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ESG and financial performance of banks in the MENAT region: concavity–convexity patterns

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ABSTRACT

This study aims to investigate the impact of Environmental, Social and Governance (ESG) on bank performance (FP) in the Middle East, North Africa and Turkey (MENAT) region. The sample consists of 46 listed banks between 2007–2019. FP is measured through accounting (Return on Assets Return on Equity) and market indicators (Tobin's Q Stock Return). We test the effect of ESG and its quadratic term on FP by controlling for bank-specific, macroeconomic and financial development variables. Our results support the presence of a non-linear ESG–FP relationship. ESG incremental investments remain beneficial till reaching an inflection point. Interestingly, the financial development variables are significant, while ESG pillars follow different patterns. Governance pillar has a concave relationship with accounting performance while environmental pillar has a convex relationship with the market return. The ESG–FP relationship depends on three vectors: pillars; measure of FP; and level of ESG. Banks should determine ESG turning points to rationalize their investments and contemplate efficient returns.

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MENAT countries; bank accounting and market performance; ESG disclosure; environmental score; social score; governance score

1. Introduction

Sustainability performance gained traction among many managers, investors and consumers. As of April 2019, more than 2300 investment management firms with \$86 trillion in asset under management pledged to integrate environmental, social and governance (ESG) disclosure in their investment decisions by becoming signatories to the United Nations (UN) backed Principles for Responsible Investment (PRI) (CFA Institute 2019). Initiatives led by the Sustainability Accounting Standards Board (SASB), the Task Force on Climate-related Financial Disclosures (TCFD), the Global Reporting Initiative (GRI) and the World Economic Forum International Business Council, issued ESG-related reporting disclosures while the International Financial Reporting Standards (IFRS) focused on how to incorporate sustainability information in corporate reporting (CDP et al. 2020). A major sticking point remains for the ESG movement: most companies issue sustainability reports divorced from their financial reports, making it difficult to see the relationship between the financial performance (FP) and sustainability

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performance. Moreover, the outbreak of the COVID-19 pandemic and the resulting lockdowns created uncertainty and far-reaching implications that disrupted commonalities and imposed many changes within the banking sector more centrally on their ESG practices.

Remarkably, the Middle East, North Africa and Turkey (MENAT) region has significant overlaps with ESG (CFA Institute 2019). MENAT's business environment is dynamic and described with an active and young population (Awad et al. 2021). The real GDP in the MENA region is expected to grow at 2.7% in 2021 (The World Bank Group 2018) and the gross external debt to GDP ratio is expected to reach 30% in 2021 (Focus Economics 2019). Though the region suffered from the collapse in oil prices exacerbated by COVID-19, it underwent important reform plans to diversify its economy. Five MENA countries (Saudi Arabia, Qatar, the UAE, Bahrain and Kuwait economies) were included in JP Morgan's Emerging Market Bond Index (EMBI) (CFA Institute 2019). Hence governments should foster ESG disclosure, transparency and governance to boost investor's confidence and attract capital inflows (Alazemi and Alazemi 2021).

Currently, large sectors in the MENAT market such as the infrastructure, energy, real estate and banking are well suited to embrace and integrate ESG. Within this region, the banking sector is playing a major role toward the financial stability of the region (Scholtens and van't Klooster 2019). Nowadays, banks are compelled to disclose their activities and to implement better governance as they are aware of the ensuing economic benefits. Banks corporate values constitute a secure medium to envision equity, fairness and transparency in setting directions and strategies to deal with different stakeholders (Ehrenhard and Fiorito 2018). In this respect, the financial sector was considered an interesting field in which actors aim at achieving institutionalized goals but reject institutionalized means (Merton 1957). Notably, the scandals and controversies linked to the role of banks in the financial crisis of 2008 revealed failures in different corporate social dimensions and governance mechanisms (Esteban-Sanchez, Cuesta-Gonzalez, and Paredes-Gazquez 2017; Mokadem and Muwafak 2020). As financial market authorities and Central Banks in the MENAT region are savvy-tech and are aware of the tremendous contribution of such sector toward more resilient and sustainable economies, ESG disclosure and banks FP become an interesting topic to investigate. Correspondingly, our main motives to explore the ESG-FP relationship for MENAT banks are grounded as follows: considerable economic growth, transformative change in the region stock exchanges, stringent exigence to comply with IFRS and comprehensive regulatory reforms to attract foreign direct investments. Hence, this study fills the gap in the literature review and addresses major caveats of the ESG-FP relationship. First, studies addressing developing countries are scarce when compared with developed countries. The MENAT countries are largely ignored in the literature (Ghosh 2018). Second, the focus on bank performance is limited when compared with other sectors. One recent study addressed ESG and bank performance in MENA for the period 2008–2017 (Buallay et al. 2020a) while controlling on one side for bank-specific variables (loan to deposit ratio, cost to income ratio, non-performing loans ratio and bank size) and on the other side for macroeconomic variables (GDP growth and country governance).

Our paper contributes to the literature in many areas. First, it will extend the sample size to include more banks, more countries and more recent data (2007–2019). Second, it

will control for the Arab Spring factor. Third, it will control for MENAT countries' heterogeneous nature by including additional bank factors, macro-specific variables and financial development variable (bank-based system and market-based system). Fourth, it will control for the presence of a non-linear relationship between ESG and FP, by including the quadratic effect of ESG and respective pillars. This approach was motivated by previous works (Barnett and Salomon 2012; Han, Kim, and Yu 2016; Nollet, Filis, and Mitrokostas 2016) that documented a curvilinear relationship between ESG and FP.

We investigate the following research questions and derive associated hypotheses: Is ESG–FP relationship positive, negative or non-linear? What are the respective trends depicted by ESG pillars in the context of MENAT banks?

The remainder of the article is structured as follows. Section 2 provides an overview of ESG–FP literature and develops hypotheses. Section 3 describes the research methodology, while Section 4 presents the empirical findings and additional tests. Finally, Section 5 summarizes the findings and practical implications, identifies the main limitations of the study, suggests future research and makes recommendations for managers and regulators.

