



Does social capital reduce entrepreneurs' petty corruption? Evidence across Indonesian regions

Julien Hanoteau, Gandhi Pawitan, Virginie Vial

► To cite this version:

Julien Hanoteau, Gandhi Pawitan, Virginie Vial. Does social capital reduce entrepreneurs' petty corruption? Evidence across Indonesian regions. Papers in Regional Science, 2021, 100 (3), pp.651-670. 10.1111/pirs.12588 . hal-03670023

HAL Id: hal-03670023

<https://hal.science/hal-03670023>

Submitted on 17 May 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Does social capital reduce entrepreneurs' petty corruption? Evidence across Indonesian regions

Julien Hanoteau¹ 

Gandhi Pawitan² 

Virginie Vial¹ 

¹KEDGE Business School, Marseille, France

²Parahyangan Catholic University, Bandung, Indonesia,

Abstract

Petty corruption is a barrier to entrepreneurship in emerging countries, justifying to investigate its determinants. Using data on 1,240 entrepreneurs across Indonesian regions, we analyse the effects of social capital. Two-level ordered probit regressions show that weak-ties discourage entrepreneurs' bribing, strong-ties encourage it, whereas this latter effect is moderated by the quality of access to formal credit. Bribing banks or turning to relatives for external funding are alternative solutions for entrepreneurs facing poor access to formal credit, a common feature in emerging countries, and the second solution is preferred given the risk and psychological costs of corruption.

KEYWORDS

corruption, credit access, entrepreneurship, Indonesia, social capital

1 INTRODUCTION

Petty corruption is a strong impediment for entrepreneurs in emerging countries, adding to the costs of doing business and thus deterring entry (Kuncoro, 2004; Wu, 2009). Addressing that problem requires analysing and understanding the roots of entrepreneurs' bribing behaviours, by focusing in particular on the role of the institutional environment (Zhou, Han, & Wang, 2013).

In emerging countries plagued by corruption, entrepreneurs bribe due to failing formal institutions (Belitski, Chowdhury, & Desai, 2016; Hanoteau & Vial, 2020), and this includes situations in which institutional distortions are maintained or introduced by corrupt bureaucrats willing to extort money (Chêne, 2019; Kuncoro, 2004; Tanzi, 1998)

Informal institutions, which consist of unmodified attitudes and beliefs embodied in society, also shape individual behaviours (North, 1990). Among informal institutions is social capital, defined as the characteristics of social organizations, such as norms, networks, and trust that ease action and cooperation for mutual benefit (Putnam, 1993). There are strong ties (or bonding) and weak ties (or bridging and linking) forms of social capital, and they vary according to the features of networks and the strength of relationships (Aldrich & Meyer, 2015). They generate contradictory social effects (Pena López & Sánchez Santos, 2014), justifying to disentangle the relation between social capital and corruption.

Early studies on this relation have focused on weak ties only, finding a negative effect on corruption (Bjørnskov, 2003; Uslaner, 2005). Acknowledging the different forms of social capital, subsequent studies observe differentiated effects. Strong tie social capital increases corruption, whereas weak tie social capital reduces it (Graeff, 2005; Pena López & Sánchez Santos, 2014).

However, all these empirical studies share common weaknesses. First, they consider corruption as a monolithic object aggregated at the country level, whereas it encompasses diverse forms, such as petty and political (or grand) corruption. These forms vary according to the scale of transactions and the actors involved, such as large established firms or small new ventures (Nguyen, Doan, Nguyen, & Tran-Nam, 2016; Tanzi, 1998). Ignoring this diversity is likely to introduce a veil in the analysis.

Second, and as Pena López and Sánchez Santos (2014) acknowledge it, these studies, including theirs, have been incomplete so far, overlooking the complexity of the relation, which is another source of bias.

In this paper, we address these research gaps, first by disentangling corruption to unveil the real effects of social capital. We focus on petty corruption as it is widespread in emerging countries (Chêne, 2019), and a main concern for entrepreneurs, as they are especially vulnerable to it and harmed by it (Tanzi, 1998). We assume the increasing (decreasing) effect of weak (strong) ties social capital on entrepreneurs' bribing.

Second, we account for the complexity of the relation by acknowledging that social capital and petty corruption offer alternative solutions for entrepreneurs. Both fulfil the same function of offsetting failing formal institutions, leading us to assume that the quality of access to formal credit moderates the relation between social capital, either weak or strong ties, and entrepreneurs' bribing. Indeed, in emerging countries, small firms have poor access to formal sources of external financing (Du, Guariglia, & Newman, 2015; Le & Nguyen, 2009), and they bribe to get a better access to credit (Chaudhuri & Gupta, 1996; Fungáčová, Kochanova, & Weill, 2015). Alternatively, entrepreneurs turn to their networks or social groups through which they get better access to credit and funding (Hoang & Antoncic, 2003; Le & Nguyen, 2009).

We also contribute to the empirical literature as we use micro-level data, whereas most studies on corruption are country-level (e.g., Donfouet, Jeanty, & Malin, 2018; Pena López & Sánchez Santos, 2014). We analyse the bribing behaviour of 1,240 Indonesian entrepreneurs clustered into 17 provinces. We use a 2-level ordered probit procedure, and the results confirm the assumptions.

In the next section, drawing on the literatures on entrepreneurship, institutions, corruption and social capital, we formulate hypotheses. Section 3 describes the dataset and the empirical methodology, whereas in Section 4, we present the results and discuss them. The last section concludes with policy implications.

2 LITERATURE REVIEW AND HYPOTHESES

2.1 Petty corruption and entrepreneurship

Corruption is the abuse of a public office for private enrichment (Bardhan, 1997). It is the "misuse of an organizational position or authority for personal or organizational (or sub-unit) gain, where misuse refers to departure from accepted social norms" (Anand, Ashforth, & Joshi, 2005, p. 10). It has different forms that vary according to scale and actors. Political corruption involves large-scale transactions and large firms, and is

perpetrated by high-level administrative and political leaders who manipulate policies, institutions and rules to sustain their power or for personal enrichment (Transparency International, 2009). It benefits a few individuals at the cost of the entire society, due to its detrimental and long-term economic effects (Nguyen, Doan, Nguyen, & Tran-Nam, 2016).

Petty (or bureaucratic) corruption is “everyday abuse of entrusted power by public officials in their interactions with ordinary citizens” (Transparency International, 2009). It occurs through small-scale transactions, involves low-to mid-level bureaucrats and civil servants, and is widespread in developing and transition countries (Chêne, 2019). It can take collusive or non-collusive forms, which differ according to incentives (Sundström, 2019; Tanzi, 1998). It is collusive when citizens, motivated by the benefits of an illegal act, pay bribes to avoid the sanctions for breach of the law. It is non-collusive when citizens are forced to bribe to get the resources or services they are entitled to (Foellmi & Oechslin, 2007). For instance, in emerging countries, generally characterized by deficient formal institutions (Tanzi, 1998), entrepreneurs must bribe to offset the failure of the formal institutions they rely on (Belitski, Chowdhury, & Desai, 2016; Hanoteau & Vial, 2020).

Bureaucrats willing to extort bribes can also intentionally maintain or create these institutional distortions (Chêne, 2019; Kuncoro, 2004; Tanzi, 1998). They raise artificial difficulties, interpret rules, or extend delays to harass firms and instigate illegal payments.

Although it involves small-size bribes, petty corruption is a heavy burden for small firms and entrepreneurs, due to its high frequency, the direct costs it imposes, and as small and new businesses are particularly vulnerable to it.

Petty corruption is widespread in emerging countries, as illustrated by population surveys finding that 65%, 70% and 32% of interviewees respectively in Vietnam, India, and Indonesia report paying bribes to access public services (Pring, 2017). In the latter country, the percentage rises to 85% for local businesses (Von Luebke, 2009).

Petty corruption adds directly to operating costs in proportions that range up to 2.5–4.5% of firms' sales in Sub-Saharan African countries (Clarke, 2011), 5% of firms' operating costs in China (Kraar, 1995) and between 10.4% and 20% of operating costs of small firms in Indonesia (Kuncoro, 2004; Tanzi, 1998).

These additional costs of doing business are particularly acute for small businesses, especially emerging ones, due to their vulnerability. Indeed, they are more easily bullied, making them favourite prey of corrupt bureaucrats, whereas large firms, thanks to their experience and connections in the administrative and political spheres, can better handle the red tape, resist harassment, and avoid petty corruption (Tanzi, 1998).

Small and new firms can more hardly pass these additional costs on to their customers, as they operate in much more competitive markets compared to large enterprises. As a result, petty corruption hurts the growth of small firms, but not of large ones, because the former are forced to bribe, whereas the latter can avoid it, or choose to do it if this is their strategic interest (Zhou & Peng, 2012).

The extent and significant effects of entrepreneurs' petty corruption justify focusing research on it and its determinants.

