ORIGINAL RESEARCH

Social Cohesion and Firms' Access to Finance in Africa

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Abstract

Social cohesion has recently gained increasing attention in academic and policy circles. Apart from being a necessary feature of stable societies per se, social cohesion is also a key factor for sustainable economic development. One potential means through which social cohesion could foster economic development is by enhancing financial development. In this paper, I examine whether social cohesion is significantly associated with firms' access to finance in Africa. To this end, I use a recently constructed dataset on social cohesion in Africa, which contains indices for the three pillars of social cohesion – trust, inclusive identity and cooperation for the common good. Combining this dataset with that of the World Bank Enterprise Surveys, I build a sample which covers more than 12,600 firms and 27 African countries. The results show that all three components of social cohesion are positively associated with at least one measure of firms' access to external finance. In particular, trust – but not inclusive identity and cooperation for the common good – is significantly associated with the likelihood that firms have a checking or savings account, or are financially constrained. When we measure access to finance with respect to having a line of credit or a loan from a financial institution, all the three pillars of social cohesion, including inclusive identity and cooperation for the common good, are related to access to finance. The results are robust to addressing endogeneity concerns using a heteroskedasticity-based identification strategy.

Keywords Access to finance · Social cohesion · Trust · Cooperation for the common good · Identity · Africa

JEL Classification G21 · O16 · O43 · O55 · Z13

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1 Introduction

There is now a large body of literature showing that access to external finance is crucial for the performance of firms. For example, access to finance enables firms to more effectively exploit growth opportunities available in their industry (e.g. Fisman & Love, 2007; Faffchamps & Schündeln, 2013; Tran et al., 2022). Moreover, access to finance promotes the entry of new firms and the exit of unsuccessful ones (Aghion et al., 2007). Firms in countries with better access to finance are also found to be more innovative in that they introduce new products, technologies, and processes (Ayyagari et al., 2011). Nevertheless, lack of access to finance remains one of the most pressing challenges facing micro, small and medium enterprises (MSMEs) in the developing world (Ayyagari et al., 2008; Beck & Demirgüç-Kunt, 2006). Firms surveyed by the World Bank Enterprise Survey (WBES) mentioned (lack of) access to finance as the second biggest obstacle to conducting business activities, next only to access to electricity (Pierce & Snyder, 2018).

Growing evidence on the importance of access to finance for firm performance and on the severity of financial constraints faced by MSMEs in developing countries has triggered a burgeoning literature on the potential historical, legal, and economic determinants of financial development in general and of firms' access to finance in particular. In this regard, existing literature has so far identified a few determinants of a country's level of financial development, including legal origin (La Porta et al., 1997), culture (Stulz & Williamson, 2003), trust (Guiso et al., 2004), openness to trade and financial liberalisation (Rajan & Zingales, 2003; Herwartz & Walle, 2014), and the degree of intensity of pre-colonial slave trade (Pierce & Snyder, 2018; Levine et al., 2020). In this paper, I argue and show empirically for the case of Africa that social cohesion is another important determinant of firms' access to finance.

Social cohesion, often metaphorically defined as "the glue that holds society together" or "the fabric of society", is a broad concept with a wide range of definitions.[1] Nevertheless, most authors agree that it comprises at least trust (among individuals and between them and the state), cooperation for the common good, and a sense of belonging to a society (inclusive identity) (e.g. Chan et al., 2006; Leininger et al., 2021). Applying this narrow definition, it becomes apparent that the existing literature has already identified the trust component of social cohesion as having a direct, positive impact on financial development and access to finance (Guiso et al., 2004; An et al., 2022). Yet, none of these studies has considered either the broader social cohesion concept or its specific components, such as cooperation for the common good and inclusive identity, as potential determinants of financial development. The main objective of this paper, therefore, is to consider the broader concept of social cohesion (beyond trust) and examine the effects of all its three integral components – trust, cooperation for the common good and inclusive identity – on firms' access to finance in Africa.

There are several reasons to expect that social cohesion might affect firms' access to external finance. First, social cohesion is an important factor in the development of strong institutions (Easterly et al., 2006), such as a functioning legal system, which in turn is a critical prerequisite of any developed financial system (La Porta et al., 1997). Since access to finance generally increases with the overall development of the financial system, I expect social cohesion to have a positive effect on the likelihood that firms have access to external

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[1] For an extensive review of the theoretical and empirical literature on social cohesion, see, among others, Chan et al. (2006), Schiefer and Van der Noll (2017), and Leininger et al. (2021).

finance. Second, in a society with a higher degree of cooperation for the common good, public goods are provided more effectively, and free riders are punished more easily by community members through a complex set of sanctions (Ostrom, 1990). This could facilitate financial exchanges, thereby promoting the development of strong financial institutions and, in turn, firms' access to finance. Third, given that discrimination against minorities (Asiedu et al., 2012) or socially disadvantaged groups (Raj & Sasidharan, 2018) is a widespread phenomenon in the credit market, I expect firms' access to finance to be better in countries where diverse identities are tolerated and minorities are not discriminated against (i.e., where there is a higher level of inclusive identity).

For the empirical analysis, I combine two main data sources. First, I take country-specific measures of trust, cooperation for the common good, and identity levels from Leininger et al. (2021). These data are in turn constructed based on the fourth (2008), fifth (2012–2013) and sixth (2014–2015) rounds of the Afrobarometer survey and the Varieties of Democracy (V-Dem) expert-based data of the corresponding years. Next, I combine the country-level data with the firm-level data from the World Bank Enterprise Surveys (WBES), which results in a final sample of more than 12,600 firms that were surveyed between 2009 and 2020 across 27 African countries. As an empirical measure of firms' access to finance, I rely on three WBES questions that ask firms whether they (1) have a checking or savings account; (2) have a bank loan or a line of credit; (3) have faced financial constraint in the last fiscal year before the survey.

To minimise the risk that my estimation results may pick up the effects of confounding factors that drive both a country's level of social cohesion and firms' access to finance, I follow a number of strategies. First, I take a country's social cohesion index measured at least one year prior to the year in which the WBES was conducted. Second, I include several country-specific control variables, period dummies, and sector-specific fixed effects. Third, I check the robustness of the probit estimates using the heteroskedasticity-based identification strategy proposed in Lewbel (2012). Apart from a few changes in terms of statistical significance of the estimated coefficients for social cohesion, my probit-based results remain qualitatively unchanged by the heteroskedasticity-based instrumental variable estimation.

To preview some of the results, all three components of social cohesion are positively associated with at least one measure of firms' access to external finance. In particular, trust – but not inclusive identity and cooperation for the common good – is significantly associated with the likelihood that firms have a checking or savings account, or are financially constrained. Measuring access to finance in terms of having a line of credit or a loan from a financial institution, I find that in addition to trust, inclusive identity and cooperation for the common good are also significantly related to firms' access to finance in Africa. Hence, while previous studies have shown that trust plays an important role in promoting access to finance, the results documented in this paper suggest that other components of social cohesion, in particular cooperation for the common good and inclusive identity, are also important determinants of firms' access to finance in Africa.