2. Literature review and development of hypotheses

Sustainable economic and social development, green economy, ecological environment defined as 'meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED 1987) have been interchangeably promoted as core requirements for the global economy. Not only environmental problems, ecological scarcities, climate change, social equity, corporate governance (CG), transparency and human rights have gained popularity from international entities and governmental agencies (Centobelli et al. 2020) but also from academicians and practitioners (Simona, Alain, and Valter 2019). The wave of sustainable business and sustainable investments dated to the 1970s when new concepts emerged such as Corporate Social Responsibility (CSR) and CG in highly developed countries in the context of large public companies (Alareeni 2018). In as much, a rising trend of international reporting requirements followed by the initiatives to standardize financial reports was coupled with the necessity to include key qualitative indicators to depict companies' strengths and position them on the international financial markets (Nasrallah and El Khoury 2021). International bodies like UN, GRI, SASB and the Big four, World Business Council for Sustainable Development (WBCSD) fostered the guidelines for ESG-savvy companies to help them prioritize their goals and appropriately channel their efforts (Auer and Schuhmacher 2016).

Financial institutions also followed ESG trends and adhered to CG requirements (Basel Committee on Banking Supervision, 2010). The scandals and controversies linked to the role of banks in the financial crisis of 2008 revealed failures in different corporate social dimensions and governance mechanisms (Esteban-Sanchez, Cuesta-Gonzalez, and Paredes-Gazquez 2017). Nobanee and Ellili (2016) stated that 'the compliance of the banks with the best practices of the sustainability disclosure and the integration of the environmental and ecological dimensions in the annual reports indicate the assurance of the banks in increasing the transparency and reducing the information asymmetry and costs related to the debt financing' (6). Notably, banks in the MENAT region

tremendously invested in societal practices and set strategic goals for transparency and disclosure. For instance, S&P DJI and Hawkamah (The Institute of Corporate Governance in the MENA region) initiated the S&P/Hawkamah ESG Pan Arab index in 2007 which measures the performance of 50 of the best performing stocks in the MENA. Doha Bank in Qatar ranked top rating for the second year in a row in the annual ESG review of companies listed on Qatar Stock Exchange and was invited to make an application for membership of the Dow Jones Sustainability Index in March 2019 (Gulf Times, 2019). Consequently, our paper aimed at investigating the implication of ESG practices on banks' FP as the MENAT region witnessed a rise in ESG integration in the last two decades.

2.1. ESG and financial performance

The relationship between ESG and FP is vastly explored from theoretical and empirical perspectives. Theoretically, there are two conflicting hypotheses: the social impact hypothesis (a positive relationship) and the trade-off hypothesis (a negative relationship). In this sense, ESG has an intrinsic value as it converges with the social impact and the stakeholder theories (Freeman, Wicks, and Parmar 2004). ESG is seen as a source of competitive advantage (McWilliams and Siegel 2001) where corporation have a duty to the society (Carroll 1999). Long-term core strategies espoused agents' interests and stakeholders' benefits including employees, consumers, banks, governments and local communities (Khlif et al., 2015). Contradictory, the neoclassical theory of Friedman (2007) concentrated on profit maximization and value creation for owners and managers. Pros of the later theory reported that satisfying other stakeholder groups may negatively impact firm performance (Brown and Caylor 2006).

On the other side, according to the trade-off hypothesis or traditionalist view (Friedman 2007), there is a negative relationship between ESG and FP. Spending resources to accomplish social and environmental goals (such as investment in pollution reduction, higher employee wages and benefits, donations and sponsorships for the community) increase costs, harm profitability and impair competitive advantage (Galant and Cadez 2017).

Many previous studies concluded with different results (McWilliams, Siegel, and Wright 2006). Some of them reported positive, negative and neutral impacts while others identified a U-shaped or inverted U-shaped ESG–FP relationship. The positive relationship suggested that being socially responsible improves profitability (Hull and Rothenberg 2008; Servaes and Tamayo 2013), while the negative relationship supported the trade-off theory stating that ESG inflates costs (Baird, Geylani, and Roberts 2012; Wang and Bansal 2012). The neutral relationship suggested that being socially responsible does not affect profitability (Gilley et al. 2000; Surroca, Tribó, and Waddock 2010) as the positive effects offset the negative ones. This latter relationship is a U-shaped or inverted U-shaped which implies that ESG–FP relationship is dependent on ESG investment level (Brammer and Millington 2008). Barnett and Salomon (2012) and Mittal, Sinha, and Singh (2008) proved the existence of a U-shaped relationship. ESG activity in its early stage negatively affects FP as costs outweigh benefits, whereas at a later stage, the relationship reverts and becomes positive. The U-curve relationship

is supported by Nollet, Filis, and Mitrokostas (2016) in the context of U.S. corporations and by Han, Kim, and Yu (2016) in the spectrum of Korean corporations.

Surprisingly, studies of ESG–FP in the banking sector concluded to contradictory results. Matuszak and Róžańska (2017) and Soana (2011) indicated no significant relationship at the country level while a positive relationship is demonstrated by many other studies such as Wu and Shen (2013) who investigated the relationship for 162 banks in 22 countries, Shen et al. (2016) who studied the relationship for global banks in 18 countries, Cornett, Erhemjamts, and Tehranian (2016) who explored U.S. banks, Akdogan, Selimoglu, and Turkcan (2020) for Turkey and Buallay et al. (2020b) who tested ESG–FP for 882 banks in developed and developing countries.

Comprehensively, ESG–FP results are meta-analyzed. Major findings supported the existence of a positive relationship between FP and ESG components such as corporate social performance (CSP), corporate environmental performance (CEP) and CG. Albertini (2013) and Dixon-Fowler et al. (2013) investigated the FP–CEP relationship while Margolis, Elfenbein, and Walsh (2009) explored the FP–CSP relationship. Orlitzky, Schmidt, and Rynes (2003) found that the impact of FP–CSP link outweighs FP–CEP. On the other hand, Friede, Busch, and Bassen (2015) emphasized FP–CSP and FP–CEP relationships in emerging markets versus developed ones. They highlight a greater impact in the sphere of emerging countries.

This study will exhaustively test the non-linear relationships between ESG, its pillars and FP. Based on the theoretical justifications and empirical literature, we derive the following hypothesis:

H1: The effect of ESG on FP is non-linear, implying that the relationship could be concave (inverse U-curve) or convex (U-curve).

2.2. ESG pillars and financial performance

The ESG–FP relationship is more complex than a simple cause–effect relationship. Some scholars argued that ESG practices only represent a cost for a company that will decrease its performance (Kim and Lyon 2015). By contrast, others (Porter and Kramer 2006) underlined the positive effect of company’s sustainable behavior. In our paper, we further analyze the relationship by disaggregating ESG pillars to support our tests from the previous literature.