Illegal corruption is risky, leading to its informality and concealing characteristics, source of other risks. First, an actor involved in corruption has no legal mean to enforce the tacit “informal contract” behind corruption, and ensure that the other party will fulfil their promise. Second, s/he is vulnerable to whistleblowing. These risks are mitigated with reciprocity, dependence, and mutual trust (Graeff & Svendsen, 2013). A bureaucrat would not accept a bribe without trusting the bribe-giver. Corruption thus cannot be an impersonal transaction, but requires social connectedness between actors (Kravtsova & Oshchepkov, 2019). They must belong to common and close social networks, to ensure mutual trust, and that they can hide their fraudulent act (Graeff, 2005).

Corruption is not only illegal, it is also an outrage to the rest of society, as agents violating laws to favour their particular interest, deviate from universalistic norms accepted by and valid for everyone (Graeff & Svendsen, 2013). They also bring about a negative externality, as corruption induces a net burden on society (Mauro, 1995). This outrage justifies a psychological cost of corruption that may refrain agents to engage in it (Rotondi & Stanca, 2015). However, they are more likely to accept this cost if they belong to a group favouring particularism over universalism. Particularism is the feeling of obligation to help and give resources to persons to whom one has personal obligation,

the family above all, but also friends and close peer groups (Lipset & Lenz, 2000). Universalism is the expectation that anyone conform with accepted social norms (Graeff & Svendsen, 2013).

Thus, if the extent of corruption is conditioned in the short run by the strength of formal institutions such as the legal system (Baumol, 1990; North, 1990), in the long run, it is influenced by social norms and social networks (Pena López & Sánchez Santos, 2014), and this justifies investigating the role of social capital (Bjørnskov, 2012; Lambsdorff, 2006).

2.2 Strong-ties and weak-ties social capital

The diversity and complexity of social capital have led to distinguish between strong-ties (or bonding) and weak-ties (or bridging and linking) forms (Estrin, Mickiewicz, & Stephan, 2013; Gedajlovic, Honig, Moore, Payne, & Wright, 2013; Putnam, 1993).

Strong-tie social capital rests on repeated connections among individuals emotionally close, such as family and friends, and results in tight bonds to a particular group, building norms of reciprocity and loyalty (Gedajlovic, Honig, Moore, Payne, & Wright, 2013). It is characterized by high level of particularistic trust and cohesion within small groups (Estrin, Mickiewicz, & Stephan, 2013) and homophily (i.e., high levels of similarity) in demographic features, interests, attitudes and resources (Putnam, 2000).

These features of strong-ties social capital are a fertile ground for the expansion of corruption in close and socially exclusive networks (Lambsdorff, 2006; Rotondi & Stanca, 2015). Strong ties, characterized by frequent interactions, closeness and peer pressure within small groups, favour dependence, reciprocity, and loyalty, leaving low room for opportunistic behaviour. This raises strong cohesion within groups and agents involved in corruption are more confident about the enforcement the tacit informal contract, thus increasing predictability (Harris, 2007).

Sociological studies suggest that high level of particularism is conducive to lower civicness and higher prevalence of corruption (Rotondi & Stanca, 2015). A social environment of an inward looking and exclusive group of similar people sharing common interests fosters in-group favouritism, which can easily lead to corruption. In this social cocoon, members are less likely to consider deviations from norms of fairness and universalism as morally wrong, thus lowering the psychological cost of corruption, and raising its acceptability (Anand, Ashforth, & Joshi, 2005). The acceptability of corruption is further enhanced in a context where bribing is common, potentially considered as normal phenomena, and following social norm, however abnormal. This encourages entrepreneurs to bribe like peer firms (Zhou, Han, & Wang, 2013). This leads us to hypothesize that:

Hypothesis 1a (H1a): Strong-ties social capital has a positive impact on entrepreneurs' bribing

The second category is weak-tie social capital, which encompasses bridging and linking sub-categories (Estrin, Mickiewicz, & Stephan, 2013).

Bridging social capital refers to relationships among dissimilar people (e.g., socio-economic status, age, education) loosely connected across diverse social groups, such as religious ones (Aldrich & Meyer, 2015). People have faith in different people pertaining to different groups, which is generalized trust (Uslaner, 2002).

Linking social capital refers to the relationships regular citizens have with those in power and with institutions (Szreter & Woolcock, 2004). It materializes into the respect of universal norms, and trust in administrative processes, social, economic and political institutions (Bjørnskov, 2012). It is characterized by universalistic trust (Pena López & Sánchez Santos, 2014).

In societies where universalism and generalistic trust dominate over particularism, people are less likely to deviate from common norms and the search for general interest. They are rather eager to cooperate with other people, different from themselves, and outside their narrow circle, leading to lower corruption incentive (Graeff & Svendsen, 2013). People trust more institutions, governments and bureaucracies are more efficient, and there is

strong economic development. Studies show that this induces lower corruption (Bjørnskov, 2012), and we therefore assume that:

Hypothesis 1b (H1b): weak-tie social capital has a negative impact on entrepreneurs' bribing

The hypotheses 1a and 1b suggest that strong-tie and weak-tie social capital are contextual factors likely to encourage or discourage entrepreneurs' bribing. However, social capital, in its various forms, is not sufficient to explain the existence of corruption and entrepreneurs' primary incentive to pay bribes (Lambsdorff, 2006; Rotondi & Stanca, 2015).

Resources and the institutional environment are firms' main motivations to bribe in emerging markets (Zhou, Han, & Wang, 2013). Where the access is deficient or unfair, firms bribe to get the resources they need (Mauro, 1995; Rose-Ackerman, 1999). In particular, they bribe bankers to get a better access to loans (Chaudhuri & Gupta, 1996; Tonoyan, Strohmeyer, Habib, & Perlitz, 2010; Zhou & Peng, 2010). This is observed in countries characterized by deficient formal institutions, such as loose accounting standards, weak legal system and low government effectiveness resulting in high level of risk aversion of banks (Beck, Demirgüç-Kunt, & Levine, 2006; Weill, 2011), and this is especially the case in emerging and transition economies (Chen, Liu, & Su, 2013; Fungáčová, Kochanova, & Weill, 2015).

Labour force, physical infrastructures and finance are essential for new firms (Evans & Jovanovic, 1989; Lajqi & Krasniqi, 2017), whereas access to external finance is the main constraint during the early stages of new businesses development (Ahlstrom & Bruton, 2006; Demirgüç-Kunt, Klapper, & Panos, 2011). Access to these resources is one dimension of the institutional environment (Veciana & Urbano, 2008), conditioned by other formal institutions like laws, regulations, and policy implementation (Lajqi & Krasniqi, 2017; Stenholm, Acs, & Wuebker, 2013), often deficient in emerging countries. For instance, in Indonesia, as in other emerging countries, SMEs have poor access to formal banks financing (Ayyagari, Demirgüç-Kunt, & Maksimovic, 2010; Ghani, Kerr, & O'Connell, 2014). They face severe liquidity constraints and formal credit rationing, mainly due to underdeveloped capital markets and venture capital. SMEs must rely almost exclusively on bank loans as a source of formal external funding (Le & Nguyen, 2009). Second, there is an institutional bias against SMEs (Du, Guariglia, & Newman, 2015). In their distribution of credit, state-owned banks favour public and large private firms (Ayyagari, Demirgüç-Kunt, & Maksimovic, 2010). This favouritism has several origins. The asymmetric information about SMEs results in higher agency costs and uncertainty for lenders and financiers, justifying their strong risk aversion when dealing with SMEs. This is exacerbated by loose accounting procedures and unpredictable law enforcement in emerging countries (Bai, Lu, & Tao, 2006). In response to banks' risk aversion, and high rejection rate of loans applications, entrepreneurs propose bribes to enhance their chances to get a loan (Weill, 2011).

Alternatively, entrepreneurs mitigate banks' risk aversion by circulating, through their social networks, information about their capabilities, reliability, credit worthiness, and projects quality (Nguyen & Ramachandran, 2006; Shane & Cable, 2002). This reduces information asymmetry, enhances mutual trust, raises legitimacy in the eyes of bankers, thereby allowing entrepreneurs better access to external financing (Ahlstrom & Bruton, 2006; Le & Nguyen, 2009; Welter & Smallbone, 2006). Good and frequent relationships with executives at other firms, including but not exclusive to the financial sector enable a manager to spread knowledge informally. Such ties are important for SMEs applying for loans (Nguyen & Ramachandran, 2006). Better information on SMEs' financial and operating situation, reduces information asymmetry, thus raising bankers and financiers' willingness to lend money (Le & Nguyen, 2009; Okten & Osili, 2004). Endorsements from other firms help creating a positive image of the firm, increasing its legitimacy and the likelihood of getting credit. (Du, Guariglia, & Newman, 2015).

In emerging countries, networking with diverse actors from the economic, administrative, public and private spheres, enables SMEs to lower the information asymmetry and to get better access to trade credit and bank loans (Hoang & Antoncic, 2003; Le & Nguyen, 2009), thus compensating the lack of effective market institutions.

