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Confidence, financial inclusion and sustainable economic development

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Confidence, financial inclusion and sustainable economic development[1]

Ayse Demir[2], **Reinhard Bachmann**[3], **Victor Murinde**[4], **Laurence Harris**[5], **Christine Oughton**[6] **and Meng Xie**[7]

Abstract This paper identifies two types of confidence, from the literature on trust and social capital: Confidence in financial institutions; and confidence in the institutional framework, which encompasses confidence in government, military, police and judicial system. We argue that confidence has direct impact on economic growth and sustainable economic development, but the indirect impact works through financial inclusion. We model the interactions among confidence, financial inclusion and sustainable economic development using a simultaneous equation system. We invoke system estimation techniques to estimate the model on a sample of 131 developing and developed countries for 2006-2017. We uncover new results which suggest that confidence works directly, as well as indirectly through financial inclusion, with a positive impact on economic growth and sustainable economic development. We also find that while confidence has a linear positive impact on economic growth, its impact on sustainable economic development mimics an inverted-U curve, suggesting that there is a threshold level beyond which confidence countervails sustainable economic development. These findings support policy initiatives to build confidence and entrench financial inclusion.

Keywords Confidence, financial inclusion, sustainable economic development
JEL classification O43, O10, G2

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1. Introduction

'Trust' sounds like a revolutionary buzzword; indeed, there seems to be an increasing trend in trying to figure out not only the process of building trust but also the role of trust in influencing the behaviour of economic agents. For example, in their pioneering empirical work, Knack and Keefer (1997) explore the link between trust and economic growth using a generalized trust measure from the World Value Survey (WVS). It is found that high levels of trust entrench social capital and deliver high rates of economic growth: Better trust environments attract more economic activity due to less need for costly monitoring and enforcement mechanisms.

But, trust is not entirely homogenous. Indeed, the literature identifies three types of trust: organizational, institutional and interpersonal trust. Organisational trust is related to the positive expectations individuals have about an organisation (McEvily et al., 2003). Institutional trust refers to trust in institutions and concentrates on the systemic level and the extent to which individuals have trust in institutions such as the military, judiciary system, government and the police (Cerna, 2014). The basis of interpersonal trust is "face-to-face contacts, long-term acquaintance and mutual reliable credential" (Bahre and Smets, 1999: 53), which includes generalized trust. Drawing from each of the above three types of trust, research on the growth effects of trust are based traditionally on responses to survey questions such as the WVS[1]; the question on trust is: "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?".

Nevertheless, these measures of trust have been criticised. For example, Beugelsdijk (2006) argues that generalized trust is too simplistic to derive macro conclusions, because it is a proxy of social capital that reflects certain aspects of culture, corresponding to the micro level trust. It is proposed by Luhmann (1979, 1988) and Beugelsdijk (2006) that it is rather

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[1] A number of surveys and barometers (Eurobarometer, General Social Survey, European Social Survey and International Social Survey Programme) conduct surveys to measure trust using the same question asked by WVS.

confidence in institutions that matters as social capital at the macro level. Precisely, there is distinction because trust requires a recognition of risk while confidence does not. For example, individuals have confidence in money by accepting it as part of everyday life, because money is based on 'social contract' (Lagerspetz, 1984), but "you also need trust to keep and not spend your money, or to invest it in one way and not in others" (Luhmann, 1988, p.98). Overall, therefore, while confidence and trust are two different attitudes, the former is a precondition of the latter. It is curious that the existing literature has only focussed on the link between trust (which is micro) and economic growth without exploring the link between confidence (which is macro) and economic behaviour. Clearly, this is an important gap in the literature.

This paper aims to fill the above gap. We acknowledge the conceptual distinction between trust and confidence, as proposed by Beugelsdijk (2006) and Luhmann (1979, 1988) and seek to extend the existing literature on trust and growth in terms of four main contributions. Firstly, we focus on confidence and investigate its relationship with economic growth and sustainable economic development. This approach brings in a new dimension to existing literature on trust and growth by unveiling how the precondition of trust influences economic growth and sustainable economic growth. In particular, we identify two types of confidence: Confidence in financial institutions, which refers to individuals' confidence in all transactions operated by financial institutions; confidence in the institutional framework, which encompasses confidence in government, military, police and judicial system. The focus on confidence also offers important advantages in terms of measurement and data quality. It addresses the criticism that the generalized trust measure is time invariant (Algan and Cahuc, 2010). So far, six waves of cross-section data have been released by WVS where the number of countries vary in each wave and the time interval between waves is not constant. On the other hand, Gallup conducts a poll on confidence in a wide range of institutions annually for across 140 countries since 2006, thus enabling us to address the time invariant issue in trust

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data and conduct our analysis in a panel data setting using data on confidence. Hence, this paper adopts the measures of confidence developed by Gallup World Poll.

Secondly, we introduce financial inclusion as the transmission mechanism through which confidence may affect economic growth and sustainable economic growth. We argue that confidence, as a precondition of trust, may affect growth through transaction costs. By lowering transaction costs, confidence stimulates investment, production and trade, which in turn stimulate economic activity. Also, financial markets function smoothly in an environment of confidence, to promote resource allocation with less costly legal protection. On the contrary, erosion of confidence and the rise of suspicion among economic agents tend to lead to mistrust in financial institutions and reluctance to access and use financial product and services (Karlan et al., 2014). Precisely, we argue that confidence in financial institutions and confidence in the institutional framework are potential factors driving financial inclusion. This places our paper squarely within a global research policy agenda for increasing access to, and use of, affordable financial services in a sustainable way (Demirguc-Kunt et al., 2018).

Thirdly, we extend the research to explore the link between confidence, financial inclusion and sustainable development. Financial inclusion is regarded as a key enabler for poverty reduction and for increasing well-being and eventually improving the life standards of individuals who are financially included (Kochar, 2018). Similarly, access to financial products and services features in at least 5 goals (1 – poverty; 2 – hunger; 5 – gender; 8 – growth; and 9 - infrastructure) of the 17 Sustainable Development Goals (SDGs) established by the United Nations for 2030 (Mader, 2018). Given the importance of confidence for financial inclusion as well as the importance of financial inclusion for sustainable economic development, we seek to contribute to the existing literature by empirically investigating the effect of confidence not only on economic growth but also on sustainable economic development, either directly or indirectly through an inclusive financial system as a transmission channel.

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Fourthly, in order to capture the interdependence among confidence, financial inclusion and sustainable economic development, we model the interactions among the three using a simultaneous equation system. We invoke a system estimation technique (three stage least squares technique, 3SLS) to estimate the model on a sample of 131 developing and developed countries for 2006-2017. We also address potential endogeniety, reverse causality, and omitted variables that may codetermine both confidence and economic performance. We uncover at least two new results. Firstly, confirming our hypotheses, the results suggest that confidence works directly, as well as indirectly through the financial inclusion channel, in promoting economic growth and sustainable economic development. Secondly, we find that while confidence has a linear positive impact on economic growth, its impact on sustainable economic developed mimics an inverted-U curve, suggesting that there is a threshold level beyond which confidence impedes sustainable economic development. These findings have important policy implications, not least by identifying some potential policy tools for building confidence and embedding financial inclusion and sustainable economic development.