2 Theoretical Framework and Related Literature

In this section, I first provide the definition of social cohesion endorsed in this study. Next, I provide a theoretical background to the mechanisms in which trust, cooperation for the common good and inclusive identity components of social cohesion could affect firms' access to finance.

2.1 Defining Social Cohesion

Despite its increasing popularity among both scholars and policy makers, social cohesion remains a largely vague concept with a wide range of definitions. While some authors emphasise issues related to trust and solidarity, others consider broader issues such as poverty and inequality as integral components of social cohesion (e.g. Langer et al., 2017). Against this background, several authors and institutions have attempted to provide clearer, more rigorous and practical definitions (e.g. Chan et al., 2006; Schiefer & Van der Noll, 2017; Langer et al., 2017; UNDP, 2020).[2] Since the main objective of the present study is to examine the relationship between social cohesion and access to finance in Africa, I refrain from discussing the complexities of defining and measuring social cohesion and instead move directly to elaborating the definition adopted in this paper.

I endorse the definition of social cohesion recently proposed by researchers at the German Institute of Development and Sustainability (IDOS) and from now on refer to it as IDOS's definition (Leininger et al., 2021). With an explicit preference for a definition that is "broad enough to cover the essentials holding societies together while at the same time lean enough to analyse the causes and consequences of social cohesion", the authors build largely on Chan et al. (2006) and define social cohesion as:

> the vertical and the horizontal relations among members of society and the state, which hold society together. Social cohesion is characterized by a set of attitudes and manifestations that includes trust, an inclusive identity, and cooperation for the common good. It is the glue that holds society together.

2.2 Social Cohesion and Financial Development: Theoretical Framework

2.2.1 Trust and Access to Finance

Of the three components of social cohesion, trust is by far the most studied, whether in terms of its impact on the aggregate economy or its role in financial sector development. In fact, Guiso et al. (2006, p. 29) maintain that trust is "the opening through which culture entered the economic discourse". The preponderance of empirical evidence documented in several studies suggests that trust promotes economic growth.[3]

In a seminal work on the effect of social capital on financial development, Guiso et al. (2004) document that the key mechanism through which social capital affects financial development is

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[2] A comprehensive and up-to-date overview of these definitions can be found on the website of the Social Cohesion Hub: https://www.socialcohesion.info/concepts.

[3] For a review of this literature, see, for instance, Guiso et al. (2006).

by fostering a level of trust in society. The significance of trust for financial development in turn emanates from the fact that financial contracts are inherently trust-intensive. Since financing is mainly about exchanging an amount of money today for a promise to give back more money in the future, the probability of occurrence of such an exchange hinges not only on the legal enforceability of such contracts, but also on the extent to which the financier trusts the one being financed (Guiso et al., 2004). Exploiting the variations in trust levels between regions in southern and northern Italy, Guiso et al. (2004) find that households in localities with higher trust levels tend to use more checks and less cash, participate in stock markets, have better access to formal credit, and rely less on informal credit.

Focusing on Africa, recent studies on the historical roots of access to finance in Africa have documented that (broken) trust is one of the main mechanisms through which other, deeper, factors such as the intensity of the slave trade (Levine et al., 2020) and the prevalence of the tsetse fly (An et al., 2022), influence current levels of access to finance. Similarly, Konte and Ndubuisi (2021) find that the negative impact of financial constraints on the export activities of African firms is less severe when they are located in countries with high levels of trust.

In sum, both theoretical and empirical studies have consistently shown that trust plays an important role in the degree of firms and households' access to external finance. However, these studies generally treat trust either as a stand-alone cultural factor or as a manifestation of social capital (but not of social cohesion). Against this background, this paper aims to re-examine the extent to which trust as an important component of social cohesion contributes to improving firms' access to finance in Africa.

2.2.2 Cooperation for the Common Good and Access to Finance

Unlike in the case of trust, the literature on the impact of a society's level of cooperation for the common good on a country's level of financial development in general and access to finance in particular is relatively sparse. It should be noted, however, that in the existing literature on social capital, the concepts of social capital and even trust have been operationalised using measures that one might consider as indicators of cooperation for the common good. For instance, Guiso et al. (2004) use electoral participation and blood donation as two important measures of social capital because both actions are driven only by social pressure and internal norms, and not by other legal or economic incentives. In the social cohesion literature, these two indicators would likely fall under the category of "cooperation for the common good". Thus, one might interpret the findings of Guiso et al. (2004) as evidence not only of the effects of trust but also of cooperation for the common good on financial development.

Indeed, Knack and Keefer (1997) argue that "norms of civic cooperation can be linked with economic outcomes in the same ways as trust". These authors contend that cooperative norms act as constraints on narrow self-interest, leading individuals to contribute to the provision of public goods of various kinds. Internal sanctions (e.g. guilt) and external sanctions (e.g. shame and ostracism) associated with norms alter the costs and benefits of cooperation. It is noteworthy, however, that the social capital literature on cooperation tends to emphasise social pressure, expected (individual and social) benefits and internal norms as main motivations for cooperation. On the contrary, the "cooperation for the common good" component of social cohesion stresses the fact that people cooperate "for the common good" beyond their individual interests and "despite incentives for non-cooperation" (King et al., 2010, p. 337). Thus, while cooperative norms may facilitate or provide incentives for

cooperation for the common good, they are not themselves a sign or measure of cooperation for the common good.

In general, in a society with a higher degree of cooperation for the common good, public goods are provided more effectively, and free riders are more likely to be punished by community members through a complex set of sanctions (Ostrom, 1990). This could facilitate financial exchanges and thus promote the development of strong financial markets and institutions. Therefore, I expect that firms in countries with higher levels of cooperation for the common good are, on average, more likely to have access to finance.

To my knowledge, no study has empirically examined whether the extent of cooperation for the common good in a society determines firms' access to finance. Therefore, an important contribution of this paper is to fill this gap in the literature by examining the impact of cooperation for the common good on firms' access to finance in Africa.

2.2.3 Inclusive Identity and Access to Finance

The literature on the impact of inclusive identity on access to finance is also scant. However, there are several indications that inclusive identity could potentially affect financial development. The first one relates to the fact that the prevalence of discrimination is a key manifestation of a lower degree of inclusive identity. Several studies have documented the prevalence of discrimination in access to finance in different societies. For example, using the 1998 and 2003 US Small Business Finance Survey, Asiedu et al. (2012) find that, after controlling for a variety of factors that influence loan decisions, Black-owned firms have a 36.9% points higher probability of loan denial than White male-owned firms. Similarly, Raj and Sasidharan (2018) document for the period 2006 to 2007 that Indian firms owned by socially disadvantaged groups (so-called Scheduled Castes and Scheduled Tribes) have a significantly lower probability of receiving formal credit, all other factors remaining equal. Hence, it is plausible to think that access to finance for both firms and households will be higher in countries where different identities are tolerated and minorities are not discriminated against.

