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# ESG issues in emerging markets and the role of banks

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## **Abstract**

We explore the most relevant forces impacting the shift towards more ESG-related strategies in emerging markets. These include the challenges of climate change, social inequalities, and stakeholder-oriented corporate governance. We focus on banks’ role in BRICS countries that are the biggest and fastest growing emerging markets economies over 2009-2020. We also discuss how the ESG agenda has been pushed by the United Nations (UN) and by regulators. Our evidence shows that banks’ specific adoption of international sustainability frameworks and agreements such as the Global Reporting Initiative (GRI) are significant drivers of ESG engagement. Moreover, we find that a stronger ESG regulatory approach enhances banks’ sustainability practices in BRICS countries, especially for those that have lower average ESG scores. Two main implications can be drawn from our study: (i) banks should be encouraged to adopt international frameworks which provide universal minimum standards for corporate responsibility; and (ii) to improve the overall ESG information environment, mandatory disclosure rules should be introduced at country level.

**Keywords:** ESG Ratings; Environmental, Social and Governance Performance; Emerging Markets; BRICS Countries; Sustainable Practices Regulation.

## 1. Introduction

Environmental, Social and Governance (ESG) issues are becoming central to firms' investment decisions in many countries around the world. The potential global risks stemming from unsustainable growth and environmental disaster have led the international community to give a bigger weight to corporate sustainability. From the UN Global Compact and the identification of Sustainable Development Goals (SDGs) goals, to the adoption of the Paris Agreement<sup>1</sup>, many countries worldwide have committed to achieving better planet conditions including zero carbon emissions by 2050 with intermediate targets to be reached by 2030. The recent Covid-19 outbreak impacted on these action plans by contributing to greater global uncertainty and posing serious challenges for many businesses and across industries. It has also shown the urgent needs for building resilience in the financial sector, reducing inequalities and allowing a more sustainable growth.

Many commentators observe that despite recent difficulties, the pace of green change has rapidly accelerated in the society as a by product of the pandemic (Martin, 2020). Two considerations have to be made here. The first is that the planet's future and sustainability depend on all countries' actions in the world, in the spirit of the World Health Organisation (WHO)'s refrain during the pandemic that "no-one is safe until everyone is safe". The second is that, although some countries have made considerable advances in sustainability legislation, practices and reporting, others lag significantly. A case in point is that of the European Union (EU) member states that have made

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<sup>1</sup> Adopted in 2015, the Sustainable Development Goals (SDGs) are a universal set of 17 goals with 169 corresponding targets that were agreed upon by UN member countries to solve some of the world's global challenges within 15 years. Among the main objectives are to end poverty, improve health and education, reduce inequality, spur economic growth and concretely tackle climate change. The Paris Agreement is a UN Framework Convention signed in Paris in 2015 aimed at addressing climate change by taking policy action among signing countries. In relation to the financial sector, one of the core objectives of the Agreement is to "make finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development".

extensive progress in recent years, paving the way to several vital reforms primarily to listed firms.<sup>2</sup> In contrast, in the majority of emerging countries progress has been slower as their economies rely on small businesses, and there are also supply chain issues to be considered. In addition, institutional factors and lack of reliable data are two major barriers. Emerging markets often carry a greater risk of institutional failures due to more opacity, corruption, and political instability (Gao et al., 2017). These factors affect firms' behaviour and more generally the level of trust in the country's system and institutions. Since bank-based financing is more prevalent in emerging markets, in this chapter we focus on the fundamental role of the banking sector.

This chapter's main aims are: (i) to carry out a literature review of the most relevant and recent studies on corporate social responsibility regulation in BRICS (Brazil, Russia, India, China and South Africa) using a systematic method; and (ii) to evaluate how BRICS countries compare in terms of ESG focus and to assess whether country-specific regulatory initiatives have had any impact. For this empirical analysis we employ data from Thomson Reuters Refinitiv, over the period 2009-2020 and run univariate and multivariate statistical approach.

Our main findings suggest that ESG practices in BRICS countries require further development and more robust investments, especially to fill the gap with banks operating in developed countries. More specifically, first our analysis shows a fragmented puzzle in the ESG engagement in Brazil as a leader on all ESG aspects (ENV, SOC and GOV factors), whereas China appears as a laggard. Second, we find that bank size and the adoption of an international reporting framework such as the Global Reporting Initiative (GRI) are key drivers of bank-specific specific ESG engagement. Similarly, our data reveal that being a "signatory bank" of the Global Compact (GC), positively correlates with better corporate governance engagement. Finally, by performing a univariate analysis built around the

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<sup>2</sup> Recently, the European Commission has published a "Sustainable Finance Action Plan", with the aim of defining all actions to be adopted to build a financial system oriented to social, environmental and economic sustainability (European Commission, 2018).

country-specific regulatory actions (see Section 2 and Table 3) to strengthen firms' ESG engagement, we find greater effectiveness of a mandatory approach than the voluntary one. For example, we find after implementing The Companies Act in 2013, Indian banks increased their ESG score by about 14%. Similarly, Chinese banks positively changed about 10% of their ESG engagement after implementing the Corporate Social Responsibility (CSR) reporting Directive in 2008. Finally, the adoption of mandatory corporate governance requirements in Russia in 2014, appears associated with a more robust banks' engagement of about 8%, thus corroborating the importance of a stricter sustainability regulation in emerging markets.

The chapter is organised as follows. Section 2 offers an overview of recent ESG developments and the role of banks with a particular focus on emerging market. It also offers a review of the most relevant literature on ESG issues in BRIC countries. Section 3 summarizes the data and methodology used for the empirical analysis. Section 4 illustrates the main results. In Section 5 we provide a brief discussion of our findings and some concluding remarks.

## **2. Literature review**

### *2.1 ESG developments and the role of banks*

The ESG literature is relatively developed for the EU and US, whereas in emerging markets there is less research available and regulation is less clearly defined. Duttagupta and Pazarbasioglu (2021) argue that although emerging economies are diverse and defy a uniform narrative, they have some common attributes such as sustained market access, progress in reaching middle-income levels and greater economic relevance. Typically these economies are much more engaged with global markets than the majority of developing economies and this justifies the focus of this study on BRICS. BRICS countries are the largest globally with a sizeable population and a strong potential involvement on the global supply chains; hence, with their actions and decisions, they can impact profoundly the

environment. This suggests that in a post-pandemic era, there is a need to push towards ‘smart’ fiscal policies such as government investment spending, ideally targeted to sustainable projects, particularly in the large emerging economies like BRICS (see e.g., O’Neill, 2021).

Banks have a dual responsibility in this context because not only they are companies themselves, but also for the potential they have to select and finance sustainable businesses and projects in emerging economies which could impact the environment. This means that banks will be indirectly damaging the environment or breach human rights every time they lend to highly polluting companies, or to companies that mistreat or discriminate against their employees. In addition, evidence shows that banks that care more about social performance are more resilient and less risky (Bouslah et al., 2018) which translates in a more sustainable financial sector as a whole. Similarly, Azmi et al. (2021) find that environmentally friendly activities have the greatest effect on bank value and highlight a positive relationship between ESG activity and both cash flows and efficiency.

Over the past two decades, some progress has been made as banks have begun to pursue sustainability strategies, and many have endorsed or adopted global agreements which share the ESG values. Table 1 provides a list of the most relevant since 1992. Yet, according to a 2019 Bloomberg report banks ‘have dabbled in “responsible banking” only symbolically’. Although the corporate lending tied to cutting emissions or reducing food waste has surged eight fold in 2018 to \$36.4 billion, the Bloomberg report further says that sustainable lending is still small in the overall lending.

