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2019

Online at <https://mpra.ub.uni-muenchen.de/92192/>  
MPRA Paper No. 92192, posted 18 Feb 2019 15:31 UTC

# Financial Stability: Does Social Activism Matter?

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2019

## Abstract

We investigate the impact of social activism on financial system stability. Financial stability was analysed from two complementary perspectives: bank-led financial stability and financial system stability driven by sector-wide credit supply. Social activism was analysed from three perspectives: gender equality advocacy, environmental sustainability advocacy, and social protection advocacy. The findings reveal that gender equality and environmental sustainability advocacy have significant positive effects for financial stability while social protection advocacy has a significant negative effect for financial stability. Also, social activism has negative effects for financial stability in the post-2008 financial crisis era. Finally, there are differential effects for country-groups, for instance, social activism strongly improves bank-led financial stability in African countries and for BLEND countries (countries that are eligible for IDA borrowing based on per capita income levels and are also creditworthy for some borrowing from the International Bank of Restructuring and Development (IBRD)). The findings are relevant for the on-going debate about whether social inclusivity and activism has any economic value for the stability of businesses and the financial system. The findings have implications.

Keywords:

Financial stability; financial institutions; gender equality; environmental sustainability; social activism; advocacy;

This Version: 2019

To cite: Ozili (2019). Financial Stability: Does Social Activism Matter? Journal of Financial Reporting and Compliance.

## 1. Introduction

This study investigates the impact of social activism on financial stability. Social activism in finance is an issue that financial stability policymakers are concerned about, to a lesser degree – although it should be taken more seriously. One serious implication of social activism for financial stability is that social activism, when disruptive, can worsen or prolong an existing financial crisis in unpredictable ways.

Although a pro-active financial regulator or policymaker can carry out some early assessment to determine the optimal level of social activism which promotes stability in the financial system, the pro-active policymaker may face some difficulty in identifying the specific social activism indicators to focus on, the type of social activism, and the intensity of activism that pose the greatest risk to financial system stability, and whether to analyse the activism indicators as a group or in isolation.<sup>1</sup>

Moreover, the general lack of attention given to social activism as a potential significant risk in the global financial stability policy setting shows that policymakers underestimate the potential for human behaviour to disrupt financial systems. Furthermore, in the literature, there is a lack of understanding of how social movements can affect financial stability in good and bad times. Although past research shows, for example, that organised social activism may shape firms' decisions to adopt 'genuine' strategies to improve social factors such as environmental sustainability and gender equality practices (Lenox and Eesley 2009) or adopt 'ceremonial façades' pretending to achieve these objectives (Forbes and Jermier 2002), yet we know little about the effect of social activism for the stability of the financial system. Motivated by these concerns, our study is the first attempt to investigate the impact of social activism on financial stability, to determine whether greater social activism promotes stability or instability in the financial system.

From a policy standpoint, the events following the 2007-2008 global financial crisis which led to violent protests in several countries including the abduction of staff of some finance corporations in Asia and the destruction of corporate assets of some financial institutions in some European countries, have led policy makers around the world to consider investing some resources into social mechanisms that promote short-term stability both in their policy narratives and in their supervision and regulatory interventions during bad times in order to calm tensions among individuals and other groups affected by existing financial imbalances in the financial system. To achieve these goals, policy makers need a clear understanding of the most critical social activism indicators to focus on.

The analyses in this paper sheds some light on this issue by analysing social activism from three indicators or perspectives: gender equality advocacy, environmental sustainability advocacy and social protection advocacy, to identify the indicators which pose the greatest contribution to financial stability or instability. A good starting point to answer this question is to investigate whether organised (or institutional) social activism promotes (or reduces) financial stability. Organised (or institutional) social activism refers to the institutions established to promote gender equality, environmental sustainability and social protection in a country. We focus on whether higher (organised) social activism is associated with higher or lower financial stability - this is our contribution to the debate on the effect on social inclusivity on financial stability.

In this study, financial stability was analysed from two complementary perspectives: bank-led financial stability and financial system stability driven by sector-wide credit supply to the private sector, while social activism was analysed from three perspectives: gender equality advocacy, environmental sustainability advocacy, and social protection advocacy. The findings reveal that social activism has

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<sup>1</sup> bearing in mind that the potential for such analyses is subject to the availability of data on social activism.

positive effects for bank-led financial stability, and negative effects for sector-wide financial system stability, and there are differential effects for country-groups.

Our contribution to the financial stability literature is three-fold. First, our study contributes to existing studies that explore the causes of instability in financial systems (such as Allen and Gale, 2004; Fernández et al, 2016; Schaeck and Cihák, 2014; Segoviano and Goodhart, 2009; Uhde and Heimeshoff, 2009, Ozili and Thankom, 2018, etc). These studies identify the risk factors or determinants of instability in financial systems. The current study adds to this literature by showing that social activism is also a potential risk factor which can influence financial stability. To date, studies that investigate whether financial stability is influenced by social activism with a focus on gender equality, environmental sustainability and social protection, are non-existent in the literature. Secondly, from a policy standpoint, insights gained from this study can help financial system regulators to understand the importance of assessing not only credit risk and capital adequacy in financial systems, but also the impact of institutionalised social activism and its activities on the stability of financial systems. Policy makers are currently analysing crisis scenarios to identify possible risk factors that could initiate a new crisis or prolong an existing crisis in financial systems across countries. Our study is the first attempt in this direction, focusing on three dimensions of social activism.<sup>2</sup> Finally, our study contributes to the Law and Finance literature which examine the impact of the quality of legal institutions on the performance of financial institutions and the economy. Our findings suggest that advocacy groups with legal backing (through institutionalisation), can have both negative or positive effects for financial stability.

The remainder of the article is organised as follows. Section 2 presents the conceptual framework for social activism. Section 3 reviews the recent literature on financial stability and social activism. Section 4 presents the data and methodology. Section 5 discusses the results. Section 6 concludes.

## **2. Conceptual Framework and Theory**

### **2.1. Conceptual Framework**

Social activism is an intentional action with the goal of bringing about social change. Social activism is at the centre of modern democracy. Several studies of social movements argue that activists strategically target firms, universities, young people, other organizations, and local and state authorities to enforce social change on a range of issues ranging from human rights to social protection to energy and to the environment (see, Rao 2009; Schurman and Munro 2009; Sine and Lee 2009; Soule 2009; Zald, Morill, and Rao 2005, Vasi and King 2012). These studies conclude that organizational change is often a direct consequence of social movement activism, caused by the potential threat activists make to their targets through protest and other extra-institutional tactics (King 2008a; King and Soule 2007). Social activists fight for a cause they believe would benefit society even though their activism often benefits one group in society at the expense of another group.

Recently, there are three mainstream causes of social activism: gender equality, environmental sustainability and social protection. It is not uncommon to see individuals and organised groups protesting<sup>3</sup> against corporations in these three areas, and such activism if successful can affect the

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<sup>2</sup> We focus on these three dimensions of social activism due to data availability. However, we aware that these three dimensions of social activism are not the only dimension of social activism.

<sup>3</sup> In the financial services industry, social activists may protest CEO excessive bonuses, excessive fees charged by fat-cat analysts, under-presentation of women in C-suite positions, gender pay gap, customer data sharing,

stability and short-term profitability of corporations, requiring corporations to develop new strategies to deal with the impact of social activism on their business operations or business interests. Consequently, corporations are changing their policies and committing substantial financial resources to become more socially inclusive in the areas of gender equality, environmental sustainability and social protection, even though there is little or no evidence to suggest that such social considerations improves the stability or performance of corporations.

Social activism can be moderate or disruptive. Disruptive social activism can have devastating effects for the stability of the financial system of any country particularly when members of the public deliberately by-pass existing ‘rules of engagement’ guiding the social movement, preferring to act on their own during a crisis. During a crisis, members of the public can take laws into their hands by engaging in violent protests, riots, and can deliberately inflict physical harm on corporate executives who they feel are to blame for on-going events, and such activism could worsen the present crisis and erode confidence in the entire financial system until the financial system is brought to a stand-still. During periods of disruptive social activism, financial institutions are often the scapegoat because they are custodians of the financial resources in a country. While disruptive activism is undesirable due to its social, economic and political consequences; its likelihood of occurring is not zero if the public do not trust regulators and corporations; therefore, financial system regulators must anticipate the worst before a crisis occur and should consider social activism as a risk factor in their stress test modelling.

In the absence of disruptive social activism, policymakers also have concerns that excessive focus on social inclusivity within the financial services industry can increase systemic risks in the financial system because excessive social inclusivity can distract financial institutions from their core business by pressuring them to adjust their risk models to include social factors which are often very fluid and cannot be reasonable measured, thus amplifying systemic risks in the financial system - and it is also difficult to allocate risk-capital for ‘social risk’ if there is evidence that they amplify systemic risk. Therefore, finding the optimal level of social inclusivity that improves the stability of financial institutions and the stability of the financial system is the big question that has not been answered in the literature, and it is doubtful that a single study can exhaustively address this question.

## 2.2. Theoretical Framework

### 2.2.1. Financial Stability

There is no consensus on the definition of financial stability among central banks and academics (Oosterloo and De Haan, 2003; Houben et al, 2004; Ozili, 2018); notwithstanding, there are some definitions for financial stability in the theoretical literature. Financial stability can be defined as “a condition in which the financial system – comprising of financial intermediaries, markets and market infrastructure – is capable of withstanding shocks and the unravelling of financial imbalances, thereby mitigating the likelihood of disruptions in the financial intermediation process which are severe enough to significantly impair the allocation of savings to profitable investment opportunities” (ECB (2007)). Others consider financial stability to be the absence of financial crises. From a macro-prudential viewpoint, Borio (2003) defines financial stability in terms of limiting risks of significant real output losses associated with episodes of financial system-wide distress. From a financial network viewpoint, financial stability is achieved by ensuring the stability of financial institutions that are connected to each other by complex web of contractual claims and obligations (Brunnermeier 2009; Gai et al, 2011). At a

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environmental pollution, and may protest the high interest rates charged to risky borrowers who are members of a sensitive (and poor) ethnic minority group, etc.

systemic level, financial stability may be achieved by promoting stability among the systemically important financial institutions (SIFIs) in a financial system (Ozili and Thankom, 2018).

Financial stability can be understood through the lens of network theory in finance. Networks are simply interconnected nodes where nodes stand for entities such as firms, while the edges or connective links in the network represent contractual flows of claims and obligations among firms in the network (Markose et al., 2012). In financial networks, nodes stand for financial institutions such as banks and other financial intermediaries while the edges or connective links represent contractual flows of liquidity and/or obligations to make payments and receive payments (see, Markose et al., 2012, Ozili, 2017). Over time, financial networks grow and become complex due to increasing volume of financial claims and obligations among firms (Haldane, 2009), and such complexity is represented by the interconnected web of contractual claims and obligations among firm. Therefore, financial stability in a network-style financial system is achieved through the stability of financial institutions that have the largest share of financial claims and obligations in the system (Gai et al, 2011). Instability in the financial system may arise from social activism, among other factors, as we demonstrate in the next section below.