The rest of this paper is organized as follows. Section 2 provides the literature review and hypothesis development. Section 3 presents data and econometric strategy. Section 4 discusses the main results and robustness checks. Section 5 concludes.

2. Literature review and hypothesis development

We review three strands of the existing literature on: Trust and economic growth; financial inclusion; and sustainable economic development. We also draw from the theory and empirical findings in these studies in order to develop our key hypotheses.

2.1   Trust and economic growth

Trust has been identified as one of the key enablers of economic and social performance (Algan and Cahuc, 2014). In their pioneering work, Knack and Keefer (1997) examine the impact of

social capital on economic growth using a cross section of 29 countries. Using trust as an indicator of social capital, based on data from WVS, it is found that trust has a positive and statistically significant impact on economic growth. In a follow-up study, Zak and Knack (2001) confirm the findings by Knack and Keefer (1997), even after adding 12 countries to the earlier sample. Moreover, Beugelsdijk et al. (2004) conduct a robustness analysis of two influential papers (Knack and Keefer, 1997; Zak and Knack, 2001) and conclude that the relationship between trust and growth is robust; these findings are also confirmed by Horvath (2013) using a Bayesian model to test for the robustness of the trust-growth nexus. Dincer and Uslaner (2010) and Akcomak and Ter Weel (2009) analyse the trust-growth nexus at regional level and also obtain findings which support the positive effects of trust on growth.

However, Helliwell (1996) finds a weak and negative relationship between trust and growth in Asian economies. In addition, Beugelsdijk and van Schaik (2005) show that regional economic growth in Europe is not associated with trust. Moreover, Berggren et al. (2008) conduct a robustness analysis of the relationship between growth and trust and conclude that the trust-growth link is fragile (significant at the 5% level in 10% of their 1,140 regressions). Also, it has been found that the trust-growth nexus happens indirectly, through the transmission channel of investment, as found by Zak and Knack (2001) and Hirsch, et al. (2018), or through schooling and the rule of law, as stated by Bjornskov (2012), or through institutions and education as shown by Bjornskov and Meon (2013). Hence, existing studies establish a positive link between trust, proxied by generalized trust measure, and economic growth, either directly or through some transmission mechanisms.

We take into account the distinction between trust and confidence, as highlighted earlier. In particular, we emphasize the work by Luhmann (1988) which uses the term confidence rather than trust and states that confidence is associated with wider systems such as the police, law, military and government, or financial system, which matter for the economy at

the macro level. Based on the foregoing discussion of the theory and evidence, we formulate our first hypothesis as:

H_1: An increase in the level of confidence (in financial institutions or confidence in the institutional framework) has a positive effect on economic growth and sustainable economic development.

2.2   *Financial inclusion and economic growth*

Financial inclusion implies access to and use of a wide range of financial services in an affordable and sustainable way (Allen et al., 2016). Existing literature suggests that the main factors which are associated with a country's level of financial inclusion are income per capita, legal origins, the quality of institutions, good governance, the regulatory environment, population, education, regulatory constraints and availability of information (Allen et al., 2016; Rojas-Suarez and Gonzales, 2010; Karlan et al., 2014; Honohan, 2008; Beck et al., 2007). In addition, Guiso et al. (2004) find that in Italy people who reside in provinces with higher levels social capital tend to hold less cash, use cheques, invest more in shares, use less informal credit and have greater access to credit from institutions. Also, Guiso et al. (2008) note that even if individuals participate in the stock market, they tend to buy fewer stocks in an environment characterized by less trust. Similarly, Dupas et al. (2012) shows that low trust in banks is often regarded as a key concern that prevents people from using formal bank accounts in Kenya.

Some of the evidence is specific to confidence rather than trust. For example, Djankov et al. (2008) identifies lack of confidence in institutions as a key factor that prevents people from having a bank account in Mexico. Because confidence serves as a precondition for trust, the emphasis on trust in formal banking systems by Karlan et al. (2014) and the importance of trust in financial institutions by Bruhn (2018) can be interpreted as underpinning the role of confidence in financial inclusion. Moreover, Beckmann (2019) shows that lack of trust in banks

reduces the probability of formal savings, especially bank savings in Central and Eastern Europe. Based on the above discussion, we formulate our second hypothesis:

H_2: An increase in the level of confidence (in financial institutions or confidence in the institutional framework) has a positive effect on the level of financial inclusion.

Existing literature also suggests that lack of access to financial services is one of the potential sources of severe distress, which may impede poverty alleviation and economic development (see Beck et al., 2007; Cull and Scott, 2010; Mader, 2018). Financial inclusion increases access to and use of the formal financial services, thereby promoting investment in business opportunities, education, and health, and eventually contributing to productivity and economic growth, in the long term. Also, capital injections into small businesses tend to relax credit constraints on poor entrepreneurs, thereby enabling them to come out of poverty and increase economic growth (De Mel et al., 2008; McKenzie and Woodruff, 2008). In addition, Bruhn and Love (2014) find a positive effect of access to finance on income in Mexico through enabling informal business owners to keep their businesses open and creating an overall increase in employment. In the light of the above discussion, we formulate our third hypothesis:

H_3: An increase in the level of financial inclusion has a positive effect on the level of economic growth and sustainable economic development.

2.3   Theory on confidence, financial inclusion and economic growth

We seek to explore conceptually the role of financial inclusion in providing the transmission channel through which confidence (in financial institutions and well as the institutional framework for finance) affects economic growth and sustainable economic development. In previous theoretical studies, McEvily et al. (2003) defines the working mechanism of trust as comprising three constituent parts. The first is the confidence in the system in terms of positive expectations of an individual towards his economic environment. The working mechanism

starts as a belief, then it transforms into a decision, and further transforms into an action. This process shows that confidence is a precondition for 'trust as a decision' and 'trust as an action'.

Our theoretical conceptualisation of confidence relates to financial institutions, which form the fundamental basis for a financial system. We note that the existing literature identifies three major issues which are expected to be resolved through the financial system. The first is asymmetric information, which creates issues of moral hazard and adverse selection. The second is uncertainty which is crucial in free market economy. The third one is the principle-agent problem that emerges associated with market imperfections (Demir and Hall, 2017).

We argue that the presence of confidence and trust, which are essential features of principal-agent relationships, can help to alleviate these problems. Confidence in the institutional framework (that is confidence in the police, military, government and judicial system) reduces uncertainty in the financial system and ensures that people are confident with the rule of law, its enforcement and protection mechanism and they can trust these institutions in one to one relationship (Bachmann, 2001; Bachmann and Inkpen, 2011). When individuals have confidence in financial institutions along with confidence in the institutional framework, they can easily trust and delegate financial institutions as decision-making authority for the management of their capital resources, which reduces principal-agent problems and associated transaction costs. Moreover, confidence in the financial system facilitates trust; cooperation among anonymous people and institutions reduces asymmetric information and the necessity of monitoring (Brown et al., 2012; Gur and Bjørnskov, 2017). Hence, an increase in confidence in the institutional framework and confidence in financial institutions may increase trust in, access, to and use of, financial institutions, thus engendering a more inclusive financial system.