[Insert Table 1 about here]

On the other hand, ESG risks can impact banks directly (if, for example, their premises are affected by extreme weather) and indirectly, through their customers’ higher loan defaults. Some examples of ESG risks faced by banks is provided in Table 2 and distinguishes between environmental (ENV), social (SOC) and governance (GOV) risks. A study by KPMG (2021) has identified both a

financial and an extra financial dimension of ESG risks faced by banking institutions. The former refers to the consequences from ESG developments on the business models of both banks and their customers; while the latter focuses on the impact of banks' actions on environmental or social issues of ESG risks faced by banking institutions. However, the recent study by Whelan et al. (2021) reports more than 200 empirical studies published since 2015 that showed that ESG boosted returns and improved downside protection, notably during a social or economic crisis.

[Insert Table 2 about here]

There are a number of relevant forces and factors that have developed over the past decade, impacting the shift towards more ESG-related strategies in emerging markets. These include the challenges of climate change, social and income inequalities, governance and more recently, the impact of the Covid-19 pandemic. In terms of country-specific regulatory interventions, Table 3 illustrates the CSR reporting and sustainable corporate governance directives in BRICS countries.

[Insert Table 3 about here]

Specifically, we observe two main approaches to ESG practices and regulation in BRICS countries: i) a softer approach adopted by Brazil, Russia and South Africa, based on firms' voluntary disclosure rule; ii) a more stringent approach adopted by India and China, based on firms' mandatory disclosure including sanctions and incentives.

Public listed firms are also required to disclose sustainability practices adoption by favouring the spread of internationally recognized accounting frameworks such as the Global Reporting Initiative framework (GRI) and/or the signatory of environmental and social sustainability agreements like the UN Global Compact. Specifically, the aim of the GRI initiative consists of improving the accountability and quality of environmental, social, and governance activities (Global Reporting

Initiative, 2011). It is a voluntary framework that can be adopted by firms worldwide which, by complying with their guidelines are able to harmonize the disclosure of CSR practices. Similarly, the UN Global Compact is a call to companies everywhere in the world to voluntarily align their strategies with ten universal sustainability principles in the areas of human rights, labour, the environment, and corruption.

## *2.2 CSR regulation, ESG engagement and performance in BRICS countries*

To gauge the scientific contributions on CSR regulation in BRICS countries, we use systematic method to identify and review all papers on these themes published in the fields of banking, finance and economics available in the Scopus database until the first quarter of 2021. Existing research on aspects related to ESG issues is typically associated with CSR literature and most papers use the two acronym interchangeably (see eg. Liang and Renneboog, 2010). Similar to the approach of Kraus et al. (2014) and Diez-Vial and Montoro-Sanchez (2017), we select the following four groups of keywords: (1) CSR regulation + emerging markets, (2) CSR regulation + BRICS countries, (3) mandatory CSR disclosure + emerging markets, and (4) mandatory CSR disclosure + BRICS countries. We focus on published papers in journals that are recognised as the most respected internationally in terms of novelty, significance and academic rigour. The final sample consists of 11 articles, directly exploring the relationship between CSR regulations and firms sustainability and/or performance in BRICS countries. There are 5 papers each from India and China and one on South Africa (Table 4) and none on Russia.

In India, studies following the adoption of the Indian Companies Act in 2013, that requires firms with a minimum net worth of Rs 500 crore, turnover of Rs 500 crore or profit of Rs 5, to spend at least two percent of their three-year average annual net profit on social welfare initiatives, find mixed results both on its effectiveness and on firm performance. For example, Aswani et al. (2018)



provide evidence that the CSR mandate is value decreasing, but only for firms that were not compliant before the adoption of the directive. Hickman et al. (2021) find that firms reporting CSR expenditures before the passage of the Act benefit from more earnings management using CSR engagement manipulatively in the pre-directive period.

[Insert Table 4 about here]

Conversely, Manchiraju and Rajgopal (2017) stress that the Cumulative Abnormal Returns (CAR) around key events leading to the passage of the mandatory CSR rule is negative for Indian firms, warning on the risk of imposing social burdens on business activities at the expense of shareholders. Kansal et al. (2018) argue that the disclosures across all CSR themes in India are primarily narrative rather than quantitative or in monetary terms, suggesting to policymakers the need to assess practices and specific CSR requirements to enhance the performance and quality of sustainable practices. In contrast, Nair et al. (2019) by investigating the impact of the 2013 Act on financial transparency, find that CSR disclosure improves financial transparency, especially for firms owned by retail investors.

The studies investigating the financial and sustainability consequences of the 2008 CSR mandatory regulation in China seem to be more likely to suggest a positive effect of CSR regulation on firms' performance. For example, Liu and Tian (2021), by examining the impact of mandatory CSR disclosure on firms' investment efficiency in China, conclude that firms subject to the regulation have decreased investment inefficiencies after the mandate, especially in cases of overinvestment. Similarly, Xu et al. (2020) find that mandatory CSR disclosure enhances firm value. Gong et al. (2018) find that CSR disclosure quality associates with lower costs of corporate bonds, and Wang et al. (2018) that mandatory CSR disclosure constrains earning management and mitigates information asymmetry, ultimately improving firms' financial reporting quality. Conversely, Chen et al. (2018) document a firms' profitability decrease after adopting the 2008 mandatory CSR requirement in China. More

precisely, the authors focus on CSR expenditure for Chinese firms, which increased after adopting the directive. This effect seems to be offset by a reduction in pollution in cities most affected by the directive. However, the positive effect of the directive in environmental terms comes at the expenses of shareholders and firm value, which strongly decreased in the post-directive period.

Concerning South Africa, the only study we identified and reviewed by Stolowy and Paugam (2018) highlights the lack of convergence in definitions of non-financial reporting between regulators, quasi-regulators and standard setters.

Overall, the literature on ESG engagement in BRICS countries is generally quite limited and most studies appear to focus on China and India and on non-financial firms. To investigate the issue further we aim to: (1) explore ESG trends of banks headquartered in BRICS countries over a relatively long period (2009 to 2020); (2) test bank specific determinants of ESG performance in BRICS countries and (3) examine the effect of BRICS countries-regulations on banks' ESG engagement.

### **3. Data and Methodology**

#### *3.1 Data sources*

Our study focuses on bank-specific and regulatory forces affecting banks' CSR engagement in Brazil, Russia, India, China and South Africa (the five so-called BRICS countries). We collect data on sustainability performance measures from Thomson Reuters' Refinitiv<sup>3</sup> over 2009-2020 for financial firms headquartered in BRICS. Our final sample consists of 61 banks geographically distributed as follows: 8 in Brazil, 4 in Russia, 17 in India, 26 in China and 6 in South Africa. We follow the literature (Cheng et al., 2014; Liang and Renneboog, 2017, among others), and proxy banks' CSR engagement with ESG scores, which are designed to transparently account for a firms' relative ESG performance

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<sup>3</sup> Thomson Reuters' Refinitiv is an enhancement and replacement of Thomson Reuters ASSET 4. We use Thomson Reuters and Thomson Reuters' Refinitiv as interchangeable in the text.

and across the following themes: resource use, emissions, environmental product innovation, workforce management, community respect, human rights protection, product responsibility creation, CSR strategy communication, shareholders' engagement and inclusive board management. Thomson Reuters' Refinitiv ESG scores range from 0 (worst) to 100 (best). Table 5 provides the definitions for each ESG pillar and for the GRI and Global compact signatory dummies.