Where formal institutions are failing, leading for instance to weak contracts enforcement and underdeveloped credit market, social capital contributes to financial development (Guiso, Sapienza, & Zingales, 2004). Indeed, informal financial institutions complement the formal financial system, by servicing the lower end of the market. This is vital for entrepreneurs (Beck & Demirgüç-Kunt, 2006; Sanders & Weitzel, 2013), who, instead of knocking at formal banks, turn to their personal networks of relatives and friends to obtain directly the financial resources they need. This is actually the main source of external funding for SMEs in emerging countries such as China and Vietnam (Hussain, Millman, & Matlay, 2006; Le & Nguyen, 2009).

An entrepreneur's ability to obtain external funding directly through his social capital depends on the extent of his/her close social network, the strength of personal ties, and the financial resources embodied in the network. This fits with Bourdieu's (1986, p. 3) definition of social capital as the "aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition," and refers more specifically to strong-tie characteristics of social capital.

Personal relationships and networks thus appear as effective substitutes for well-established formal institutions when these are underdeveloped or deficient (Du, Guariglia, & Newman, 2015; Lajqi & Krasniqi, 2017). Entrepreneurs respond to these deficient institutional settings and get better access to financial funding through social capital (Du, Guariglia, & Newman, 2015; Welter & Smallbone, 2011), directly by obtaining the resources embodied in their networks, or indirectly through the effects of higher information circulation, trust and legitimacy on formal bankers' risk aversion.

Bribing and social capital thus fulfil the same function, compensating for the failure of formal institutions that would result otherwise in entrepreneurs' poor access to credit. They are alternative solutions to the same institutional void and an entrepreneur is likely to prefer social capital given the economic and psychological costs of corruption. Depending on the quality of access to credit, an entrepreneur bribes to obtain external funding if s/he cannot rely on sufficient social capital for the same purpose. The relationships between these variables can be formalized as the moderating effect of the quality of access to credit on the relation between social capital, either strong or weak ties, and entrepreneurs' bribing. This leads us to hypothesize that:

Hypothesis 2(H2). The level of access to formal credit moderates the effects of social capital, either strong-ties or weak-ties, on entrepreneurs' bribing

3 DATA AND METHODOLOGY

Our data originate from two sources, the Global Entrepreneurship Monitor (GEM) survey (Reynolds, 2014) in Indonesia for the year 2016, and the Indonesian Family Life Survey 2015 (IFLS-5). This latter is a large population survey on households and local leaders. It is representative of the population of a subset of Indonesian provinces, and in 1993 (first wave of the survey), the 13 provinces covered out of 22, accounted for 83% of the Indonesian population. As some Indonesian provinces have been divided after 2001, their number has risen (Strauss, Witoelar, & Sikoki, 2016). Indonesia has large within variations of local institutions and corruption, and shares common institutional features with other emerging countries (Miguel, Gertler, & Levine, 2005).

3.1 Dependent variable

Our measure of individual bribing is from the GEM Indonesia 2016 and a question added about the frequency of exposure to petty corruption: "How often do you incur additional costs that are not actually written, so that the business is run smoothly?". Respondents answered on a scale ranging from the value 1 (never) to 7 (always).

Interviewing about bribe payments is a sensitive issue, subject to social desirability response bias (SDRB). Individuals tend to hide or deny behaviours that are deemed illegal, unacceptable, or deviating from social norms, thus leading to misreporting and under-reporting (Bernardi, 2006; Krumpal, 2013). Revealing a bribing behaviour may raise a sense of culpability for an undesirable act, and the potential SRDB can be reduced through the design of the survey context, and the wording of the question (Krumpal, 2013).

Confidentiality is an important contextual characteristic of sensitive surveys. It aims at lowering respondents' concerns, raising their trust in data protection, and inducing them to cooperate, thus increasing the rate and accuracy of responses (Krumpal, 2013). The GEM survey explicitly assures interviewees that their answers are kept anonymous (Bosma et al., 2020). In GEM Indonesia 2016, the question about petty corruption is embedded in a larger series containing and starting with general and unoffending questions. This reduces the focus on a specific behaviour, thus mitigating a feeling of a jeopardy (Clarke, Friesenbichler, & Wong, 2015; Krumpal, 2013).

The wording of questions matters as well, and they must be formulated in a neutral and unthreatening way (Henderson & Kuncoro, 2004; Krumpal, 2013). The words "corruption" and "bribe" are replaced, such as for instance in the Word Development report 1997, which measures the extent of business corruption with a question asking about "irregular additional payments to get things done" (Harris, 2007, p. 16). The annual survey of Vietnamese SMEs measures the extent of petty corruption using the terms 'informal payments and fees' for smoothing business operations (Nguyen, Doan, Nguyen, & Tran-Nam, 2016; Rand & Tarp, 2012).¹ In the Indonesian annual census of manufacturing, establishments report anonymously their 'gifts and donations' in the category 'other expenditures', and this is considered as a measure of bribing expenditures (Behrman & Deolalikar, 1989; Kenny, 2009). In the same Indonesian context, Henderson and Kuncoro (2004) measure petty corruption based on questions about gifts and informal payments. Similarly, the GEM Indonesia 2016 survey asks about petty corruption using the terms "not written (informal) additional costs."

Indirect questions such as "is it common for firms in my line of business" (Harris, 2007, p. 16) are used to mitigate SRDB, enabling interviewees to answer without implicating themselves, thus potentially reducing under-reporting. However, this potential is challenged by empirical studies obtaining equivalent results when using both direct (e.g., "do you") and indirect questions (Bernardi, 2006). This is the case with surveys on bribing, a possible explanation being that reticent respondents also answer strategically to indirect questions (Clarke, Friesenbichler, & Wong, 2015). In addition, if indirect questions have the potential to mitigate under-reporting, this comes with other disadvantages in terms of measurement errors, comparatively to direct questions. Although it is assumed that respondents answer indirect questions based on their own experience, there is no certainty that this is the case. The answer is likely to be inaccurate, as the interviewee tries to figure out someone-else's concealed behaviour (Clarke, 2011; Kenny, 2009). Furthermore, relating bribes with the respondent's own characteristics, when the answer is about someone else bribing, is a problem especially for micro-level analyses (Clarke, Friesenbichler, & Wong, 2015). This justifies using direct question on bribing, as done in previous surveys of firms' petty corruption, such as in Vietnam (Nguyen, Doan, Nguyen, & Tran-Nam, 2016; Rand & Tarp, 2012) and Indonesia (Kuncoro, 2004), and as we do here using the GEM Indonesia 2016.

The elicitation mean also matters, as firms may be reluctant to reveal absolute monetary figures about bribes (Clarke, Friesenbichler, & Wong, 2015), whereas eliciting the information through a dummy (e.g., "yes or no"), or a frequency (e.g., "how often") is deemed less frightening by respondents (Kenny, 2009; Nguyen, Doan, Nguyen, & Tran-Nam, 2016).

We verify the response rate for the question on petty corruption. It is very high and the same as for the question on age, which can be considered as neutral (Krumpal, 2013). Although we cannot rule out a remaining SRDB and underreporting, other studies that have used very similar questions to measure petty corruption, in particular in South-East Asia (Nguyen, Doan, Nguyen, & Tran-Nam, 2016; Rand & Tarp, 2012), lead us to consider the answers to the GEM Indonesia 2016 as a relatively truthful and accurate indicator of entrepreneurs' bribing.

¹This survey uses the question "Do you have to pay informal/communication fees?" (CIEM, 2011: 28).

3.2 Main explanatory variables: social capital

We build two measures of strong-ties/bonding social capital. The first is an indicator of informal financial family ties based on a question in the GEM survey: “What was your relationship with the person that received your most recent personal investment?”. If the answer is a family member (close or relative), the variable *Finance family* takes the value 1, and 0 otherwise. The second is an indicator of the trust level in neighbours using the following question from the IFLS-5: “I would be willing to ask my neighbours to look after my house if I leave for a few days?”. The answers range from ‘strongly disagree’ to ‘strongly agree’, and are recoded from the value 1 meaning low, to 4 meaning high level of trust. The answers are then averaged at the province level, and the variable is labelled *Neighbours’ trust*.

The variables of weak-ties/bridging and linking social capital originate from the IFLS-5. To measure the strength of bridging social capital, we compute a Herfindahl-based index of religious fractionalization at the province level. We then invert its sign to obtain an indicator of *Religious homogeneity* ranging from –1 to 0, high to low bridging social capital (Churchill, 2017).

We consider two measures of linking social capital. First, an indicator of trust in local institutions, based on a question about the perception of safety at the village level: “In most parts of the village, is it safe for you to walk alone at night?”. The answers range from “strongly disagree” to “strongly agree,” and are recoded from the value 1 meaning low, to 4 meaning high level of trust. The answers are then averaged at the province level, and the variable is labeled *Village safety trust*.

The second indicator is based on a question about people general trust: “Say you lost a wallet or a purse that contained Rp. 200.000 and your identity card. I'd like you to think about how likely it is that it will be returned with the money if it were found by someone else. Say it was found by a complete stranger. Is it likely or unlikely that it will be returned to you with the Rp. 200.000?” The answers range from “very unlikely” to “very likely” and are recoded from the value 1 meaning low, to 5 meaning high level of trust. The answers are then averaged at the province level, and the variable is labelled *General trust*.