### 2.2.2. Social Activism

Social activism theory is based on social constructionist theory which argues that individuals within a group, or groups within society, jointly construct their own understanding of the world which form the basis for shared assumptions about reality. This means that people construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences. Because activists are at the core of most collective action, sometimes they act alone or seek to draw others into collective action (Oliver and Marwell, 1992).

Activists or members of a social movement do not have a well-defined role or set of activities to which all who are affiliated with a movement must conform to, this is because participation in activism is rarely homogenous and people can engage in a wide variety of activities on the movement's behalf and these activities can range from the mundane to the extraordinary (Wiltfang and McAdam, 1991), such as people donating money, writing letters to public officials, answer telephones, collect signatures, occupy buildings, attend demonstrations, inflict physical harm to corporate executives and assassinate political enemies.

The varied and diverse collection of activities that follows activism led to the distinction between high and low-risk/cost activism due to the simple observation that some social activism is more costly and more risky than others (McAdam, 1986). The cost of social activism involves the time, money and energy required of a person engaged in any form of activism including anything forgone or lost by the activists during their participation in activism activities while the risk of social activism refers to the activists' subjective anticipation or expectation of a cost that they may incur as a result of their participation in a movement, e.g., being arrested, paying a fine, being beaten, tortured, or killed (McAdam, 1986; Wiltfang and McAdam, 1991). Also, the problems involved in getting other people to support collective action also directly affect the kind of goals activists pursue and the tactics they choose particularly when social activists try to mobilise collective action from a large group of interested, but less committed and less motivated people (Oliver and Marwell, 1992).

One effective channel for social activism is social media. There is much evidence in both developed and developing countries suggesting that people who engage in civic and political activities including protest behaviour are frequent users of social media (Bekkers et al, 2011; Earl and Kimport, 2011; Pearce and Kendzior, 2012; Valenzuela, 2012; Yun and Chang, 2011; Valenzuela, 2013). For instance, social media users can provide information and news not available in other media to facilitate the coordination of demonstrations, allowing users to join political causes, and creating opportunities to exchange opinions with other people (Bennett and Segerberg, 2011; Chadwick and Howard, 2008; Gil de Zúñiga and Valenzuela, 2011; Yamamoto, 2006). Through social media, consenting individuals or groups in democratic societies can agree on a cause to fight for, and coordinate themselves to devise an action plan to force their expectations on corporations and governments. Some studies show a positive association between the frequency of social media use and protest behaviour (Gil de Zúñiga et al, 2012; Zhang et al, 2010). Some explanations for the positive association is that social media can facilitate access to a large number of contacts, thereby enabling social movements to reach large mass of people (Lovejoy and Saxton, 2012). Social media can also promote personal and group identity which are key antecedents of political behaviour (Dalton et al, 2009). Social media also allows multiple channels for interpersonal feedback, peer acceptance, and the reinforcement of group norms (Papacharissi, 2010). Increased participation in online social networks can help to build trusting relationships among members that support a political cause, (Gilbert and Karahalios, 2009), further enhancing the potential of social media to increase their engagement in protest and other political behaviours (Valenzuela, 2013).

In sum, the propensity to join a social movement and to keep individuals committed and motivated would depend on the cost and risk associated with such activism and whether they strongly believe in the shared reality propagated by the social movement.

### **3. Related Literature & Hypothesis**

#### **3.1. Literature**

##### **3.1.1. Financial Stability**

A stable financial system is one that enhances economic performance and wealth accumulation, and which is also able to prevent adverse disturbances from having a disruptive impact on the financial system (Houben et al, 2004). Financial stability is a broad concept which encompasses three different dimensions of the financial system - the financial infrastructure, financial institutions and financial markets; the interlinkages between these three is important because any (expectations of) disturbances in any of the individual components can undermine the overall stability of the financial system (Houben et al, 2004). However, financial stability does not require that each part of the financial system is always operating near peak performance; in some cases, ensuring that each part of the financial system is working at a minimum operating level is rather desirable from time to time (Greenspan, 1999). To achieve this, regulators and supervisors need to continuously analyse the state of the financial system, to identify risks and vulnerabilities and implement corrective policy response. Risks and vulnerabilities in the financial system may develop (i) endogenously within the financial system, (ii) can originate in the real economy and be transmitted to the financial system, (iii) and can originate purely from human sentiments or social movements. These different sources of risks tend to have different policy implications. For instance, the size and likelihood of endogenous imbalances can be influenced by financial authorities through regulation and supervision while external disturbances on the financial system can be hardly influenced by financial authorities which leaves policymakers with limited options for reducing the impact of external disturbances on the financial system. In a nutshell, the analysis of

financial stability involves the continuous examination of potential risks and vulnerabilities that may threaten the stability of the financial system and economic activity.

### 3.1.2. Financial Stability Determinants

In this section, we focus on the recent literature that examine crisis determinants and the implications for financial stability. Many studies examine the factors that causes instability in financial systems. For instance, some argue that competition can influence financial stability depending on how competition and financial stability are measured. For instance, Fu et al (2014) examine the trade-off between competition and financial stability for 14 Asia-Pacific economies countries during the 2003 to 2009 period. They use the Z-score index to measure financial stability and find that better institutional development and stringent capital requirements improve financial stability, whereas property rights, greater concentration and deposit insurance are associated with greater bank fragility.

Yeyati and Micco (2007) examine Latin American countries from 1993 to 2002 and find a positive relationship between bank risk (as measured by the Z-score) and competition (as captured by the H-statistic). Schaeck and Cihak (2008) analyse the relationship between bank competition and financial soundness using a large sample of banks. They observe that higher competition, measured by the Boone indicator, increases bank soundness by increasing efficiency, and they observe that high banking concentration has positive effects for financial stability. Ozili (2018) examine the determinants of banking stability in Africa for 14 Asia-Pacific economies countries during the 2003 to 2009 period. He used the Z-score index to measure banking (or financial) stability and use the Lerner index to measure banking competition and find that higher competition improves financial stability in the post-2008 financial crisis period. The findings also reveal that large banking sectors were more stable than smaller banking sectors.

Others argue that higher capital requirements and funding structure are determinants of financial stability. Boyson et al (2014) in their study find that banks that entered the 2008 financial crisis with higher capital were less likely to witness a shortage of funding during the crisis. Tracey et al (2017) investigate whether the fines imposed on banks for misconduct transmit negative shocks to bank capital, how banks respond to it, and its effect on the severity of a financial crisis. They use banks' misconduct fines as a novel instrument to identify exogenous negative shocks that affects bank capital. They find that banks respond to such shocks by relaxing their lending standards, measured by the loan-to-value and loan-to-income ratios on new mortgages. The implication of banks relaxing their lending standards (to adjust for the impact of high misconduct fines on their capital) is that it will increase the vulnerability of banks to future shocks, thus increasing the severity of a crisis. Vazquez and Federico (2015) analyse the evolution of bank funding structures in the run up to the global financial crisis and the implications for financial stability. They analyse US and EU banks during 2001-2009. They find that banks with weaker structural liquidity and higher leverage in the pre-crisis period were more likely to fail afterward while US and EU banks that had stronger capital base and better structural liquidity positions in the pre-crisis period were less likely to fail and were more financially stable. Berger and Bouwman (2013) report a similar result using a data set of US banks.

Some argue that credit booms can influence financial system stability. Schularick and Taylor (2012) and Jordà et al (2013) examine the behaviour of money, credit, and macroeconomic indicators and find that credit booms (or credit growth) is a powerful predictor of the likelihood of crises and is also the most important determinant for economic recovery after crises. From their findings, it is unclear whether it is level of credit, or its growth, prior to a crisis that matters most for subsequent stability and economic performance. Bridges et al (2017) provided some clarity on this in their study of the role of

private sector credit in shaping recessions. They assess whether the growth or level of credit is a more useful predictor of the severity of financial crisis or recessions. They find that credit growth has historically been a significant predictor of the severity of a crisis whereas the level of leverage was a less significant predictor. Borio and Lowe (2002) found that the amount of credit in the economy (i.e., credit to GDP) is an important leading indicator for financial crises, especially in combination with an investment boom. Also, Schularick & Taylor (2012) find that although credit growth is a good predictor of crises, broad money is a less robust predictor, and narrow money is entirely useless as a predictor of financial crises. By implication, policy makers should focus less on central bank balance sheets, or even broad money, and focus more on broad credit aggregates when evaluating crisis risk. Taylor (2015) show that credit and financial stability are intimately linked and can have serious consequences for macroeconomic performance; therefore, it makes sense to measure financial stability using some aggregate credit indicators.

Finally, Aikman et al (2018) provides some ideas for rethinking financial stability and the policies for achieving it. They show that there are debates about whether the current level of bank capital should be higher or lower and whether financial stability policies should be rules-based or discretionary, among other issues. They find that a combination of different regulatory metrics can achieve better outcomes for financial stability rather than reliance on individual constraints in isolation. However, much studies in the literature have not considered social activism as an external shock that can potentially prolong existing crises or as a risk factor that could initiate a crisis. In the next section, we test the impact of social activism on financial stability.

### 3.2. Hypothesis

To develop our hypotheses, we have two predictions for the impact of social activism on financial stability.

One, we expect that social activism should improve financial stability if instability in the financial system is caused, in part, by poor social protection, gender discrimination and environmental pollution issues amongst other issues, and that the elimination of these issues through organised social activism can positively improve stability in the financial system. Activists can persuade investors to become more interested in how social risks (e.g. environmental risk) translates into financial risk (Orol 2010:1), hoping that investors would care more about socio-financial stability, not just financial stability only, thus promoting stability both for the society and for the financial system.

H1: Social activism has positive effects for financial stability

Furthermore, the financial stability of corporations and economic agents might not be affected by social activism if economic agents and other participants in the formal financial system do not consider social factors or social activism as an important risk factor in their risk modelling for economic and financial decision-making. This is because economic agents rely heavily on calculated risks for decision-making and are less likely to rely on un-calculated risks such as social activism which can be difficult to reliably measure or quantify since social activism as a risk factor is largely dependent on human behaviour which is unpredictable. Therefore, provided that social activism considerations are not imposed on economic agents, social activism should have no insignificant effect on financial stability

H2: Social activism has insignificant effects for financial stability

On the other hand, social activism can have a negative effect for financial stability if stakeholders, through activism, engage in activities that pressure corporations and economic agents to consider gender equality, social protection and sustainability issues into their business practice due to stakeholders'

concern for the potential for social failure or crisis if such social considerations are ignored. Corporations would have to mobilize emergency resources, and allocate extra financial resources as expense or provisions, to demonstrate their commitment to addressing these social issues. And such coercive pressure by activists on corporations and economic agents can negatively affect the financial performance of corporations in the short-run. Companies that refuse to succumb to the coercive pressure of activists are often prime targets for reputational damage, and media blackmail, which could make companies lose millions of values in revenue, thus, negatively affecting their stability.