[Insert Table 5 about here]

### 3.2 Empirical model

Our identification strategy consists of two steps. The first aims to find bank-specific characteristics mostly correlated to ESG engagement. Secondly, we conduct a univariate statistical analysis to capture banks' ESG engagement before and after the introduction of country-specific mandatory CSR regulation. Our baseline model is a panel fixed effect regression specified in equation (1):

$$ESG_{i,t} = c + \beta_1 GRI_{i,t} + \beta_2 GC_{i,t} + \beta_3 X_{i,t-1} + \delta_i + \alpha_t + \varepsilon_{i,t}. \quad (1)$$

where our dependent variable is the banks' engagement in socially responsible practices measured by employing, alternatively, the following scores: the aggregate *ESG* score, the *ENV* score, the *SOC* score and the *GOV* score. *GRI* is a score reflecting banks' compliance with the Global Reporting Initiative accounting framework; *GC* is a dummy variable taking a value of 1 for banks signatory of the Global Compact and 0 otherwise; *X* is a set of bank controls correlated to ESG score, and  $i$ ,  $\alpha_t$ ,  $\varepsilon_i$  represent, respectively, time, country fixed effects and the error term respectively. Specifically, motivated by previous studies on socially responsible engagement (Lys et al., 2015; Chen et al., 2018; Liang and Renneboog, 2017; Paltrinieri et al. 2020), we control for the following variables that may affect banks' ESG practices: the Global Reporting Initiative (GRI) score is equal to 1 for banks adopting the GRI

framework and 0 otherwise; the Global Compact Signatory (GC) dummy variable, equals 1 for signatory banks and 0 otherwise; banks' SIZE, measured as the natural logarithm of total assets, banks' capitalisation ratio, measured as equity to total assets (EQ\_TA); a proxy for credit risk expectations, that is loan loss reserves to gross loans (LLR\_GL); an efficiency ratio measured as cost- to-income (CIR); a profitability ratio, the return on average equity (ROE); and finally, a liquidity ratio measured as cash to total assets (LIQ). These control variables are designed to capture the widely recognized positive effects of firms' performance on the level of socially responsible engagement (Liang and Renneboog 2017), and thus to find banks' specific characteristics mostly correlated to ESG, ENV, SOC and GOV performance. Table A.1 in Appendix shows that although most pairwise correlation coefficients are statistically significant, the magnitudes are relatively low.

## **4. Empirical analysis**

### *4.1 Multivariate analysis*

Figure 1 illustrates the minimum, first quartile, median, third quartile, and maximum values using box and whisker plots of ESG, ENV, SOC and GOV scores by selected countries.

[Insert Figure 1 about here]

The box plot in Figure 1 shows that Brazilian banks reached the highest median values of ESG, scores, followed by South Africa, India, Russia and China. However, Brazilian banks are those with the greatest variability on ESG engagement (as represented by the extended blue area), especially on ENV performance, thus indicating a weak ESG performance convergence within the industry. Similarly, Figure 1 reveals a higher presence of outliers in South African banks, particularly for the ENV and SOC scores. These preliminary results may reflect the different exposure to global financial markets of South African banks, thus capturing again a fragmented picture. Finally, looking at the

median value of the ESG score, Figure 1 suggests that there is room to further adopt it, especially for Chinese, Indian and Russian banks, which obtain scores highly below the mean value of the ESG distribution. Figure 2 presents the time trend evolution of ESG, ENV, SOC and GOV scores from 2009 to 2020 of Brazilian, Russian, Indian, Chinese and South African banks.

[Insert Figure 2 about here]

The figure clearly illustrates a steady growth of ENV, SOC and ESG ratings since 2009 for BRICS countries, with the only exception for the GOV component, that follows a different trend as it is slightly higher in 2009, although it exhibits a lower variation over the period. Figure 3 partially confirms the box and whisker plot results shown in Figure 1, by disentangling ESG, ENV, SOC and GOV score by countries and years. Although Brazilian banks are on average the most engaged over the period, they seem to suffer in the most recent years, most likely due to the recent political developments. As widely stated in the literature (see e.g., Detomasi et al., 2008) the demand for firms' socially responsible activities can depend upon the political structure, where typically democrats' parties are more prone to make pressure on ESG activities (Di Giuli and Kostovetsky, 2014). Conversely, Indian banks are those obtaining the higher ESG, ENV, SOC and GOV growth rating, clearly represented by the yearly increasing trend.

[Insert Figure 3 about here]

#### ***4.2 Regression analysis: banks' determinants of ESG engagement***

Table 6 shows the results of the OLS regression specified in equation (1). In particular, looking at the banks' specific covariates mostly correlated to the ESG, ENV, SOC and GOV scores, we rely on the statistical significance of GRI framework adoption, and of the Global Compact for the GOV score. Table A.3 shows that only the 21% and 20% of banks in our sample adopt the GRI framework

and are signatory of the UN Global Compact (respectively). Nonetheless, our results confirm the importance of internationally recognized ESG disclosure frameworks in favouring the spread of socially responsible engagement in BRICS countries. They are also in line with the literature (Romolini et al., 2014), which considers the GRI adoption essential in the process of standardisation and harmonisation of the disclosure of socially responsible practices.

[Insert Table 6 about here]

Concerning bank-specific variables, Table 6 reveals that the most correlated variable to ESG scores is bank size. This result is confirmed in the ESG literature (see Liang and Renneboog, 2017) that also finds that on average larger banks invest more in ESG. Looking at bank capitalisation, proxied by equity over total asset (EQ\_TA), we find a negative association with both ENV and SOC score, and a positive one with GOV. Thus, our evidence allows us to confirm the “doing good by doing well”<sup>4</sup> argument only for the GOV components.

Similarly, ROE is statistically significant and negatively correlated only to ESG and GOV score, while for the liquidity ratio (LIQ) the relationship is significant (and negative) only with SOC. Taken together, these results indicate that banks headquartered in BRICS countries seem to typically engage on ESG practices especially at low levels of profitability (proxied by return on equity) and liquidity.

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<sup>4</sup> “Doing good by doing well” means that banks invest on ESG only if they are profitable (Hong and Kubik, 2012). It should not be confused with “doing well by doing good”, that refers to the case where ESG investments enhance profitability (Dowell, Hart, and Yeung, 2000).

### *4.3 Univariate analysis: Country regulation and banks' ESG engagement*

We also run a univariate analysis of the effects of country-specific regulations on banks' ESG engagement. Specifically, by carrying out five different t-tests (one for each of selected countries) during pre and post directive periods, we examine if ESG scores changed or not after the following policy interventions: the 2012 Brazilian “comply or explain” recommendation for listed firms; the 2014 adoption of the corporate governance code in Russia; the 2013 Indian Companies Act; the 2008 Chinese mandatory CSR reporting requirements; and the 2009 South African King Act.

Table 7 reveals that the changes from pre- to post-country regulation is statistically significant only for Russian, Indian and Chinese banks. More precisely, Indian banks increase by 14% their ESG values, Chinese banks by 10% and Russian banks by about 8%. Conversely, Brazilian, and South African banks do not seem to be significantly affected by sovereign regulation. These results are confirmed in Figure 4, which corroborates a significant change of ESG engagement distribution among banks headquartered in India and China. Although these results are mainly descriptive of ESG scores during pre to post government regulation, and thus may be affected by unobservable factors, we interpret them as if the stronger the country ESG regulation and the greater the ESG commitment. Therefore, we rely on the importance of clearer and stronger public actions in enhancing the environmental and social sustainable transition, especially in BRICS countries.

[Insert Table 7 about here]

[Insert Figure 4 about here]

## **5. Discussion and conclusive remarks**

Environmental, Social and Governance (ESG) issues are of growing importance for organisations all over the world. Banks have a dual responsibility because on one hand they are companies themselves, and on the other they have a critical role in channelling funds towards

sustainable and responsible businesses and investments and in facilitating access to financial products. This chapter sets out to explore the current state of knowledge on ESG-related strategies, regulation and practices, with a specific focus on BRICS countries, that are the biggest and fastest growing emerging markets economies. It also empirically investigates the main drivers and factors explaining banks' environmental, social and governance performance.