Moreover, in theory, an inclusive financial system leads to an efficient resource allocation to productive investment projects. In addition, access to and use of appropriate

financial products facilitate management of uncertainty and reduce risks. Also, financial inclusion reduces risk of exposure to misappropriation by providing accounts at financial institutions and holding less cash money. Participation of entrepreneurs, especially women who live in rural areas, in the financial system through the services of micro finance institutions increases financial freedom, creates more job opportunities, increases social inclusion and helps close gender gaps. All these activities eventually contribute to economic growth, close income gaps among groups, increase overall wellbeing and enables inclusive and sustainable economic development (Demirguc-Kunt et al., 2018). Based on the foregoing discussion of the relevant theoretical and empirical literature, we formulate our fourth hypothesis as follows:

H_4: An increase in the level of confidence (in financial institutions or confidence in the institutional framework) has a positive effect on the level of economic growth and sustainable economic development, through the channel of financial inclusion.

The main prediction of Hypothesis 1 is that the benefits of confidence translate into higher growth and sustainable economic development. Hypothesis 2 predicts that confidence is consistent with high symmetric information in order to embed financial inclusion among households and firms. Hypothesis 3 predicts that with higher levels of confidence, financial inclusion delivers the financing support for economic growth and sustainable development. Hypothesis 4 predicts that financial inclusion provides the transmission mechanism through which confidence positively affects economic growth and sustainable economic development.

3. Data and econometric strategy

3.1. Data and measurement

We use data from several sources including: Gallup World Poll; Global Financial Development Indicators; Financial Access Survey, IMF; World Governance Indicators; World Development

Indicators; and Political Risk Service database. We started with the universe of 193 countries, which are members of the United Nations. We checked for data availability and consistency for the period 2000-2018. We paid particular attention to data availability for the two measures of confidence (confidence in financial institutions and confidence in the institutional framework). After adjusting for data gaps and unreliability of data for all the variables in some countries for some of the periods, we ended up with a working sample of 131 countries covering the period 2006-2017.

3.2. Dependent variables

3.2.1. Confidence

Following Beugelsdijk (2006) and Luhman (1979, 1988), we focus on confidence using the confidence dataset provided by The Gallup World Poll – which is the only cross-national dataset measuring confidence provided in a timely enough period enabling us to assess the implications of confidence on the economy at panel set. The survey question of the Gallup is: "In [country], do you have confidence in each of the following, or not?" proceeding with list of institutions, including the financial institutions or banks, national government, police, military and the judicial system.

We measure two aspects of confidence. First, we create a unique measure of confidence in institutional framework following the arguments Beugelsdijk (2006) and Luhman (1979, 1988), that consists of confidence in police, military, government and judicial system. We use principal component analysis and used the first component as the measure of confidence in institutional framework. Second is the confidence in financial institutions on itself as a single measure of confidence in financial institutions at macro level. The World Poll conduct survey of an annual base for around 1,000 people for up to 155 countries. Actual sample sizes vary by country as not every question is asked in each survey and not every country is surveyed every

year. The World Poll spans from 2006 (for most of the countries data is available from 2009) and the version of the dataset we are using (released on 2018) contains data through 2017 for most countries and 2018 for others. This restricts our sample size to 131 countries covering the period 2006-2017.

[insert Figures 1-2 about here]

Figures 1-2 show the distribution confidence in financial institutions and confidence in institutional framework distribution around the world for year 2014, respectively. The distribution shows similarities as well as differences across the world.

[insert Figure 3 about here]

Figure 3 shows the differences among confidence in financial institutions, confidence in institutional framework and trust at regional base for year 2014[2]. Confidence in both financial institutions and institutional framework are highest in South Asia while trust is highest in East Asia & Pacific. Confidence in financial institutions is lowest in Europe& Central Asia while confidence in institutional framework and trust are lowest in Latin America& Caribbean. This is quite an interesting finding and is a reflection that trust, and confidence are not perceived as same concepts giving credence to Beugelsdijk (2006) and Luhman (1979, 1988), and have to be considered individually in terms of their implications in the economy.

3.2.2. Financial inclusion

There are three dimensions of financial inclusion identified by the existing literature which are access, usage and quality (Demirguc-Kunt et al., 2018; Ahamed and Mallick, 2019).

We extend Ahamed and Mallick (2019) by performing principal component analysis (PCA) to create a unique index using access, usage and quality dimension indicators of

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[2] We have chosen 2014 as the base year due to data availability on trust.

financial inclusion. Before implementing PCA, variables are normalized to have values between zero and one so that the scale in which they are measured is not a matter of issue. Based on the data availability and following the literature (Beck et al., 2007), we use Automated Teller Machines (ATMs) per 1,000 km^2, Automated Teller Machines (ATMs) per 100,000 adults, Branches of Commercial Banks per 1,000 km^2 and Branches of Commercial Banks per 100,000 adults as the measurements of access dimension of financial inclusion, outstanding deposits with commercial banks (% of GDP) and outstanding loans with commercial banks (% of GDP) as the measurements of usage dimension of financial inclusion and finally bank net interest margin (%), that measures financial system competitiveness[3], as the measurement of the quality dimension of financial inclusion. We first conduct PCA among four measures of access dimension to capture common variation among those four variables. We take the first principal component as the composite index of financial access and conduct a second PCA among financial access, usage and quality measures. We then take the first principal component as the unique composite index of financial inclusion.

3.2.3. Sustainable economic development

We construct a sustainable development index, following Strezov et al. (2017) along with the evaluation of a broad set of sustainable development indicators. These indicators are used to create a unique index for three dimensions of sustainable economic development, namely the economic, environmental and social, and categorizes the individual indicators across their ability to reflect these three dimensions. In the robustness check, we use Adjusted Net Savings (Genuine saving). Adjusted Net Savings is used as one of the sustainable development measures in the literature (Lindmark et al., 2018; Carbonnier et al., 2018). It originates from

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[3] Another frequently used financial system competitiveness indicator is the net interest spread, but due to data availability for the sample of interest, we rely on bank net interest margin. In order to facilitate interpretation and consistency with other variables, we multiply bank net interest margin by -1 in order to use it in PCA analysis.

the literature on national income accounting, wealth accounting and weak sustainability (Strezov et al., 2017; World Bank 2018).

3.3 Control variables

- *Ethnic fractionalization*: We measure ethnic fractionalization by using Ethnic Tensions data from Political Risk Service (PRS) database. Higher values indicate lower levels of ethnic tensions. Anything that causes a reduction in the social polarization among the citizens of a country is expected to increase tendency to more trust (Bjørnskov, 2006; Zak and Knack, 2001). Hence, we expect positive effect of ethnic tensions on confidence.