Vasi and King (2012) in their study focused on environment risk issues, to identify the potential effect of environmental activism on corporations' perceived environmental risk and actual financial performance. They define environmental risk as stakeholders' perceptions that a firm's practices or policies will lead to greater potential for an environmental failure or crisis that would expose it to financial decline. They examine U.S. firms between 2004 and 2008, and find that stakeholders' environmental sustainability activism against a firm had negative effects on the firm's financial performance; which subsequently affected the firm's stability.

H3: Social activism has negative effects for financial stability

## **4. Research Design**

### **4.1. Data**

We use international country data from the World Bank over the 2005 to 2016 period. Country data on financial/banking stability were obtained from the Global Financial Development Database (GFDD) collected by the World Bank while social activism data was obtained from the Country Policy Institutional Assessment (CPIA) indicators collected by the World bank. See Appendix A1. For some countries, institutional data is not reported for more than three (3) consecutive years and we exclude these countries from the sample to control for quality of data reporting. The CPIA database did not report meaningful data for most developed countries, thus, these countries were not included our country sample.

The final sample consist of 73 countries: Afghanistan, Angola, Armenia, Bangladesh, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Burkina Faso, Burundi, Cambodia, Cameroon, Central African Republic, Chad, Comoros, Congo DR, Congo Rep, Cote d'Ivoire, Djibouti, Dominica, Eritrea, Ethiopia, The Gambia, Georgia, Ghana, Grenada, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, India, Kenya, Kosovo, Kyrgyz Republic, Lao PDR, Lesotho, Liberia, Madagascar, Malawi, Maldives, Mali, Mauritania, Moldova, Mongolia, Mozambique, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Papua New Guinea, Rwanda, Samoa, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Sri Lanka, St Lucia, St Vincent and the Grenadines, Sudan, Tajikistan, Tanzania, Togo, Tonga, Uganda, Uzbekistan, Vanuatu, Vietnam, Yemen Republic, Zambia and Zimbabwe.

For the countries included in the sample, some observations were missing for some years, which gives an unbalanced final sample. For further robustness checks, in later analyses, we divided the countries into four economic groupings (see Appendix A2), where each country group reflect different levels of dependence on development lending (per the World Bank), to understand the association between social activism and financial stability within these country groups.

### **4.2. Methodology**

We develop the model using country-level institutional and stability data, and regress financial stability as a function of social activism variables and financial stability determinants. The baseline model specification adopted is a modified model from Uhde and Heimeshoff (2009) and Fernández, González and Suárez (2016) and Ozili (2018).

Stability = f (social activism (ESR, GEQ, SP), banking sector variables (EFF, REG, FREG) and macroeconomic factors ( $\Delta$ GDP, MAM))

The econometric specification of the model is expressed as:

$$Y(RISK, PF)_{i,t} = \beta_0 + \beta_1ESR_{i,t} + \beta_2REG_{i,t} + \beta_3FREG_{i,t} + \beta_4MAM_{i,t} + \beta_5EFF_{i,t} + \beta_6\Delta GDP_{i,t} + e \dots (1)$$

$$Y(RISK, PF)_{i,t} = \beta_0 + \beta_1GEQ_{i,t} + \beta_2REG_{i,t} + \beta_3FREG_{i,t} + \beta_4MAM_{i,t} + \beta_5EFF_{i,t} + \beta_6\Delta GDP_{i,t} + e \dots (2)$$

$$Y(RISK, PF)_{i,t} = \beta_0 + \beta_1SP_{i,t} + \beta_2REG_{i,t} + \beta_3FREG_{i,t} + \beta_4MAM_{i,t} + \beta_5EFF_{i,t} + \beta_6\Delta GDP_{i,t} + e \dots (3)$$

Where,

i = country

t = year

Y = a vector of dependent variables, representing measures of financial stability

RISK = banking sector insolvency risk, a measure of financial stability

PF = domestic credit to private sector (%) of GDP, a measure of financial stability

ESR = quality of environmental sustainability advocacy institutions

GEQ = quality of gender equality advocacy institutions

SP = quality of social protection advocacy institutions

REG = strength of regulatory environment

FREG = financial sector quality

MAM = macroeconomic management variable

EFF = banking sector efficiency

$\Delta$ GDP = state of the economy

e = error term.

The dependent variables are 'RISK' (insolvency risk measured by the z-score) and 'PF' (domestic credit to private sector to GDP ratio). The Z-score measures the insolvency risk of the banking sector calculated at bank level as return on assets (ROA) plus the capital to asset ratio (CAR) divided by the standard deviation of asset returns.  $ZSCORE = (ROA + CAR) / SDROA$ , where ROA is the rate of return on assets, CAR is the capital to asset ratio, and SDROA is an estimate of the standard deviation of the

rate of return on assets. Higher Z-score values indicate that the banking sector is more stable because it is inversely related to the probability of bank insolvency; in other words, a high z-score implies lower insolvency risk or improved banking stability (Lepetit and Strobel, 2013). Moreover, we are aware of concerns that the Z-score is skewed, accordingly, we use the natural logarithm of the Z-score, which is normally distributed. Laeven and Levine (2009), Houston et al (2010), Beck et al (2013) and Fernández, González and Suárez (2016) and Ozili (2018), among others, have recently used the natural logarithm of Z-score as a proxy for bank insolvency risk when measuring financial stability.

The second dependent variable is 'PF' (ratio of domestic credit to private sector to GDP). The PF ratio is a broad measure of financial stability, that reflect sector-wide financial system stability. PF ratio is broader than the z-score metric because it reflects the supply of domestic credit to the private sector which play a significant role in the development and stability of an economy. We use this ratio as a stability indicator because of strong evidence in the literature that abnormal credit supply is a significant predictor of financial instability (Schularick and Taylor, 2012; Jordà et al, 2013; Bridges et al, 2017). A high PF ratio indicates that higher financial resources or financing is available to the private sector in a country, which subsequently provides greater opportunity for the private sector to develop and grow and give back to lending institutions, thus maintaining a healthy credit supply-induced financial system stability. A low PF ratio indicates that the private sector has insufficient supply of financial resources and can lead to the failure of many firms in the private sector and could lead to massive losses for financial institutions linked to the failing private firms, thus, the supply of credit to the private sector is crucial for sector-wide financial system stability. In the analyses, we use the natural logarithm of PF to correct for skewness in the PF distribution.

The main explanatory variables are the social activism indicators: gender equality (GEQ) variable, environmental sustainability (ESR) variable and social protection (SP) variable. As discussed in the hypothesis section, we do not have definite prediction for the impact of social activism on the stability variables. For the control variables, EFF variable is the cost to income ratio and reflects the efficiency of the banking sector in a country. A low cost-to-income ratio should correlate with higher bank-led financial stability because efficient banks are better at reducing cost which improves their profitability and improves their stability in the short-term (Olson and Zoubi, 2011; Athanasoglou et al, 2008); therefore, we expect a negative relationship between the EFF and the stability variables. Economic growth ( $\Delta$ GDP) is a macroeconomic variable that reflect the state of the economy. (Bikker and Metzmakers, 2005, Ozili and Outa, 2017). The rate of loan defaults is generally lower during periods of economic growth, which consequently has positive effects for banking sector stability, and conversely, the rate of loan defaults is generally higher during a recession, which consequently has negative effects for banking sector stability (Bikker and Metzmakers, 2005; Ozili and Outa, 2017); therefore, a positive relationship between financial stability and the state of the economy is expected.

REG and FREG variables capture regulatory quality and financial sector quality respectively. A strong regulatory environment and high financial sector quality should lead to greater financial stability because they reflect the sound policies put in place to protect depositors, customers, business clients, as well as safeguards to discourage financial misconduct in the financial system. MAM variable captures the quality of macroeconomic management in a country. Strong macroeconomic management by regulators is vital for financial stability in a country because it can provide regulators with the optimal mix of fiscal, monetary and ad-hoc policy tools which they can utilize to regulate the financial system to promote stability. Therefore, we expect a positive relationship between macroeconomic management quality and financial stability.

## 5. Empirical Results

### 5.1. Descriptive statistics & Correlation

Table 1 provides the summary of the descriptive statistics for the variables from 2005 to 2016 period. The means of most variables are around their respective medians particularly for ESR (3.14%), REG (3.25%), FREG (3.05%), MAM (3.66%) and  $\Delta$ GDP (4.76%). The correlation matrix for the variables is reported in Table 2. RISK and ESR have a low positive correlation which is not statistically significant. PF and ESR have a low positive correlation which is statistically significant and suggests that a one unit increase in environmental sustainability advocacy is associated with a 0.35 increase in sector-wide financial system stability. RISK and PF are significantly correlated with SP, indicating that increase in social protection advocacy is correlated with increase in financial stability. RISK and GEQ have a very low positive correlation which is not statistically significant while PF and GEQ are positively correlated and significant. RISK and FREG have a very low positive correlation which is not statistically significant. PF and FREG are positively correlated and significant and suggests that a strong financial sector is strongly correlated with greater sector-wide financial system stability. RISK and MAM are positively correlated but not significant. PF and MAM are positively correlated and statistically significant and suggests that strong macroeconomic management is strongly correlated with financial stability. RISK and PF are significant and negatively correlated with EFF and suggests that higher banking sector efficiency is correlated with greater sector-wide financial system stability. RISK and  $\Delta$ GDP have a very low negative correlation which is not statistically significant while PF and  $\Delta$ GDP are negatively correlated and statistically significant and suggests that economic growth is negatively correlated with sector-wide financial system stability. Overall, all correlation coefficients are sufficiently low to be concerned about multicollinearity in the study.

Table 1: Descriptive Statistics

	RISK	PF	ESR	SP	GEQ	FREG	MAM	EFF	$\Delta$ GDP
Mean	11.01	27.43	3.14	3.08	3.39	3.05	3.66	63.37	4.76
Median	9.74	21.30	3.00	3.00	3.50	3.00	3.50	61.75	4.83
Maximum	53.63	114.72	4.50	4.50	5.00	4.50	5.50	166.25	26.11
Minimum	-1.38	1.20	1.50	1.00	1.50	1.00	1.00	20.00	-36.69
Std. Dev.	6.64	20.79	0.55	0.54	0.65	0.57	0.66	21.12	4.47
Observations	735	760	849	845	849	849	849	723	870

Table 2: Correlation matrix

Correlations	RISK	ESR	GEQ	SP	GD	EFF	FREG	REG	$\Delta$ GDP	MAM	PF
RISK	1.000 -----										
ESR	0.025 (0.516)	1.000 -----									
GEQ	0.057 (0.136)	0.476*** (0.000)	1.000 -----								
SP	0.083** (0.031)	0.445*** (0.000)	0.531*** (0.000)	1.000 -----							
GD	0.068* (0.079)	0.774*** (0.000)	0.857*** (0.000)	0.793*** (0.000)	1.000 -----						
EFF	-0.282*** (0.000)	-0.066* (0.086)	-0.137*** (0.000)	-0.179*** (0.000)	-0.157*** (0.000)	1.000 -----					
FREG	0.019 (0.617)	0.382*** (0.000)	0.367*** (0.000)	0.510*** (0.000)	0.511*** (0.000)	-0.067* (0.082)	1.000 -----				
REG	0.021 (0.586)	0.501*** (0.000)	0.497*** (0.000)	0.663*** (0.000)	0.675*** (0.000)	-0.058 (0.135)	0.584 (0.000)	1.000 -----			
$\Delta$ GDP	-0.011 (0.768)	0.053 (0.170)	0.022 0.568	0.090** (0.020)	0.064* (0.098)	-0.112*** (0.004)	-0.039 (0.304)	0.012 (0.762)	1.000 -----		
MAM	0.012 (0.754)	0.268*** (0.000)	0.282*** (0.000)	0.307*** (0.000)	0.351*** (0.000)	-0.033 (0.395)	0.340*** (0.000)	0.365*** (0.000)	0.155*** (0.000)	1.000 -----	
PF	0.109*** (0.004)	0.352*** (0.000)	0.412*** (0.000)	0.278*** (0.000)	0.435*** (0.000)	-0.076** (0.048)	0.337*** (0.000)	0.403*** (0.000)	-0.164*** (0.000)	0.088** (0.023)	1.000 -----

Pearson correlation matrix for the 2005 to 2016 period. P-values reported in parenthesis. \*\*\*, \*\*, \* represent statistical significance at 1%, 5% and 10% levels.