Our findings show that banks operating in Brazil appear to be the most engaged on all ESG aspects; however, they also reveal a remarkable variation in the distribution of environmental and social scores hence suggesting the need for more harmonisation and convergence in the industry. Among the laggard countries, Chinese banks seem to perform significantly better on environmental aspects than on social and governance dimensions. Although the average ESG scores for BRICS are lower than in developed countries, we speculate that recent international social and political push for climate neutrality positively affected BRICS banks' overall sustainable engagement. Looking at banks' specific forces determining ESG performance, in line with previous studies, we find that size matters for sustainability, as bigger banks show a stronger ESG engagement.

Our evidence also confirms the importance of international sustainability reporting standards and guidelines such as the voluntary framework GRI and the UN Global Compact, as significant drivers of banks' ESG performance. It also demonstrates the central role of ESG regulation in enhancing banks' sustainability practices in BRICS countries. Last but not least, after comparing BRICS regulatory actions toward a more sustainable business engagement (such as CSR disclosure regulations) during 2008 to 2020, we find that the 2013 Company Indian act, the 2008 CSR disclosure regulation in China and the 2014 Russia corporate governance code are most effective in enhancing banks ESG performances.

Although our results are robust to different specifications (univariate and multivariate statistical analysis), they may be subjected to limitations and further development. Firstly, our findings may be affected by the data provider coverage limits, thus it would be useful to use alternative source of ESG



data to compare and discuss possible differences. This is in line with recent contributions (see e.g., Berg et al., 2020) highlighting the divergence of environmental, social, and governance (ESG) ratings by rating agency. Secondly, our results should be interpreted as correlations between target variables and the dependent ones. Therefore, future research might investigate similar research questions by employing a more sophisticated econometric framework strictly designed for causal inference.

Overall, this study confirms the importance of the demand-side as a driver for firms to develop ESG practices and contributes to the debate on sustainable business adoption in emerging markets. There are two main implications that can be drawn from our study that can potentially be generalised to other emerging countries: first, banks should be encouraged to adopt international frameworks which provide universal minimum standards for corporate responsibility, as these seem to be associated to higher ESG ratings. Second, to improve the overall ESG information environment, our findings also point to the importance of introducing mandatory disclosure rules at country level. This seems a critical point, because our analysis has clearly shown that BRICS countries designing more challenging corporate sustainability regulations obtain greater results in terms of ESG engagement than those relying on softer ones (e.g., Brazil and South Africa). Our evidence appears to be of pivotal importance in shaping sustainable business adoption and the need for more responsive policies in emerging markets, especially in light of the growing challenges the financial industry will face in the post-COVID-19 era.

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**Table 1. Global agreements on sustainability relevant to the financial sector**

| Date | Agreements   | Commitment  |
|------|--|---|
| 1992 | UNEP (United Nations Environment Programme) Finance Initiative (UNEP FI) | A global partnership established between the United Nations Environment Programme and the financial sector to accelerate the sustainable finance transition.  |
| 1997 | Global Reporting Initiative (GRI)  | A framework proposing international guidelines of sustainability accounting to give the possibility to companies and organizations to align with them, enhancing the disclosure transparency.   |
| 2000 | United Nations Global Compact  | A global framework aimed at aligning strategies and operations to with principles such as human rights respect, labour, environment and anti-corruption   |
| 2000 | CDP Climate Change Programme   | It is a not-for-profit charity aimed at encouraging the global disclosure system for investors, companies, cities, states and regions to reduce their environmental impacts.  |
| 2003 | Equator Principles   | It is a risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk in projects and business.   |
| 2006 | Principles for Responsible Investment (PRI)                              | It is a UN-supported network of investors and institutions aimed at promoting sustainable finance by incorporating environmental, social and governance matters in their businesses.  |
| 2010 | Climate Bonds Initiative   | It is an international, investor-focused not-for-profit organization aimed at promoting investment in projects and assets necessary for a rapid transition to a low carbon and climate resilient economy.   |
| 2012 | Principles for Financial Action towards a Sustainable Society            | A set of guidelines for action by financial institutions concerned with the future of the planet and seeking to fulfil their actions towards environmental, social and governance aspects.  |
| 2013 | Cross Sector Biodiversity Initiative (CSBI)                              | It is a partnership between IPIECA, the International Council on Mining and Metals (ICMM) and the Equator Principles Association, the European Bank for Reconstruction and Development (EBRD), the International Bank for Reconstruction and Development (IFC) and the Inter-American Development Bank (IDB) aimed at developing and sharing good corporate governance practices related to biodiversity and ecosystem services in the extractive industries. |
| 2014 | Montreal Carbon Pledge   | It is a signatory framework for institutional investors having a duty to act in the best long-term interests of stakeholders and that recognize the existence of long-term investment risks associated with greenhouse gas emissions, climate change and carbon regulation.   |
| 2015 | TCFD (Task Force on Climate-related Financial Disclosures)               | It is a task force created by the Financial Stability Board aimed at improving and increasing reporting of climate-related financial information.   |
| 2015 | The Paris Agreement  | The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 (Conference Of the Parties) in Paris, on 12 December 2015 and entered into force on 4 November 2016. Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.  |
| 2017 | The Social Bond Initiative   | It is a voluntary framework proposing guidelines such as transparency and disclosure to promote integrity in the development of the Social Bond market by clarifying the approach for issuance of a Social Bond.  |
| 2018 | Climate Action 100+  | It is an investor-led framework to ensure the world's largest corporate and industry greenhouse gas emitters take necessary action on climate change.   |
| 2019 | Principles for Responsible Banking                                       | A framework for ensuring that signatory banks' strategy and practice align with the Sustainable Development Goals and the Paris Climate Agreement   |

**Table 2. ESG Risks faced by banks**

| Environmental Risks  |  | Social Risks   | Governance Risks  |
|--|--|--|---|
| Physical risks<br>(arising from the physical effect of climate change)   | Transition risk (arising from the transition to a low-carbon and climate resilient economy)  |  |   |
| Deteriorating conditions in climate and extreme weather events such as:<br>- Sea level rise<br><br>- Droughts<br><br>Supply Chain Collapse | Reactions of legislator/regulator to promote sustainability or bans on unsustainable activities (e.g. CO2 tax)<br><br>Structural changes in demand and supply for products, services and commodities | Noncompliance with labour standards<br><br>Inadequate payment of labour<br><br>Lack of assurance of industrial safety standards and health protection for employees<br><br>Lack of assurance of product safety | Compliance with tax law<br><br>Corruption or attempted bribery<br><br>Inappropriate senior management compensation<br><br>Lack of proper assurance of data protection |

Source: Adapted from EBA (2020) and KPMG (2021).

**Table 3. CSR reporting and Sustainable Corporate Governance regulation in BRICS countries.**

This table shows the CSR reporting and Sustainable Corporate governance directives in BRICS countries.