A second mechanism through which inclusive identity might influence access to finance is related to individuals' sense of belonging to the nation state. In a socially cohesive society, people place a higher value on their national identities over their group identities, or at least the latter do not take strong precedence over the former (Langer et al., 2017). As a result, people in such societies view themselves as participants in a shared national project (Langer et al., 2017), and this could have important implications for the stability of the state, the efficient provision of key public goods – including financial infrastructure – and the strength of institutions. These effects could, in turn, influence the development of financial institutions and, thus, firms' access to external finance.

In sum, despite the presence of plausible reasons to expect a positive impact of inclusive identity on firms' access to finance, there is no empirical evidence to date that explicitly examines the impact of inclusive identity on firms' access to finance. Therefore, this paper aims to fill this gap in the literature by empirically testing whether inclusive identity is associated with firms' access to finance in Africa.

3 Data and Empirical Strategy

In this section, I first discuss the measurement of the variables used in this study, including indicators social cohesion and firms' access to finance. Subsequently, I describe the specification of the econometric model I use to estimate the effect of social cohesion on firms' access to finance in Africa. Finally, I discuss the estimation methodology.

3.1 Data

To measure firms' access to external finance, I utilise firm-level data from the World Bank Enterprise Surveys (WBES) collected between 2009 and 2020. All of these surveys were conducted using the so-called 'global methodology', which is designed to enable cross-country comparisons.[4] The firm-level data are combined with country-specific measures of trust, cooperation for the common good and identity levels, which are computed based on the fourth (2008), fifth (2012–2013) and sixth (2014–2015) rounds of the Afrobarometer survey and the V-Dem expert-based data of the corresponding years. It is noteworthy that, to minimise endogeneity concerns, and noting that it may take some time for social cohesion to have a significant impact on access to finance, I have deliberately taken the social cohesion data measured one to five years prior to the access to finance measures. This restriction ultimately leaves only 27 countries and 12,089 to 12,616 firms, depending on the estimated regression model. The Afrobarometer surveys and waves of WBES covered by the study are presented in Table 1. Finally, data on country-level controls are taken from Nunn (2008), the World development Indicators (WDI) and the Global Financial Development Database (GFDD) of the World Bank.

3.1.1 Social Cohesion Indicators and Other Country-Level Controls

To measure social cohesion and its components, I rely on the definitions and measurements suggested by Leininger et al. (2021). I chose this dataset primarily because, to my knowledge, it is the only dataset on social cohesion in Africa that contains estimates for each of the three pillars of social cohesion as well as for its sub-components, allowing me to examine the relationship between each of the components and sub-components and firms' access to finance in Africa. In addition, this dataset is also unique in that it covers a large number of African countries, which is crucial for conducting the meaningful empirical analysis envisaged in this study. Furthermore, some of the existing objective proxies for social cohesion are either its drivers or its consequences, e.g. the degree of ethnic fractionalisation or the share of the middle class (Easterly et al., 2006), and thus they may not always exhibit a robust correlation with the "true" level of social cohesion in a country (Van der Meer & Tolsma, 2014). In contrast, and as a third major advantage, the IDOS dataset provides a direct measure of social cohesion that – apart from cooperation for the common good, which is partly built on V-Dem expert data – is entirely based on representative surveys of individuals' perceptions of various aspects of social cohesion.

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[4] Specifically, my data are from the 26 October 2021 version of the WBES indicators database, downloaded from www.enterprisesurveys.org. Details on the survey methodology can be found on the website.

Table 1 Afrobarometer and WBES surveys

	Afrobarometer	World Bank Enterprise Survey		
Country	Year	Year	Number of firms	%
Benin	2014	2016	142	1.13
Botswana	2008	2010	261	2.07
Burundi	2012	2014	156	1.24
Cameroon	2015	2016	318	2.52
Cape Verde	2008	2009	137	1.09
Côte d'Ivoire	2014	2016	324	2.57
Eswatini	2015	2016	117	0.93
Ghana	2012	2013	690	5.47
Guinea	2015	2016	138	1.09
Kenya	2014	2018	966	7.66
Lesotho	2014	2016	125	0.99
Liberia	2015	2017	147	1.17
Madagascar	2008	2013	364	2.89
Malawi	2012	2014	415	3.29
Mali	2014	2016	167	1.32
Morocco	2015	2019	807	6.40
Mozambique	2015	2018	590	4.68
Namibia	2012	2014	470	3.73
Niger	2015	2017	131	1.04
Nigeria	2012	2014	2,017	15.99
Senegal	2013	2014	542	4.30
South Africa	2015	2020	1,049	8.31
Tanzania	2012	2013	605	4.80
Togo	2014	2016	147	1.17
Uganda	2012	2013	661	5.24
Zambia	2014	2019	575	4.56
Zimbabwe	2014	2016	555	4.40
Total			12,616	100.00

Source: Author, based on Afrobarometer surveys and WBES

While referring interested readers to Leininger et al. (2021) for more details, I provide here a brief description of how the three indices and the four sub-indices are constructed in the IDOS dataset.

Trust This index is constructed from two sub-indices: social trust and institutional trust. Social trust, in turn, is built on the positive responses of survey respondents to the popular survey question to measure social trust: "Generally speaking, would you say that most people can be trusted or that you must be very careful in dealing with people?" Institutional trust, on the other hand, is calculated as the arithmetic mean of trust in parliament, trust in the courts and trust in the police. The geometric mean of the two sub-indices is used to arrive at IDOS's overall trust indicator. All data for the trust measure are taken from the Afrobarometer surveys.

Cooperation for the Common Good This indicator also consists of two sub-indices: horizontal cooperation and vertical cooperation. Horizontal cooperation, in turn, is measured using three indicators. The first indicator, from the Afrobarometer, concerns membership of voluntary, non-religious associations or organisations. Because membership of some asso-

ciations that focus on a particular ethnic group may not reflect cooperation for the common good of society as a whole, a number of adjustments and weightings were made to arrive at the final indicator of membership of organisations. The second indicator, taken from the V-Dem database, is an expert evaluation of the degree of participation of citizens in civil society organisations (CSOs). The third indicator of horizontal cooperation is again derived from Afrobarometer and measures whether respondents have joined others to raise an issue with the government in the past year. As with membership of organisations, this indicator is also adjusted to account for the fact that teaming up with people from other ethnic groups represents a higher level of cooperation for the common good than raising an issue together with members of one's own ethnic group.

Vertical cooperation measures the strength of state–society cooperation. Two groups of indicators are used to build the vertical cooperation sub-index. The first group includes perception data from the Afrobarometer regarding the frequency of attending meetings and contacting local government councillors, members of parliament, officials of a government agency and traditional leaders. The second group of indicators involves expert data from V-Dem regarding the level of state repression toward CSOs and the degree to which CSOs are consulted by policy-makers.