2.2.1. Social performance and financial performance

According to stakeholder and legitimacy theories, social responsibility has a positive impact on FP. Social performance improves banks’ FP (Freeman 2010; Velte 2017), public perception (Gangi et al. 2019) and reputation (Buallay et al. 2020b; Salman and Laouisset 2020). According to Bernabou and Tirole (2010), social disclosure strengthens bank’s market position and increases its long-term profitability. Good ESG practices espoused with transparency requirements (Eccles, Serafeim, and Krzus 2011) contribute to improving corporate performance and benchmark companies on international markets (Frooman 1997; Schuler and Cording 2006). Ofori, Nyuur, and S-Darko (2014) demonstrated that social practices are a strategic tool that contribute to FP in the Ghanaian banking sector and Cannon et al. (2020) asserted that social disclosure

contributes to the above-industry median and better operating margins. The same positive impact was found in the U.S.A., Canada, Japan and other European countries (Buallay 2019; Shen et al. 2016; Wu and Shen 2013). On the contrary, Esteban-Sanchez, Cuesta-Gonzalez, and Paredes-Gazquez (2017) found a positive impact of employees' motivation on FP, but a negative effect of community involvement and product responsibility. The negative impact is attributed to stakeholders' negative perception of the high emphasis of the social performance. Therefore, the following hypothesis is tested:

H2: The effect of SOC on FP is non-linear, implying that the relationship could be concave (inverse U-curve) or convex (U-curve).

2.2.2. Governance performance and financial performance

According to the agency theory, better governance contributes to higher performance. Companies must rethink their value chain structures, reconceive governance mechanisms (Jamile et al., 2021) and innovate business models (Centobelli et al. 2020; Elali, 2021). In the banking sector, better governance disclosure is needed, to align managers and shareholders' interests and to reduce agency problem. This will contribute to a positive association between governance and FP as supported by Esteban-Sanchez, Cuesta-Gonzalez, and Paredes-Gazquez (2017), Miras-Rodríguez, Carrasco-Gallego, and Escobar-Pérez (2015) and Soana (2011). Governance practices improve performance, by boosting reputation, increasing supervision and mitigating mismanagement (Zehri and Zgarni 2020). However, governance-FP link remains controversial. Shakil et al. (2019) found no association between the quality of CG and bank performance.

In summary, many researchers attributed the divergence in findings to the interdependency of some variables and metrics. To overcome such problem, we assessed the interaction of the governance component and its quadratic effect on banks' FP. Therefore, the following hypothesis is tested:

H3: The effect of GOV on FP is non-linear, implying that the relationship could be concave (inverse U-curve) or convex (U-curve).

2.2.3. Environmental performance and financial performance

According to the stakeholder and resource-based theories, there is a positive relationship between banks' environment practices and FP. Although banks are not primary polluters, their daily activities may result in high energy and paper consumptions. Europeans' investors become more exigent toward environment practices when screening banks' financial and non-financial disclosures (Buallay 2019; Jo, Kim, and Park 2015). Miralles-Quirós, Miralles-Quirós, and Redondo-Hernández (2019) demonstrated that European banks contributed to reducing environmental problems through electricity savings plans, and water and paper reduction policies. Such environmental initiatives were positively reflected in banks' innovative products and services which led to sharpen their competitive advantages. On the other side, environmental investment may become a financial burden and the extent to which incremental investments will remain beneficial became a central concern and essential question to investigate. Based on previous theoretical and empirical literatures, the following hypothesis is tested:

H4: The effect of ENV on FP is non-linear, implying that the relationship could be concave (inverse U-curve) or convex (U-curve).

3. Methodology

3.1 Sample and data

This study includes banks with headquarters in countries located in the MENAT.¹ The study follows the definition of World Bank for MENA. The main sources of data are Refinitiv (also called Refinitiv Eikon hosted by Thomson Reuters) and World Bank statistics. We constrain banks' inclusion in our sample to at least two consecutive years of ESG disclosure. Our final sample includes 46 banks out of 183 banks. [Table 1](#) lists banks in MENAT countries included in our sample.

3.2 Variables

3.2.1. Dependent variables – financial performance

In line with previous literature and due to the inconclusiveness of FP metrics (Maqbool and Zameer 2018; Alswalmeh and Qaqish 2021), we rely on the below four measures:

Accounting FP measures:

Return on assets (ROA): It measures banks' operational performance (Buallay et al. 2020b; Esteban-Sanchez, Cuesta-Gonzalez, and Paredes-Gazquez 2017).

Return on equity (ROE): It measures banks' financial performance (Buallay et al. 2020b; Esteban-Sanchez, Cuesta-Gonzalez, and Paredes-Gazquez 2017).

Table 1. Sample description.

Country	Nb of banks included	Nb of banks on Reuters	GCC or oil exporter (yes/no)
Bahrain	1	10	Yes
Egypt	2	13	No
Jordan	1	16	No
Kuwait	4	11	Yes
Morocco	1	6	No
Oman	6	9	Yes
Qatar	5	9	Yes
Saudi Arabia	10	10	Yes
Turkey	8	13	No
United Arab Emirates	8	18	Yes
Countries Excluded			
Algeria	No listed banks on Reuters		
Djibouti	No listed banks on Reuters		
Iran	No listed banks on Reuters		
Iraq	32 listed banks on Reuters but none has ESG score		
Lebanon	6 listed banks on Reuters but none has ESG score		
Libya	No listed banks on Reuters		
Malta	4 listed banks on Reuters but none has ESG score		
Syria	14 listed banks on Reuters but none has ESG score		
Tunisia	12 listed banks on Reuters but none has ESG score		
Gaza	No listed banks on Reuters		
Yemen	No listed banks on Reuters		

Market FP measures:

Tobin's Q (TQ): It measures market performance calculated as the sum of the total market value of equity and the total book value of liabilities to total assets. The market value of equity is calculated as the total number of outstanding shares multiplied by year-end closing price.

Stock return (TR): It is a market performance (Miralles-Quirós, Miralles-Quirós, and Valente Gonçalves 2018) that measures the yearly percentage change in stock prices.

3.2.2. Independent variables: ESG and its pillars

We collect ESG scores from Refinitiv ESG database published in April 2020 that replaced the past specialized ESG database: Asset4. We lag ESG variables for one year as their propensities affect future periods (McWilliams and Siegel 2001; Waddock and Graves 1997).