| Country      | Implementation Year | Authority/ Act   | Voluntary/ Mandatory  | Rule description   | Sanctions/Incentives  |
|--------------|---------------------|--|---|--|---|
| Brazil       | 2012                | Bovespa Market Exchange.   | Voluntary for all listed companies.   | The Authority releases ‘comply or explain’ recommendations for all listed companies, encouraging them to state whether they publish a regular sustainability report and where it is available, or explain why not.   | None  |
| Russia       | 2014                | The Moscow Exchange.   | Mandatory for all listed companies.   | The Authority implements new listing rules to upgrade the requirements for issuers to meet the Central Bank's new Corporate Governance Code. To be included in Level 1, an issuer must have a board with at least 20 percent, and no fewer than three, independent directors. Issuers' boards are required to create audit, personnel, and remuneration committees comprised of a majority of independent directors. | None  |
| India        | 2013                | The Companies Act 2013 is an Act of the Parliament on Indian company law (applicable since 2014).                          | Mandatory depending on the company's turnover, net worth or net profits.                            | The Act makes mandatory for companies with a net worth of more than Rs 500 crore, or turnover of Rs 1,000 crore, to adopt a CSR policy. Companies with a minimum net worth of Rs 500 crore, turnover of Rs 500 crore or profit of Rs 5 crore are required to spend at least two percent of their three-year average annual net profit on social welfare initiatives  | Failure to explain is punishable by a fine on the company of not less than INR 50,000 (about US\$833) and up to INR 25 lakhs (about US \$41,667). Further, officers who default on the reporting provision could be subject to up to three years in prison and/or fines of not less than INR 50,000 rupees (about US \$833) and as high as INR 5 lakh (about US \$8,333). |
| China        | 2008                | The Shanghai Stock Exchange (SSE) by issuing the Shanghai CSR Notice and the Shanghai Environmental Disclosure Guidelines. | Mandatory for all listed companies.   | Listed firms on both SSE and SZSE (Shenzhen Stock Exchange) are required to disclose their CSR activities. The SSE has also developed the concept of social contribution value per share (SCVPS) to measure a company's value creation.  | i) Incentives like priority election into the Shanghai Corporate Governance Sector are offered to companies promoting CSR activities.<br>ii) Delisting and punishment for firm failing to disclose CSR activities   |
| South Africa | 2009                | King Committee on Corporate Governance, by issuing The King III Corporate Governance Act.                                  | Voluntary for all companies and mandatory to be listed in Johannesburg Stock Exchange (as of 2010). | The King III code requires that firms describe financial, social and environmental factors within the report. Specifically, all company's “material matters”, including sustainability risks, should be disclosed in a timely manner.  | None  |

Source: <https://iri.hks.harvard.edu/csr>

**Table 4. Literature review on CSR regulation in emerging markets**

This table shows the literature related to CSR reporting directives in emerging countries in established academic journals.

| Author/s Name           | Year of publication | Country of analysis | Research Objectives  | Methods and data  | Main findings   |
|-------------------------|---------------------|---------------------|--|---|---|
| Aswani et al.           | 2021                | India               | Investigates the value impact of CSR reporting spending requirement by the Indian Act 2013.                | <i>Methods:</i> Cross-sectional analysis of the firm's cumulative abnormal return, by performing pooled OLS regression.<br><i>Data:</i> Non-financial listed firms in India.  | CSR reporting mandate is value decreasing for firms not voluntarily engaged. Firms that voluntarily engage in CSR, benefit from the externally imposed mandate.   |
| Chen et al.             | 2018                | China               | Examines how mandatory disclosure of CSR impacts firm performance and social externalities.                | <i>Methods:</i> Cross-sectional analysis of firms' CSR performance and value, by performing a difference in difference regression.<br><i>Data:</i> Non-financial listed firms in China (A-Share, which are domestic shares that are restricted to domestic investors and Qualified Foreign Institutional Investors) | Firms included in the 2008 disclosure mandate subsequently experience a decrease in profitability. In addition, the cities that are most impacted by the CSR disclosure mandate experience a decrease in industrial wastewater and SO <sub>2</sub> (Sulphur Dioxide) emission levels after the mandate. |
| Hickman et al.          | 2021                | India               | Analyses the relationship between CSR engagement and earnings management pre and post the Indian Act 2013. | <i>Methods:</i> Cross-sectional analysis OLS regression of management measures, by performing an OLS regression.<br><i>Data:</i> Non-financial listed firms on the Bombay Stock Exchange  | Managers substituted real activities manipulation for accruals-based manipulations while the greater regulatory enforcement of governance and reporting standards via the Act may have motivated other managers to decrease their real activities management.   |
| Manchiraju and Rajgopal | 2017                | India               | Focuses on the effect of the 2013 Indian Act on shareholders' value.                                       | <i>Methods:</i> Cross-sectional analysis which combine the event study approach with a regression discontinuity design (RDD) to document the effect of CSR rule on firm value.<br><i>Data:</i> Non-financial listed firms on the Bombay Stock Exchange  | The cumulative abnormal return (CAR) around key events leading to the passage of the mandatory CSR rule is negative for firms affected by this regulation. Overall, results suggest that mandatory CSR activities can impose social burdens on business activities at the expense of shareholders.      |
| Stolowy and Paugam      | 2018                | South Africa        | Explores the changes in the extent and type of NFR reported by firms in South Africa.                      | <i>Methods:</i> Cross-sectional analysis of the firm's CSR performance, by performing a logistic regression.<br><i>Data:</i> Non-financial listed firms in Europe, United States and South Africa stock market exchange.  | There is a lack of convergence in definitions of NFR between regulators, quasi-regulators and standard setters. Moreover, they document a rise in the amount and extent of NFR from 2006 to 2016 in a leading country on matters of corporate reporting: South Africa.                                  |
| Liu and Tian            | 2021                | China               | Considers the effect of mandatory CSR disclosure on firms' investment efficiency in China.                 | <i>Methods:</i> Cross-sectional analysis of the firms' investments inefficiency using a difference-in-difference method combined with propensity score matching to construct the research sample.   | Firms subject to the mandatory CSR regulation have decreased investment inefficiency subsequent to the mandate, especially in cases of overinvestment.  |

|               |      |       |   |  |   |
|---------------|------|-------|---|--|---|
|               |      |       |   | <i>Data:</i> Non-financial listed firms on the Shanghai and Shenzhen stock exchanges.  |   |
| Xu et al.     | 2020 | China | Investigates the roles of market and government CSR policy in China on firms' value.  | <i>Methods:</i> Cross-sectional analysis of the firm's CSR performance, by performing an OLS regression.<br><i>Data:</i> Non-financial listed firms on the Shanghai and Shenzhen stock exchanges   | CSR disclosure adds incremental value to firms, especially for Private-Owned Enterprises (POE).   |
| Gong et al.   | 2018 | China | Explores the relationship between CSR disclosure quality and the costs of corporate bonds in China  | <i>Methods:</i> Cross-sectional analysis of the firm's costs of corporate bonds, by performing an OLS regression.<br><i>Data:</i> Non-financial listed firms on the Shanghai stock exchange  | Firms with high CSR disclosure quality are associated with lower costs of corporate bonds. Additionally, they show that compared with low-quality or mandatory CSR disclosure firms, bond investors perceive firms with CSR disclosures rated above "A" categories or voluntary CSR disclosure as less likely to cause asymmetric information problems and thus charge lower risk premiums. |
| Wang et al.   | 2018 | China | Examines the impact of mandatory CSR reporting on firms' financial reporting quality.   | <i>Methods:</i> Cross-sectional analysis of the firms' earnings management using a difference-in-difference method.<br><i>Data:</i> Non-financial listed firms in China (A-Share, which are domestic shares that are restricted to domestic investors and Qualified Foreign Institutional Investors) | Mandatory CSR disclosure constrains earnings management after the policy and mitigates information asymmetry by improving financial reporting quality.  |
| Kansal et al. | 2018 | India | Focuses on the level of CSR contributions disclosed by central public sector enterprises (CPSEs) in India. The purpose of the study is to investigate the impact of CSR guidelines on the reporting practices of the CPSEs. | <i>Methods:</i> Qualitative approach where research issues are assessed using data from in-depth interviews of senior managers in CPSEs.<br><i>Data:</i> Interviews with 24 senior CSR managers from 21 CPSEs.   | Disclosures across all CSR themes are primarily narrative rather than quantitative or in monetary terms. The authors suggest to policy-makers in India to assess practices and devise detailed and specific CSR disclosure (CSRSD) requirements, rather than the current general mandatory requirements, to enhance the performance and quality of CSRSDs by the CPSEs.                     |
| Nair et al.   | 2019 | India | Investigates the impact of the 2013 Indian act on financial transparency.   | <i>Methods:</i> Cross-sectional analysis of the firms' financial transparency (proxied by firms' earnings aggressiveness) using an OLS method.<br><i>Data:</i> Top 100 non-financial and non-state-owned Indian companies (by market capitalization) listed on the Bombay Stock Exchange.            | CSR disclosure improves financial transparency during mandatory disclosure regime. Additionally, authors find that ownership by the retail investors strengthens the association between CSR disclosure and financial transparency.   |

Source: Scopus.