Inclusive Identity Due to lack of appropriate data to measure inclusive identity in Africa, IDOS's measure of inclusive identity relies on a single question from the Afrobarometer surveys that compares the respondents' feelings towards their superordinate national identity vis-à-vis their ethnic identity. Accordingly, a country with more respondents either with strong feelings only for their national identity or stronger feelings for their national identity than for their ethnic identity receives a better ranking of inclusive identity.

Finally, for reasons of comparability among the various components of social cohesion, and as their "true" scales are not known, all the indices and sub-indices were rescaled to take values between 0 and 100.[5] Panel A of Table 2 documents summary statistics for the seven IDOS measures of various aspects of social cohesion and the six country-level controls: absolute latitude, the percentage of adherence to Islam, a dummy for French legal origins, and the intensity of slave trade (e,g. Pierce & Snyder, 2018; Levine et al., 2020), real GDP per capita (WDI) and financial development measured by domestic credit to the private sector as a percentage of GDP (GFDD). The years for latter two controls correspond to the Afrobarometer survey.

3.1.2 Access to Finance and Other Firm Characteristics

I measure the degree of firms' access to external finance by means of three alternative indicators. First, I consider an indicator of whether or not a firm has a checking or savings account (*fin15*). Similarly, my second indicator is a dummy variable which takes on the value 100 when the firm has a line of credit or a loan from a financial institution (*fin14*) and zero otherwise. Accordingly, both *fin14* and *fin15* will be my "direct" measures of the

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[5]For re-scaling, I use the so-called min-max normalisation. In particular, the new re-scaled value is obtained as New value= ((value – min) / (max – min))*100, where min and max represent the observed minimum and maximum values within each index and sub-index.

Table 2 Summary statistics

Indicator	Obs	Mean	SD	Min	Max
Panel A: Social cohesion indicators and country-level controls					
Trust	27	33.35	25.3	0	100
Trust: social	27	27.55	23.6	0	100
Trust: institutions	27	48.04	25.6	0	100
Cooperation	27	35.67	25.5	0	100
Cooperation: vertical	27	43.86	26.5	0	100
Cooperation: horizontal	27	39.08	26.3	0	100
Identity	27	53.19	25.4	0	100
Absolute latitude	27	14.60	9.26	0.2	33
% Islamic	27	24.86	33.5	0	99
Slave trade	27	3.64	3.87	-2.3	8.8
French	27	0.48	0.509	0	1
Log (private credit, % of GDP)	27	3.00	0.57	2.3	4.2
Log (GDP per capita, constant 2015 US dollars)	27	7.13	0.831	5.7	8.7
Panel B: Access to finance indicators and firm-level controls					
% firms with a checking or savings account (*fin15*)	12,466	84.85	35.9	0	100
% firms with a bank loan/line of credit (*fin14*)	12,089	20.23	40.2	0	100
% firms that are financially constrained (*finConstr*)	12,616	44.27	49.7	0	100
Log(age)	12,616	2.63	0.78	0	5
Small firm	12,616	56.94	49.5	0	100
Exporter	12,616	12.89	33.5	0	100
Foreign ownership	12,616	15.66	36.3	0	100
Female in the top management	12,616	16.46	37.1	0	100
Log(manager's experience)	12,616	2.53	0.742	0	4.1
State ownership	12,616	2.86	16.7	0	100

Source: Author, based on self-reported responses of managers of firms surveyed by WBES (access to finance indicators and firm characteristics), Leininger et al. (2021) (social cohesion indicators) and Nunn, WDI and GFDD (2008) (country controls). For each country, the years for private credit and GDP per capita correspond to the years of the Afrobarometer surveys

actual level of firms' access to formal finance. As a third and "indirect" measure of access to finance, I generate an indicator that shows if a firm was financially constrained in the fiscal year prior to the survey (*finConstr*). Based on the WBES dataset, I consider a firm to be financially constrained (*finConstr*=100) if its loan application was rejected in the last fiscal year (*fin21*=100) or if it reports needing a loan (*fin20*=0) but has not applied for it (*fin21 is missing*). Hence, constrained firms are those that need finance but were denied it ("formally constrained") or those that did not apply for it because they were discouraged from applying for fear of rejection ("informally constrained").[6]

Summary statistics for all access to finance indicators along with other firm-level characteristics are provided in Panel B of Table 2. In particular, 84.85% of the firms have a checking or savings account. This relatively high figure for *fin15* mirrors recent progress in expanding account ownership to firms and households in Africa (Demirgüç-Kunt & Klapper, 2012). However, this figure drops to just 20.23% when we consider the number of firms with a bank loan or a line of credit (*fin14*). This could be attributable to several factors, such

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[6] This operationalisation of financial constraint by considering both formally and informally constrained borrowers was first proposed by Jappelli (1990) and has been widely used in the literature (e,g. Guiso et al., 2006; Léon, 2015; Popov & Udell, 2012).

as the high cost of credit, the high collateral requirements imposed by banks, the unavailability of enough savings on the part of the banks, or lack of viable investment projects by the firms. In line with the low *fin14*, the average number of firms that are financially constrained, i.e. firms whose loan applications were denied or firms who were discouraged from applying (*finConstr)*, is high at 44.27%.

3.2 Model Specification

As the access to finance indicators are dichotomous, I estimate a series of probit models with the following empirical specification:

$$FD_{isc} = \beta_0 + \beta_1 Trust_c + \beta_2 \text{Cooperation}_c + \beta_3 \text{Identity}_c + \beta_4 X_{isc} + \beta_5 C_c + \beta_6 d_s + \beta_7 dPeriod_t + \varepsilon_{isc,} \quad (1)$$

where FD_{isc} stands for one of the three measures of access to finance for firm i, which belongs to sector s and is located in country c. The three main variables of interest are country-levels of trust ($Trust_c$), cooperation for the common good (Cooperation_c), and identity (Identity_c). The firm-level characteristics I control for (X_{isc}) include firm size, a dummy variable for the gender of the manager, the number of years of experience of the manager in logarithms and the age of the firm in logarithms. Moreover, I include three dummy variables indicating whether the firm generates at least 10% of its annual sales from direct exports, whether foreigners and the state hold at least 10% of the firm's shares. To account for industry-specific differences among firms, my estimation model in (1) also includes sector dummies (d_s). Because the WBES surveys were conducted in different years spanning 2009 to 2020, I include time dummies for the periods 2009–2013, 2014–2015, 2016–2017 and 2018–2020 to account for global trends over time.[7] The final term in the regression (ε_{isc}) is the white noise error term. Noting that firms that are located in the same country may have similar characteristics as they operate in similar business environments, I also cluster the standard errors at the country level.