## 5.2. Regression Results

Panel A of Table 3 reports the regression results where the dependent variable is the z-score index representing bank-led financial stability. In column 1 of Table 3, ESR coefficient is negative and insignificant, indicating that environmental sustainability advocacy is not significantly associated with financial stability. This finding supports Vasi and King (2012) who find that environmental activism has negative effects for firm performance. In column 2, SP coefficient is negative and insignificant, indicating that social protection advocacy is not significantly associated with financial sector stability. In column 3, GEQ coefficient is positive and significant, indicating that gender equality advocacy is significantly associated with financial sector stability; implying that greater gender equality advocacy improves bank-led financial stability. This result also supports the first hypothesis which predicts a positive association between social activism (gender equality advocacy) and financial stability.

Panel B of Table 3 reports the regression results where the dependent variable is domestic credit to private sector to GDP (PF) ratio, which is a broad measure of stability that captures sector-wide financial system stability. In column 5 of Table 3, ESR coefficient is positively significant, indicating that environmental sustainability advocacy is positively associated with sector-wide financial system

stability. This result supports the first hypothesis which predicts a positive association between social activism and financial stability. This implication is that greater advocacy for environmental sustainability can lead to improved sector-wide financial system stability. This finding does not support Vasi and King (2012) who find that environmental activism has negative effects for firm performance. In column 6, SP coefficient is negative and significant, indicating that social protection advocacy has negative effects for sector-wide financial system stability. In column 7, GEQ coefficient is negative but not significant, indicating that gender equality advocacy does not have a significant impact on financial system stability.

For the control variables, REG coefficient is negative but insignificant in Panel A while REG coefficient is positive in Panel B and significant in column 6&7 indicating that countries with strong business regulations have stable financial systems. FREG coefficient is positive but insignificant in Panel A, while FREG coefficient is positive and significant in column 5, 6, 7 & 8 of Panel B, indicating that countries with high financial sector quality have a more stable financial system. MAM coefficient is insignificant in Panel A & B. EFF coefficient is negatively significant in Panel A, which implies that countries with higher banking efficiency experience greater financial stability; however, the effect is not significant when we use the broad measure of financial stability (PF) in Panel B.  $\Delta$ GDP coefficient is negative and insignificant in Panel A, while  $\Delta$ GDP coefficient is negative and significant in column 5 of Panel B indicating that countries that have high economic growth experience lower sector-wide financial system stability.

Table 3: Regression Results: Effect of Social Activism on Financial Stability

	(A)				(B)			
	Stability measure: z-score (RISK)				Stability measure: Private credit to GDP ratio (PF)			
	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
C	2.707*** (14.93)	2.753*** (14.629)	2.419*** (12.29)	2.723*** (12.68)	1.836*** (8.95)	2.387*** (11.01)	2.138*** (9.03)	1.989*** (7.84)
ESR	-0.05 (-1.56)				0.127*** (3.52)			
SP		-0.059 (-1.56)				-0.103** (-2.42)		
GEQ			0.062* (1.67)				-0.007 (-0.18)	
GD				-0.043 (-0.78)				0.055 (0.86)
REG	-0.017 (-0.44)	-0.017 (-0.45)	-0.031 (-0.81)	-0.022 (-0.56)	0.046 (1.11)	0.083** (1.99)	0.070* (1.69)	0.055 (1.30)
FREQ	0.027 (0.71)	0.031 (0.84)	0.019 (0.53)	0.029 (0.79)	0.209*** (5.03)	0.218*** (5.23)	0.212*** (5.04)	0.213*** (5.09)
MAM	-0.016 (-0.63)	-0.023 (-0.89)	-0.020 (-0.81)	-0.022 (-0.88)	-0.005 (-0.18)	0.001 (0.03)	0.003 (0.12)	0.001 (0.05)
EFF	-0.004*** (-6.55)	-0.004*** (-6.68)	-0.004*** (-6.61)	-0.004*** (-6.65)	0.0002 (0.34)	0.0001 (0.21)	0.0003 (0.42)	0.0003 (0.36)
ΔGDP	-0.001 (-0.62)	-0.002 (-0.79)	-0.002 (-0.84)	-0.002 (-0.76)	-0.005* (-1.92)	-0.003 (-1.34)	-0.004 (-1.42)	-0.004 (-1.49)
Country and Year fixed effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R <sup>2</sup>	87.11	87.09	87.11	87.05	92.18	92.24	92.02	92.17
F-statistic	55.36	54.95	55.39	54.76	109.62	91.61	102.58	90.75
P-values	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Observation	701	697	701	697	668	664	668	664

Panel regression with fixed effects is applied. \*, \*\*, \*\*\* represents 10%, 5% & 1% significance levels. T-statistics are reported in parentheses. Explanatory variables: ESR = environmental sustainability advocacy variable; SP = social protection advocacy variable; GEQ = gender equality advocacy variable; FREQ = financial sector quality variable; MAM = macroeconomic management quality variable; EFF = banking sector efficiency; ΔGDP = state of the economy. Dependent variables: RISK = natural logarithm of z-score, reflecting banking insolvency risk with higher values indicating greater financial (and banking) stability; PF = natural logarithm of domestic credit to private sector (% of GDP) representing sector-wide financial system stability which is achieved through sufficient credit supply to the private sector within the financial system, higher is better. GD = aggregate cluster for the social activism aggregate variables.

### 5.3. Additional Tests

#### 5.3.1 Social activism cluster index

Here, we address concerns for the need to adopt some composite index for social activism. To do this, we introduce a social activism aggregate cluster variable or index (GD) into the model as the main explanatory variable representing social activism. The GD cluster variable is calculated as the average of the sum of the ESR, GEQ and SP values. We re-run the estimation and the results are reported in column 4 & 8 of Table 3. GD coefficient is positive and insignificant in column 8 of Table 3, whereas, GD coefficient is negative and insignificant in column 4 of Table 3 when we use both a narrow and broad measure of financial stability, indicating that social activism is not significantly associated with bank-led financial stability or sector-wide financial system stability. Therefore, we draw our inference from the separate estimations for each social activism indicator, rather than the cluster indicator.

### 5.3.2. Pre- and Post- Financial Crisis

Next, we test whether the relationship between social activism and financial stability is significant in the post-2008 financial crisis period. The current advocacy for gender equality, environmental sustainability and social protection became more pronounced during the years after the 2007-2008 global financial crisis, therefore it is important to identify whether the influence of social activism on financial stability was stronger since the 2007-2008 global financial crisis. The result is reported in Table 4.

In Panel A of Table 4, FN\*ESR, FN\*SP, FN\*GEQ and FN\*GD coefficients are negative and insignificant in column 4 and indicate that social activism had no significant impact on bank-led financial stability in the post-crisis period. This implies that greater advocacy for environmental sustainability, gender equality, and social protection did not improve financial (and banking) stability in the post-crisis period examined. However, in Panel B of Table 4, only FN\*ESR and FN\*SP coefficients are negative and significant, indicating that the advocacy for environmental sustainability and social protection has negative effects for sector-wide financial system stability in the post-crisis period.

Table 4. Influence of Financial Crisis on the association between Social Activism and Financial Stability

	(A)				(B)			
	Stability measure: z-score (RISK)				Stability measure: Private credit to GDP ratio (PF)			
	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
C	2.586*** (13.61)	2.634*** (13.54)	2.324*** (11.44)	2.586*** (11.64)	1.497*** (6.59)	1.968*** (8.33)	2.038*** (7.89)	1.669*** (6.04)
FN*ESR	-0.017 (-0.52)				-0.075* (-1.94)			
FN*SP		-0.015 (-0.44)				-0.146*** (-3.47)		
FN*GEQ			-0.006 (-0.24)				0.041 (1.35)	
FN*GD				-0.019 (-0.51)				-0.049 (-1.11)
ESR	-0.035 (-0.92)				0.196*** (4.32)			
SP		-0.044 (-0.97)				0.006 (0.11)		
GEQ			0.067* (1.71)				-0.033* (-0.69)	
GD				-0.024 (-0.39)				0.102 (1.43)
FN	0.083 (0.78)	0.076 (0.68)	0.046 (0.51)	0.090 (0.73)	0.542*** (4.38)	0.779*** (5.83)	0.174 (1.61)	0.478*** (3.26)
REG	-0.018 (-0.46)	-0.017 (-0.44)	-0.029 (-0.78)	-0.021 (-0.54)	0.044 (0.98)	0.099** (2.21)	0.062 (1.38)	0.060 (1.31)
FREQ	0.029 (0.79)	0.032 (0.86)	0.023 (0.61)	0.032 (0.84)	0.202*** (4.54)	0.188*** (4.19)	0.207*** (4.59)	0.203*** (4.51)
MAM	-0.018 (-0.73)	-0.024 (-0.95)	-0.021 (-0.85)	-0.024 (-0.95)	-0.039 (-1.27)	-0.046 (-1.49)	-0.016 (-0.51)	-0.031 (-0.99)
EFF	-0.003*** (-6.13)	-0.003*** (-6.43)	-0.004*** (-6.35)	-0.004*** (-6.34)	0.002*** (2.60)	0.002*** (2.48)	0.002*** (2.83)	0.002*** (2.83)
ΔGDP	-0.001 (-0.49)	-0.001 (-0.66)	-0.002 (-0.68)	-0.001 (-0.63)	-0.004 (-1.42)	-0.003 (-0.94)	-0.002 (-0.72)	-0.003 (-0.96)
Country fixed effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R <sup>2</sup>	86.96	86.94	86.98	86.90	90.94	91.10	90.68	90.81
F-statistic	60.89	60.38	60.97	60.20	86.83	87.10	84.21	85.01
P-values	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Observation	701	697	701	697	668	664	668	664

Panel regression with fixed effects is applied. \*, \*\*, \*\*\* represents 10%, 5% & 1% significance levels. T-statistics are reported in parentheses. Explanatory variables: ESR = environmental sustainability advocacy variable; SP = social protection advocacy variable; GEQ = gender equality advocacy variable; FREQ = financial sector quality variable; MAM = macroeconomic management quality variable; EFF = banking sector efficiency; ΔGDP = state of the economy. Dependent variables: RISK = natural logarithm of z-score, reflecting banking insolvency risk with higher values indicating greater financial (and banking) stability; PF = domestic credit to private sector (% of GDP) representing sector-wide financial system stability which is achieved through sufficient credit supply to the private sector within the financial system, higher is better. GD = aggregate cluster for the social activism aggregate variables. FN = binary variable that equals one for the post-financial crisis period (2009-2016), and zero otherwise.