ESG combined score (ESG): It ranges from 0 to 100. Used in previous banking studies, it provides a comprehensive scoring of a bank's ESG disclosure (Buallay et al. 2020b; Esteban-Sanchez, Cuesta-Gonzalez, and Paredes-Gazquez 2017; Peni and Vähämaa 2012; Hassan et al. 2019).

The environmental pillar score (ENV): It is based on three dimensions: Resource use; Emissions and waste reduction; and Environmental innovation.

The social pillar score (SOC): It is based on four dimensions: Workforce; Human rights; Community and Product responsibility.

The governance pillar score (GOV): It combines three dimensions: Management and oversight; Shareholders rights and CSR strategy.

Lagged independent variables² (ESG_{t-1}^2 , ENV_{t-1}^2 , SOC_{t-1}^2 , GOV_{t-1}^2): We include ESG^2 , ENV^2 , SOC^2 , GOV^2 to account for potential ESG-FP U-curve relationship (Han, Kim, and Yu 2016; Nollet, Filis, and Mitrokostas 2016).

3.2.2. Control variables

This research includes three types of control variables (bank-specific, macroeconomic and financial development).

3.2.2.1. Bank-specific control variables. They include six categories as follows:

Size (SIZE): Measured as the logarithm of total assets (Nizam et al. 2019; Platonova et al. 2018; Velte 2017). As larger banks are more scrutinized, they can easily attract cheaper capital and access more resources to invest in ESG activities (Siueia, Wang, and Deladem 2019).

Capital adequacy ratio (CAP): As a compliance indicator for regulatory capital requirements, it is a proxy for solvency or capital strength of the banks (Siueia, Wang, and Deladem 2019). However, since risk-weighted assets are not available for the majority of banks, it is proxied by the ratio of equity to total assets.

Cost to income (CI): As a determinant of bank profitability, CI is measured by dividing operating expenses by operating income. A low CI ratio implies a higher efficiency (Athanasoglou, Brissimis, and Delis 2008; Mirzaei, Moore, and Liu 2013).

Liquidity (LIQ): Defined as the ratio of cash and due, and other non-earning assets to total assets. It represents a proxy for liquidity risk, where a smaller ratio indicates a higher risk appetite (Nizam et al. 2019).

Loans to total deposits ratio (LOANDEP): It reflects the share of loans funded by deposits (Shen et al. 2016; Wu and Shen 2013). Shen et al. (2016) mention that banks investing in CSR attract more deposits which positively affect their loan volume. This ratio indicates available funds for banks to better pursue their social responsibilities (Cornett, Erhemjants, and Tehranian 2016).

Diversification using the income diversity ratio (DIV): It is the banks' diversification degree between lending and non-lending activities. A bank must diversify its sources of net operating income between net interest income and non-interest income components. A bank is known as fully diversified when there is equilibrium between the two components. To calculate this ratio, we rely on Herfindahl Hirschman Index (HHI) defined as follows:

$$\left(\frac{\text{NET}}{\text{NOI}}\right)^2 + \left(\frac{\text{NON}}{\text{NOI}}\right)^2$$

with $0.50 \leq \text{HHI} \leq 1.00$. An HHI of 0.50 indicates a full diversification, while an HHI of 1.00 represents the lowest diversification level (Gurbuz, Yanik, and Ayturk 2013; Stiroh and Rumble 2006).

Lagged dependent variables: We lag FP variables to control for the impact of past FP behavior on current performance (Han, Kim, and Yu 2016).

3.2.2.2. Macroeconomic variables – World Development Indicators (WDI). The impact of macroeconomic factors on banks' performance was highlighted in the literature. Thus, two variables are included:

GDP per capita growth rate (GDP): We use GDP per capita as a control variable following many studies that find a positive relationship with GDP growth (Bikker and Hu 2002; Demirgüç-Kunt and Huizinga 1999; Flamini, Schumacher, and McDonald 2009).

Inflation (INF): It is measured as the annual rate of GDP deflator. Athanasoglou, Brissimis, and Delis (2008), Molyneux and Thornton (1992) and Pasiouras and Kosmidou (2007) find a positive and significant relationship between inflation and FP, while Ben Naceur and Kandil (2009) notice that a higher inflation rate increases uncertainty and reduces the demand for credit, which might negatively affect the performance.

In addition, we use the Arab Spring Dummy (ASDummy) when year dummies are not included in the regression. A value of 1 represents countries that face resolutions and political changes in specific years and 0 otherwise (Table 2).

Table 2. Period of Arab Spring for MENA countries.

Country	Years	Remarks
Bahrain	2011–2012	Civil disorder and governmental changes
Egypt	2011–2012	Civil disorder and governmental changes
Jordan	2011	Major protests and governmental changes
Kuwait	2011–2012	Major protests and governmental changes
Morocco	2011	Major protests and governmental changes
Oman		Minor protests
Qatar		No major impact
Saudi Arabia		Minor protests
United Arab Emirates		No major impact

3.2.2.3. Financial development control variables – IMF International Financial Statistics (IFS). Data on financial development and structure are extracted from IFS. We use two proxies for the level of financial development.

Private credit by deposit banks to GDP (BNKCREDIT): It measures bank's contribution to the country economy and presents evidence of the impact of financial development on banks' performance (Demirgüç-Kunt and Huizinga 1999).

Bank-based or market-based system (BNK): It is a dummy variable that equals to 1 if private credit (as % of GDP) exceeds market capitalization (as % of GDP), and 0 otherwise.

The variables used in this research are defined in Table 3. We winsorize all bank-specific variables at the 1st and 99th percentiles to remove outliers since our variables are not normally distributed based on the Jarque–Bera test.

3.3. Econometric models and statistical methods

We account for the endogeneity problem (Godos-Díez et al. 2018) by lagging the financial performance to analyze ESG–FP link (Esteban-Sanchez, Cuesta-Gonzalez, and Paredes-Gazquez 2017; Peni and Vähämaa 2012; Hassan et al. 2019; Shen et al. 2016; Siueia, Wang, and Deladem 2019). We model our regressions as follows:

$$\begin{aligned}
 FP_{i,t} = & \beta_0 + \beta_1 FP_{i,t-1} + \beta_2 ESG_{i,t-1} + \beta_3 ESG_{i,t-1}^2 \\
 & + \beta_{4-9} \sum \text{Bank-specific factors}_{i,t} \\
 & + \beta_{10-11} \sum \text{Macroeconomic factors}_{i,t} \\
 & + \beta_{12-13} \sum \text{Financial development factors}_{i,t} \quad (1)
 \end{aligned}$$

$$\begin{aligned}
 FP_{i,t} = & \beta_0 + \beta_{1-3} \text{ESG pillars}_{i,t-1} + \beta_{4-6} \text{ESG pillars}_{i,t-1}^2 \\
 & + \beta_{7-12} \sum \text{Bank-specific factors}_{i,t} \\
 & + \beta_{13-14} \sum \text{Macroeconomic factors}_{i,t} \\
 & + \beta_{15-16} \sum \text{Financial development factors}_{i,t} \quad (2)
 \end{aligned}$$

where FP represents the banks' financial performance, measured by four dependent

Table 3. Variables, their definition, source and reference.