The vector C_c stacks six country controls: absolute latitude, the percentage of adherence to Islam, a dummy for French legal origins, the intensity of slave trade, financial development and real GDP per capita (see, for example, Pierce & Snyder, 2018; Levine et al., 2020; Gopalan & Sasidharan, 2020). Since the inclusion of country fixed effects is not possible because the model already contains country-level measures of social cohesion, the country controls are supposed to minimise the risk that the social cohesion indicators might pick up other country-level differences. However, the fact that I have only 27 countries and thus limited degrees of freedom makes it difficult to include other country controls, as they would cause the problem of multicollinearity among the explanatory variables. The six country controls used in this paper are those that are known to determine a country's institutional, economic, and financial development and have been checked to ensure that they do not cause multicollinearity in my model. Moreover, it is noteworthy that social cohesion itself could be affected by other, deeper, factors, such as geography and culture, and hence controlling for such variables could attenuate the strength of the association between social cohesion and firms' access to finance. Furthermore, it should be noted that one possible mechanism through which social cohesion affects firms' access to finance is by promoting a country's

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[7] The use of year dummies was not possible because some years are represented by single countries, leading to multicollinearity problems.

overall financial and economic development. Therefore, my inclusion of financial development as a known determinant of firms' access to finance (e.g., Gopalan & Sasidharan, 2020) may lead to an underestimation of the impact of social cohesion on firms' access to finance.

3.3 Estimation Strategy

As a baseline estimation method, I perform a probit regression on the model in (1). The possibility of reverse causality from firms' access to finance to the degree of social cohesion in a country could be expected to be minimal on two grounds. First, social cohesion is measured at the country level while access to finance is measured at the firm level. Second, the Afrobarometer surveys used to create the social cohesion indicators are conducted one to five years before the WBES surveys, which I use to measure firms' access to finance. Still, my probit estimation could suffer from endogeneity biases arising from an omitted variable that affects both a country's level of social cohesion and firms' access to finance. To address this concern, one strategy I follow is to include in my regression model (1) as many country-specific controls as the multicollinearity problem allows, along with industry and time fixed effects.

As a second strategy, I test the robustness of my probit estimates by means of an instrumental variable estimation. However, finding a suitable external instrument that affects firms' access to finance only through its effect on social cohesion is difficult. As an alternative to this, I employ the heteroskedasticity-based identification strategy proposed in Lewbel (2012). This approach allows identification by means of internal instruments without imposing any exclusion restrictions. In what follows, I provide a brief intuitive explanation of this approach and refer interested readers to Lewbel (2012) and Baum and Schaffer (2012).

I begin by grouping the variables into three: the dependent variable (Y_1), the endogenous variables (Y_2) and the exogenous variables (X). To construct the instruments, I first regress each endogenous variable in Y_2 (social cohesion in my case) on the exogenous variables X and obtain the vector of residuals $\widehat{V}$. Then, I obtain the instruments as the product of the demeaned exogenous variables and the residuals from the regression of the endogenous variable as $(X - \bar{X})\widehat{V}$, where $\bar{X}$ is the mean of X. For the instruments to be valid, the residuals $\widehat{V}$ have to be heteroskedastic. Recent applications of this identification strategy to address endogeneity problems can be found in Mallick (2012) and Tran et al., (2020).

4 Results and Discussion

In this section, I present empirical results on the relationship between social cohesion and firms' access to finance in Africa. To this end, I first discuss baseline results of the probit models documented in Tables 3, 4 and 5. Next, I briefly discuss robustness check results obtained by applying the heteroskedasticity-based identification strategy, which are documented in Tables A.1, A.2 and A.3 of the online Supplementary Information. Unless otherwise stated, my discussion of statistical significance refers to the 5% level.

Table 3 Social cohesion and access to finance: likelihood of having a checking or savings account

	(1)	(2)	(3)	(4)	(5) Trust: social	(6) Trust: institutions	(7) Coop.: vertical	(8) Coop.: horizontal
Trust	0.238***	0.252***						
	(0.054)	(0.055)						
Cooperation	-0.020		0.006					
	(0.052)		(0.063)					
Identity	0.043			0.092				
	(0.063)			(0.081)				
Sub index					0.210***	0.167***	0.030	-0.016
					(0.068)	(0.039)	(0.065)	(0.067)
Log(age)	1.195	1.195	1.129	1.136	1.121	1.293	1.135	1.139
	(0.951)	(0.950)	(0.981)	(0.976)	(0.980)	(0.904)	(0.977)	(0.985)
Small firm	-0.087***	-0.087***	-0.087***	-0.087***	-0.087***	-0.087***	-0.087***	-0.087***
	(0.015)	(0.015)	(0.016)	(0.016)	(0.016)	(0.015)	(0.016)	(0.016)
Exporter	0.003	0.003	-0.000	0.001	-0.000	0.007	0.001	-0.001
	(0.015)	(0.015)	(0.014)	(0.015)	(0.015)	(0.015)	(0.014)	(0.014)
Foreign ownership	0.055***	0.053***	0.051***	0.053***	0.054***	0.049***	0.051***	0.052***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Female top manager	-0.010	-0.011	-0.005	-0.004	-0.008	-0.008	-0.005	-0.004
	(0.009)	(0.008)	(0.009)	(0.009)	(0.009)	(0.008)	(0.009)	(0.009)
Log(manager's experience)	1.750**	1.689**	1.929**	1.994***	1.924**	1.440**	1.911**	1.961**
	(0.728)	(0.738)	(0.762)	(0.773)	(0.758)	(0.733)	(0.761)	(0.766)
State ownership	-0.017	-0.016	-0.022*	-0.022	-0.021	-0.013	-0.022	-0.024*
	(0.014)	(0.013)	(0.014)	(0.014)	(0.013)	(0.013)	(0.014)	(0.013)
Observations	12,466	12,466	12,466	12,466	12,466	12,466	12,466	12,466
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R-squared	0.131	0.131	0.122	0.124	0.127	0.132	0.122	0.122
Clusters	27	27	27	27	27	27	27	27

Notes: The dependent variable is an indicator variable that takes on the value 100 if the firm has a checking or savings account and 0 otherwise. Reported coefficients are marginal effects from a probit model computed at the sample mean of the explanatory variables. The country controls included are absolute latitude, a dummy variable for French legal origin, the percentage of adherence to Islam, the log of pre-colonial slave exports per land area, private deposit to GDP and real GDP per capita. The four periods considered are pre-2014, 2014–2015, 2016–2017, and post-2017. Clustered (by country) standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

4.1 Baseline Results

Tables 3, 4 and 5 show the marginal effects from the estimated probit models.[8] The three

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[8] Using the logistic regression model yields estimates that are qualitatively the same and quantitatively close.to the probit estimates. These results are available in Appendix B of the online Supplementary Informa-

Table 4 Social cohesion and access to finance: likelihood that a firm has a bank loan/line of credit