### 5.3.3. Country-Group Analyses, per World Bank

Next, we test whether the association between social activism and financial stability is influenced by country groups, per the World Bank. We adopt the World Bank’s country grouping<sup>4</sup> and divide the sample into four-country groups<sup>5</sup>: African countries, low-income countries, IDA countries and

<sup>4</sup> <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>

<sup>5</sup> The four country groups reflect countries that are required by the World Bank and other supranational bodies to promote societal and gender equality, as conditions to be eligible to receive continuous lending from international aid organisations.

BLEND countries.<sup>6</sup> We constructed four binary variables to represent each of the four-country groups: AFR, LOW, IDA and BLEND variables. The AFR variable equals one if the country is an African country and zero otherwise. LOW variable equals one if the country is a low-income country and zero otherwise. IDA variable equals one if the country is an IDA country and zero otherwise. BLEND variable equals one if the country is a BLEND country and zero otherwise. Finally, each social activism variable is interacted with each of the four-country group variable, and thereafter regressed against the two financial stability variables. The results are reported below in Table 5, 6 & 7, and the variables of interest are the interaction variables. A summary of the results is presented in Table 9.

#### 5.3.3.1. Environmental sustainability advocacy

In Panel A of Table 5, AFR\*ESR, LOW\*ESR and BLEND\*ESR coefficients are positively significant in column 4 and indicate that the association between environmental sustainability advocacy and financial stability is positive and significant for African countries, low-income countries and for BLEND countries. This implies that greater advocacy for environmental sustainability can improve bank-led financial stability for African countries, low-income countries and for BLEND countries. On the other hand, IDA\*ESR coefficient is negatively significant, and implies that environmental sustainability advocacy has negative effects for bank-led financial stability in IDA countries. In Panel B of Table 5, AFR\*ESR and IDA\*ESR coefficients are negatively significant, indicating that environmental sustainability has negative effects for sector-wide financial system stability particularly for African countries and IDA countries.

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<sup>6</sup> See Appendix 1 for description of country groups.

Table 5. Effect of Environmental Sustainability Advocacy on Financial Stability (country group analyses)

	(A)				(B)			
	Stability measure: z-score (RISK)				Stability measure: Private credit to GDP ratio (PF)			
	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
C	3.389*** (13.07)	3.058*** (13.51)	2.076*** (7.45)	2.999*** (14.59)	0.635** (2.37)	1.095*** (4.33)	0.988*** (3.04)	1.027*** (4.25)
ESR	-0.131** (-2.13)	-0.053 (-1.02)	0.145* (1.87)	-0.123** (-2.37)	0.458*** (7.32)	0.321*** (5.53)	0.495*** (5.58)	0.253*** (4.20)
AFR*ESR	0.166** (2.05)				-0.423*** (-5.10)			
LOW*ESR		0.152* (1.77)				-0.098 (-1.03)		
IDA*ESR			-0.252*** (-2.80)				-0.288*** (-2.83)	
BLEND*ESR				0.430*** (4.40)				0.052 (0.44)
AFR	-0.902*** (-3.41)				0.639** (2.38)			
LOW		-0.749*** (-2.71)				-0.228 (-0.74)		
IDA			0.832*** (2.83)				0.470 (1.41)	
BLEND				-1.339*** (-4.21)				0.155 (0.39)
REG	-0.067 (-1.48)	-0.047 (-1.01)	0.021 (0.45)	-0.004 (-0.09)	0.163*** (3.49)	0.186*** (3.60)	0.249*** (4.80)	0.250*** (4.58)
FREQ	0.006 (0.13)	-0.015 (-0.31)	0.008 (0.16)	0.003 (0.05)	0.382*** (7.54)	0.342*** (6.11)	0.256*** (4.31)	0.368*** (6.17)
MAM	0.049 (1.33)	0.058 (1.52)	0.063 (1.63)	0.081** (2.13)	-0.074* (-1.92)	-0.056 (-1.32)	-0.083* (-1.91)	-0.084* (-1.85)
EFF	-0.007*** (-6.88)	-0.008*** (-7.18)	-0.009*** (-8.52)	-0.010*** (-8.95)	-0.002 (-1.35)	-0.004*** (-2.95)	-0.007*** (-5.13)	-0.007*** (-4.83)
ΔGDP	-0.006 (-1.34)	-0.011** (-2.28)	-0.008* (-1.65)	-0.007 (-1.50)	-0.015*** (-2.87)	-0.027*** (-4.66)	-0.025*** (-4.21)	-0.023*** (-3.74)
Year fixed effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R <sup>2</sup>	16.75	12.27	8.38	9.94	53.74	43.81	40.74	35.92
F-statistic	8.41	6.15	4.37	5.06	41.77	28.37	25.13	20.67
P-values	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Observation	701	701	701	701	668	668	668	668

Panel regression with fixed effects is applied. \*, \*\*, \*\*\* represents 10%, 5% & 1% significance levels. T-statistics are reported in parentheses. Explanatory variables: ESR = environmental sustainability advocacy variable; FREQ = financial sector quality variable; MAM = macroeconomic management quality variable; EFF = banking sector efficiency; ΔGDP = state of the economy. Dependent variables: RISK = natural logarithm of z-score, reflecting banking insolvency risk with higher values indicating greater financial (and banking) stability; PF = domestic credit to private sector (% of GDP) representing sector-wide financial system stability which is achieved through sufficient credit supply to the private sector within the financial system, higher is better. AFR = binary variable that equals one if the country is an African country and zero otherwise. LOW = binary variable that equals one if the country is a low-income country and zero otherwise. IDA = binary variable that equals one if the country is an IDA country and zero otherwise. BLEND = binary variable that equals one if the country is a BLEND country and zero otherwise.

### 5.3.3.2. Gender Equality Advocacy

In Panel A of Table 6, AFR\*GEQ, LOW\*GEQ and BLEND\*GEQ coefficients are positive and significant in column 1, 2 & 4 indicating that the association between gender equality advocacy and financial stability is positively significant for African countries, low-income countries and for BLEND countries. This implies that greater advocacy for gender equality can improve bank-led financial stability for African countries, low-income countries and for BLEND countries. However, in Panel B of Table 6, only AFR\*GEQ coefficient is negative and significant, indicating that greater

gender equality advocacy has negative effects for sector-wide financial system stability among African countries.

Table 6. Effect of Gender Equality Advocacy on Financial Stability (country group analyses)

	(A)				(B)			
	Stability measure: z-score (RISK)				Stability measure Private credit to GDP ratio (PF)			
	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C	3.237*** (15.75)	2.973*** (15.19)	2.758*** (11.05)	2.709*** (14.20)	-11.101* (-1.79)	-15.172** (-2.38)	1.533*** (5.44)	0.829*** (3.80)
GEQ	-0.116*** (-2.72)	-0.037 (-0.98)	-0.043 (-0.79)	-0.027 (-0.68)	1.160*** (5.29)	1.192*** (5.50)	0.333*** (5.64)	0.386*** (8.35)
AFR*GEQ	0.114* (1.68)				-0.261*** (-3.67)			
LOW*GEQ		0.159* (1.94)				0.065 (0.73)		
IDA*GEQ			0.094 (1.39)				0.034 (0.46)	
BLEND*GEQ				0.176** (2.19)				-0.006 (-0.07)
AFR	-0.779*** (-3.30)				0.242 (0.99)			
LOW		-0.795*** (-2.89)				-0.701** (-2.33)		
IDA			-0.312 (-1.28)				-0.527* (-1.95)	
BLEND				-0.573** (-2.01)				0.369 (1.12)
REG	-0.049 (-1.11)	-0.040 (-0.88)	0.008 (0.17)	-0.003 (-0.06)	0.145*** (3.14)	0.140*** (2.82)	0.197*** (3.91)	0.174*** (3.33)
FREQ	0.012 (0.25)	-0.020 (-0.41)	-0.013 (-0.24)	-0.003 (-0.06)	0.386*** (7.62)	0.338*** (6.22)	0.254*** (4.35)	0.352*** (6.17)
MAM	0.061* (1.66)	0.067* (1.76)	0.068* (1.77)	0.075* (1.94)	-0.098** (-2.55)	-0.081* (-1.98)	-0.096** (-2.28)	-0.111** (-2.53)
EFF	-0.007*** (-6.67)	-0.008*** (-7.22)	-0.009*** (-7.85)	-0.009*** (-8.36)	-0.002** (-2.06)	-0.003** (-2.55)	-0.005*** (-4.07)	-0.006*** (-4.21)
ΔGDP	-0.005 (-1.07)	-0.010** (-2.08)	-0.011** (-2.24)	-0.009* (-1.94)	-0.017*** (-3.26)	-0.026*** (-4.65)	-0.025*** (-4.34)	-0.021*** (-3.62)
Year fixed effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R <sup>2</sup>	17.03	12.36	7.57	7.99	53.53	46.88	43.71	41.32
F-stat	8.56	6.19	4.02	4.20	41.44	31.98	28.26	25.72
P-values	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Observation	701	701	701	701	668	668	668	668

Panel regression with fixed effects is applied. \*, \*\*, \*\*\* represents 10%, 5% & 1% significance levels. Explanatory variables: ESR = Panel regression with fixed effects is applied. \*, \*\*, \*\*\* represents 10%, 5% & 1% significance levels. T-statistics are reported in parentheses. Explanatory variables: GEQ = gender equality advocacy variable; FREQ = financial sector quality variable; MAM = macroeconomic management quality variable; EFF = banking sector efficiency; ΔGDP = state of the economy. Dependent variables: RISK = natural logarithm of z-score, reflecting banking insolvency risk with higher values indicating greater financial (and banking) stability; PF = domestic credit to private sector (% of GDP) representing sector-wide financial system stability which is achieved through sufficient credit supply to the private sector within the financial system, higher is better. AFR = binary variable that equals one if the country is an African country and zero otherwise. LOW = binary variable that equals one if the country is a low-income country and zero otherwise. IDA = binary variable that equals one if the country is an IDA country and zero otherwise. BLEND = binary variable that equals one if the country is a BLEND country and zero otherwise.