3.3 Control variables

From the IFLS-5, we build two indicators of the level of access to credit. The first is based on the question: “How many times did you or other members of the household borrow from a source other than your family or friends over the past 12 months?” We then compute the percentage of households, at the province level, that were able to obtain at least one loan over the past twelve months. We label that variable *Access credit1*.

The second indicator is computed based on the two following questions: “Were you or other members of the household turned down in your efforts to secure a loan over the past 12 months?”, and “Did you or other members of the household try to borrow any money or goods from a source other than your family or friends over the past 12 months?”. We compute, at the province level, the percentage of households that were not turned down in their effort to secure a loan over the past 12 months, over the number of households that tried to borrow during the same period. This variable is labelled *Access credit2*, and has the same meaning as *Access credit1*. We use these indicators alternatively for robustness check.

From the GEM Indonesia 2016, we get other control variables that are considered as micro-determinants of bribing. These are *Gender*, *Age*, *Location*, *Income*, *Education*, *Household size* (Mocan, 2008), and *Cultural trait* (Pena López & Sánchez Santos, 2014), and are all at the province level.

Gender is a dummy equal to 1 if the entrepreneur is a man, and 0 otherwise. *Age* is in years, given that interviewees are 18–64 years old. *Location* is a dummy equal to 1 if the entrepreneur's location is urban, 0 if it is rural. *Income* is the entrepreneur's household total annual income, scaled in nine categories ranging from 1 (income lower than Rp. 18 million) to 9 (income strictly higher than Rp. 240 million). *Education* is the interviewee's highest

educational grade, ranging from 1 (secondary level or lower) to 5 (master level and above). *Household size* is the number of members in the entrepreneur's household, and it measures family structure. *Cultural trait* is an indicator of the Hofstede's individualist or collectivist cultural dimensions. It is based on a question added to the GEM Indonesia 2016: "How often do you donate your blood?", with answers ranging from 1 (never) to 7 (always).

Variables originating from the GEM Indonesia 2016 and IFLS-5 are respectively at the individual entrepreneur and province levels. 1,450 entrepreneurs have answered to the GEM Indonesia 2016, and they pertain to intentional, nascent, confirmed and just failed entrepreneurs categories. We merge the two datasets using province codes, and we end up with a cross section sample of 1,240 entrepreneurs across 17 Indonesian provinces. Our empirical approach is therefore 2-levels, with the individual entrepreneur level nested into the province (group) level. Failing to account for this hierarchical structure of the data could lead to underestimate the standard errors of the estimated parameters, and thereby overstate their significance (Huang, 2018).

Given the discrete and ordinal nature of the dependent variable *Entrepreneur bribing*, we use a 2-level ordered probit procedure to analyse the data. For Hypotheses 1a and 1b, we test a model of the following reduced form:

$$\text{Model 1: } Y_{ij} = a_0 + a_1X_{ij} + a_2C_j + a_3Z_{ij} + u_{ij},$$

Y_{ij} stands for the individual bribing of entrepreneur i in province j . X_{ij} are the indicators of social capital. C_j is the quality of access to credit, Z_{ij} a vector of other control variables, and u_{ij} is the error term. We add to this model an interaction term $X_{ij} \cdot C_j$ to test H2:

$$\text{Model 2: } Y_{ij} = a_0 + a_1X_{ij} + a_2C_j + a_3Z_{ij} + a_4X_{ij} \cdot C_j + u_{ij}.$$

We employ a mean-centring approach to reduce potential multi-collinearity induced by the interaction terms. Variables are mean-centred which does not impact the tests' statistical significance (Aguinis & Gottfredson, 2010). To verify the appropriateness of a multilevel model, we estimate the intra-class correlation (ICC) statistics which is a function of the individual variance in *Entrepreneur bribing* (within group), and the variance between provinces. For this purpose, we run an empty model (Huang, 2018) and the estimated ICC of 0.113 means that heterogeneity between clusters explains 11.3% of the overall variance. Failing to account for this heterogeneity would lead to inefficient and biased estimates, justifying the use of a multilevel model.

The number of groups is well above the minimum of 10 necessary to conduct a multilevel analysis, whereas the number of observations per group has a minimum of 22 and is 73 in average, which is above the rule of thumb of 30 (Huang, 2018). We verify the robustness of the results by using Stata-14 mixed-effect regression command (*mixed*) (Sujarwoto & Tampubolon, 2015). The results, available from the authors, remain very similar (same sign and statistical significance) with those obtained with the 2-level ordered probit procedure.

Table 1 exhibits the descriptive statistics and the correlation matrix. Some of the social capital indicators are correlated, leading us to include them separately in the regression models. The same holds for *Access credit1* and *Access credit2* with some of these indicators.

4 RESULTS AND DISCUSSIONS

The Table 2 presents the model 1 regressions in which we test successively the effects of different social capital variables on *Entrepreneur bribing*. We do not include all indicators of bonding, bridging and linking social capital together, as they are correlated. Columns (1) and (2) exhibit the results of regressions including the two indicators of strong-ties social capital, *Finance family* and *Neighbours' trust*, and run alternatively with *Access credit1* or *Access credit2*. The estimated parameters for *Finance family* and *Neighbours' trust* are positive and significant, thus supporting H1a that a higher level of strong-ties social capital encourages entrepreneurs to bribe more.

TABLE 1 Descriptive statistics and correlation matrix

(1)	Entrepreneur bribing	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(2)	Finance family	0.078*	1.000					
(3)	Neighbours' trust	0.134*	0.024	1.000				
(4)	Religious homogeneity	-0.206*	-0.046	-0.380*	1.000			
(5)	Village safety trust	-0.057*	0.099*	0.312*	-0.196*	1.000		
(6)	General trust	-0.012	0.040	-0.393*	0.256*	0.014	1.000	
(7)	Access credit1 (%)	-0.053	-0.019	0.166*	-0.044	0.608*	-0.069*	1.000
(8)	Access credit2 (%)	-0.091*	0.076*	0.458*	0.170*	0.756*	-0.080*	0.484*
(9)	Gender (dummy)	0.045	0.000	-0.029	0.006	0.024	0.004	-0.005
(10)	Age	-0.002	0.009	-0.056*	0.095*	0.020	0.137*	0.047
(11)	Location (dummy)	0.002	0.021	-0.006	0.088*	-0.032	0.076*	0.050
(12)	Household size	0.039	0.026	-0.134*	0.013	-0.154*	0.085*	-0.096*
(13)	Income	0.167*	0.071*	-0.012	-0.247*	-0.041	-0.090*	-0.036
(14)	Education	0.143*	0.060*	0.076*	-0.210*	0.023	-0.102*	-0.005
(15)	Cultural trait	0.125*	0.037	0.135*	-0.118*	0.100*	-0.072*	-0.039
	mean	3.066	0.048	2.849	-0.136	2.852	1.836	0.495
	min	1.000	0.000	2.755	-0.500	2.756	1.000	0.273
	max	7.000	1.000	3.000	0.000	3.000	2.341	1.000
	sd	1.693	0.215	0.056	0.157	0.059	0.206	0.123
	N	1,240	1,240	1,240	1,240	1,240	1,240	1,240

Note:

*p < 0.01.

TABLE 1 (Continued)

(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1.000							
0.004	1.000						
0.052	0.002	1.000					
0.029	0.001	0.073*	1.000				
-0.141*	0.000	0.005	0.018	1.000			
-0.126*	0.013	0.016	-0.002	0.229*	1.000		
-0.064*	0.076*	-0.260*	0.088*	0.009	0.299*	1.000	
0.067*	0.133*	-0.008	0.069*	0.044	0.114*	0.130*	1.000
0.891	0.499	36.56	0.814	4.019	3.403	2.674	1.452
0.806	0.000	18.00	0.000	1.000	1.000	1.000	1.000
1.000	1.000	64.00	1.000	9.000	9.000	5.000	7.000
0.042	0.500	11.73	0.389	1.442	1.203	0.846	1.007
1,240	1,240	1,240	1,240	1,240	1,240	1,240	1,240

Note:

*p < 0.01.