- *Religious fractionalization*: We measure religious fractionalization by using Religious Tensions data from Political Risk Service (PRS) database. Higher values indicate lower levels of religious tensions. Reduced social polarization among the citizens will increase tendency to more trust (Bjørnskov, 2006; Zak and Knack, 2001). Hence, we expect positive effect of religious tensions on confidence.

- *Rule of law*: We use the Rule of Law component of World Governance Indicators (WGI). Rule of Law increases the tendency of individuals to have confidence in the system and trust in decisions, through protecting individuals against adverse effects when their confidence and trust are abused (Bjørnskov, 2006). Hence, we expect positive effect of Rule of Law on confidence.

- *Mobile cellular subscriptions*: We use Mobile cellular subscriptions (per 100 people) from World Development Indicators (WDI). Mobile phone penetration facilitates access to and use of financial services through providing financial services in digital platform, and hence increase financial inclusion (Honohan, 2008). Hence, we expect a positive effect of mobile cellular subscriptions on financial inclusion.

- *Regulatory constraint*: Following Rojas-Suarez and Gonzales (2010) we calculate regulatory constraint by subtracting *Financial Freedom Index* of Heritage Foundation from

100. This variable measures the level of government regulation on financial system; the level of government intervention in financial services; the obstacles faced in opening and operating financial services; and state effect on the allocation of credit which is expected to hamper financial inclusion (Rojas-Suarez and Gonzales, 2010). Thus, we expect negative effect of regulatory constraint on financial inclusion.

- *Education*: We measure education by using Primary school enrolment (Gross) from WDI. The significance of human capital and educational attainment is highlighted in growth theory (Rebelo, 1991). An increase in education level indicates an expansion in the supply of skilled labour and productivity which is beneficial for the development of the economy. Hence, we expect positive effect of primary school enrolment on growth.

- *Investment*: We measure investment by using Gross capital formation (% of GDP) from WDI. In the growth literature (Rebelo, 1991), investment on new projects in the sectors of infrastructure and public utilities as well as the projects in key sectors such as health, industry, housing, agriculture and education, which contribute to economic growth. Hence, we expect positive effect of gross capital formation on growth.

- *Trade*: Trade refers to economic openness and is measured by sum of export and imports (% of GDP) from WDI. The theory on the growth effects of trade is inconclusive. For example, Levine and Renelt (1992) and Grossman and Helpman (1992) show that trade stimulates growth through the import of goods and services including new technology that facilitates the production process and increase productivity. However, Batra and Slottje (1993) argue that trade openness has a negative impact on growth through reducing tariffs. A decline in relative prices of domestic manufacturing may result in a less demand for domestic goods in contrast with foreign goods. Thus, we expect that the impact of trade on growth is indeterminate in theory and can only be verified empirically, i.e. it may be

positive, suggesting that trade facilitates technology know how and increased productivity, or it may be negative suggesting the detrimental impact of tariffs.

- *Government expenditure*: This is the indicator of fiscal policy and measured by general government final consumption expenditure (% of GDP). An increase in government size requires more spending. To finance this spending government imposes more tax. An increase in tax induces a fall in economic activities, private investment and hence economic growth (Barro, 1991). However, an increase in government size may encourage private investment as large government is likely to do more investment in technological up-gradation/diversification and infrastructure, which improves development of the economy. Hence, the impact of government expenditure on growth is indeterminate.

- *Population density*: We measure population density (people per sq. km of land area) using data from WDI. An increase in population density increases the number of human capital available, which is beneficial for economy, but it also leads an increase in consumption of resources with negative effects for present and future utility (Hanley et al., 2015). Hence, the impact of population density on sustainable economic development is indeterminate.

- *Resource richness*: Following Carbonnier et al. (2018) we measure resource richness by taking the sum of ores and metals exports (% of merchandise exports) and fuel exports (% of merchandise exports). Countries with abundant sub-soil assets in the form of gas, minerals and oil can achieve large revenues from extraction that can contribute the sustainable economic development (Carbonnier et al., 2018). Therefore, we expect positive effect of resource richness on sustainable economic development.

- *Institutional quality*: We measure institutional quality by taking the average of six governance components of WGI. An increase in institutional quality leads resource allocation in an effective and more inclusive way, leading to an increase in sustainable

economic development. Hence, we expect a positive effect of institutional quality on sustainable development (van Zeijl-Rozema et al., 2008).

3.4. Econometric Strategy

3.4.1. Specification of a simultaneous equation system

We specify a simultaneous equation system to capture the inter-relationships among confidence, financial inclusion, and economic growth. The simultaneity among the three is illustrated in Figure 4. We specify two systems: the first with an emphasis on economic growth; the second focused on sustainable economic development.

[Insert Figure 4 about here]

3.4.2 First system: Confidence, financial inclusion and economic growth

We specify our econometric model to estimate confidence following the literature on trust, such as Forte et al. (2015), and Algan and Cahuc (2014), among others. In addition, following Allen et al. (2016) and Beck et al. (2007), among others, we specify a model to estimate financial inclusion. Also, following Barro (2015) and Algan and Cahuc (2014) we specify a model to estimate economic growth. We also specify a simple model for sustainable economic development, following Lindmark et al. (2018) and Carbonnier et al. (2018). Hence, the first system comprises three equations for confidence, financial inclusion and economic growth, as listed below in equations (1) – (3), respectively:

$$confidence_{i,t} = intercept + \eta_0 confidence_{i,t-1} + \eta_1 growth_{i,t} + \sum_{k=1}^{K} \mu_k Z_{k,i,t} + q_i$$

$$+ e_{i,t} \quad (1)$$

$$fi_{i,t} = intercept + \beta_0 fi_{i,t} + \beta_1 growth_{i,t} + \beta_2 confidence_{i,t} + \sum_{k=1}^{K} \gamma_k X_{k,i,t}$$

$$+ q_i + u_{i,t} \quad (2)$$

$$growth_{i,t} = intercept + \Omega_0 growth_{i,t-1} + \Omega_1 fi_{i,t}$$

$$+ \Omega_2 confidence_{i,t} + \Omega_3 confidence^2_{i,t} + \Omega_4 fi_{i,t} * confidence_{i,t}$$

$$+ \sum_{k=1}^{K} \mathcal{E}_k Y_{k,i,t} + q_i + n_{i,t} \quad (3)$$

Where, in equation (1), $confidence_{i,t}$ refers to the two confidence measures (confidence in financial institutions and confidence in the institutional framework), which we estimate separately; $growth_{i,t}$ denotes income per capital growth; $Z_{k,i,t}$ is a vector of control variables (ethnic fractionalization, religious fractionalization and rule of law); q_i is the regional fixed effects; and $e_{i,t}$ is the error term. In equation (2), $fi_{i,t}$ is the composite index of financial inclusion; $X_{k,i,t}$ is a vector of control variables (mobile cellular subscriptions and regulatory constraint); and $u_{i,t}$ stands for the error term. In equation (3), $fi_{i,t} * confidence_{i,t}$ is the interaction term between financial inclusion and confidence; $Y_{k,i,t}$ is a vector of control variables (education, investment, trade, government expenditure); and $n_{i,t}$ stands for the error term. All right-hand side (control) variables are lagged and are employed as instruments for the three endogenous variables in the regressions.