### 5.3.3.3. Social Protection advocacy

In Panel A of Table 7, AFR\*SP and BLEND\*SP coefficients are positively significant in column 1&4 and indicate that the association between social protection advocacy and financial stability is positively significant for African countries and for BLEND countries. This implies that greater advocacy for social protection can improve bank-led financial stability for African countries and for

BLEND countries. However, in Panel B of Table 7, only BLEND coefficient is positively significant indicating that greater social protection advocacy has positive effects for sector-wide financial system stability among BLEND countries.

	(A) Stability measure: z-score (RISK)				(B) Stability measure Private credit to GDP ratio (PF)			
	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C	3.570*** (14.92)	2.806*** (12.77)	1.843*** (6.92)	3.094*** (15.67)	1.886*** (7.25)	1.540*** (6.12)	1.796*** (5.00)	1.674*** (7.05)
SP	-0.134** (-1.99)	0.067 (1.06)	0.342*** (4.03)	-0.031 (-0.54)	-0.119 (-1.62)	-0.035 (-0.48)	-0.015 (-0.13)	-0.111 (-1.61)
AFR*SP	0.328*** (4.01)				-0.100 (-1.11)			
LOW*SP		0.015 (0.18)				-0.109 (-1.09)		
IDA*SP			-0.359*** (-3.94)				-0.143 (-1.22)	
BLEND*SP				0.724*** (7.01)				0.691*** (4.22)
AFR	-1.399** (-5.32)				-0.407 (-1.41)			
LOW		-0.303 (-1.15)				-0.177 (-0.56)		
IDA			1.195*** (3.98)				0.051 (0.13)	
BLEND				-2.264*** (-6.76)				-1.969*** (-3.64)
REG	-0.082* (-1.70)	-0.068 (-1.36)	-0.051 (-1.01)	-0.051 (-1.04)	0.302*** (5.77)	0.330*** (5.77)	0.404*** (6.86)	0.359*** (5.98)
FREQ	-0.006 (-0.12)	-0.029 (-0.59)	-0.006 (-0.12)	-0.015 (-0.29)	0.431*** (8.13)	0.379*** (6.56)	0.315*** (5.15)	0.405*** (6.68)
MAM	0.019 (0.51)	0.052 (1.36)	0.021 (0.53)	0.023 (0.61)	-0.047 (-1.18)	-0.019 (-0.45)	-0.051 (-1.13)	-0.051 (-1.13)
EFF	-0.007*** (-6.14)	-0.008*** (-7.03)	-0.009*** (-8.27)	-0.009*** (-8.64)	-0.004*** (-2.93)	-0.005*** (-3.84)	-0.008*** (-5.70)	-0.008*** (-6.02)
ΔGDP	-0.009* (-1.79)	-0.011** (-2.31)	-0.008 (-1.62)	-0.007 (-1.52)	-0.013** (-2.35)	-0.023*** (-3.84)	-0.023*** (-3.67)	-0.021*** (-3.35)
Year fixed effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R <sup>2</sup>	18.08	12.09	9.90	14.15	51.19	41.99	38.11	36.39
F-stat	9.08	6.04	5.03	7.04	37.61	26.26	22.48	20.96
P-values	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Observation	697	697	697	697	664	664	664	664

Panel regression with fixed effects is applied. \*, \*\*, \*\*\* represents 10%, 5% & 1% significance levels. Explanatory variables: SP = social protection advocacy variable; FREQ = financial sector quality variable; MAM = macroeconomic management variable; EFF = banking sector efficiency; ΔGDP = state of the economy. Dependent variables: RISK = Banking insolvency risk with higher values indicating greater financial (and banking) stability; PF = domestic credit to private sector (% of GDP) representing credit supply to the financial system, higher is better AFR = binary variable that equals one if the country is an African country and zero otherwise. LOW = binary variable that equals one if the country is a low-income country and zero otherwise. IDA = binary variable that equals one if the country is an IDA country and zero otherwise. BLEND = binary variable that equals one if the country is a BLEND country and zero otherwise. T-statistics in parentheses.

### 5.3.3.4. Social activism cluster

Next, we re-introduce the social activism cluster variable and re-run the estimations for each country-group. In Panel A of Table 8, AFR\*GD and BLEND\*GD coefficients are positively significant in column 1&4, indicating that social activism has positive effects for bank-led financial stability in African countries and BLEND countries. On the other hand, IDA\*GD coefficient is negatively significant in column 3, implying that social activism has negative effects for bank-led financial

stability in IDA countries. In Panel B, AFR\*GD and IDA\*GD coefficients are negatively significant in column 5&7, indicating that social activism has negative effects for sector-wide financial system stability in African countries and IDA countries.

	(A) Stability measure: z-score (RISK)				(B) Stability measure Private credit to GDP ratio (PF)			
	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C	3.694*** (14.13)	3.044*** (13.32)	1.843*** (6.92)	3.056*** (14.25)	0.599** (2.18)	0.824*** (3.26)	0.847** (2.39)	0.756*** (3.05)
GD	-0.233*** (-3.08)	-0.026 (-0.39)	0.342*** (4.03)	-0.117* (-1.67)	0.508*** (6.40)	0.504*** (6.79)	0.601*** (5.85)	0.477*** (5.81)
AFR*GD	0.305*** (3.25)				-0.437*** (-4.45)			
LOW*GD		0.166 (1.63)				-0.081 (-0.72)		
IDA*GD			-0.359*** (-3.94)				-0.190* (-1.64)	
BLEND*GD				0.528*** (4.79)				0.189 (1.36)
AFR	-1.376*** (-4.43)				0.757** (2.34)			
LOW		-0.793** (-2.41)				-0.249 (-0.68)		
IDA			1.195*** (3.98)				0.240 (0.61)	
BLEND				-1.691*** (-4.59)				-0.299 (-0.64)
REG	-0.046 (-0.95)	-0.049 (-0.99)	-0.0003 (-0.01)	-0.002 (-0.04)	0.124** (2.42)	0.105* (1.87)	0.163*** (2.86)	0.146** (2.48)
FREQ	0.013 (0.27)	-0.021 (-0.43)	0.003 (0.06)	0.001 (0.01)	0.362*** (7.02)	0.299*** (5.37)	0.238*** (3.97)	0.314*** (5.32)
MAM	0.038 (1.02)	0.048 (1.24)	0.046 (1.16)	0.065* (1.67)	-0.068* (-1.74)	-0.060 (-1.41)	-0.088*** (-2.03)	-0.089* (-1.96)
EFF	-0.007*** (-6.79)	-0.007*** (-7.11)	-0.009*** (-8.19)	-0.010*** (-8.97)	-0.002* (-1.69)	-0.003** (-2.30)	-0.006*** (-4.21)	-0.006*** (-4.26)
ΔGDP	-0.006 (-1.32)	-0.012** (-2.37)	-0.009* (-1.91)	-0.007 (-1.52)	-0.016*** (-2.93)	-0.027*** (-4.67)	-0.026*** (-4.33)	-0.023*** (-3.82)
Year fixed effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R <sup>2</sup>	17.66	12.21	7.84	10.65	53.56	45.84	41.83	39.35
F-statistic	8.85	6.09	4.12	5.37	41.24	30.53	26.09	23.64
P-values	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Observation	697	697	697	697	664	664	664	664

Panel regression with fixed effects is applied. \*, \*\*, \*\*\* represents 10%, 5% & 1% significance levels. Explanatory variables: GD = is the aggregate cluster for the social activism aggregate variables. FREQ = financial sector quality variable; MAM = macroeconomic management variable; EFF = banking sector efficiency; ΔGDP = state of the economy. Dependent variables: RISK = Banking insolvency risk with higher values indicating greater financial (and banking) stability; PF = domestic credit to private sector (% of GDP) representing credit supply to the financial system, higher is better AFR = binary variable that equals one if the country is an African country and zero otherwise. LOW = binary variable that equals one if the country is a low-income country and zero otherwise. IDA = binary variable that equals one if the country is an IDA country and zero otherwise. BLEND = binary variable that equals one if the country is a BLEND country and zero otherwise. GD = is the aggregate cluster for the social activism aggregate variables. T-statistics in parentheses.

### 5.3.3.5. Financial Crisis and Social Activism Cluster: Interaction Analysis

Finally, we test whether the association between social activism and financial stability in each region for the post-financial crisis period. The results in Table 9 show that the interaction terms are insignificant and suggest that the association between social activism and financial stability is not significant in the post-financial crisis period for the four country-groups.

Table 9. Effect of Social Activism (Cluster) on Stability during post-crisis period (country group analyses)

	(A)				(B)			
	Stability measure: z-score (RISK)				Stability measure: Private credit to GDP ratio (PF)			
	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
C	3.149*** (14.91)	2.806*** (13.88)	2.557*** (11.11)	2.466*** (12.48)	1.060*** (4.61)	0.635*** (2.78)	0.944*** (3.53)	0.252 (1.09)
GD	-0.085 (-1.36)	0.026 (0.42)	0.040 (0.63)	0.058 (0.91)	0.346*** (5.13)	0.520*** (7.39)	0.519*** (7.03)	0.569*** (7.59)
AFR*FN*GD	0.043 (1.63)				-0.003 (-0.11)			
LOW*FN*GD		0.037 (1.32)				0.026 (0.85)		
IDA*FN*GD			0.0378 (1.32)				0.019 (0.59)	
BLEND*FN*GD				-0.035 (-1.04)				-0.025 (-0.63)
AFR	-0.467*** (-6.71)				-0.673*** (-9.21)			
LOW		-0.339*** (-4.71)				-0.571*** (-7.27)		
IDA			-0.054 (-0.69)				-0.437*** (-4.95)	
BLEND				0.121 (1.36)				0.387*** (3.65)
FN	-0.028 (-0.46)	-0.005 (-0.08)	-0.039 (-0.51)	0.065 (1.31)	0.297*** (4.55)	0.248*** (4.11)	0.247*** (2.77)	-0.025 (-0.63)
REG	-0.043 (-0.91)	-0.048 (-0.96)	-0.006 (-0.12)	-0.009 (-0.18)	0.109** (2.08)	0.094* (1.68)	0.159*** (2.76)	0.140** (2.36)
FREQ	0.007 (0.15)	-0.026 (-0.53)	-0.015 (-0.28)	-0.021 (-0.42)	0.346*** (6.56)	0.287*** (5.13)	0.213*** (3.55)	0.297*** (5.01)
MAM	0.042 (1.14)	0.0512 (1.34)	0.048 (1.23)	0.049 (1.25)	-0.094** (-2.36)	-0.080* (-1.89)	-0.101** (-2.30)	-0.114** (-2.53)
EFF	-0.006*** (-6.62)	-0.007 (-6.97)	-0.008*** (-7.63)	-0.008*** (-7.66)	-0.0001 (-0.07)	-0.001 (-0.78)	-0.003** (-2.30)	-0.003*** (-2.62)
ΔGDP	-0.006 (-1.25)	-0.011** (-2.23)	-0.011** (-2.21)	-0.010** (-2.10)	-0.015*** (-2.79)	-0.025*** (-4.46)	-0.025*** (-4.13)	-0.021*** (-3.48)
fixed effects?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R <sup>2</sup>	16.97	12.35	7.93	7.90	51.12	44.72	40.16	37.91
F-statistic	16.80	11.89	7.66	7.64	78	60.58	50.43	45.97
P-values	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Observation	697	697	697	697	664	664	664	664

Panel regression with fixed effects is applied. \*, \*\*, \*\*\* represents 10%, 5% & 1% significance levels. T-statistics are reported in parentheses. Explanatory variables: ESR = environmental sustainability advocacy variable; FREQ = financial sector quality variable; MAM = macroeconomic management quality variable; EFF = banking sector efficiency; ΔGDP = state of the economy. Dependent variables: RISK = natural logarithm of z-score, reflecting banking insolvency risk with higher values indicating greater financial (and banking) stability; PF = domestic credit to private sector (% of GDP) representing sector-wide financial system stability which is achieved through sufficient credit supply to the private sector within the financial system, higher is better. AFR = binary variable that equals one if the country is an African country and zero otherwise. LOW = binary variable that equals one if the country is a low-income country and zero otherwise. IDA = binary variable that equals one if the country is an IDA country and zero otherwise. BLEND = binary variable that equals one if the country is a BLEND country and zero otherwise. FN = is a binary variable that equals one if the post-financial crisis period (2009-2016), and zero for the pre-crisis period (2005 to 2016).