TABLE 2 Multilevel ordered probit regressions on entrepreneurs' bribing

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Finance family	0.330** (0.155)	0.310** (0.155)	0.309** (0.156)	0.319** (0.156)	0.330** (0.154)	0.314** (0.157)		
Neighbours' trust	3.644** (1.531)	2.404** (1.148)						
Religious homogeneity			-0.715* (0.450)	-0.678* (0.414)				
Village safety trust					-2.519** (1.158)			
General trust					0.216 (0.338)			
Access credit1 (perc.)		-1.225** (0.540)	-0.933** (0.383)				-0.939** (0.380)	
Access credit2 (perc.)	-5.099*** (1.997)			-2.313** (1.147)				-2.233 (1.605)
Gender	0.065 (0.052)	0.064 (0.051)	0.062 (0.052)	0.062 (0.052)	.062 (0.052)	0.062 (0.052)	0.061 (0.050)	0.061 (0.050)
Age	0.036 (0.033)	0.035 (0.033)	0.035 (0.033)	0.035 (0.033)	.035 (0.033)	0.034 (0.033)	0.036 (0.033)	0.036 (0.033)
Location	-0.014 (0.128)	-0.008 (0.129)	-0.006 (0.129)	-0.011 (0.128)	-0.015 (0.130)	-0.015 (0.129)	-0.008 (0.129)	-0.013 (0.129)
Household size	-0.002 (0.019)	-0.003 (0.019)	-0.005 (0.019)	-0.004 (0.019)	-0.007 (0.019)	-0.005 (0.019)	-0.005 (0.019)	-0.004 (0.019)
Income	0.107*** (0.037)	0.109*** (0.039)	0.106*** (0.039)	0.105*** (0.038)	0.109*** (0.037)	0.109*** (0.038)	0.112*** (0.038)	0.111*** (0.038)
Education	0.089** (0.044)	0.091** (0.043)	0.090** (0.044)	0.089** (0.044)	0.092** (0.044)	0.090** (0.044)	0.093** (0.045)	0.092** (0.046)
Cultural trait	0.091** (0.036)	0.088** (0.037)	0.090** (0.036)	0.093*** (0.036)	0.096*** (0.036)	0.093*** (0.037)	0.093*** (0.037)	0.095*** (0.037)
N	1,240	1,240	1,240	1,240	1,240	1,240	1,240	1,240
Log pseudolikelihood	-2072.66	-2073.69	-2074.62	-2075.18	-2074.56	-2076.49	-2077.90	-2078.49
Wald chi2	504.75	467.85	562.23	543.04	423.38	464.03	280.84	243.18
Prob>chi2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

We then test the effect of *Religious homogeneity*, the measure of weak-ties/bridging social capital, but removing *Neighbours' trust* as both variables are correlated. The estimated coefficients (columns (3) and (4)) for *Religious homogeneity* are negative and significant, supporting H1b that weak-ties/bridging social capital reduces entrepreneurs' bribing. It is also supported when we include *Village safety trust* as a measure of weak-ties/linking social capital. Its estimated parameter is negative significant (column (5)). However, H1b is not supported when we consider *General trust*, the indicator of weak-ties/linking social capital. The estimated parameter is not significant (column (6)). In regressions (5) and (6), *Access credit1* and 2 are omitted given their significant correlation with the indicators of weak-ties/linking social capital.

The last two columns (7) and (8) present the results of model 1 regressions keeping only the control variables to check the model stability. The results remain the same across the various regressions. The negative estimates for *Access credit1* and 2 confirm that a poor access to formal credit raises entrepreneurs' incentive to bribe (Beck, Demirgüç-Kunt, & Levine, 2006; Chen, Liu, & Su, 2013; Fungáčová, Kochanová, & Weill, 2015). The estimates for *Education, Income and Cultural trait* are significant, confirming that they are micro-determinants of bribing (Mocan, 2008; Pena López & Sánchez Santos, 2014). The estimates for the other control variables *Household size, Gender* and *Location* are never significant. The likelihood ratio chi-square statistics and their associated p-values, equal to 0.000 in all regressions, show that the model as a whole is statistically significant.

The estimated parameters of an ordered probit regression are difficult to interpret beyond their sign and statistical significance, whereas the marginal effects are more intuitively meaningful (Williams, 2012). We compute the marginal effects of each main explanatory variable at the mean values of the other control variables, and for each of the seven categories of the dependent variable *Entrepreneur bribing*, using Stata-14 post-estimation commands. The results shown in Table 3 indicate that one unit increase in *Finance family* is associated with entrepreneurs being 10% less likely to "never" bribe, 2% less likely to bribe "very rarely," 4% more likely to bribe "sometimes," 2% more likely to bribe "quite often," 5% more likely to bribe "often," and 1% more likely to "always" bribe. These marginal effects sum up to zero, and the sequence of their signs is consistent with the negative sign of the estimated parameter in Table 2a. One unit increase in *Neighbours' trust* is associated with entrepreneurs being 77% less likely to "never" bribe, 13% less likely to bribe "very rarely," 32% more likely to bribe "sometimes," 13% more likely to bribe "quite often," 37% more likely to bribe "often," and 6% more likely to "always" bribe. *Religious homogeneity* is associated with entrepreneurs being 22% more likely to "never" bribe, and 11% less likely to bribe "often." *Village safety trust* is associated with entrepreneurs being 77% more likely to "never" bribe, 15% more likely to bribe "very rarely," 31% less likely to bribe "sometimes," 14% less likely to bribe "quite often," 41% less likely to bribe "often," and 7% less likely to "always" bribe.

TABLE 3 Marginal effects by category of the dependent variable entrepreneurs' bribing

Entrepreneur bribing	Categories of the dependent variable						
	1-never	2-very rarely	3-rarely	4-sometimes	5-quite often	6-often	7-always
Finance family	-0.10*	-0.02*	0.00	0.04*	0.02*	0.05*	0.01*
Neighbours' trust	-0.77*	-0.13*	0.01	0.32*	0.13*	0.37*	0.06*
Religious homogeneity	0.22*	0.04	0.00	0.09	0.04	-0.11*	-0.02
Village safety trust	0.77*	0.15*	0.02	-0.31*	-0.14*	-0.41*	-0.07*
General trust	-0.07	-0.01	0.00	0.03	0.01	0.03	0.01

Notes: the numbers in parentheses are those of Table 2 and indicate the model specification that served to post-estimate the marginal effects at the means, using STATA-14 *margins* command.

Note:

*p < 0.10, **p < 0.05, ***p < 0.01. Robust standard errors in parentheses. All regressions include a fixed effect on entrepreneurs categories (intentional, nascent, confirmed, just failed), and are clustered at the provinces level.

Some of these marginal effects are quite significant in terms of their magnitude, such as for *Neighbours' trust* and *Village safety trust*, and to a lesser extent, *Finance family*. This underlines the important effects the forms of social capital have on entrepreneurs' bribing. These marginal effects are nonetheless estimated through a cross section study, whereas social capital, and informal institutions in general, are unlikely to vary rapidly overtime (Miguel, Gertler, & Levine, 2005). Building trust needs time.

Then, we test the moderating effect of the quality of access to formal credit on the relationship between social capital and entrepreneurs' bribing. We introduce an interaction term which is the product between one measure of the quality of access to formal credit, and one social capital indicator, whereas these two variables are also included in the regression model, as shown in Equation (2). The Table 4 presents the results of model 2 regressions in which we consider alternative interaction terms computed as different combinations of *Access credit1* and 2 on the one hand, and indicators of strong-ties social capital on the other. The Table 5 present the results of the same model, but with interaction terms built for the weak-ties social capital indicators.

For the interaction term computed between *Access credit1* and *Finance family*, the estimated parameter is negative and significant (Table 4, column (1)). This supports H2 that the quality of access to formal credit moderates the relationship between strong-ties/bonding social capital and entrepreneurs' bribing. It is further supported when the interaction term is computed between *Access credit1* and *Neighbours' trust*, as the estimates is negative significant (column (2)). In columns (3) and (4), the interaction term is computed with the same indicators of strong-ties social

TABLE 4 Multilevel ordered probit regressions on entrepreneurs bribing with moderation effect – strong-ties social capital

	(1)	(2)	(3)	(4)
Finance family	1.159*** (0.316)		0.623 (1.817)	
Neighbours' trust		8.282** (3.795)		33.50 (22.31)
Access credit1 (%)	−0.873** (0.405)	31.05 (20.13)		
Access credit2 (%)			−2.366 (1.581)	87.79 (70.65)
<i>Interaction terms</i>				
Finance fam. X Access credit1	−1.750*** (0.509)			
Neighbour trust X Access credit1		−11.03* (6.795)		
Finance fam. X Access credit2			−0.333 (1.902)	
Neighbour trust X Access credit2				−32.14 (24.42)
Gender	0.063 (0.051)	0.063 (0.049)	0.062 (0.052)	0.064 (0.050)
Age	0.034 (0.034)	0.035 (0.033)	0.035 (0.033)	0.037 (0.033)
Location	−0.013 (0.131)	−0.004 (0.128)	−0.014 (0.131)	−0.009 (0.128)
Household size	−0.006 (0.019)	−0.002 (0.019)	−0.005 (0.019)	−0.001 (0.020)
Income	0.108*** (0.039)	0.112*** (0.040)	0.108*** (0.037)	0.112*** (0.038)
Education	0.092** (0.044)	0.095** (0.045)	0.090** (0.045)	0.094** (0.045)
Cultural trait	0.092** (0.036)	0.088** (0.037)	0.094*** (0.037)	0.094** (0.037)
N	1,240	1,240	1,240	1,240
Log pseudolikelihood	−2074.58	−2075.08	−2075.87	−2074.24
Wald chi2	716.99	722.39	862.08	358.15
Prob>chi2	0.000	0.000	0.000	0.000

Notes:

*p < 0.10, **p < 0.05, ***p < 0.01. Robust standard errors in parentheses. All regressions include a fixed effect on entrepreneurs categories (intentional, nascent, confirmed, just failed), and are clustered at the provinces level.