**Table 5. ESG score and ESG reporting definition**

This table reports the ESG scores and ESG reporting dummy definitions.

| Pillar              | Category definition  |
|---------------------|--|
| Environmental (ENV) | It reflects a company's performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management, reducing environmental emission in the production and operational processes, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed products. |
| Social (SOC)        | It reflects a company's effectiveness towards job satisfaction, healthy and safe workplace, maintaining diversity and equal opportunities. and development opportunities for its workforce, protecting public health and respecting business ethics, and to produce quality goods and services integrating the customer's health and safety.   |
| Governance (GOV)    | It reflects a company's commitment and effectiveness towards following best practice corporate governance principles.  |
| Global<br>signatory | Compact Takes value of 1 for banks signing the global compact pact to encourage businesses and firms worldwide to adopt and report sustainable and socially responsible policies.  |
| GRI reporting       | Identifies banks adopting the Global Reporting Initiative framework to disclose ESG policies. Takes value of 1 for banks adopting the GRI framework and 0 otherwise.   |

**Table 6. Bank specific drivers of ESG performances in BRICS countries**

This table shows the OLS regression results on ESG, ENV, SOC and GOV scores determinants over 2009-2020 period. The dependent variables are the ESG (I), ENV (II), SOC (III) and GOV (IV) scores. The variables of interest are the GRI reporting and the Global Compact signatory. Control variable definitions are provided in Table A.3. All non-binary independent variables are lagged by one year with respect to the dependent variable. The control variables based on accounting data (SIZE, EQ\_TA, LLR\_GL, LIQ, ROE, and CIR) are winsorised at the 1% of each tail. Country and year fixed-effect (FE) are included in all specifications. Bank clustered standard errors (SE) are reported in parentheses. The superscripts \*\*\*, \*\*, and \* denote coefficients statistically different from zero at the 1%, 5%, and 10% levels, respectively, in two-tailed t-tests.

| Variable                      | ESG<br>(I)             | ENV<br>(II)           | SOC<br>(III)          | GOV<br>(IV)             |
|-------------------------------|------------------------|-----------------------|-----------------------|-------------------------|
| GRI reporting (-1)            | 0.0819**<br>(0.0319)   | 0.0960*<br>(0.0510)   | 0.0918**<br>(0.0371)  | 0.0621<br>(0.0503)      |
| Global Compact signatory (-1) | 0.0800*<br>(0.0446)    | 0.0778<br>(0.0687)    | 0.0552<br>(0.0593)    | 0.101**<br>(0.0482)     |
| SIZE (-1)                     | 0.0547***<br>(0.0139)  | 0.0736***<br>(0.0253) | 0.0514***<br>(0.0173) | 0.0540***<br>(0.0194)   |
| EQ_TA (-1)                    | -0.0404<br>(0.121)     | -0.364**<br>(0.152)   | -0.360**<br>(0.162)   | 0.555***<br>(0.180)     |
| LLR_GL (-1)                   | -0.0409<br>(0.622)     | -0.599<br>(0.759)     | 0.301<br>(0.715)      | -0.555<br>(0.959)       |
| LIQ (-1)                      | -0.323<br>(0.335)      | -0.442<br>(0.510)     | -0.661**<br>(0.299)   | 0.343<br>(0.402)        |
| ROE (-1)                      | -0.00451*<br>(0.00254) | 0.00224<br>(0.00389)  | -0.00231<br>(0.00307) | -0.00968**<br>(0.00420) |
| CIR (-1)                      | -0.0834<br>(0.0520)    | 0.0169<br>(0.0536)    | -0.0522<br>(0.0367)   | -0.161<br>(0.0971)      |
| Year FE                       | Yes                    | Yes                   | Yes                   | Yes                     |
| Country FE                    | Yes                    | Yes                   | Yes                   | Yes                     |
| Cluster S.E. Bank             | Yes                    | Yes                   | Yes                   | Yes                     |
| Observations                  | 252                    | 252                   | 252                   | 252                     |
| R-squared                     | 0.631                  | 0.614                 | 0.693                 | 0.35                    |

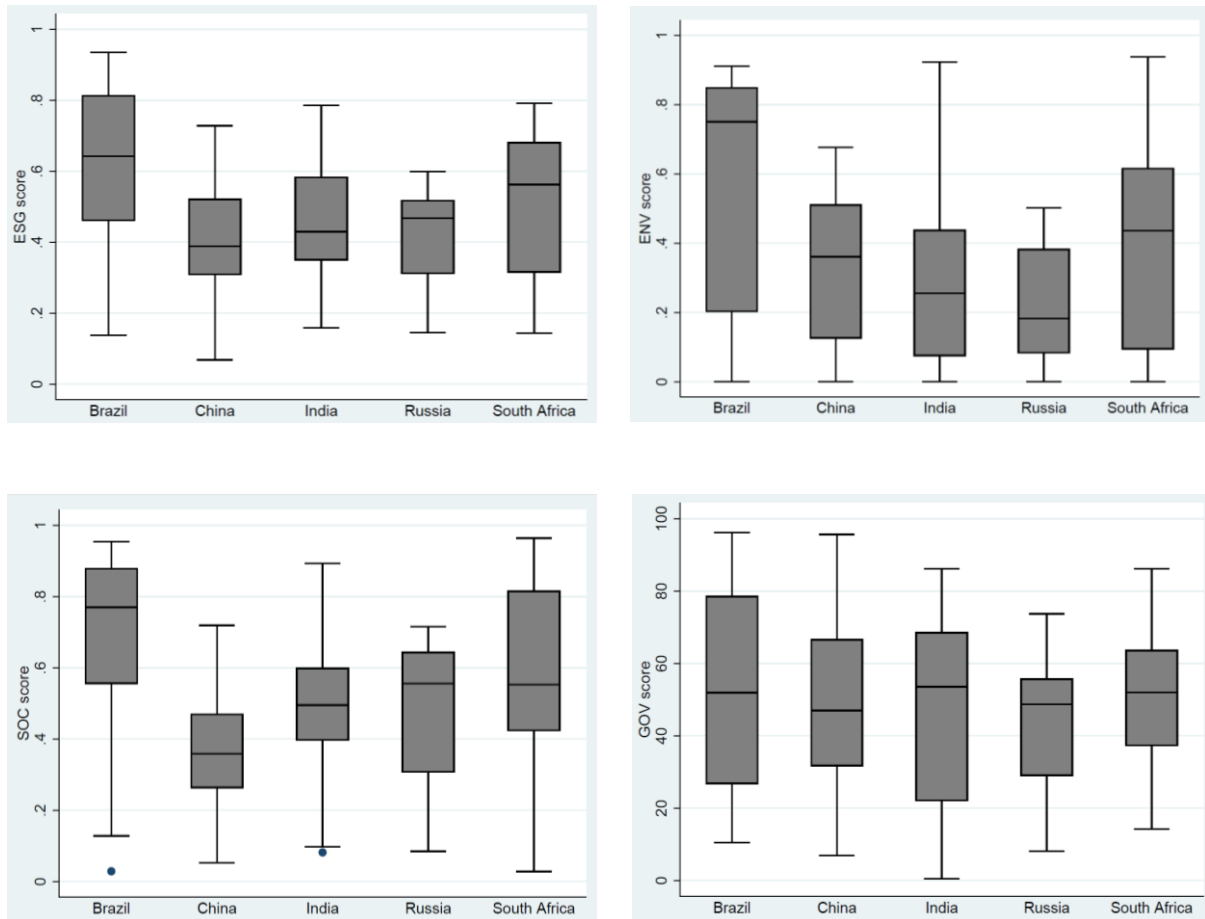
**Table 7. The effect of CSR and governance related directives on bank ESG score by BRICS country**