Variable (abbreviation)	Definition	Source	Reference
Return on assets (ROA)	Net income after taxes divided by average total assets	TR	Buallay et al. (2020b), Esteban-Sanchez, Cuesta-Gonzalez, and Paredes-Gazquez (2017)
Return on equity (ROE)	Net income after taxes, divided by average total equity	TR	Buallay et al. (2020b), Esteban-Sanchez, Cuesta-Gonzalez, and Paredes-Gazquez (2017)
Tobin's Q (TQ)	Sum of the market capitalization of equity and total book value of debt divided by total assets	TRC	
Stock return (TR)	Closing price at the end of time 1 minus the closing price at the end of time 0 divided by the closing price at time 0	TR	Miralles-Quirós, Miralles-Quirós, and Valente Gonçalves (2018)
Predictors: ESG combined and ESG pillars (Source: Refinitiv)			
ESG combined (ESG)	Weighted average of the ESG scores and ESG controversies	TR	
Environmental (ENV)	The relative sum of category weights for three dimensions: resource use, emissions and waste reduction, and innovation	TR	
Social (SOC)	The relative sum of category weights for four dimensions: Workforce; Human rights; Community and Product responsibility	TR	
Governance (GOV)	The relative sum of category weights for three dimensions: Management and oversight; Shareholders rights and CSR strategy	TR	
Bank-specific control variables (Source: computed by authors with data from Refinitiv)			
Size (SIZE)	The natural logarithm of total assets	TRC	Nizam et al. (2019), Platonova et al. (2018), Velte (2017)
Capital adequacy ratio (CAP)	Total capital to total assets	TRC	Platonova et al. (2018), Siueia, Wang, and Deladem (2019)
Cost to income (CI)	Operating expenses/operating income	TRC	Athanasoglou, Brissimis, and Delis (2008), Mirzaei, Moore, and Liu (2013)
Liquidity (LIQ)	(Cash and due from banks + other earning assets) divided by total assets	TRC	Nizam et al. (2019)
Loans to total deposits ratio (LOANDEP):	Net loans divided by deposits	TRC	Wu and Shen (2013)
Diversification (DIV)	$\left(\frac{NET}{NOI}\right)^2 + \left(\frac{NON}{NOI}\right)^2$	TRC	Gurbuz, Yanik, and Ayturk (2013), Stiroh and Rumble (2006)
Macroeconomic control variables (Source: World Bank Development Indicators)			
GDP growth (GDP)	Annual percentage growth rate of GDP per capita	WDI	Bikker and Hu (2002), Demirgüç-Kunt and Huizinga (1999), Flamini, Schumacher, and McDonald (2009)
Inflation (INF)	Inflation as measured by the annual growth rate of the GDP deflator	WDI	Athanasoglou, Brissimis, and Delis (2008), Molyneux and Thornton (1992), Pasiouras and Kosmidou (2007)
Arab Spring Dummy (AS Dummy)	1 for years and countries that face resolutions and political changes shown in Table 2 and 0 otherwise	Calculated	
Financial Development control variables (Source: IMF International Financial Statistics (IFS))			
Private credit by deposit banks to GDP (BNKCREDIT)	Domestic credit to private sector by banks, as percentage of GDP	IFS	Demirgüç-Kunt and Huizinga (1999)

(Continued)

Table 3. Continued.

Variable (abbreviation)	Definition	Source	Reference
BNK	It is a dummy variable equals to 1 if Private credit as % of GDP is greater than Market Capitalization as % of GDP, 0 otherwise	Calculated	Demirgüç-Kunt and Huizinga (1999)

Notes: The abbreviations used in the text indicate the data sources: IFS, International Financial Statistics; TR, Thomson Refinitiv; TRC, Thomson Refinitiv Calculation (computed by the authors with data from Thomson Reuters); WDI, World Bank Development Indicators.

variables: ROA, ROE, TR and TQ of bank (i), in period (t). The main independent variables are ESG and ESG pillars of the bank (i), in period ($t-1$) in Equations (1) and (2).

Bank-Specific are represented by SIZE, CAP, CI, LIQ, LOANDEP and DIV for bank (i) in period (t).

Macroeconomic are represented by GDP and INF in period (t) for the country (g).

Financial development-specific variables are represented by BNKCREDIT in period (t) for the country (g), in addition to BNK dummy which is equal to 1 for bank-based countries and 0 otherwise.

β_0 represents the constant; β_{1-16} are the coefficients of the independent and control variables; and ε represents the estimation error.

We use the panel regression data and apply either fixed or random-effects models following the literature on corporate and bank performance (Maqbool and Zameer 2018; Platonova et al. 2018; Siueia, Wang, and Deladem 2019). While random effects analyze two sources of variance: the variance between companies for the same year and the variance within each company over time (Weber 2017), fixed effects analyze the within-unit variation, and assume that the intercept is not random where each firm is significantly different in terms of its base level on the dependent variable. To decide whether the fixed or random-effects model is applicable, the Hausman test was used. When the P -value is $>.10$, we fail to reject the null hypothesis and the preferred model is random effects.

4. Empirical results

4.1 Descriptive statistics and correlations of FP and ESG

Descriptive statistics for ESG and for FP are presented in Table 4. Results show a high variability in ESG scores, with a minimum of 6.24 and a maximum of 84.30. The governance pillar has the highest average among the three pillars.

Table 4. Descriptive statistics of FP, ESG, pillars and dimensions.