	(1)	(2)	(3)	(4)	(5) Trust: social	(6) Trust: institutions	(7) Coop.: vertical	(8) Coop.: horizontal
Trust	-0.036	-0.008						
	(0.100)	(0.092)						
Cooperation	0.162**		0.173**					
	(0.066)		(0.071)					
Identity	0.082			0.101				
	(0.079)			(0.078)				
Sub index					-0.047	0.129**	0.158**	0.166**
					(0.109)	(0.056)	(0.076)	(0.067)
Log(age)	1.034	0.980	1.077	0.927	1.000	1.104	1.118	1.004
	(0.976)	(0.910)	(0.988)	(0.927)	(0.890)	(0.951)	(0.968)	(0.983)
Small firm	-0.107***	-0.110***	-0.108***	-0.110***	-0.110***	-0.110***	-0.108***	-0.108***
	(0.013)	(0.014)	(0.013)	(0.014)	(0.014)	(0.013)	(0.013)	(0.013)
Exporter	0.065***	0.058***	0.065***	0.060***	0.058***	0.065***	0.063***	0.064***
	(0.011)	(0.013)	(0.011)	(0.012)	(0.012)	(0.012)	(0.012)	(0.011)
Foreign ownership	0.029	0.033*	0.028	0.035*	0.032*	0.031*	0.028	0.029
	(0.018)	(0.018)	(0.019)	(0.018)	(0.018)	(0.018)	(0.018)	(0.019)
Female top manager	-0.010	-0.009	-0.012	-0.008	-0.009	-0.011	-0.012	-0.011
	(0.013)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Log(manager's experience)	1.306	1.497	1.236	1.516	1.474	0.996	1.334	1.219
	(1.023)	(1.065)	(0.984)	(1.058)	(1.028)	(0.995)	(0.989)	(1.003)
State ownership	0.020	0.009	0.022	0.009	0.008	0.020	0.020	0.020
Observations	12,089	12,089	12,089	12,089	12,089	12,089	12,089	12,089
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R-squared	0.101	0.0933	0.0995	0.0950	0.0935	0.0970	0.0987	0.0986
Clusters	27	27	27	27	27	27	27	27

Notes: Clustered (by country) standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The dependent variable takes on the value 100 if the firm has a bank loan/line of credit and 0 otherwise. For further notes, see Table 3

tables differ in terms of the particular access to finance measure used: dummy variables for having a checking or savings account *fin15* (Table 3), having a bank loan or a line of credit *fin14* (Table 4), and having been financially constrained in the fiscal year prior to the survey *finConstr* (Table 5). In all the three tables, the first specification includes all the three core social cohesion components simultaneously while each of the remaining seven specifications contains only one of the main or sub-components of social cohesion.

Table 3 presents probit estimates for the likelihood of a firm having a checking or savings account (*fin15*). In the specification with all the three main social cohesion indicators (col-

tion.

Table 5 Social cohesion and access to finance: likelihood of experiencing financial constraint

	(1)	(2)	(3)	(4)	(5) Trust: social	(6) Trust: institutions	(7) Coop.: vertical	(8) Coop.: horizontal
Trust	-0.461***	-0.402**						
	(0.140)	(0.160)						
Cooperation	-0.154		-0.144					
	(0.124)		(0.131)					
Identity	0.200**			0.075				
	(0.098)			(0.100)				
Sub index					-0.491***	-0.051	-0.206*	-0.073
					(0.165)	(0.083)	(0.124)	(0.131)
Log(age)	-2.266*	-2.173*	-2.165*	-2.132	-1.983	-2.193*	-2.245*	-2.115
	(1.255)	(1.284)	(1.286)	(1.322)	(1.265)	(1.287)	(1.256)	(1.310)
Small firm	0.124***	0.125***	0.120***	0.121***	0.124***	0.122***	0.120***	0.121***
	(0.010)	(0.011)	(0.011)	(0.012)	(0.011)	(0.012)	(0.012)	(0.011)
Exporter	-0.071***	-0.067***	-0.067***	-0.061***	-0.061***	-0.064***	-0.068***	-0.064***
	(0.019)	(0.018)	(0.017)	(0.017)	(0.018)	(0.018)	(0.018)	(0.017)
Foreign ownership	-0.022	-0.029	-0.019	-0.021	-0.033*	-0.021	-0.017	-0.021
	(0.019)	(0.019)	(0.021)	(0.021)	(0.018)	(0.021)	(0.021)	(0.021)
Female top manager	-0.011	-0.017	-0.023	-0.025*	-0.017	-0.025*	-0.021	-0.024*
	(0.013)	(0.015)	(0.014)	(0.014)	(0.015)	(0.014)	(0.014)	(0.014)
Log(manager's experience)	1.868	1.469	1.308	1.114	1.005	1.266	1.283	1.212
	(1.161)	(1.198)	(1.146)	(1.215)	(1.224)	(1.146)	(1.133)	(1.171)
State ownership	-0.053*	-0.042	-0.039	-0.029	-0.035	-0.034	-0.043	-0.034
	(0.029)	(0.028)	(0.033)	(0.033)	(0.029)	(0.029)	(0.033)	(0.034)
Observations	12,616	12,616	12,616	12,616	12,616	12,616	12,616	12,616
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R-squared	0.0586	0.0547	0.0498	0.0484	0.0560	0.0483	0.0517	0.0485
Clusters	27	27	27	27	27	27	27	27

Notes: Clustered (by country) standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The dependent variable, *finConstr*, takes on the value 100 if the firm faced financial constraint in the year prior to the survey and 0 otherwise. For further notes, see Table 3

umn (1)), we can see that trust enters positively and significantly at the 1% level of significance. On the contrary, coefficient estimates for cooperation and identity are not statistically significant. Since there is some correlation between the three components, one could argue that the components may share common information and therefore the regression analysis using specification (1) may face difficulty in disentangling separate effects, given the limited degrees of freedom (27 countries). In the next columns, I use each main and sub-component as a sole indicator of social cohesion. Consistent with the results in column (1), all trust

indicators (overall, social and institutional) enter positively at the 1% level. On the contrary, both the overall index of cooperation for the common good and its sub-indices as well as inclusive identity do not show any significant association with firms' access to finance in Africa. Hence, while these results clearly corroborate existing literature on the role of trust in financial development and access to finance (e.g. Guiso et al., 2004, An et al., 2022), they do not yet provide evidence of whether the broader social cohesion prevailing in a country (including cooperation and inclusive identity) is related to firms' access to finance in Africa. For trust, the estimated coefficient is also large in economic terms. For example, given that my social cohesion indicators are scaled to take values between 0 and 100, the estimated coefficient in row (1) and column (2) of Table 3 imply that firms in the country with the highest trust level are 25.2% points more likely to have a checking or savings account than firms in the country with the lowest trust level, other things constant.

Turning to other firm controls, I obtain results that align well with those in the existing literature. In particular, small firms (i.e., firms with less than 20 workers) are more likely to be financially constrained and, in this particular case, less likely to have a checking or savings account – a finding that has been documented in several studies (e.g., Beck & Demirgüç-Kunt, 2006). The other feature of firms that is significantly linked to access to finance is their ownership. As expected, firms that are at least partly foreign-owned have a significantly higher probability of owning a checking or savings account (Beck & Demirgüç-Kunt, 2006). Moreover, firms managed by experienced managers are, as expected, more likely to have a checking or savings account. Coefficient estimates for other firm-level characteristics are not statistically significant, and hence I refrain from discussing them.