3.4.3. Second system: Confidence, financial inclusion and sustainable economic development

The second system comprises three equations for confidence, financial inclusion and sustainable economic development, as listed below in equations (4) – (6), respectively:

$$confidence_{i,t} = intercept + confidence_{i,t} + b_1 SED_{i,t} + \sum_{k=1}^{K} B_k Z_{k,i,t} + q_i + p_{i,t} \quad (4)$$

$$fi_{i,t} = intercept + l_0 fi_{i,t} + l_1 SED_{i,t} + l_2 confidence_{i,t} + \sum_{k=1}^{K} L_k X_{k,i,t} + q_i + o_{i,t} \quad (5)$$

$$SED_{i,t} = intercept + \theta_0 SED_{i,t-1} + \theta_1 fi_{i,t} + \theta_2 confidence_{i,t} + \theta_3 confidence^2{}_{i,t}$$

$$+ \theta_4 fi_{i,t} * confidence_{i,t} + \sum_{k=1}^{K} J_k W_{k,i,t} + q_i + \phi_{i,t} \quad (6)$$

Where, variables are as defined before; in addition *SED* denotes sustainable economic development; $W_{k,i,t}$ is a vector of control variables (population density, resource richness, and governance index); and $\phi_{i,t}$ is the error term. In the regressions, all right-hand side (control) variables are lagged and are employed as instruments for the endogenous variables.

Overall, the model, specified using the system of equations (1) – (6), encompasses the four hypotheses in this paper. Specifically, hypothesis 1 is represented by Ω_2 in equation 3 and θ_2 in equation 6; hypothesis 2 is represented by β_2 and l_2; hypothesis 3 is represented by Ω_1 and θ_1; while hypothesis 4 is represented by Ω_1, Ω_4, θ_1 and θ_4.

4. Empirical results

4.1. Descriptive statistics

Table 1 reports summary statistics of all the variables used in the estimation. The variables are well behaved in terms of the dispersion of the mean and standard deviation. Sustainable economic development is highest (lowest) in Iceland in 2009 (Slovenia in 2016) while growth in adjusted net savings is highest (lowest) in Angola in 2006 (Iraq in 2009). Financial inclusion is highest (lowest) in Switzerland in 2016 (Guinea in 2006). Confidence in financial institutions

is highest (lowest) in Singapore in 2007 (Ukraine in 2009); but confidence in the institutional framework is highest (lowest) in Singapore in 2009 (Ukraine in 2007). South Asia, on average, has the highest level of growth, compared to other five regions.

[insert Table 1 about here]

4.2.　　Empirical results for the system of equations

We fully endogenize confidence, financial inclusion and economic growth in our empirical specifications, rather than taking them as orthogonal to each other. In fitting the data, we allow residuals to be correlated across the confidence, financial inclusion and growth equations. Specifically, the reported statistics account for cross-equation residual correlation. This main results are reported in Tables 2-5, while the robustness test results are reported in Tables 6-7.

[Insert Table 2 about here]

Table 2 presents the results from a 3SLS estimation that allows for confidence in financial institutions (*confin*), financial inclusion (*fi*) and growth to be simultaneously determined. It is shown that the current level of confidence is highly influenced by its level in the previous period. Importantly, confidence in financial institutions has a direct, positive and statistically significant impact on economic growth, which supports Hypothesis 1. Both growth and the rule of law have a positive significant effect on confidence, consistent with our predictions and the existing literature. Confidence has a positive significant effect on financial inclusion which is line with our prediction in Hypothesis 2. The results also indicate that the current level of financial inclusion is highly explained by its previous period; further, as predicted in Hypothesis 3, financial inclusion has a direct positive and statistically significant impact on economic growth. Confidence, financial inclusion and their interaction have positive significant impact on growth, suggesting that financial inclusion provides the indirect

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transmission channel through which confidence affects economic growth, as predicted in Hypothesis 4.

[Insert Table 3 about here]

The results reported in Table 3 relate to confidence in the institutional framework, rather than confidence in financial institutions (reported in Table 2). It is found that confidence in the institutional framework tends to persist – the current level is influenced by its previous period. Both growth and the rule of law have positive significant effect on confidence, in line with our predictions and existing literature. It is interesting to note that the econometric results obtained for the confidence in financial institutions (as reported in Table 2) also hold for confidence in the institutional framework (as reported in Table 3). For example, we find empirical support for the predictions in hypotheses (1) – (4), for both dimensions of confidence. The growth story also holds true: Investment, government expenditure and trade have positive significant impact on economic growth.

[Insert Table 4 about here]

Table 4 reports the estimation results for the second system of equations (4) - (6), for the interrelationships among confidence in financial institutions, financial inclusion and sustainable economic development. The estimation results suggest that confidence in financial institutions is backward looking and so builds its own momentum. It is found that the current level of financial inclusion is enhanced by confidence in financial institutions; this result is consistent with the prediction of Hypothesis 2. In addition, confidence, financial inclusion and the interaction term between the two, are associated with improvements in sustainable economic development, in line with our predictions in Hypotheses 1, 3 and 4. We also find that the impact of confidence on sustainable economic development mimics an inverted-U curve, suggesting that there is a threshold level beyond which confidence adversely affects sustainable

economic development. Institutional quality has a positive significant impact on sustainable economic development, which is consistent with the findings of existing literature. Among all regions, Latin America & Caribbean on average has the lowest level of SED compared to other five regions.

[Insert Table 5 about here]

The results for confidence in the institutional framework are reported in Table 5 and are consistent with the corresponding results for confidence in financial institutions in Table 4. In addition, improvement in the rule of law and reduction in ethnic tensions have a clear positive and significant impact on confidence in the institutional framework, increase financial inclusion and enhance sustainable economic development.

4.3. Robustness tests

The robustness test results, where sustainable economic development is measured using adjusted net savings, rather than the SED index, are reported in Table 6, with confidence in financial institutions. It is shown that the current level of confidence in financial institutions is highly influenced by its previous period. Both adjusted net savings and the rule of law have positive significant effect on confidence, in line with our predictions and existing literature. In addition, confidence has a positive significant effect on financial inclusion which is line with our prediction in Hypothesis 2. The results also show that confidence, financial inclusion and the interaction term have positive and significant impact on sustainable economic development, as predicted in Hypotheses 1, 3 and 4. However, the non-linear and threshold effects do not hold when adjusted net savings measure is used to proxy sustainable economic development.