Variable	Obs	Mean	Std. Dev.	Min	Max	Stationarity
ROA	306	1.70745	0.6351341	0.2853316	3.206805	0.0001***
ROE	306	14.39819	6.28299	2.661092	30.04832	0.0000***
TR	223	11.30002	33.3078	-44.50875	147.2016	0.0000***
TQ	231	1.046187	0.0823434	0.9065513	1.272148	0.0000***
ESG	306	39.41859	16.41716	6.236	84.30309	0.0000***
Social pillar	306	37.22503	22.31191	2.247905	93.74773	0.0000***
Governance pillar	306	50.65645	20.46851	3.166667	93	0.0000***
Environmental pillar	306	20.57963	25.71053	0	92.4277	0.0000***

Table 5. Correlation between FP and ESG pillars.

	ROA	ROE	TR	TQ	ESG	SOC	GOV	ENV
ROA	1.0000							
ROE	0.8686*	1.0000						
TR	0.2938*	0.1988*	1.0000					
TQ	0.4974*	0.4350*	0.2988*	1.0000				
ESG	-0.0455	0.0750	0.0440	-0.1369*	1.0000			
SOC	-0.1198*	0.0860	0.0207	-0.2926*	0.8825*	1.0000		
GOV	0.1145	0.0132	0.0628	0.2354*	0.5377*	0.1145*	1.0000	
ENV	-0.1190*	0.0179	-0.0322	-0.2782*	0.7704*	0.7859*	0.0813	1.0000

The Pearson correlations between ESG, ESG pillars and FP are presented in Table 5. Accounting-based FP measures (ROA, ROE) are highly correlated with each other (0.8686), and moderately positively correlated with market-based FP measures.

For ESG pillars, SOC and GOV and ENV and GOV are not correlated, while ENV is highly correlated with SOC at a coefficient of 0.7859. A drawing fact is the initial evidence of a moderate negative relationship between ESG scores and Tobin’s Q. Findings also suggest that banks with high governance scores depict higher market performance since the coefficient of correlation is positive and significant (0.2354).

4.2 Summary statistics of control variables

Table 6 shows the descriptive statistics of the control variables. The sample of banks is heterogeneous in terms of their specific characteristics as the standard deviation is high for all variables. On the other side, the high standard deviations for macroeconomic and financial development variables indicate the need to control for these variables. For instance, the bank credit (as % of GDP) displays the highest standard deviation with a minimum of 25.54% and a maximum of 105.18% indicating a high dispersion of the level of bank dependence in MENAT.

4.3 Diagnostic tests

We perform some diagnostic tests before running the regression, mainly stationarity, serial correlation and multicollinearity. First, to test stationarity, a Fisher type unit-root test based on augmented Dicky Fuller (ADF) tests is run which is suited for small

Table 6. Descriptive statistics of control variables.

Control variable	Obs	Mean	Std. Dev.	Min	Max	Stationarity
Bank-specific variables						
SIZE	306	25.00732	1.666907	21.36494	27.42153	0.0014***
CAP	306	12.4525	2.53411	7.511804	18.35354	0.0017***
CI	295	29.92783	9.277045	11.54219	59.71716	0.000***
LIQ	295	2.12E-09	4.13E-09	3.16E-11	2.00E-08	0.000***
LOANDEP	295	83.97033	21.71518	34.95142	163.7143	0.000***
DIV	295	0.5636567	0.0567109	0.5002591	0.7567456	0.000***
Macroeconomic and financial development variables						
GDP	306	0.0845361	3.675647	-12.5123	9.509069	0.000***
INF	306	3.753064	10.13617	-25.9584	33.7511	0.000***
BNKCREDIT	279	62.05574	17.56727	25.54799	105.1871	0.000***

T and large N . This test's null hypothesis assumes that a unit root is present in all panels (no stationarity).

Results in the last column of [Tables 4 and 6](#) show that most of the variables reported a P -value of zero which indicates that they do not have a unit root.

Second, serial correlation also known as autocorrelation in panel data is statistically tested using the Wooldridge test which is a robust test (Drukker 2003). Although serial correlation is only considered a problem for large time dimensions' panel data spanning for periods of 20–30 years (Brooks 2008), it is not the case of our study since it is conducted on only 13 years.

Third, a multicollinearity test is run to check for a high correlation between all independent variables and control variables. Following the rule of thumb stated by Brooks (2008), coefficients between -0.8 and $+0.8$ indicate no multicollinearity problems. Results in [Table 7](#) show no sign of multicollinearity problem between the variables, a fact also supported by the VIF test. Interestingly, results depict a high negative correlation between size and liquidity. Large banks are less liquid since they have diversified financing sources. Moreover, diversification has a low correlation with most bank-specific variables. It ranges from -0.3645 with Cost to Income ratio to 0.07 with the Loan to Deposit ratio.

4.4. Regression results

4.4.1 The impact of ESG combined score on FP

The model is estimated using the fixed effects model for ROA and the random-effects model for ROE, TR and TQ ([Table 8](#)) (P -value of the Hausman test is >0.05). We apply `parmtest` to include dummy years. When `Prob > F`, we fail to reject the null hypothesis that the coefficients for all years are jointly equal to zero. Accordingly, time fixed effects are excluded and replaced with Arab Spring dummy.

Remarkably, ESG and ESG^2 behave in opposite manner with all FP metrics. While ESG positively affects FP, ESG^2 has negative effect on FP implying a non-linear and concave relationship. ESG is a value creating at a lower level, but it becomes a destroying activity beyond a turning point where bank's costs of being socially responsible exceed the benefits. Our quadratic model depicts an inversed U-shape ESG–FP relationship. This finding supports our first hypothesis but contradicts Nollet, Filis, and Mitrokostas (2016) who found a U-shape ESG–FP relationship in the context of American companies and Buallay et al. (2020a) who found a positive ESG–FP relationship in the context of MENA region.

Furthermore, macroeconomic variables have a significant impact on FP. More specifically, GDP positively affects accounting performance (Sisaye, 2021), while it negatively affects market performance. Interestingly, the financial development, mainly `BNKCRE-DIT`, is a significant predictor for accounting performance and total return. This result might suggest that the omission of financial development variables explains divergent and inconclusive results obtained in previous ESG–FP studies.

