. The structures of these attributes are discussed in the following subsections.

Disclosure (11 attributes)

The first category in the CGI is related to the degree of disclosure of material and the pertinent information by the sample companies studied in this paper. The disclosure of accounting standards, such as IASB or GAAP, followed by the company and the presence of Big Four auditing firms is highlighted in this section. Revelations regarding board remunerations, risk management policies, related party transactions, disclosure of corporate social responsibility (CSR), presence or absence of a CG report, and meeting announcements are the other attributes considered in the sub-index.

Board Effectiveness (11 attributes)

This sub-index addresses the attributes pertaining to the prerequisites for an efficient board. It relates to board effectiveness and focuses on 11 attributes that influence board effectiveness. These include factors such as board duality, the presence of various monitoring committees, the director’s independence, the board size, the board shareholdings, and intercompany directorships.

Shareholders Rights (8 attributes)

The third governance category that comprises the CGI is shareholder rights. It includes matters that pertain to the protection of shareholders rights in the company. A review of all the codes in the GCC countries specifies that shareholders should be well informed about meetings in advance and given sufficient information about the profitability and dividend payments related to them. Details such as acceptable shareholding percentages, majority shareholdings, and information regarding dividend disclosure are further factors included in this sub-index.

An unweighted index is then calculated as it has the benefit of considering attributes under a sub-index symmetrically without having to make any subjective judgments on the relative importance of each attribute (see also [Garay and Gonzalez 2008](#); [Gompers et al. 2003](#)). Therefore, no weights have been assigned to the attributes due to the equivocal nature of assigning weights to CG attributes.

The CGS for each firm can be mathematically expressed as follows:

$$CGS_{\ell} = \frac{\sum_{j=1}^{n_{\ell}} \sum_{i=1}^k X_{ij}}{n_{\ell} * (\sum a_k)} \tag{A1}$$

where n_{ℓ} in (A1) is the number of firms in the ℓ^{th} country, subscript j is number of firms counter, i is the attribute counter.

5. The corporate governance index (CGI) for ℓ^{th} country in the GCC can be expressed as:

$$CGI_{\ell} = \left(\frac{\sum a_k}{3} \right)_{\ell}$$

where “a” represents the number of categories (disclosure, board effectiveness, shareholders rights), and K is the total number of attributes. The overall average of CGI for the GCC countries can be expressed as:

$$\overline{CGI}_{GCC} = \frac{\sum_{\ell=1}^6 (\sum \frac{a_k}{3})_{\ell}}{6}$$

The CGI for ℓ^{th} country in the GCC can be expressed as:

$$CGI_{\ell} = \left(\frac{\sum a_k}{3} \right)_{\ell} \tag{A2}$$

where in (A2) above, “a” represents the number of categories (disclosure, board effectiveness, shareholders rights), and K is the total number of attributes. The overall average of CGI for the GCC countries can be expressed as:

$$\overline{CGI}_{GCC} = \frac{\sum_{\ell=1}^6 (\sum \frac{a_k}{3})_{\ell}}{6} \tag{A3}$$

6. First, the authors [Fan and Yu \(2012\)](#) assign a frequency measure f_i for each one of the governance attributes, i where f_i is calculated as the total number of firms adopting an attribute divided by the total number of firms in the country. This frequency can also be interpreted as the probability of an attribute to be adopted in this country. They argue that if a firm adopts many commonly adopted attributes in its home country then the governance deviation index will be low. On the contrary, if a firm does not adopt many commonly adopted attributes or adopts attributes rarely adopted by others, then the firm will have a higher CGD. They define probability $p_{i,1} = f_i$ if attribute i is adopted and probability $p_{i,0} = (1 - f_i)$, otherwise. Therefore, the expected value of each attribute in a country can be defined as:

$$(A_i) = p_{i,1} \times 1 + p_{i,0} \times 0 = f_i \times 1 + (1 - f_i) \times 0 = f_i \quad i = 1 \text{ to } M \tag{A4}$$

The variation of each firm is then computed using the following formula:

$$\sigma_j^2 = \frac{\sum_{i=1}^M p_{i,k} \times (x_{j,i} - E(A_i))^2}{\sum_{i=1}^M p_{i,k}} \tag{A5}$$

$j = 1 \text{ to } N, i = 1 \text{ to } M, \text{ and } k = 1 \text{ (adopted) or } 0 \text{ (not adopted)}$

where $x_{j,i} = 1$ if firm j adopts attribute i and $x_{j,i} = 0$ if firm j does not adopt attribute i . $p_{i,k}$ is the probability of $x_{j,i}$. If $x_{j,i} = 1$, $p_{i,k} = p_{i,1} = f_i$; if $x_{j,i} = 0$, $p_{i,k} = p_{i,0} = 1 - f_i$. The CGDI for each firm is defined as the standard deviation for firm j , that is $GGD_j = \sigma_j$.

Notes

- ¹ As noted by [Acharya and Steffen \(2020\)](#), [Halling et al. \(2020\)](#), [Iqbal et al. \(2021\)](#), [Al-Malkawi and Bhatti \(2020\)](#) and [Li et al. \(2020\)](#) among others.
- ² A real estate investment trust (REIT) is a tax-transparent corporate entity owning or financing income-generating real estate that permits investors to invest in capital-intensive sectors such as real estate. In doing so, they can enjoy the benefits of capital appreciation and diversification. The special features of corporate tax reduction and the distribution of high rates of dividend (USA: 95% prior to 2001, 90% thereafter) provides a liquid structure for illiquid RE. REITs or REIT-like regimes are now present in over 36 countries and made up of over 480 corporations with market capitalization reaching USD 1.544 billion and a dividend yield of 3.7% above the FTSE all-world yield of 2.43% as of February 2017. Depending on their mix of assets, they are classified as equity, hybrid, or mortgage REITs. Equity REITs own real estate; mortgage REITs invest in loans secured by real estate. Hybrid REITs combine both types of investments.
- ³ As far as the GCC is concerned, REITs are somewhat greenfield in terms of CG, although GCC markets have recently displayed a surge in activity in the region’s relatively new REIT market. The GCC is home to a few REITs, namely the Emirates REIT and ENBD REIT, which are listed on the Nasdaq Dubai, as well as AL JAZIRA Mawten Find REIT fund, Riyadh REIT fund, and the JAdwa REIT Al Haramain Fund, which are listed on Saudi Arabia’s stock exchange TADAWUL. Meanwhile, the Eskan Bank

Realty Income Trust is listed on the Bahrain stock exchange. The Abu Dhabi Financial Group (ADFG) has announced its intention to launch the Etihad REIT while Qatar and Kuwait have remained reticent about the same. However, the growth of the REIT regime is currently stalled in the region due to foreign ownership restrictions, in contrast to several developed markets where 100% foreign ownership is permitted.

- ⁴ It is important to note that Fan and Yu (2012) calculated the CGD for countries following civil law and common law. However, although the GCC countries follow civil law, they cannot be compared with the civil law countries studied by these authors as they have included 15 European countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Japan, Netherlands, Norway, Portugal, Spain, Sweden, and Switzerland). These countries have extremely sound, mature, and fundamental governance bases, in contrast to the GCC countries where the governance concept is relatively new. In addition, they have included attributes related to market takeovers, poison pills, and in-depth voting details, all of which cannot be applied to the developing GCC market.
- ⁵ This conclusion is made on the basis on one listed RE company on the Oman stock exchange.
- ⁶ This conclusion is made on the basis on one listed RE company on the Oman stock exchange.
- ⁷ There was only one company listed on the Muscat Stock exchange as of 2019.

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