Table 4 documents the corresponding evidence for the probability of a firm having a bank loan or a line of credit (*fin14*). Unlike in Table 3, cooperation for the common good, but not trust and inclusive identity, enter significantly in the regression containing all the three social cohesion components (column (1)). Introducing each component one by one, however, I find that trust in institutions – in addition to all measures of cooperation – has a positive and significant association with the probability of a firm having a bank loan or a line of credit. Given that only 20% of the firms have a bank loan or line of credit, the estimated coefficients for the significant social cohesion indicators are also large in economic terms. For example, results in column (3) imply that, on average, firms in the country with the highest level of cooperation for the common good are 17.3% points more likely to have a bank loan or line of credit than firms in the country with the lowest level of cooperation. As I am not aware of any study that has examined the effects of cooperation for the common good on financial development, these results in Table 4 are a remarkable finding that underscore the crucial role of the broader concept of social cohesion – and not just trust – in firms' access to finance in Africa.

In terms of firm-level characteristics, being a small firm is still negatively associated with firms' access to finance. However, unlike in the case of having a checking or savings account (Table 3), participating in export activities tends to significantly increase firms' access to finance in terms of obtaining a loan from financial institutions. Top manager's experience is, however, not significantly linked to access to finance that is measured by the likelihood of having a bank loan or a line of credit.

Table 5 documents empirical evidence on the determinants of the probability of firms experiencing financial constraint (*finConstr*). In the comprehensive specification (1) of Table 5, trust enters significantly, but negatively. Moreover, in the columns where each social cohesion index

and sub-index is considered separately, overall trust and social trust are significantly associated with financial constraint in terms of being denied credit or being discouraged from applying for credit in the first place. While inclusive identity shows unexpectedly positive effect on credit constraint in the comprehensive specification in column (1), this effect turns insignificant in column (4) when it enters as a sole measure of social cohesion. In general, these results documented in Table 5 are largely in line with the evidence presented in Table 3: trust, but not inclusive identity and cooperation for the common good, is significantly associated with firms' access to finance. Noting that 44.27% of the firms have faced financial constraint (see Table 2), the estimated coefficients are large in economic terms. For example, results in column (5) of Table 5 imply that, on average, firms in the country with the highest level of social trust are 49.1% points less likely to have experienced financial constraint than are firms in the country with the lowest social trust.

In summary, the baseline results documented in Tables 3 and 4, and 5 show that trust is significantly associated with all the three alternative measures of access to finance, which confirms the particularly robust effect of trust on firms' access to finance documented in the literature (e.g. Guiso et al., 2004, An et al., 2022). Moreover, cooperation for the common good is positively and significantly associated with firms' access to finance as measured by the likelihood of having a bank loan or a line of credit. On the contrary, the baseline probit results for inclusive identity show no significant effect of inclusive identity on any of the three measures of access to finance used in this study. However, the latter results may not necessarily imply that inclusive identity is not relevant for firms' access to finance in Africa. As it can be seen in Appendix C of the online Supplementary Information, inclusive identity positively affects the likelihood of a firm having a checking or savings account (albeit at the 10% level of significance) and the likelihood of having a bank loan or a line of credit if contemporary financial development and/or economic development are excluded from the regression model. Therefore, it appears that inclusive identity affects access to finance mainly through its impact on overall financial and economic development, and controlling for these variables tends to underestimate its effect on access to finance.

4.2 Sensitivity Analysis

As a sensitivity analysis, I re-estimate the probit model in (1) using the heteroskedasticity-based instrumental variable estimation method proposed in Lewbel (2012). These results are documented in Tables A.1, A.2 and A.3 of the online Supplementary Information. The fact that only two of the 30 estimated coefficients on social cohesion documented in the three tables (Tables 3, 4 and 5) changed their statistical significance (at the 5% level) is strong evidence that the probit-based results remain qualitatively unchanged by the heteroskedasticity-based instrumental variable estimation. In particular, as in Tables 3 and 5, Tables A.1 and A.3 also show that trust is still the only social cohesion component that is significantly associated with the probability of firms' having a checking or savings account or being financially constrained. Results are slightly less robust with regard to the estimated models for the percentage of firms with a bank loan or a line of credit. In particular, while coefficients for cooperation for the common good (overall and subcomponents) and trust in institutions are statistically significant in Table 4, the coefficient for trust in institutions fails to be statistical significant in Table A.2 and the coefficient for vertical cooperation becomes significant only at the 10% level of significance. Moreover, albeit at the 10% level, inclusive identity becomes significantly associated with the likelihood that a firm has a bank loan or line of credit.

In summary, the sensitivity analyses confirm the robustness of baseline results that social cohesion is positively and significantly associated with firms' access to finance in Africa, and that this association is unlikely to have been caused by estimation biases due to endogeneity.

5 Conclusion

In this paper, I examined the role of social cohesion in promoting access to finance for firms in Africa. To this end, I employed a recently constructed social cohesion dataset by Leininger et al. (2021). These authors define social cohesion by its three pillars – trust, cooperation for the common good and inclusive identity – and operationalise their definition using data from the Afrobarometer surveys and Varieties of Democracy database. Firm-level data on access to finance and other characteristics of firms are taken from World Bank Enterprise Survey and my final sample covers more than 12,600 firms in 27 African countries.

My results show that all three components of social cohesion are positively associated with at least one measure of firms' access to external finance. In particular, trust is significantly associated with all three indicators of access to finance that I consider: the likelihood that firms have a checking or savings account, have a line of credit or a bank loan, or are financially constrained. My results also show that inclusive identity and cooperation for the common good are also significantly related to access to finance, but only when I measure access to finance with respect to having a line of credit or a loan from a financial institution. Hence, while previous studies have shown that trust plays an important role in promoting access to finance, the results documented in this paper suggest that other components of social cohesion, such as cooperation for the common good and inclusive identity, are also important determinants of firms' access to finance in Africa, and the estimated effects are economically large. These results are robust to using a heteroskedasticity-based identification strategy to account for potential endogeneity biases due to, for example, reverse causality from access to finance to social cohesion.

Given that lack of access to finance is one of the most pressing constraints on the growth of firms in Africa, the paper provides strong evidence that facilitating firms' access to finance is an important economic benefit of social cohesion. Hence, improving social cohesion, for example through social protection, education, strengthening civil society organisations, increasing political and social participation, and reducing the risk of conflict, could do more than hold society together; it could also promote financial development, growth of firms and thus economic development and job creation.

Noting that this study looked at access to finance for firms only, it is of immediate importance to examine in a future study the role that social cohesion could play in determining access to finance for African households. Moreover, as this study covers African countries only, the results presented in this paper may reflect African peculiarities or patterns that are specific to low- and middle-income economies. Therefore, it is also worthwhile to extend the current study to other world regions, including high-income economies, in a future study. Finally, while I have attempted to estimate the relationship between social cohesion and access to finance in such a way that possible causality from access to finance to social cohesion does not bias my estimates, I have not directly estimated whether firms' access to finance might also affect a country's level of social cohesion. Therefore, investigating the

role of access to finance and financial development in shaping social cohesion is also an important research topic for the future.