4.4.2. The impact of ESG pillars on FP

This part explores the interdimensional impact of ESG pillars (SOC, GOV and ENV) on accounting performance and market performance in [Table 9](#). All regression equations

Table 7. Control variables: pairwise correlation matrix.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	VIF
(1) SIZE	1.0000									4.85
(2) LIQ	-0.8194	1.0000								3.69
(3) CI	-0.1694	0.2557	1.0000							1.62
(4) LOANDEP	-0.0652	0.0965	0.0993	1.0000						1.47
(5) CAP	-0.3905	0.2669	-0.0369	-0.0698	1.0000					1.45
(6) DIV	-0.1639	0.1165	-0.3645	0.0710	0.0710	1.0000				1.61
(7) GDP	0.4509	-0.3298	0.0491	0.1733	-0.3787	-0.2065	1.0000			1.81
(8) INF	0.2169	-0.2311	-0.2602	-0.0320	-0.1795	0.0180	0.1733	1.0000		1.46
(9) BNKCREDIT	-0.3225	0.3438	0.2264	0.2707	0.2646	-0.0071	-0.2677	-0.3838	1.0000	2.32

Table 8. ESG and financial performance.

	ROA		ROE		TQ		TR		P-value
	Coeff	P-value	Coeff	P-value	Coeff	P-value	Coeff	P-value	
ESG _{it-1}	0.023572	.020**	0.157359	.010**	0.0015393	0.000***	1.632649	0.000***	.011**
ESG ² _{it-1}	-0.000319	.005***	-0.002073	.004***	-0.000017	0.036**	-0.018927	0.036**	.011**
ROA _{it-1}	0.3049033	.005***							
ROE _{it-1}			0.580446	.000***	0.7257321	0.042**			
TQ _{it-1}									
TR _{it-1}	-0.454962	.042**	0.443278	.194	0.0112318	0.007***	-0.361878	0.007***	.000***
SIZE	0.080151	.003***	-0.267717	.026**	-0.001978	0.224	3.916116	0.224	.286
CAP	-0.011771	.245	-0.066928	.025**	-0.000152	0.729	1.040957	0.729	.484
CI	1.07E+08	.064*	1.48E+08	.296	6.00E+05	0.722	-0.446979	0.722	.266
LIQ	-0.002829	.367	-0.027505	.052*	0.000083	0.623	-8.30E+08	0.623	.586
LOANDEP	0.891267	.525	2.001448	.673	0.0844872	0.182	0.0671336	0.182	.664
DIV	0.019848	.010**	0.076357	.079*	0.005322	0.000***	-35.95424	0.000***	.479
GDP	-0.005485	.036**	0.033233	.910	0.0000877	0.898	-2.193256	0.898	.050*
INF	-0.012892	.003***	-0.077276	.000***	-0.000558	0.124	0.1394132	0.124	.799
BNKCREDIT							-0.694555		.036**
Dummy Variable									
BNK	-0.222873	.089*	-0.705347	.290	-0.015207	0.164	0.0179771	0.164	.998
Year Dummies	Included	Not included	Included	Included					
Cons	12.38988	.032***	3.156371	.752	-0.002924	0.982	-49.96294	0.982	.682
Hausman Model	0.0926*		0.2223		0.5838		0.7546		
Testparm	Fixed		Random		Random		Random		
Nb. Obs	0.0005***		0.1152		0.0036***		0.0004***		
R ²	224		224		109		105		
	61.38%	82.39%	69.95%	67.55%					

(except ROA) are estimated using the random effect estimator approach (p -value is >0.05). Testparm dictates to include year dummies for the four models. We conclude to U-shaped and inversely U-shaped relationship for ESG pillars and FP.

The first pillar SOC has a concave relationship with ROA, TQ and TR. On short-term basis, banks' investments in social areas positively impact their reputation ensuring higher profitability while on long-term basis, incremental investments in non-lucrative social activities are detrimental and disadvantageous.

This clearly exhibits the non-linear SOC–FP relationship which supports the second hypothesis, consistent with previous studies (Callado-Muñoz and Utrero-González 2011; Carnevale and Mazzuca 2014; Shen et al. 2016; Siueia, Wang, and Deladem 2019; Wu, Shen, and Chen 2017).

The negative long-term impact is on the other hand consistent with Esteban-Sanchez, Cuesta-Gonzalez, and Paredes-Gazquez (2017) and Forcadell and Aracil (2017) who drew on the negative association between sustainability and performance.

At this stage, an intriguing question arises. Can we determine the turning point of the SOC–FP relationship? Based on the estimates of the coefficients from specifications of ROA, TQ and TR in Table 9, we calculate their turning points which are, respectively, 44.60, 48.83 and 49.72. Since they are greater than the average value of 37.23 (Table 10), we can conclude that banks are still reaping the benefits of social investments.

Surprisingly, GOV has no impact on market financial measures which suggest bank's investment in CG is not well perceived by markets participants. Aebi, Sabato, and Schmid (2012) found that the CG index is not significant on banks' stock returns. While for accounting measures, governance is beneficial but its incremental contribution reverses when excessive investments are undergone. This finding supports the third hypothesis demonstrated by Esteban-Sanchez, Cuesta-Gonzalez, and Paredes-Gazquez (2017) and Peni and Vähämaa (2012) who reported a positive effect on ROA and ROE but is inconsistent with Nollet, Filis, and Mitrokostas (2016) who found a U-shaped relation.

We also calculate the turning points for GOV under accounting performance and find that the threshold levels for ROA and ROE are 46.22 and 53.84, respectively, while the average GOV is 50.66. This implicates that incremental investments in GOV will improve ROE and harm ROA.

ENV pillar has no impact on accounting measures indicating that investment in environmental activity is not rewarded. This finding is contradicted by Nizam et al. (2019) and Hassan et al. (2019) who found that ENV positively contributes to banks' ROE, while it is supported by Scholtens and Dam (2007) who reported no significant impact on profitability between financial institutions that did or did not adopt the Equator Principles.

On the other hand, ENV has a convex relationship (U-shape) with TR and TQ. A negative relation occurs at the early stage, while thereafter it turns to become beneficial. This supports our fourth hypothesis, consistent with Jacobs, Singhal, and Subramanian (2010) who found that ISO 14001 certifications are associated with a positive market reaction.

Based on the coefficients of ENV and ENV² with TQ and TR models, we compute the threshold levels. They range between 52.45 and 57.42 which greatly exceed the average of 20.58. Therefore, investing in environmental and climate activities might take a longer

Table 9. ESG pillar and financial performance.