TABLE 5 Multilevel ordered probit regressions on entrepreneurs bribing with moderation effect – weak-ties social capital

	(1)	(2)	(3)	(4)	(5)	(6)
Religious homogeneity	-1.683 (2.951)	-2.201 (5.224)				
Village safety trust				1.642 (2.776)		-6.967 (19.91)
General trust			-0.719 (1.052)		-6.606 (8.159)	
Access credit1 (%)	-0.853** (0.350)		-2.629 (2.030)	20.46 (16.42)		
Access credit2 (%)		-1.753 (2.342)			-13.72 (14.12)	-10.51 (59.52)
<i>Interaction terms</i>						
Religious hom. X Access credit1	1.825 (6.102)					
Religious hom. X Access credit2		1.637 (5.689)				
General trust X Access credit1			1.109 (1.392)			
Village trust X Access credit1				-7.116 (5.509)		
General trust X Access credit2					7.094 (8.485)	
Village trust X Access credit2						4.153 (21.17)
Gender	0.061 (0.050)	0.061 (0.050)	0.061 (0.050)	0.061 (0.050)	0.061 (0.050)	0.062 (0.050)
Age	0.037 (0.033)	0.037 (0.033)	0.036 (0.033)	0.036 (0.033)	0.036 (0.033)	0.037 (0.033)
Location	-0.005 (0.128)	-0.010 (0.127)	-0.006 (0.128)	-0.011 (0.129)	-0.010 (0.128)	-0.015 (0.129)
Household size	-0.003 (0.020)	-0.003 (0.020)	-0.005 (0.019)	-0.006 (0.019)	-0.005 (0.019)	-0.005 (0.020)
Income	0.109*** (0.039)	0.108*** (0.039)	0.112 (0.039)	0.111*** (0.038)	0.112*** (0.038)	0.112*** (0.038)
Education	0.092** (0.046)	0.091*** (0.046)	0.094** (0.046)	0.094** (0.045)	0.093** (0.046)	0.094** (0.045)
Cultural trait	0.090*** (0.036)	0.093*** (0.037)	0.093*** (0.037)	0.097*** (0.037)	0.096*** (0.037)	0.096*** (0.037)
N	1,240	1,240	1,240	1,240	1,240	1,240
Log pseudolikelihood	-2076.98	-2077.71	-2077.70	-2076.75	-2078.15	-2077.17
Wald chi2	419.51	364.02	717.61	541.76	257.41	482.79
Prob>chi2	0.000	0.000	0.000	0.000	0.000	0.000

Notes:

*p < 0.10, **p < 0.05, ***p < 0.01. Robust standard errors in parentheses. All regressions include a fixed effect on entrepreneurs categories (intentional, nascent, confirmed, just failed), and are clustered at the provinces level.

capital, and with *Access credit* 2. The estimates for the interaction terms remain negative, but not significant. When we compute the interaction term with the indicators of weak-ties/bridging and linking social capital, the estimated parameter is never significant, as exhibited on Table 5.

Our results thus bring partial support to Hypothesis 2, as the estimated coefficient for the interaction term is only significant in the case of strong-ties social capital (*Finance family* and *Neighbours' trust*), and not for weak-ties/bridging and linking social capital. Strong-ties social capital encourages entrepreneurs' bribing, as shown by our support to Hypothesis 1a, but this effect is moderated by the quality of access to credit (support to H2), and this is because strong-ties social capital provides a direct access to financial resources embodied in close social networks.

5 CONCLUSIONS

Using Indonesian data on individual entrepreneurship and local institutions, we analyse the effects of strong-ties/bonding and weak-ties/bridging and linking social capital on petty corruption. We find that strong-tie social capital encourages entrepreneurs' bribing, whereas weak-tie social capital discourages it. Then, we show that the former effect is conditional on the quality of access to credit, which moderates the relationship between strong-tie social capital and entrepreneurs' bribing. Entrepreneurs have poor access to credit in emerging countries, due to deficient formal institutions, and they have two alternative answers. They bribe bankers (Fungáčová, Kochanova, & Weill, 2015; Weill, 2011), or they obtain external funding directly from their close social networks of family and friends (Le & Nguyen, 2009). This second option fits with Bourdieu's (1986) view of social capital as the access to actual or potential resources embodied in ones' personal network. Entrepreneurs prefer this alternative, as it does not incur the legal, economic and psychological costs of corruption.

We contribute to the literature on the determinants of entrepreneurs' corruption in emerging countries (Belitski, Chowdhury, & Desai, 2016; Hanoteau & Vial, 2020), by underlying the role of social capital and its different forms. It complements the literature on social capital and corruption (Pena López & Sánchez Santos, 2014), by acknowledging that corruption is not a country-level monolithic concept, and that its relation with social capital is more complex than previously envisioned. Indeed, we show the need to distinguish between petty and political corruption, and to account for formal institutions' quality, as the actors involved face different institutional failures and have therefore different motivations, which in turn conditions the effect social capital has on corruption. For instance, an entrepreneur offering a small bribe to a local civil servant has different motives compared to the top executive of a large corporation offering a large bribe to a political leader.

The study also has implications for policy-makers concerned with the pervasive petty corruption that plagues emerging economies and entrepreneurs especially (Tanzi, 1998; Zhou & Peng, 2012). There is not a one-size-fits-all solution to combat petty corruption, given its collusive and non-collusive forms that differ according to incentives. Rather, authorities should implement complementary measures for administrative simplification and efficiency, detection and punishment, governance, and new technology implementation (Chêne, 2019). Our results suggest that fostering weak-ties social capital, such as trust in others and in local institutions, may help lowering low-level bureaucrats' extortion and entrepreneurs' payment of bribes. Practically, this can be operated through investing in education, civicness, and concern for society (Bjørnskov, 2012).

Governments should also aim at fighting collusive petty corruption and bureaucrats' ability to extort bribes through measures enhancing transparency, monitoring and control, and reducing face-to-face interactions. Implementing electronic procedures can contribute to this aim (Chêne, 2019). Entrepreneurs' obligation to pay bribes can be reduced by improving the quality of local institutions, ensuring that entrepreneurs have access to the resources, such as external finance, they need to develop their business. These measures lower the barriers to entrepreneurship, and also reduce entrepreneurs' need to pay bribes, thereby moderating the encouraging effect strong-ties social capital has on entrepreneurs' bribing.

ACKNOWLEDGEMENTS

We thank participants to the EBES conference 2019 (Coventry, United Kingdom), to the ACERE conference 2020 (Sydney, Australia), and to a workshop on corruption held at KEDGE BS (Marseille, France) on 4 December 2019, for useful comments on earlier versions of this paper. We are also grateful to two anonymous referees for their helpful comments.