This table reports the univariate analysis of target variables (ESG score) from pre-Directive period to post-Directive by BRICS specific country regulation. \*, \*\*, and \*\*\* indicate significance at 10, 5, and 1% levels, respectively.

| Country      | ESG score         |                    |                  |         |
|--------------|-------------------|--------------------|------------------|---------|
|              | Pre directive (1) | Post directive (2) | Difference (2-1) | p-value |
| Brazil       | 0.60              | 0.61               | 0.01             | 0.945   |
| Russia       | 0.38              | 0.46               | 0.08*            | 0.090   |
| India        | 0.36              | 0.50               | 0.14***          | 0.000   |
| China        | 0.30              | 0.40               | 0.10**           | 0.040   |
| South Africa | 0.51              | 0.51               | 0                | 0.989   |

### Figure 1. ESG values Boxplot by BRICS countries

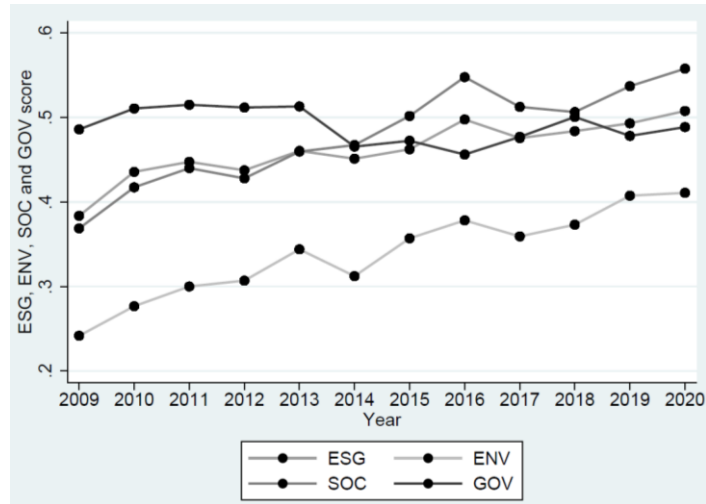
This figure shows the lower values, lower quartile, median, higher quartile, and higher values (Boxplot) of ESG, ENV, SOC and GOV scores in BRICS countries over 2009-2020 period.



Source: Thomson Reuters.

## Figure 2. Trends in ESG, ENV and SOC scores

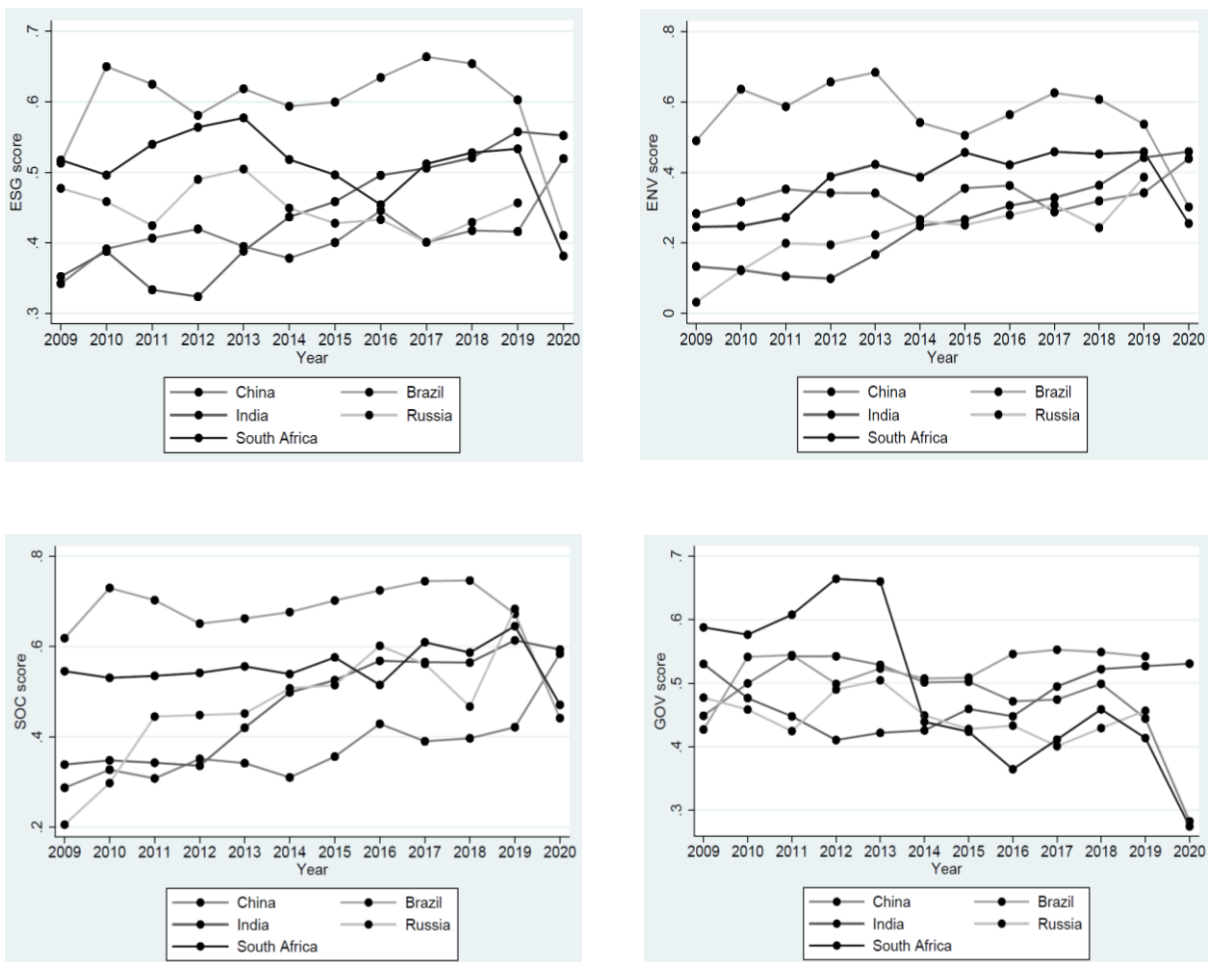
This figure shows the time trend of ESG, ENV, SOC and GOV scores in BRICS countries over 2009-2020 period.



Source: Thomson Reuters.