	ROA		ROE		TQ		TR	
	Coeff	P-value	Coeff	P-value	Coeff	P-value	Coeff	P-value
SOC_{t-1}	0.0143602	.004***	0.0675129	.201	0.0014941	.003***	2.081012	.001***
SOC_{t-1}	-0.000161	.004***	-0.000880	.102	-0.0000153	.009***	-0.020926	.001***
GOV_{t-1}	0.013775	.015**	0.1214761	.022**	0.0004173	.332	0.525738	.185
GOV_{t-1}	-0.000149	.012**	-0.001128	.026**	-0.0000025	.608	-0.0005192	.181
ENV_{t-1}	-0.000563	.909	-0.007816	.861	-0.0010325	.002***	-0.980143	.034**
ENV_{t-1}	-0.000037	.537	-0.000137	.789	0.00000899	.039***	0.0093431	.077*
$ROA_{t,t-1}$	0.2747469	.007***	0.5208061	0.000***				
$ROE_{t,t-1}$					0.6869634	0.000***		
$TR_{t,t-1}$					0.014684	.000***	-0.399531	.000***
$TR_{t,t-1}$	-0.420161	.030**	0.4987729	.189	-0.0012371	.507	6.896213	.036**
SIZE	0.0901191	.003***	-0.307515	.005***	0.0002809	.574	2.140079	.109
CAP	-0.012478	.226	-0.082024	.132	8.61E+05	.495	-0.030408	.918
CI	1.34E+07	.051*	1.66E+08	.197	0.0001564	.359	-7.26E+08	.599
LIQ	-0.001589	.614	-0.020460	.222	0.1257186	.068*	-0.052013	.737
LOANDEP	0.6942503	.639	0.9006884	.913	-0.005677	.000***	15.99633	.766
DIV	0.022056	.007***	0.1647747	.060*	0.0004157	.529	-2.578018	.048**
GDP	-0.007823	.010**	-0.000189	.996	0.0003769	.380	0.3302544	.138
INF	-0.013707	.001***	-0.086554	.001***			-0.505398	.992
BNKCREDIT								
Dummy variable								
BNK	-0.2222616	.071*	-0.756680	.256	-0.0158472	.068*	0.1210721	
Year dummies	Included		Included		Included		Included	
Cons	11.39933	0.024**	3.258593	0.777	-0.101795	0.452	-191.0931	0.070*
Hausman	0.048**		0.1557		0.6096		0.629	
	Fixed		Random		Random		Random	
Testparm	0.0004***		0.0619*		0.003***		0.0000***	
Nb. Obs	224		224		109		105	
R ²	63.06%		82.32%		75.61%		69.78%	

Table 10. Summary of relationship with the turning points.

	Mean	ROA		ROE		TQ		TR	
		Link	Turning point	Link	Turning point	Link	Turning point	Link	Turning point
ESG	39.42	Concave	36.95	Concave	37.95	Concave	45.27	Concave	43.13
SOC	37.23	Concave	44.60	None		Concave	48.83	Concave	49.72
GOV	50.66	Concave	46.22	Concave	53.84	None		None	
ENV	20.58	None		None		Convex	57.42	Convex	52.45

period to become beneficial. In conclusion, the burden to embrace environmental initiatives curbs banks rationale to conduct lucrative projects.

5. Conclusion

In the present study, we investigate the quadratic impact of ESG on financial performance using Reuters ESG disclosure score for 46 listed banks in the MENAT region over a period of 13 years (2007–2019). More specifically, we consider the three individual ESG scores, Environmental, Social and Governance pillars. The financial performance was proxied using accounting (i.e. ROA and ROE) and market measures (i.e. TQ and TR). The control variables include three types: bank-specific, macroeconomic and financial development variables.

The analysis with quadratic terms provides evidence of a concave relationship between ESG and FP. The positive sign for ESG and the negative sign for its square indicate that investment in ESG is perceived as a value creating at a lower level of investment but becomes a destroying activity at a higher level of investment. This implication shows that in the long run, the bank's costs exceed the benefits (McWilliams, Siegel, and Wright 2006). On the other hand, the quadratic tests of ESG pillars conclude to different patterns. There is a concave relationship between SOC and FP and between GOV and accounting performance. While ENV and market-based FP depicts a convex relationship which implies that ENV activity pays off after a certain threshold level.

The most prominent findings are as follows. First, the financial development variable, mainly BNKCREDIT, is a significant predictor for accounting performance and total return and its omission explains divergent and inconclusive results obtained in previous ESG–FP studies.

Second, the impact of ESG on FP depends on the (i) pillar; (ii) measure of FP; and (iii) level of ESG. The threshold level of ROA and ROE (36.95 and 37.95) is lower than the average ESG, while it is higher for TQ and TR (45.27 and 43.13, respectively). Precisely, it is evidenced that the magnitude of ESG investment is not impacting anymore the accounting performance in MENAT while it still positively affects market performance. Banks should determine ESG turning points to rationalize their investments and contemplate efficient returns.

When we decompose ESG, three main findings are retrieved. SOC didn't reach the turning point and is still beneficial in boosting both accounting and market performance. GOV increases ROE, decreases ROA and has no impact on market financial measures. ENV and market performance have a U-shaped relationship which implies that ENV activity pays off after a certain threshold level of ENV.

In summary, there is a room to embrace social activities in MENAT banks. Additional investments in CG are not well perceived by markets participants and the burden to embrace environmental initiatives curbs banks rationale to conduct lucrative projects.

With regard to the implications, our results can provide banks with useful guidelines when considering their ESG investments. When we look more closely at the ESG scores' single components, we may narrate a different tale because we are able to discover different frameworks that might provide both policymakers and practitioners with a more effective set of tools to boost FP.

The main limitation of this study is related to the limited number of banks in our sample. Out of 183 banks in MENAT, we were able to use the data for only 46 banks whose ESG scores are available on Reuters. Thus, more significant results could have been driven if the sample size is larger. The second limitation is the possibility that other variables could affect the associations between ESG and financial performance. For instance, factors affecting the business environment (e.g. uncertainty (Aragón-Correa and Sharma 2003) or degree of competition (Bagnoli and Watts 2003)) might influence the relationship. These issues will be the subject of future research. Third, this study focuses on performance and ignores the risk. Hence, we recommend considering the asymmetric link between ESG and banks' financial risk such as systematic and idiosyncratic risks.

Finally, it is critical to address how COVID-19 will affect the banking sector. Actions undertaken by banks to leverage its impact will reshape norms, organizational culture and regulatory requirements that will certainly affect the ESG–FP link.

Note

1. According to World Bank, the 21 countries included in the MENA are Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Malta, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, UAE, Gaza and Yemen.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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