Variables	RISK	PF	Insolvency risk				Private credit			
			AFR	LOW	IDA	BLEND	AFR	LOW	IDA	BLEND
ESR	(-)	(+)*	(+)*	(+)*	(-)*	(+)*	(-)*	(-)	(-)*	(+)
GEQ	(+)*	(-)	(+)*	(+)*	(+)	(+)*	(-)*	(+)	(+)	(-)
SP	(-)	(-)*	(+)*	(+)	(-)*	(+)*	(-)	(-)	(-)	(+)*
GD	(-)	(+)	(+)*	(+)	(-)*	(+)*	(+)*	(-)	(-)	(-)*
ESR*FN	(-)	(-)*								
GEQ*FN	(-)	(+)								
SP*FN	(-)	(-)*								
GD*FN	(-)	(-)								

Gender equality advocacy has positive effects for financial stability only for low-income countries and for IDA countries but not for African countries and BLEND countries. Social protection advocacy has positive effects for financial stability in BLEND countries. (+) denotes the result is positively significant, (-) denotes the coefficient is negatively significant. \* denotes the coefficient is significant

## 6. Conclusion

This study investigates the impact of social activism on financial stability. Social activism was analysed from three perspectives: gender equality advocacy, environmental sustainability advocacy and social protection advocacy. The findings reveal that gender equality and environmental sustainability advocacy have significant positive effects for financial stability while social protection advocacy has a significant negative effect for financial stability. Social activism has negative effects for financial stability in the post-crisis era. Finally, there are differential effects for country-groups, social activism strongly improves bank-led financial stability in African countries and for Blend countries.

The implication of the findings for policy-making is that the pressure on, or commitment of, financial institutions to be socially inclusive in all social matters such as gender equality, environmental sustainability, social protection, etc., does not guarantee a sustained bank-led financial stability or sector-wide financial stability; therefore, regulators should ensure that financial institutions exercise careful discretion when adjusting their risk models to include ‘social risk’ factors amidst the recent pressure on corporations to be socially inclusive. Another implication for business practice is that business leaders in financial institutions should identify the optimal level of social inclusivity that improves the stability of their corporations, because it would seem counterproductive if business leaders adopt full-scale social inclusion (or considerations) that subsequently make their corporations financially unstable which could lead to loss of shareholders’ wealth.

Finally, one direction for future research is the need to explore other channels through which activism can influence financial system. While our analyses posit that the main channel through activism affects stability in the financial system is through the presence of quality advocacy institutions, there is also the potential for other channels to influence financial stability, channels such as the frequency of riots, number of riots, verbal censoring, etc.

## Reference

- Aikman, D., Haldane, A., Hinterschweiger, M., & Kapadia, S. (2018). "Rethinking financial stability". Staff Working Paper No. 712 Bank of England.
- Allen, F., & Gale, D. (2004). "Competition and financial stability". *Journal of Money, Credit, and Banking*, Vol. 36 No.3, pp. 453-480.
- Athanasoglou, P. P., Brissimis, S. N., & Delis, M. D. (2008). "Bank-specific, industry-specific and macroeconomic determinants of bank profitability". *Journal of international financial Markets, Institutions and Money*, Vol.18 No. 2, pp. 121-136.
- Beck, T., De Jonghe, O., & Schepens, G. (2013). "Bank competition and stability: cross-country heterogeneity." *Journal of financial Intermediation*, Vol 22 No. 2, pp. 218-244.
- Bekkers, V., Beunders, H., Edwards, A., & Moody, R. (2011), "New media, micromobilization, and political agenda setting: Crossover effects in political mobilization and media usage", *Information Society*, 27, 209-219.
- Bennett, W. L., & Segerberg, A. (2011). "Digital media and the personalization of collective action: Social technology and the organization of protests against the global economic crisis", *Information, Communication & Society*, Vol 14, pp. 770-799.
- Berger, A. N., & Bouwman, C. H. (2013). "How does capital affect bank performance during financial crises?" *Journal of Financial Economics*, Vol 109 No. 1, pp. 146-176.
- Bikker, J. A., & Metzmakers, P. A. (2005). "Bank provisioning behaviour and procyclicality." *Journal of international financial markets, institutions and money*, 15(2), 141-157.
- Borio, C., and P. Lowe (2002), "Asset prices, financial and monetary stability: exploring the Nexus", *BIS Working Papers*, No. 114, Basel.
- Boyson, N., Helwege, J., & Jindra, J. (2014). "Crises, liquidity shocks, and fire sales at commercial banks". *Financial Management*, Vol 43 No. 4, pp. 857-884.
- Bridges, J., Jackson, C., & McGregor, D. (2017). "Down in the slumps: the role of credit in five decades of recessions." *Bank of England Staff Working Paper No. 659*.
- Brunnermeier, M. K., Crockett, A., Goodhart, C. A., Persaud, A., & Shin, H. S. (2009). "The fundamental principles of financial regulation," Vol. 11. ICMB, International. Center for Monetary and Banking Studies. Geneva, Switzerland.
- Chadwick, A., & Howard, P. N. (Eds.). (2008). *Routledge handbook of Internet politics*. London, UK: Routledge.
- Dalton, R. J., Sickle, A. V., & Weldon, S. (2009). The individual-institutional nexus of protest behaviour. *British Journal of Political Science*, 40, 51-73.
- Earl, J., & Kimport, K. (2011). *Digitally enabled social change: Activism in the Internet age*. Cambridge, MA: MIT Press.
- European Central Bank (2007): "Progress towards a framework for financial stability assessment", speech by José-Manuel González-Páramo, Member of the Executive Board of the ECB, OECD World Forum on "Statistics, Knowledge and Policy", Istanbul, 28 June
- Fernández, A. I., González, F., & Suárez, N. (2016). "Banking stability, competition, and economic

Ozili, P.K. (2019)

volatility.” *Journal of Financial Stability*, Vol. 22, pp. 101-120.

Forbes, L, and Jermier, J. (2002). “The Institutionalization of Voluntary Organizational Greening and the Ideals of Environmentalism: Lessons about Official Culture from Symbolic Organizational Theory.” Pp. 194–213. In *Organizations, Policy, and the Natural Environment: Institutional and Strategic Perspectives*, edited by Hoffman, A., Ventresca, M. Stanford, CA: Stanford University Press.

Fu, X. M., Lin, Y. R., & Molyneux, P. (2014). “Bank competition and financial stability in Asia Pacific”. *Journal of Banking & Finance*, Vol 38, pp. 64-77.

Gai, P., Haldane, A. and Kapadia, S. (2011). “Complexity, concentration and contagion.” *Journal of Monetary Economics*, Vol. 58 No. 5, pp. 453-470.

Gil de Zúñiga, H., & Valenzuela, S. (2011). The mediating path to a stronger citizenship: Online and offline networks, weak ties, and civic engagement. *Communication Research*, Vol 38, pp. 397-421.

Gil de Zúñiga, H., Jung, N., & Valenzuela, S. (2012). Social media use for news and individuals’ social capital, civic engagement and political participation. *Journal of Computer-Mediated Communication*, Vol 17, pp. 319-336.

Gilbert, E., & Karahalios, K. (2009). Predicting tie strength with social media. In *CHI ’09: Proceedings of the 27th annual SIGCHI conference on Human Factors in Computing Systems*, pp. 211-220. New York, NY: ACM Press.

Greenspan, A., (1999). “Do efficient markets mitigate financial crises?”, speech delivered before the 1999 Financial Markets Conference of the Federal Reserve Bank of Atlanta.

Haldane, Andrew G. (2009). “Rethinking the financial network.” Speech delivered at the Financial Student Association in Amsterdam.

Houben, A. C., Kakes, J., & Schinasi, G. J. (2004). “Toward a framework for safeguarding financial stability”, Vol. 4. *International Monetary Fund*.

Houston, J. F., Lin, C., Lin, P., & Ma, Y. (2010). “Creditor rights, information sharing, and bank risk Taking”. *Journal of Financial Economics*, Vol. 96 No. 3., pp. 485-512.

King, B. (2008). “A Political Mediation Model of Corporate Response to Social Movement Activism.” *Administrative Science Quarterly* Vol 53, pp. 395–421.

King, B, and Soule, S. (2007). “Social Movements as Extra-Institutional Entrepreneurs: The Effect of Protests on Stock Price Returns.” *Administrative Science Quarterly* Vol 52: pp. 413–442.

Jordà, Ò., Schularick, M., & Taylor, A. M. (2013). “When credit bites back”. *Journal of Money, Credit and Banking*, 45(s2), 3-28.

Laeven, L., & Levine, R. (2009). “Bank governance, regulation and risk taking”. *Journal of financial economics*, Vol.93 No.2, pp. 259-275.

Lenox, M, and Eesley, C. (2009). “Private Environmental Activism and the Selection and Response of Firm Targets.” *Journal of Economics and Management Strategy* 18:45–73.

Lepetit, L., & Strobel, F. (2013). “Bank insolvency risk and time-varying Z-score measures”. *Journal of International Financial Markets, Institutions and Money*, Vol.25, pp. 73-87.

Ozili, P.K. (2019)

Markose, S., Giansante, S. and Shaghghi, A.R. (2012). "Too interconnected to fail' financial network of US CDS market: topological fragility and systemic risk." *Journal of Economic Behavior & Organization*, Vol. 83 No. 3, pp. 627-646.

Oliver, P. E., & Marwell, G. (1992). "Mobilizing technologies for collective action. In 'Frontiers in social movement theory'", pp. 251-72, Edited by Morris, A. D., & Mueller, C. M. (Eds.). (1992). Yale University Press.

Olson, D., & Zoubi, T. A. (2011). "Efficiency and bank profitability in MENA countries". *Emerging markets review*, Vol. 12 No. 2, pp. 94-110.