**Figure 3. ESG scores trend line by BRICS countries**

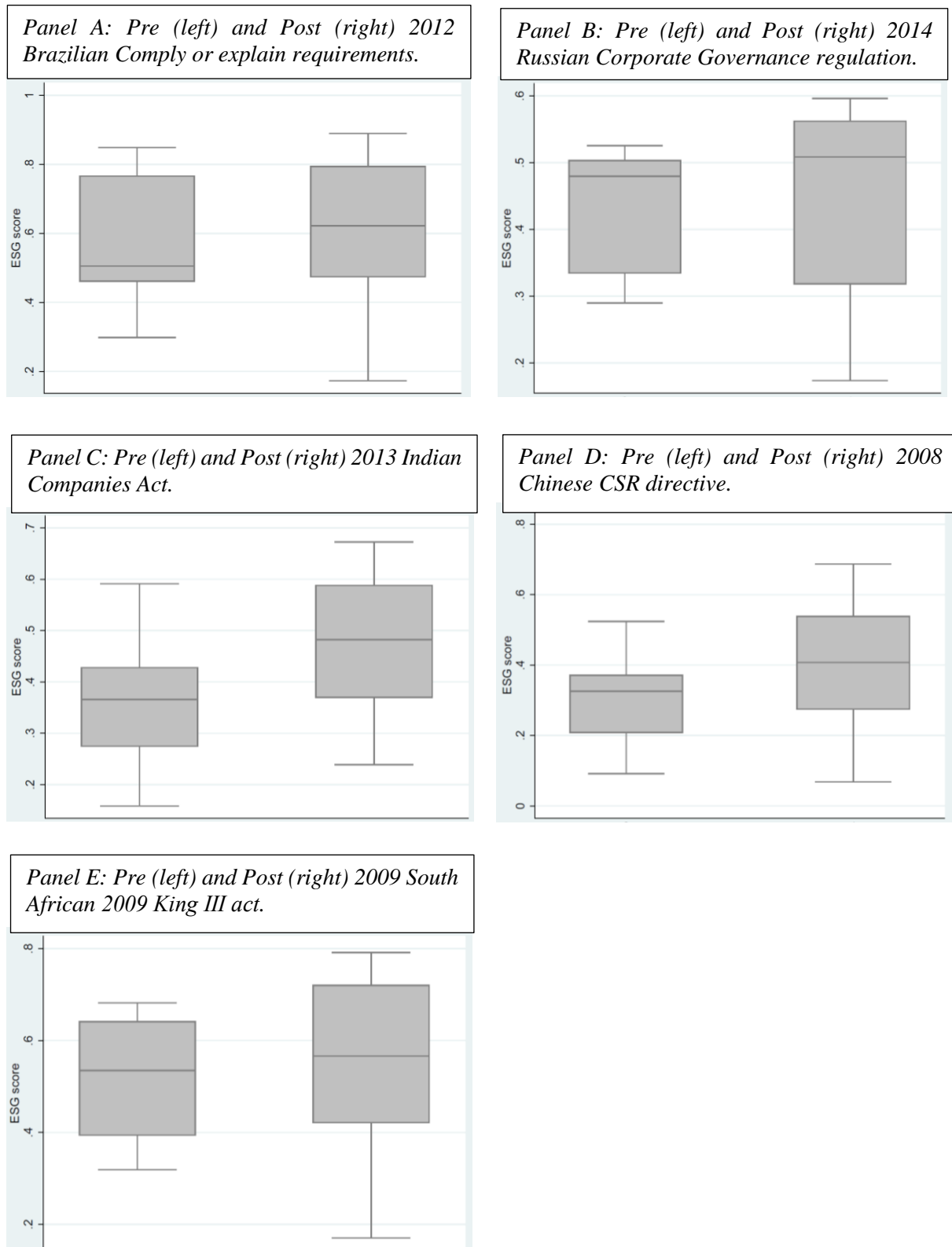
This figure shows the time trend of ESG, ENV, SOC and GOV scores by BRICS countries over 2009-2020 period.



Source: Thomson Reuters.

#### Figure 4. Box-plot trend pre- and post- BRICS regulation

This figure reports the graphical plots (Panels A-E) of target variables (ESG score) from pre-Directive period to post-Directive by BRICS specific country regulation. Panel A, shows the lower values, lower quartile, median, higher quartile and higher value of ESG score in Brazil pre and post directive (2012 Comply or explain requirements); Panel B, shows the lower values, lower quartile, median, higher quartile and higher value of ESG score in Russia pre and post directive (2014 Corporate Governance regulation); Panel C, shows the lower values, lower quartile, median, higher quartile and higher value of ESG score in India pre and post directive (2013 Indian Companies Act); Panel D, shows the lower values, lower quartile, median, higher quartile and higher value of ESG score in China pre and post directive (2008 CSR directive); Panel E, shows the lower values, lower quartile, median, higher quartile and higher value of ESG score in South Africa pre and post directive (2009 King III act). *Source: Thomson Reuters.*



## Appendix

### A.1 Correlation matrix

This table shows the correlation matrix of the variables used in the empirical analysis over the period 2009–2020. The superscripts \* denote coefficients statistically different from zero at the 5% in two-tailed tests.

|    |            | 1        | 2        | 3        | 4        | 5       | 6        | 7        | 8        | 9       | 10       | 11       | 12 |
|----|------------|----------|----------|----------|----------|---------|----------|----------|----------|---------|----------|----------|----|
| 1  | ESG        | 1        |          |          |          |         |          |          |          |         |          |          |    |
| 2  | ENV        | 0.7480*  | 1        |          |          |         |          |          |          |         |          |          |    |
| 3  | SOC        | 0.8827*  | 0.7109*  | 1        |          |         |          |          |          |         |          |          |    |
| 4  | GOV        | 0.6829*  | 0.2557*  | 0.3048*  | 1        |         |          |          |          |         |          |          |    |
| 5  | GRI        | 0.5823*  | 0.6025*  | 0.5365*  | 0.2662*  | 1       |          |          |          |         |          |          |    |
| 6  | GC         | 0.4865*  | 0.4881*  | 0.4623*  | 0.2409*  | 0.3357* | 1        |          |          |         |          |          |    |
| 7  | SIZE (log) | 0.2941*  | 0.4519*  | 0.2079*  | 0.1714*  | 0.4132* | 0.1204*  | 1        |          |         |          |          |    |
| 8  | EQ_TA      | -0.1564* | -0.2245* | -0.1843* | 0.0040   | -0.0076 | -0.0952* | -0.3474* | 1        |         |          |          |    |
| 9  | LLR_GL     | -0.0462  | -0.0793  | 0.1056   | -0.2027  | 0.0092  | 0.0998   | -0.1611* | 0.1253*  | 1       |          |          |    |
| 10 | LIQ        | -0.1779* | -0.0462  | -0.2440* | -0.0445  | -0.0060 | -0.0616  | 0.1665*  | -0.1306* | 0.2489* | 1        |          |    |
| 11 | ROE        | 0.0326   | -0.0231  | -0.0477  | 0.1209*  | -0.0410 | 0.1475*  | -0.0708* | 0.0356   | -0.0178 | 0.1297*  | 1        |    |
| 12 | CIR        | 0.1302*  | 0.1554*  | 0.2808*  | -0.1331* | 0.0101  | 0.2080*  | -0.0650  | -0.0766* | 0.2161* | -0.1068* | -0.2219* | 1  |



## A.2. ESG bank coverage

This table shows the number of ESG banks in our sample covered by Thomson Reuters and the number of total banks available during the total period of analysis (2009-2020).

| Country      | No. of ESG banks available | Total Banks |
|--------------|----------------------------|-------------|
| Brazil       | 8                          | 23          |
| Russia       | 4                          | 24          |
| India        | 17                         | 48          |
| China        | 26                         | 55          |
| South Africa | 6                          | 10          |

### A.3 Descriptive statistics

This table summarizes the main statistics for all our variables and for the period 2009-2020.

| Variable                   | Mean    | Std. Dev | P 25   | P 75    |
|----------------------------|---------|----------|--------|---------|
| ESG                        | 0.461   | 0.180    | 0.281  | 0.834   |
| ENV                        | 0.337   | 0.258    | 0.210  | 0.837   |
| SOC                        | 0.481   | 0.216    | 0.270  | 0.863   |
| GOV                        | 0.487   | 0.230    | 0.004  | 0.961   |
| GRI                        | 0.217   | 0.412    | 0      | 1       |
| GC                         | 0.197   | 0.398    | 0      | 1       |
| SIZE (Billions of dollars) | 315,000 | 636,000  | 3,614  | 358,000 |
| SIZE (log)                 | 18.000  | 20.130   | 16.660 | 19.502  |
| EQ_TA                      | 0.109   | 0.142    | 0.059  | 0.147   |
| LLR_GL                     | 0.039   | 0.035    | 0.020  | 0.050   |
| LIQ                        | 0.091   | 0.063    | 0.047  | 0.127   |
| ROE                        | 0.164   | 0.073    | 0.127  | 0.207   |
| CIR                        | 0.493   | 0.333    | 0.283  | 0.591   |

*Note:* SIZE= Natural Logarithm of total assets; EQ\_TA= Equity to total assets; LLR\_GL=Loan Loss Reserves to gross loans; CIR=Cost-to-Income ratio; ROE= Return on average equity; LIQ= Cash to total asset.

*Source:* Thomson Reuters.