[Insert Tables 6 and 7 about here]

Table 7 reports estimation results, where confidence is measured using confidence in the institutional framework. Overall, the results are consistent with these reported for

confidence in financial institutions, in Table 6. It is shown that confidence in the institutional framework has a direct and significant impact on sustainable economic development, as predicted in Hypothesis 1; also confidence has a positive impact on financial inclusion, as predicted in Hypothesis 2; financial inclusion has a positive impact, as predicted in Hypothesis 3; and the impact of confidence on sustainable economic development works through the financial inclusion transmission channel, as predicted in Hypothesis 4. The negative significant coefficient of the squared term of confidence is an indication of inverted U-shaped link between confidence and sustainable economic development.

Overall, the results are similar whether we use the SED index or the adjusted net savings as proxy for sustainable economic development.

4.4. Endogeneity issues

To estimate the effect of confidence on growth, we took into account potential bias due to endogeneity. We considered two main sources of endogeneity. The first is reverse causality: contemporaneous confidence is likely to be influenced by the current level of sustainable economic development. The second is that of omitted variables that might codetermine both confidence and economic performance.

To address simultaneity or reverse causality, we instrumented confidence as a precondition of trust using a set of variables along with estimation of a system of equations using three-stage least squares. Although this method comes with its own problems, it has enabled the direct estimation of potential transmission channels through which confidence might affect growth. We include ethnic fractionalization and religious fractionalization, following Bjørnskov (2006) and Zak and Knack (2001); we also used the Rule of Law following Bjørnskov (2006), as instruments of confidence to capture its exogenous variation in this study.

5. Conclusion and policy implications

We take, as our starting point for this study, the social capital literature in which trust is found to be an important determinant of economic growth. We note that the majority of the studies on the trust-growth nexus are based on the generalized trust measure of WVS. However, this trust measure has been subjected to major criticisms. For example, the measure is often hampered by limited data availability such that it is typically unable to capture time variation. In addition, the trust measure has been criticised for its conceptual framework; for instance, it is argued that generalized trust is based on micro dimensions and is too simplistic to derive macro conclusions (Beugelsdijk, 2006).

Hence, we depart from the literature on the trust-growth nexus and focus on confidence, which addresses the main criticisms of trust. We identify two types of confidence: Confidence in financial institutions; and confidence in the institutional framework, which encompasses confidence in government, military, police and judicial system. We investigate interactions among confidence, financial inclusion and sustainable economic development using a simultaneous equation system, estimated on a sample of 131 developing and developed countries for 2006-2017.

Of all the interesting findings of this paper, two new results stand out. Firstly, our new results suggest that confidence works directly, as well as indirectly through financial inclusion, to increase economic growth and improve sustainable economic development. Secondly, our results show that while confidence has a linear positive impact on economic growth, its impact on sustainable economic development mimics an inverted-U curve, suggesting that there is a threshold level beyond which confidence countervails sustainable economic development.

These findings have important implications for policy and practice. For example, managers of financial institutions need to work hard on initiatives and practices that enable

economic agents to build confidence in financial institutions. Policy makers, governments and international organisations (such as the UN and its agenda for SDGs) need to launch special projects and programmes to deliver the building of confidence in financial institutions and confidence in the institutional framework. The design of these projects and programmes would also aim to enhance financial inclusion through which the main elements of sustainable economic development can be achieved. The empirical variables identified in this paper will provide measurable targets for monitoring and evaluation of the projects, programmes and initiatives by private sector practitioners, governments, and international organisations that aim to achieve the building of social capital and the delivery of financial inclusion and sustainable economic development.

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Data Source: Gallup World Poll, 2018

Data Source: Gallup World Poll, 2018

Figure 3: Confidence and trust across regions (Year=2014)
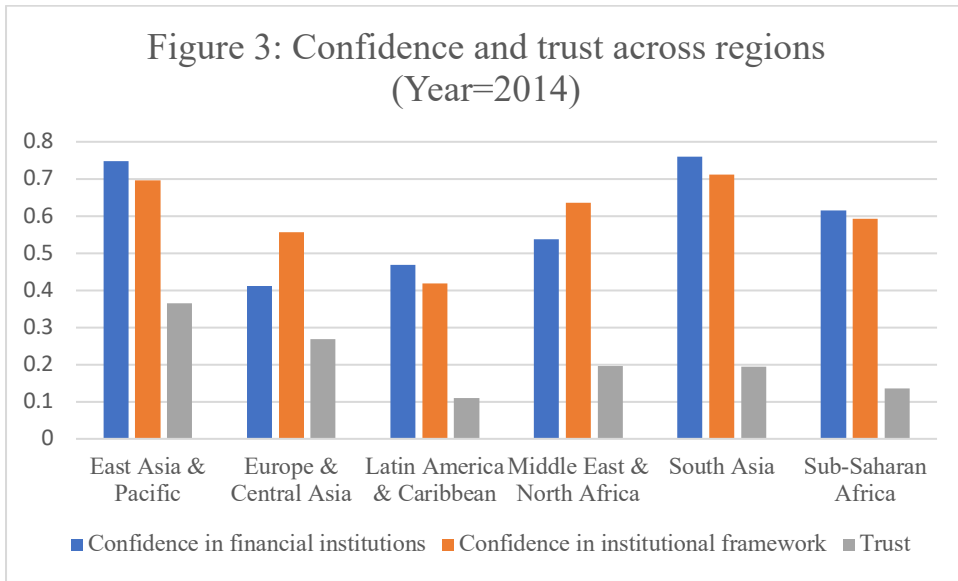
Data Source: Gallup World Poll, 2018; WVS, 2015

Figure 4: The nexus between confidence, financial inclusion and economic growth or sustainable economic development (SED)