Oosterloo, S., and J. de Haan, (2003), "An Institutional Framework for Financial Stability", *Occasional Studies*, Vol. 1, No. 4, De Nederlandsche Bank, Amsterdam.

Orol, R. D. (2010). "After Disasters, Shareholder Pressure Tactics Get New Life: Investor-Activists See Strong Momentum for 'Environmental Risk' Proposals." *Market Watch*. Retrieved August 2010 (<http://www.marketwatch.com/story/green-shareholder-pressure-seen-on-the-rise-2010-08-08>).

Ozili, P. K. (2017). "Earnings management in interconnected networks: a perspective". *Journal of Economic and Administrative Sciences*, 33(2), 150-163.

Ozili, P. K., & Outa, E. (2017). "Bank Loan Loss Provisions Research: A Review". *Borsa Istanbul Review*. Vol 17, No 3, pp. 144-163

Ozili, P.K (2018). "Banking stability determinants in Africa". *International Journal of Managerial Finance*. Vol. 14 Issue: 4, pp.462-483.

Papacharissi, Z. (Ed.). (2010). *A networked self: Identity, community, and culture on social network sites*. New York, NY: Routledge

Pearce, K. E., & Kendzior, S. (2012). Networked authoritarianism and social media in Azerbaijan. *Journal of Communication*, 62, 283-298. doi:10.1111/j.1460-2466.2012.01633.x

Rao, H. (2009). "Market Rebels: How Activists Make or Break Radical Innovations". Princeton, NJ: Princeton University Press.

Schaeck, K., Cihak, M., 2008. "How does competition affect efficiency and soundness in banking? New empirical evidence." Working Paper No. 932, European Central Bank.

Schaeck, K., & Cihák, M. (2014). "Competition, efficiency, and stability in banking". *Financial Management*, Vol. 43 No.1, pp. 215-241.

Schurman, R, and Munro, W. (2009). "Targeting Capital: A Cultural Economy Approach to Understanding the Efficacy of Two Anti-Genetic Engineering Movements." *American Journal of Sociology* 115:155–202.

Schularick, M., & Taylor, A. M. (2012). "Credit booms gone bust: monetary policy, leverage cycles, and financial crises, 1870–2008." *The American Economic Review*, 102(2), 1029-1061

Segoviano, M. A., & Goodhart, C. A. E. (2009). "Banking stability measures". No. 627. International Monetary Fund. Working Paper, 04.

Sine, W, and Lee, B. (2009). "Tilting at Windmills? The Environmental Movement and the Emergence of the U.S. Wind Energy Sector." *Administrative Science Quarterly* 54:123–55.

Ozili, P.K. (2019)

Soule, S. (2009). "Contention and Corporate Social Responsibility". New York: Cambridge University Press.

Taylor, A. M. (2015). "Credit, financial stability, and the macroeconomy". *Annual Review of Economics*, 7(1), 309-339.

Tracey, B., Schnittker, C., & Sowerbutts, R. (2017). "Bank capital and risk-taking: evidence from misconduct provisions". Bank of England Staff Working Paper No. 671.

Uhde, A., & Heimeshoff, U. (2009). "Consolidation in banking and financial stability in Europe: Empirical evidence". *Journal of Banking & Finance*, Vol. 33 No 7, pp. 1299-1311.

Valenzuela, S., Arriagada, A., & Scherman, A. (2012). The social media basis of youth protest behavior: The case of Chile. *Journal of Communication*, 62, 299-314.

Valenzuela, S. (2013). Unpacking the use of social media for protest behavior: The roles of information, opinion expression, and activism. *American Behavioral Scientist*, 57(7), 920-942.

Vasi, I. B., & King, B. G. (2012). "Social movements, risk perceptions, and economic outcomes: The effect of primary and secondary stakeholder activism on firms' perceived environmental risk and financial performance". *American Sociological Review*, 77(4), 573-596.

Vazquez, F., & Federico, P. (2015). "Bank funding structures and risk: Evidence from the global financial crisis." *Journal of Banking & Finance*, 61, 1-14.

Wiltfang, G. L., & McAdam, D. (1991). "The costs and risks of social activism: A study of sanctuary movement activism." *Social Forces*, 69(4), 987-1010.

Yeyati, E.L., Micco, A., 2007. "Concentration and foreign penetration in Latin American banking sectors: Impact on competition and risk." *Journal of Banking and Finance* 31, 1633-1647.

Yun, S., & Chang, W.-Y. (2011). Political participation of teenagers in the information era. *Social Science Computer Review*, 29, 242-249. doi:10.1177/0894439310363255

Zald, M, Morrill, C, and Rao, H. (2005). "The Impact of Social Movements on Organizations: Environment and Responses." Pp. 253-79 in *Social Movements and Organization Theory*, edited by Davis, G., McAdam, D., Scott, R., Zald, M. New York: Cambridge University Press.

Zhang, W., Johnson, T. J., Seltzer, T., & Bichard, S. L. (2010). The revolution will be networked. *Social Science Computer Review*, 28, 75-92.

## Appendix

A1. Variable Description			
Symbol	Variable	Description	Source
ESR	CPIA policy and institutions for environmental sustainability rating (1=low to 6=high)	Policy and institutions for environmental sustainability assess the extent to which environmental policies foster the protection and sustainable use of natural resources and the management of pollution.	World Bank Group, CPIA database ( <a href="http://www.worldbank.org/ida">http://www.worldbank.org/ida</a> ).
SP	CPIA social protection rating (1=low to 6=high)	Social protection and labor assess government policies in social protection and labor market regulations that reduce the risk of becoming poor, assist those who are poor to better manage further risks, and ensure a minimal level of welfare to all people.	World Bank Group, CPIA database ( <a href="http://www.worldbank.org/ida">http://www.worldbank.org/ida</a> ).
GEQ	CPIA gender equality rating (1=low to 6=high)	Gender equality assesses the extent to which the country has installed institutions and programs to enforce laws and policies that promote equal access for men and women in education, health, the economy, and protection under law.	World Bank Group, CPIA database ( <a href="http://www.worldbank.org/ida">http://www.worldbank.org/ida</a> ).
REG	CPIA business regulatory environment rating (1=low to 6=high)	Business regulatory environment assesses the extent to which the legal, regulatory, and policy environments help or hinder private businesses in investing, creating jobs, and becoming more productive.	World Bank Group, CPIA database ( <a href="http://www.worldbank.org/ida">http://www.worldbank.org/ida</a> ).
FREG	CPIA financial sector rating (1=low to 6=high)	Financial sector assesses the structure of the financial sector and the policies and regulations that affect it.	World Bank Group, CPIA database ( <a href="http://www.worldbank.org/ida">http://www.worldbank.org/ida</a> ).
MAM	CPIA macroeconomic management rating (1=low to 6=high)	Macroeconomic management assesses the monetary, exchange rate, and aggregate demand policy framework.	World Bank Group, CPIA database ( <a href="http://www.worldbank.org/ida">http://www.worldbank.org/ida</a> ).
EFF	Bank cost to income ratio (%)	Raw data are from Bankscope. Data2090 / (data2080 + data2085). All	Bankscope, Bureau van Dijk (BvD)

		Numerator and denominator are first aggregated on the country level before division. Note that banks used in the calculation might differ between indicators. Calculated from underlying bank-by-bank unconsolidated data from Bankscope.	
PF	Domestic credit to private sector (% of GDP)	Domestic credit to private sector refers to financial resources provided to the private sector, such as through loans, purchases of nonequity securities, and trade credits and other accounts receivable, that establish a claim for repayment. For some countries these claims include credit to public enterprises.	World Development Indicators (WDI), World Bank
ΔGDP	GDP growth (annual %)	Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.	World Bank national accounts data, and OECD National Accounts data files.
RISK	Bank Z-score	It captures the probability of default of a country's banking system. Z-score compares the buffer of a country's banking system (capitalization and returns) with the volatility of those returns. It is estimated as $(ROA + (equity/assets))/sd(ROA)$ ; $sd(ROA)$ is the standard deviation of ROA. ROA, equity, and assets are country-level aggregate figures Calculated from underlying bank-by-bank unconsolidated data from Bankscope.	Bankscope, Bureau van Dijk (BvD)
BLEND	BLEND countries	BLEND countries are countries that are eligible	<a href="http://ida.worldbank.org/about/borrowing-countries">http://ida.worldbank.org/about/borrowing-countries</a>

		for IDA borrowing based on per capita income levels and are also creditworthy for some borrowing from the IBRD. They are referred to as “blend” countries.	<a href="https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups">https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups</a>
LOW	Low-income countries	These are countries that have a per capita income level of \$1,005 or less.	<a href="https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups">https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups</a>
IDA	IDA countries	These are the countries that are eligible for borrowing from the International Development Association (IDA)	<a href="https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups">https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups</a>
AFR	African countries	African countries in our sample.	

<b>A2: Country Grouping</b>		
Group		#
African Countries	Angola, Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo DR, Congo Rep, Cote d'Ivoire, Djibouti, Eritrea, Ethiopia, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Nigeria, Papua New Guinea, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Sudan, Tanzania, Togo, Uganda, Zambia and Zimbabwe.	39
BLEND countries	Moldova, St Vincent and the Grenadines, Cameroon, Mongolia, Congo Rep, Nigeria, Uzbekistan, Dominica, Pakistan, Zimbabwe, Grenada, Papua New Guinea, Kenya, St Lucia	14
IDA countries	Afghanistan, Haiti, Rwanda, Bangladesh, Honduras, Samoa, Benin, São Tomé and Príncipe, Bhutan, Kosovo, Senegal, Burkina Faso, Kyrgyz Republic, Sierra Leone, Burundi, Lao PDR, Solomon Islands, Cambodia, Lesotho, Central African Republic, Liberia, South Sudan, Chad, Madagascar, Sudan, Comoros, Malawi, Congo DR, Maldives, Tajikistan, Côte d'Ivoire, Mali, Tanzania, Djibouti, Togo, Eritrea, Mauritania, Tonga, Ethiopia, The Gambia, Mozambique, Uganda, Ghana, Vanuatu, Guinea, Nepal, Yemen Republic, Guinea-Bissau, Nicaragua, Zambia, Guyana, Niger	52
Low-income countries	Afghanistan, Guinea, Rwanda, Benin, Guinea-Bissau, Senegal, Burkina Faso, Haiti, Sierra Leone, Burundi, Central African Republic, Liberia, South Sudan, Chad, Madagascar, Tanzania, Comoros, Malawi, Togo, Congo DR, Mali, Uganda, Eritrea, Mozambique, Zimbabwe, Ethiopia, Nepal, The Gambia and Niger	29
<p>Note: This grouping is obtained from the World Bank (see A1 for data source). Per the World Bank, some countries fall under multiple country groups. African countries are countries in the African continent. BLEND countries are countries that are eligible for IDA borrowing based on per capita income levels and are also creditworthy for some borrowing from the International Bank of Restructuring and Development (IBRD). They are referred to as “blend” countries. Low-income countries are countries that have a per capita income level of \$1,005 or less. IDA countries are countries that are eligible for borrowing from the International Development Association (IDA)</p>		