Declarations

Conflict of Interest The author has no competing interests to declare that are relevant to the content of this article.

References

Aghion, P., Fally, T., & Scarpetta, S. (2007). Credit constraints as a barrier to the entry and post-entry growth of firms. *Economic Policy*, *22*(52), 732–779.

An, J., Hou, W., & Lin, C. (2022). Epidemic disease and financial development. *Journal of Financial Economics*, *143*(1), 332–358.

Asiedu, E., Freeman, J. A., & Nti-Addae, A. (2012). Access to credit by small businesses: how relevant are race, ethnicity, and gender? *American Economic Review*, *102*(3), 532–537.

Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2008). How important are financing constraints? The role of finance in the business environment. *The World Bank Economic Review*, *22*(3), 483–516.

Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2011). Firm innovation in emerging markets: the role of finance, governance, and competition. *Journal of Financial and Quantitative Analysis*, *46*(6), 1545–1580.

Baum, C., & Schaffer, M. (2012). Ivreg2h: Stata module to perform instrumental variables estimation using heteroskedasticity-based instruments. *Statistical software components S457555*. Boston College Department of Economics. Revised 18 Aug 2019.

Beck, T., & Demirgüç-Kunt, A. (2006). Small and medium-size enterprises: Access to finance as a growth constraint. *Journal of Banking & Finance*, *30*(11), 2931–2943.

Chan, J., To, H. P., & Chan, E. (2006). Reconsidering social cohesion: developing a definition and analytical framework for empirical research. *Social Indicators Research*, *75*(2), 237–302.

Demirgüç-Kunt, A., & Klapper, L. (2012). *Financial inclusion in Africa: An overview* (Policy Research Working Paper 6088). Washington, DC: World Bank.

Easterly, W., Ritzen, J., & Woolcock, M. (2006). Social cohesion, institutions, and growth. *Economics and Politics*, *18*(2), 103–120.

Fafchamps, M., & Schündeln, M. (2013). Local financial development and firm performance: evidence from Morocco. *Journal of Development Economics*, *103*, 15–28.

Fisman, R., & Love, I. (2007). Financial dependence and growth revisited. *Journal of the European Economic Association*, *5*(2–3), 470–479.

Gopalan, S., & Sasidharan, S. (2020). Financial liberalization and access to credit in emerging and developing economies: a firm-level empirical investigation. *Journal of Economics and Business*, *107*, 105861.

Guiso, L., Sapienza, P., & Zingales, L. (2004). The role of social capital in financial development. *American Economic Review*, *94*(3), 526–556.

Guiso, L., Sapienza, P., & Zingales, L. (2006). Does culture affect economic outcomes? *Journal of Economic Perspectives*, *20*(2), 23–48.

Herwartz, H., & Walle, Y. M. (2014). Openness and the finance-growth nexus. *Journal of Banking & Finance*, *48*, 235–247.

Jappelli, T. (1990). Who is credit constrained in the U.S. economy? *Quarterly Journal of Economics*, *105*, 219–234.

King, E., Samii, C., & Snilstveit, B. (2010). Interventions to promote social cohesion in sub-saharan Africa. *Journal of Development Effectiveness*, *2*(3), 336–370.

Knack, S., & Keefer, P. (1997). Does social capital have an economic payoff? A cross-country investigation. *Quarterly Journal of Economics*, *112*(4), 1251–1288.

Konte, M., & Ndubuisi, G. (2021). Financial constraint, trust, and export performances: firm-level evidence from Africa. *Journal of Institutional Economics*, *17*(4), 583–605.

Langer, A., Stewart, F., Smedts, K., & Demarest, L. (2017). Conceptualising and measuring social cohesion in Africa: towards a perceptions-based index. *Social Indicators Research*, *131*(1), 321–343.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1997). Legal determinants of external finance. *The Journal of Finance*, *52*(3), 1131–1150.

Leininger, J., Burchi, F., Fiedler, C., Mross, K., Nowack, D., von Schiller, A., & Ziaja, S. (2021). *Social cohesion: A new definition and a proposal for its measurement in Africa* (Discussion Paper 31/2021). German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE) Discussion Paper.

Léon, F. (2015). Does bank competition alleviate credit constraints in developing countries? *Journal of Banking & Finance*, *57*, 130–142.

Levine, R., Lin, C., & Xie, W. (2020). The african slave trade and modern household finance. *Economic Journal*, *130*(630), 1817–1841.

Lewbel, A. (2012). Using heteroscedasticity to identify and estimate mismeasured and endogenous regressor models. *Journal of Business & Economic Statistics*, *30*(1), 67–80.

Mallick, D. (2012). Microfinance and moneylender interest rate: evidence from Bangladesh. *World Development*, *40*(6), 1181–1189.

Nunn, N. (2008). The long-term effects of Africa's slave trades. *Quarterly Journal of Economics*, *123*(1), 139–176.

Ostrom, E. (1990). *Governing the commons: the evolution of institutions for collective action*. Cambridge: Cambridge University Press.

Pierce, L., & Snyder, J. A. (2018). The historical slave trade and firm access to finance in Africa. *The Review of Financial Studies*, *31*(1), 142–174.

Popov, A., & Udell, G. F. (2012). Cross-border banking, credit access, and the financial crisis. *Journal of International Economics*, *87*(1), 147–161.

Raj, R. S. N., & Sasidharan, S. (2018). Does the caste of the firm owner play a role in access to finance for small enterprises? Evidence from India. *Developing Economies*, *56*(4), 267–296.

Rajan, R. G., & Zingales, L. (2003). The great reversals: the politics of financial development in the twentieth century. *Journal of Financial Economics*, *69*(1), 5–50.

Schiefer, D., & Van der Noll, J. (2017). The essentials of social cohesion: a literature review. *Social Indicators Research*, *132*(2), 579–603.

Stulz, R. M., & Williamson, R. (2003). Culture, openness, and finance. *Journal of Financial Economics*, *70*(3), 313–349.

Tran, V. T., Walle, Y. M., & Herwartz, H. (2020). The impact of local financial development on firm growth in Vietnam: does the level of corruption matter? *European Journal of Political Economy*, *62*, 101858.

Tran, V. T., Walle, Y. M., Herwartz, H., & Nguyen, T. T. (2022). Local financial development and the growth of small firms in Vietnam.Journal of the Asia Pacific Economy,1–35.

UNDP (United Nations Development Programme). (2020). *Strengthening social cohesion: conceptual framing and programming implications*. New York: UNDP.

Van der Meer, T., & Tolsma, J. (2014). Ethnic diversity and its effects on social cohesion. *Annual Review of Sociology*, *40*(1), 459–478.