Confidence

Economic growth /SED

Financial Inclusion
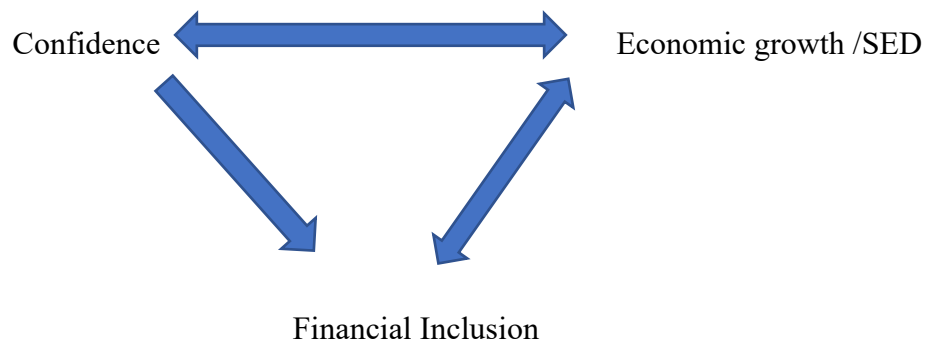
Table 1: Descriptive statistics for all variables used in this study					
Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Income per capita growth	1,686	0.021	0.053	-0.973	0.802
Sustainable economic development	1,829	0.450	0.082	0.103	0.682
Growth in adjusted net savings	1,206	-0.015	0.429	-2.851	2.751
Financial inclusion	1,374	0.000	1.701	-4.770	3.796
Confidence in financial institutions	1,138	0.542	0.170	0.040	0.930
Confidence in institutional framework	1,068	0.565	0.144	0.185	0.955
Primary school enrolment	1,406	4.645	0.081	4.474	4.822
Investment	1,711	3.194	0.281	2.537	3.851
Government expenditure	1,382	1.502	0.922	-0.745	3.818
Trade	1,724	4.358	0.476	3.151	5.559
Population density	1,806	4.107	1.281	0.958	7.283
Resource richness	1,559	2.816	1.121	0.047	4.613
Institutional quality	1,703	0.009	0.926	-1.990	1.960
Mobile money subscription	1,673	4.298	0.660	2.782	5.308
Regulatory constraints	1,715	3.801	0.412	3.045	4.511
Ethnic tensions	1,832	1.564	0.260	0.916	1.946
Religious tensions	1,832	1.704	0.224	1.253	1.946
Rule of law	1,703	0.003	1.016	-2.178	2.100
Notes: Obs. is the number of observations. Std. Dev. is the standard deviation of each variable for a panel of 131 countries for 2006 to 2017. Mean, Min and Max are the average, the minimum and the maximum of each variable in our sample. All variables are winsorized at 0.01 level.					

Table 2: Estimation results for first system of equations, with confidence in financial institutions

Endogenous variables: Confidence in financial institutions (*Confin*), financial inclusion (*Fi*), and income per capita growth (*Growth*)

VARIABLES	(equation 1) *Confin*	(equation 2) *Fi*	(equation 3) *Growth*
Confidence in financial institutions (one lag)	0.816***		
	(0.029)		
Financial inclusion (one lag)		0.859***	
		(0.010)	
Growth (one lag)			0.130***
			(0.031)
Confidence in financial institutions		0.153*	0.057*
		(0.080)	(0.032)
(Confidence in financial institutions)^2			-0.009
			(0.028)
Financial inclusion			0.015**
			(0.006)
(Financial inclusion) x (Confidence in financial institutions)			0.010*
			(0.006)
Growth	0.129***	-1.371**	
	(0.204)	(0.593)	
Rule of law	0.006*		
	(0.004)		
Ethnic tensions	0.009		
	(0.012)		
Religious tensions	-0.007		
	(0.016)		
Mobile cellular subscription		0.013	
		(0.027)	
Regulatory constraint		-0.001	
		(0.001)	
Investment			0.012***
			(0.004)
Primary school enrolment			0.004
			(0.013)
Trade			0.011***
			(0.003)
Government expenditure			0.003**
			(0.001)
East Asia & Pacific	-0.040	0.004	0.018
	(0.032)	(0.084)	(0.011)
Europe & Central Asia	-0.083***	0.011	0.023**
	(0.031)	(0.083)	(0.011)
Latin America & Caribbean	-0.076**	-0.024	0.025**
	(0.032)	(0.085)	(0.011)
Middle East & North Africa	-0.041	-0.001	0.012
	(0.033)	(0.085)	(0.011)
South Asia	-0.056	-0.029	0.026**
	(0.035)	(0.095)	(0.012)
Sub-Saharan Africa	-0.062*	-0.081	0.020*
	(0.032)	(0.090)	(0.012)
Constant	0.114**	0.101	-0.050
	(0.046)	(0.180)	(0.062)
Observations	603	603	603
R-squared	0.746	0.980	0.170
Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1			

Table 3: Estimation results for first system of equations, with confidence in the institutional framework

Endogenous variables: Confidence in institutional framework (*Confins*), financial inclusion (*Fi*), and income per capita growth (*Growth*)

VARIABLES	(equation 1) Confins	(equation 2) Fi	(equation 3) Growth
Confidence in the institutional framework (one lag)	0.840***		
	(0.025)		
Financial inclusion (one lag)		0.847***	
		(0.011)	
Growth (one lag)			0.184***
			(0.036)
Confidence in the institutional framework		0.220**	0.305***
		(0.105)	(0.024)
(Confidence in the institutional framework)^2			0.048
			(0.058)
Financial inclusion			0.022***
			(0.008)
(Financial inclusion) x (Confidence in the institutional framework)			0.029***
			(0.009)
Growth	1.042***	-1.865***	
	(0.161)	(0.703)	
Rule of law	0.012***		
	(0.003)		
Ethnic tensions	0.013		
	(0.010)		
Religious tensions	-0.031**		
	(0.014)		
Mobile cellular subscription		0.022	
		(0.028)	
Regulatory constraint		-0.001	
		(0.001)	
Investment			0.016***
			(0.005)
Primary school enrolment			0.001
			(0.016)
Trade			0.012***
			(0.003)
Government expenditure			0.005***
			(0.002)
East Asia & Pacific	-0.024	0.005	0.018
	(0.021)	(0.086)	(0.011)
Europe & Central Asia	-0.023	-0.006	0.011
	(0.020)	(0.081)	(0.011)
Latin America & Caribbean	-0.043**	-0.026	0.021*
	(0.021)	(0.086)	(0.012)
Middle East & North Africa	-0.037	-0.034	0.019
	(0.023)	(0.093)	(0.013)
South Asia	-0.024	-0.035	0.024**
	(0.023)	(0.098)	(0.012)
Sub-Saharan Africa	-0.027	-0.115	0.017
	(0.021)	(0.092)	(0.012)
Constant	0.128***	0.072	-0.063
	(0.036)	(0.195)	(0.075)
Observations	566	566	566
R-squared	0.837	0.979	0.179
Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1			

Table 4: Estimation results for second system of equations, with confidence in financial institutions

Endogenous variables: Confidence in financial institutions (*Confin*), financial inclusion (*Fi*) and sustainable economic development (*SED*)

VARIABLES	(equation 4) Confin	(equation 5) Fi	(equation 6) SED
Confidence in financial institutions (one lag)	0.801***		
	(0.022)		
Financial inclusion (one lag)		0.864***	
		(0.009)	
Sustainable economic development (one lag)			0.683***
			(0.050)
Confidence in financial institutions		0.158**	0.515***
		(0.074)	(0.148)
(Confidence in financial institutions)^2			-0.475***
			(0.134)
Financial inclusion			0.028***
			(0.008)
(Financial inclusion) x (Confidence in financial institutions)			-0.053***
			(0.013)
Sustainable economic development	-0.174**	-0.617***	
	(0.083)	(0.226)	
Rule of law	0.008		
	(0.005)		
Ethnic tensions	0.031**		
	(0.013)		
Religious tensions	-0.022		
	(0.018)		
Mobile cellular subscription		0.012	
		(0.026)	
Regulatory constraint		-0.001**	
		(0.001)	
Resource richness			0.002
			(0.002)
Population density			-0.001
			(0.002)
Institutional quality			0.012***
			(0.004)
East Asia & Pacific	-0.020	-0.073	-0.019
	(0.026)	(0.082)	(0.019)
Europe & Central Asia	-0.090***	-0.030	-0.039**
	(0.024)	(0.080)	(0.019)
Latin America & Caribbean	-0.070***	-0.096	-0.046**
	(0.026)	(0.084)	(0.020)
Middle East & North Africa	-0.066**	-0.056	-0.043**
	(0.027)	(0.084)	(0.021)
South Asia	-0.006	-0.109	-0.016
	(0.028)	(0.089)	(0.022)
Sub-Saharan Africa	-0.041	-0.131	-0.044**
	(0.026)	(0.084)	(0.021)
Constant	0.232***	0.338*	0.044
	(0.059)	(0.190)	(0.048)
Observations	679	679	679
R-squared	0.843	0.980	0.536
Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1			