ORCID

Julien Hanoteau  <https://orcid.org/0000-0003-2951-9466>

Gandhi Pawitan  <https://orcid.org/0000-0003-0179-9902>

Virginie Vial  <https://orcid.org/0000-0002-6003-956X>

REFERENCES

- Aguinis, H., & Gottfredson, R. K. (2010). Best-practice recommendations for estimating interaction effects using moderated multiple regression. *Journal of Organizational Behaviour*, 31(6), 776–786. <https://doi.org/10.1002/job.686>
- Ahlstrom, D., & Bruton, G. D. (2006). Venture capital in emerging economies: Networks and institutional change. *Entrepreneurship Theory and Practice*, 30(2), 299–320. <https://doi.org/10.1111/j.1540-6520.2006.00122.x>
- Aldrich, D. P., & Meyer, M. A. (2015). Social capital and community resilience. *American Behavioral Scientist*, 59(2), 254–269. <https://doi.org/10.1177/0002764214550299>
- Anand, V., Ashforth, B., & Joshi, M. (2005). Business as usual: The acceptance and perpetuation of corruption in organizations. *Academy of Management Executive*, 19(4), 9–22.
- Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2010). Formal versus informal finance: Evidence from China. *Review of Financial Studies*, 23(8), 3048–3097. <https://doi.org/10.1093/rfs/hhq030>
- Bai, C. E., Lu, J., & Tao, Z. (2006). Property rights protection and access to bank loans: Evidence from private enterprises in China. *The Economics of Transition*, 14(4), 611–628. <https://doi.org/10.1111/j.1468-0351.2006.00269.x>
- Bardhan, P. (1997). Corruption and development: a review of issues. *Journal of Economic Literature*, 35(3), 1320–1346.
- Baumol, W. J. (1990). Entrepreneurship: Productive, unproductive, and destructive. *Journal of Political Economy*, 98(5), 893–921. <https://doi.org/10.1086/261712>
- Beck, T., & Demirgüç-Kunt, A. (2006). Small and medium-size enterprises: Access to finance as a growth constraint. *Journal of Banking and Finance*, 30(11), 2931–2943. <https://doi.org/10.1016/j.jbankfin.2006.05.009>
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2006). Bank supervision and corruption in lending. *Journal of Monetary Economics*, 53(8), 2131–2163. <https://doi.org/10.1016/j.jmoneco.2005.10.014>
- Behrman, J. R., & Deolalikar, A. B. (1989). Of the fittest? Duration of survival of manufacturing establishments in a developing country. *Journal of Industrial Economics*, 38(2), 215–226. <https://doi.org/10.2307/2098531>
- Belitski, M., Chowdhury, F., & Desai, S. (2016). Taxes, corruption, and entry. *Small Business Economics*, 47(1), 201–216. <https://doi.org/10.1007/s11187-016-9724-y>
- Bernardi, R. A. (2006). Associations between Hofstede's cultural constructs and social desirability response bias. *Journal of Business Ethics*, 65(1), 43–53. <https://doi.org/10.1007/s10551-005-5353-0>
- Bjørnskov, C. (2003). Corruption and social capital. Aarhus School of Business Working Paper 03–13.
- Bjørnskov, C. (2012). How does social trust affect economic growth? *Southern Economic Journal*, 78(4), 1346–1368. <https://doi.org/10.4284/0038-4038-78.4.1346>
- Bosma, N., Hill, S., Ionescu-Somers, A., Kelley, D., Levie, J., & Tarnawa, A. (2020). *Global entrepreneurship monitor 2019/2020 global report*. Global Entrepreneurship Research Association. London: London Business School.
- Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241–258). New York: Greenwood Press.
- Chaudhuri, S., & Gupta, M. R. (1996). Delayed formal credit, bribing and the informal credit market in agriculture: A theoretical analysis. *Journal of Development Economics*, 51(2), 433–449. [https://doi.org/10.1016/S0304-3878\(96\)00407-5](https://doi.org/10.1016/S0304-3878(96)00407-5)
- Chen, Y., Liu, M., & Su, J. (2013). Greasing the wheels of bank lending: Evidence from private firms in China. *Journal of Banking and Finance*, 37(7), 2533–2545. <https://doi.org/10.1016/j.jbankfin.2013.02.002>
- Chêne, M. (2019). *Successful approaches to tackle petty corruption*. Berlin: Transparency International.
- Churchill, S. A. (2017). Fractionalization, entrepreneurship, and the institutional environment for entrepreneurship. *Small Business Economics*, 48(3), 577–597. <https://doi.org/10.1007/s11187-016-9796-8>
- CIEM (Central Institute for Economic Management). (2011). *Survey of small and medium scale manufacturing in Vietnam – Main questionnaire*. Hanoi: CIEM.
- Clarke, G. R. (2011). How petty is petty corruption? Evidence from firm surveys in Africa. *World Development*, 39(7), 1122–1132. <https://doi.org/10.1016/j.worlddev.2010.11.002>

- Clarke, G. R., Friesenbichler, K. S., & Wong, M. (2015). Do indirect questions reduce lying about corruption? Evidence from a quasi-field experiment. *Comparative Economic Studies*, 57(1), 103–135. <https://doi.org/10.1057/ces.2014.43>
- Demirgüç-Kunt, A., Klapper, L. F., & Panos, G. A. (2011). Entrepreneurship in post-conflict transition. *The Economics of Transition*, 19(1), 27–78. <https://doi.org/10.1111/j.1468-0351.2010.00398.x>
- Donfouet, H. P., Jeanty, P. W., & Malin, E. (2018). Analysing spatial spillovers in corruption: A dynamic spatial panel data approach. *Papers in Regional Science*, 97(1), 63–78.
- Du, J., Guariglia, A., & Newman, A. (2015). Do social capital building strategies influence the financing behavior of Chinese private small and medium-sized enterprises? *Entrepreneurship Theory and Practice*, 39(3), 601–631. <https://doi.org/10.1111/etap.12051>
- Estrin, S., Mickiewicz, T., & Stephan, U. (2013). Entrepreneurship, social capital, and institutions: Social and commercial entrepreneurship across nations. *Entrepreneurship Theory and Practice*, 37(3), 479–504. <https://doi.org/10.1111/etap.12019>
- Evans, D. S., & Jovanovic, B. (1989). An estimated model of entrepreneurial choice under liquidity constraints. *The Journal of Political Economy*, 97(4), 808–827. <https://doi.org/10.1086/261629>
- Foellmi, R., & Oechslin, M. (2007). Who gains from non-collusive corruption? *Journal of Development Economics*, 82(1), 95–119. <https://doi.org/10.1016/j.jdevco.2005.10.002>
- Fungáčová, Z., Kochanova, A., & Weill, L. (2015). Does money buy credit? Firm-level evidence on bribery and bank debt. *World Development*, 68(1), 308–322. <https://doi.org/10.1016/j.worlddev.2014.12.009>
- Gedajlovic, E., Honig, B., Moore, C. B., Payne, G. T., & Wright, M. (2013). Social capital and entrepreneurship: A schema and research agenda. *Entrepreneurship Theory and Practice*, 37(3), 455–478. <https://doi.org/10.1111/etap.12042>
- Ghani, E., Kerr, W. R., & O'Connell, S. (2014). Spatial determinants of entrepreneurship in India. *Regional Studies*, 48(6), 1071–1089. <https://doi.org/10.1080/00343404.2013.839869>
- Graeff, P. (2005). Why should one trust in corruption? The linkage between corruption, norms, and social capital. In J. G. Lambsdorff, M. Taube, & M. Schramm (Eds.), *The new institutional economics of corruption* (pp. 40–58). London: Routledge.
- Graeff, P., & Svendsen, G. T. (2013). Trust and corruption: The influence of positive and negative social capital on the economic development in the European Union. *Quality and Quantity*, 47(5), 2829–2846. <https://doi.org/10.1007/s11135-012-9693-4>
- Guiso, L., Sapienza, P., & Zingales, L. (2004). The role of social capital in financial development. *The American Economic Review*, 94(3), 526–556. <https://doi.org/10.1257/0002828041464498>
- Hanoteau, J., & Vial, V. (2020). Institutional quality, conforming and evasive entrepreneurship. *Eurasian Business Review*, 10(1), 97–121. <https://doi.org/10.1007/s40821-020-00151-z>
- Harris, D. (2007). Bonding social capital and corruption: A cross-national empirical analysis. University of Cambridge, Department of Land Economics Working Paper 27.2007.
- Henderson, J.V., & Kuncoro, A. (2004). Corruption in Indonesia. NBER Working Paper 10674.
- Hoang, H., & Antoncic, B. (2003). Network-based research in entrepreneurship: A critical review. *Journal of Business Venturing*, 18(2), 165–187. [https://doi.org/10.1016/S0883-9026\(02\)00081-2](https://doi.org/10.1016/S0883-9026(02)00081-2)
- Huang, F. L. (2018). Multilevel modeling myths. *School Psychology Quarterly*, 33(3), 492–499. <https://doi.org/10.1037/spq0000272>
- Hussain, J., Millman, C., & Matlay, H. (2006). SME financing in the UK and in China: A comparative perspective. *Journal of Small Business and Enterprise Development*, 13(4), 584–599. <https://doi.org/10.1108/14626000610705769>
- Kenny, C. (2009). Measuring corruption in infrastructure: Evidence from transition and developing countries. *Journal of Development Studies*, 45(3), 314–332. <https://doi.org/10.1080/00220380802265066>
- Kraar, L. (1995). How corrupt is Asia? *Fortune*, 132(4), 26–26.
- Kravtsova, M., & Oshchepkov, A.Y. (2019). Market and network corruption. Higher School of Economics Research Paper 209/EC/2019. <https://doi.org/10.2139/ssrn.3324161>
- Krumpal, I. (2013). Determinants of social desirability bias in sensitive surveys: A literature review. *Quality & Quantity*, 47(4), 2025–2047. <https://doi.org/10.1007/s11135-011-9640-9>
- Kuncoro, A. (2004). Bribery in Indonesia: some evidence from micro-level data. *Bulletin of Indonesian Economic Studies*, 40(3), 329–354. <https://doi.org/10.1080/0007491042000231511>
- Lajqi, S., & Krasniqi, B. A. (2017). Entrepreneurial growth aspirations in challenging environment: The role of institutional quality, human and social capital. *Strategic Change*, 26(4), 385–401. <https://doi.org/10.1002/jsc.2139>
- Lambsdorff, J. G. (2006). Causes and consequences of corruption: What do we know from a cross-section of countries? In S. Rose-Ackerman (Ed.), *International Handbook on the Economics of Corruption* (pp. 3–51). Cheltenham: Edward Elgar.
- Le, N. T., & Nguyen, T. V. (2009). The impact of networking on bank financing: The case of small and medium-sized enterprises in Vietnam. *Entrepreneurship Theory and Practice*, 33(4), 867–887. <https://doi.org/10.1111/j.1540-6520.2009.00330.x>