Table 5: Estimation results for second system of equations, with confidence in the institutional framework

Endogenous variables: Confidence in the institutional framework (*Confins*), financial inclusion (*Fi*), and sustainable economic development (*SED*)

VARIABLES	(equation 4) Confins	(equation 5) Fi	(equation 6) SED
Confidence in the institutional framework (one lag)	0.808*** (0.023)		
Financial inclusion (one lag)		0.862*** (0.010)	
Sustainable economic development (one lag)			0.586*** (0.049)
Confidence in the institutional framework		0.021* (0.010)	1.086*** (0.239)
(Confidence in the institutional framework)^2			-1.045*** (0.214)
Financial inclusion			0.019** (0.009)
(Financial inclusion) x (Confidence in the institutional framework)			-0.078*** (0.013)
Sustainable economic development	-0.230*** (0.065)	-0.871*** (0.239)	
Rule of law	0.020*** (0.004)		
Ethnic tensions	0.029*** (0.010)		
Religious tensions	-0.047*** (0.014)		
Mobile cellular subscription		0.024 (0.026)	
Regulatory constraint		-0.002** (0.001)	
Resource richness			0.002 (0.002)
Population density			-0.000 (0.002)
Institutional quality			0.021*** (0.004)
East Asia & Pacific	-0.033* (0.019)	-0.114 (0.083)	-0.026 (0.018)
Europe & Central Asia	-0.044** (0.017)	-0.098 (0.078)	-0.035** (0.017)
Latin America & Caribbean	-0.065*** (0.019)	-0.175** (0.086)	-0.051*** (0.018)
Middle East & North Africa	-0.047** (0.020)	-0.129 (0.090)	-0.040* (0.021)
South Asia	-0.016 (0.020)	-0.153* (0.089)	-0.005 (0.020)
Sub-Saharan Africa	-0.024 (0.019)	-0.183** (0.083)	-0.030 (0.019)
Constant	0.289*** (0.050)	0.543*** (0.202)	-0.046 (0.066)
Observations	646	646	646
R-squared	0.879	0.980	0.508
Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1			

Table 6: Estimation results for second system of equations, with confidence in financial institutions and adjusted net savings

Endogenous variables: Confidence in financial institutions (*Confin*), financial inclusion (*Fi*) and adjusted net savings (*ANS*)

VARIABLES	(equation 4) Confin	(equation 5) Fi	(equation 6) ANS
Confidence in financial institutions (one lag)	0.927***		
	(0.056)		
Financial inclusion (one lag)		0.951***	
		(0.010)	
Adjusted net savings (one lag)			-0.023
			(0.026)
Confidence in financial institutions		0.220***	1.995***
		(0.081)	(0.153)
(Confidence in financial institutions)^2			-0.065
			(0.153)
Financial inclusion			0.039*
			(0.020)
(Financial inclusion) x (Confidence in financial institutions)			-0.076**
			(0.036)
Adjusted net savings	0.415***	-0.336***	
	(0.064)	(0.094)	
Rule of law	-0.004		
	(0.007)		
Ethnic tensions	0.001		
	(0.011)		
Religious tensions	0.003		
	(0.016)		
Mobile cellular subscription		0.004	
		(0.028)	
Regulatory constraint		-0.002**	
		(0.001)	
Resource richness			-0.001
			(0.005)
Population density			0.001
			(0.005)
Institutional quality			0.011
			(0.018)
East Asia & Pacific	-0.053	0.064	0.131
	(0.053)	(0.084)	(0.114)
Europe & Central Asia	-0.079	0.075	0.155
	(0.052)	(0.084)	(0.114)
Latin America & Caribbean	-0.074	0.037	0.149
	(0.054)	(0.086)	(0.116)
Middle East & North Africa	-0.075	0.043	0.150
	(0.057)	(0.091)	(0.124)
South Asia	-0.053	0.024	0.115
	(0.059)	(0.092)	(0.128)
Sub-Saharan Africa	-0.040	-0.088	0.058
	(0.055)	(0.088)	(0.121)
Constant	0.108	-0.054	-0.270*
	(0.069)	(0.150)	(0.142)
Observations	599	599	599
R-squared	0.281	0.974	0.004

Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 7: Estimation results for second system of equations, with confidence in the institutional framework and adjusted net savings

Endogenous variables: Confidence in the institutional framework (*Confins*), financial inclusion (*Fi*) and adjusted net savings (*ANS*)

VARIABLES	(equation 4) Confins	(equation 5) Fi	(equation 6) ANS
Confidence in the institutional framework (one lag)	0.778*** (0.040)		
Financial inclusion (one lag)		0.841*** (0.013)	
Adjusted net savings (one lag)			-0.017 (0.033)
Confidence in the institutional framework		0.811*** (0.134)	2.334*** (0.432)
(Confidence in the institutional framework)^2			-0.631* (0.358)
Financial inclusion			0.117*** (0.040)
(Financial inclusion) x (Confidence in the institutional framework)			-0.181*** (0.042)
Adjusted net savings	0.236*** (0.044)	-0.807*** (0.160)	
Rule of law	0.004** (0.002)		
Ethnic tensions	0.005 (0.010)		
Religious tensions	-0.004 (0.015)		
Mobile cellular subscription		0.069* (0.038)	
Regulatory constraint		-0.001 (0.001)	
Resource richness			-0.003 (0.008)
Population density			0.005 (0.008)
Institutional quality			0.007** (0.003)
East Asia & Pacific	-0.026 (0.033)	0.102 (0.116)	0.096 (0.126)
Europe & Central Asia	-0.053* (0.031)	0.141 (0.113)	0.167 (0.123)
Latin America & Caribbean	-0.080** (0.033)	0.207* (0.121)	0.289 (0.129)
Middle East & North Africa	-0.067* (0.039)	0.185 (0.144)	0.211 (0.154)
South Asia	-0.026 (0.036)	0.083 (0.124)	0.053 (0.142)
Sub-Saharan Africa	-0.036 (0.034)	-0.030 (0.119)	0.073 (0.134)
Constant	0.183*** (0.049)	-0.820*** (0.203)	-0.488*** (0.186)
Observations	481	481	481
R-squared	0.610	0.945	-0.078

Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1