- Lipset, S. M., & Lenz, G. S. (2000). Corruption, culture, and markets. In L. E. Harrison & S. P. Huntington (Eds.), *Culture matters: How values shape human progress* (pp. 112–124). New York: Basic Books.
- Mauro, P. (1995). Corruption and growth. *Quarterly Journal of Economics*, 110(3), 681–712. <https://doi.org/10.2307/2946696>
- Miguel, E., Gertler, P., & Levine, D. (2005). Does social capital promote industrialization? Evidence from a rapid industrializer. *Review of Economics and Statistics*, 87(4), 754–762. <https://doi.org/10.1162/003465305775098099>
- Mocan, N. (2008). What determines corruption? International evidence from microdata. *Economic Inquiry*, 46(4), 493–510. <https://doi.org/10.1111/j.1465-7295.2007.00107.x>
- Nguyen, N. A., Doan, Q. H., Nguyen, N. M., & Tran-Nam, B. (2016). The impact of petty corruption on firm innovation in Vietnam. *Crime, Law and Social Change*, 65(4–5), 377–394. <https://doi.org/10.1007/s10611-016-9610-1>
- Nguyen, T. V., & Ramachandran, N. (2006). Capital structure in small and medium-sized enterprises: The case of Vietnam. *ASEAN Economic Bulletin*, 23(2), 192–211. <https://doi.org/10.1355/AE23-2D>
- North, D. C. (1990). *Institutions, institutional change and economic performance*. New York: Cambridge University Press.
- Okten, C., & Osili, U. O. (2004). Social networks and credit access in Indonesia. *World Development*, 32(7), 1225–1246. <https://doi.org/10.1016/j.worlddev.2004.01.012>
- Pena López, J. A., & Sánchez Santos, J. M. (2014). Does corruption have social roots? The role of culture and social capital. *Journal of Business Ethics*, 122(4), 697–708. <https://doi.org/10.1007/s10551-013-1789-9>
- Pring, C. (2017). *People and corruption: Asia Pacific, Global Corruption Barometer*. Berlin: Transparency International.
- Putnam, R. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton, NJ: Princeton University Press.
- Putnam, R. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon & Schuster.
- Rand, J., & Tarp, F. (2012). Firm-level corruption in Vietnam. *Economic Development and Cultural Change*, 60(3), 571–595. <https://doi.org/10.1086/664022>
- Reynolds, P. D. (2014). Global entrepreneurship monitor adult population survey consolidated data set: 1998–2010. ICPSR deposit 35413. Retrieved on December 12th 2020 from https://www.researchgate.net/profile/Paul_Reynolds7/publication/297710586_Global_Entrepreneurship_Monitor_GEM_Adult_Population_Survey_Data_Set_1998-2010_Codebook_and_Data_Set_Description_ICPSR_Deposit_35413/links/56e0ace908ae979addf0fb1d.pdf
- Rose-Ackerman, S. (1999). *Corruption and government: causes, consequences, and reform*. Cambridge: Cambridge University Press.
- Rotondi, V., & Stanca, L. (2015). The effect of particularism on corruption: Theory and empirical evidence. *Journal of Economic Psychology*, 51, 219–235. <https://doi.org/10.1016/j.joep.2015.09.008>
- Sanders, M., & Weitzel, U. (2013). Misallocation of entrepreneurial talent in postconflict environments. *Journal of Conflict Resolution*, 57(1), 41–64. <https://doi.org/10.1177/0022002712464852>
- Shane, S., & Cable, D. (2002). Network ties reputation and the financing of new ventures. *Management Science*, 48(3), 364–381. <https://doi.org/10.1287/mnsc.48.3.364.7731>
- Stenholm, P., Acs, Z., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing*, 28(1), 176–193. <https://doi.org/10.1016/j.jbusvent.2011.11.002>
- Strauss, J., Witoelar, F., & Sikoki, B. (2016). *Household survey questionnaire for the Indonesia Family Life Survey Wave 5*. Santa Monica, CA: RAND Corporation.
- Sujarwoto, S., & Tampubolon, G. (2015). Decentralisation and citizen happiness: A multilevel analysis of self-rated happiness in Indonesia. *Journal of Happiness Studies*, 16(2), 455–475. <https://doi.org/10.1007/s10902-014-9518-3>
- Sundström, A. (2019). Why do people pay bribes? A survey experiment with resource users. *Social Science Quarterly*, 100(3), 725–735. <https://doi.org/10.1111/ssqu.12600>
- Szreter, S., & Woolcock, M. (2004). Health by association? Social capital, social theory, and the political economy of public health. *International Journal of Epidemiology*, 33(4), 650–667. <https://doi.org/10.1093/ije/dyh013>
- Tanzi, V. (1998). Corruption around the world: Causes, consequences, scope, and cures. *IMF Staff Papers*, 45(4), 559–594. <https://doi.org/10.2307/3867585>
- Tonoyan, V., Strohmeier, R., Habib, M., & Perlitz, M. (2010). Corruption and entrepreneurship: How formal and informal institutions shape small firm behaviour in transition and mature market economies. *Entrepreneurship Theory and Practice*, 34(5), 803–832. <https://doi.org/10.1111/j.1540-6520.2010.00394.x>
- Transparency International. (2009). *The anti-corruption plain language guide*. Berlin: International Secretariat.
- Uslaner, E. M. (2002). *The Moral Foundations of Trust*. Cambridge: Cambridge University Press.
- Uslaner, E. M. (2005). Trust and corruption. In J. G. Lambsdorff, M. Taube, & M. Schramm (Eds.), *The new institutional economics of corruption* (pp. 90–106). London: Routledge.
- Veciana, J. M., & Urbano, D. (2008). The institutional approach to entrepreneurship research. *International Entrepreneurship and Management Journal*, 4(4), 365–379. <https://doi.org/10.1007/s11365-008-0081-4>
- Von Lueke, C. (2009). The political economy of local governance: Findings from an Indonesian field study. *Bulletin of Indonesian Economic Studies*, 45(2), 201–230. <https://doi.org/10.1080/00074910903040310>

- Weill, L. (2011). Does corruption hamper bank lending? Macro and micro evidence. *Empirical Economics*, 41(1), 25–42. <https://doi.org/10.1007/s00181-010-0393-4>
- Welter, F., & Smallbone, D. (2006). Exploring the role of trust in entrepreneurial activity. *Entrepreneurship Theory and Practice*, 30(4), 465–475. <https://doi.org/10.1111/j.1540-6520.2006.00130.x>
- Welter, F., & Smallbone, D. (2011). Institutional perspectives on entrepreneurial behavior in challenging environments. *Journal of Small Business Management*, 49(1), 107–125. <https://doi.org/10.1111/j.1540-627X.2010.00317.x>
- Williams, R. (2012). Using the margins command to estimate and interpret adjusted predictions and marginal effects. *The Stata Journal*, 12(2), 308–331. <https://doi.org/10.1177/1536867X1201200209>
- Wu, X. (2009). Determinants of bribery in Asian firms: Evidence from the world business environment survey. *Journal of Business Ethics*, 87(1), 75–88. <https://doi.org/10.1007/s10551-008-9871-4>
- Zhou, J. Q., & Peng, M. W. (2010). Relational exchanges versus arm's-length transactions during institutional transitions? *Asia Pacific Journal of Management*, 27(3), 355–370. <https://doi.org/10.1007/s10490-009-9142-7>
- Zhou, J. Q., & Peng, M. W. (2012). Does bribery help or hurt firm growth around the world? *Asia Pacific Journal of Management*, 29(4), 907–921. <https://doi.org/10.1007/s10490-011-9274-4>
- Zhou, X., Han, Y., & Wang, R. (2013). An empirical investigation on firms' proactive and passive motivation for bribery in China. *Journal of Business Ethics*, 118(3), 461–472. <https://doi.org/10.1007/s10551-012-1596-8>

Resumen. La pequeña corrupción es una barrera para el espíritu emprendedor empresarial en los países emergentes, lo que justifica que se investiguen sus factores determinantes. Este artículo analiza los efectos del capital social mediante el uso de datos de 1.240 empresarios de todas las regiones de Indonesia. Las regresiones de tipo probit ordenado de dos niveles muestran que las relaciones débiles desalientan el soborno de los empresarios, mientras que las fuertes lo fomentan, aunque este último efecto está moderado por la calidad del acceso al crédito formal. El soborno a los bancos o recurrir a los familiares para obtener financiación externa son las soluciones alternativas para los empresarios con un difícil acceso al crédito formal, una característica común en los países emergentes, por lo que prefieren la segunda solución, dado el riesgo y los costes psicológicos de la corrupción.

抄録: 不正行為は新興国におけるアントレプレナーシップの障害であり、その決定要因を調査することを正当化する。インドネシア地域の1,240人の起業家のデータを用いて、社会資本の効果を分析した。2段階の順序プロビット回帰により、結びつきが弱い場合は起業家の賄賂は抑制され、結びつきが強いと助長されるが、後者の影響はフォーマルなクレジットへのアクセスのレベルによって抑制されることが示される。銀行に贈賄したり、外部資金を親戚に頼ったりすることは、フォーマルなクレジットへのアクセスに乏しい起業家が代替的に講じる解決策であり、新興国ではありふれていることであるが、汚職のリスクや心理的な損失を考えると、第2の解決策が好まれる。