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Under the table: Exploring the type and communication of corruption on opportunity pursuit

Chad D. Coffman[a,*], Brian S. Anderson[a,b]

[a] Bloch School of Management, University of Missouri, 5108 Cherry St., Kansas City, MO 64110, United States
[b] Ghent University, Belgium

A B S T R A C T

While generally illegal, corruption is a cost of doing business in many parts of the world. Competing perspectives suggest both positive and negative effects of corruption on entrepreneurial activity. In this study, we do not ask whether corruption has an effect, but rather ask how much of an effect do different forms of corruption communicated in different ways have on pursuing a new opportunity. We use a three-study, replication-based design to explore the relationship between the type and communication of corruption and pursuing a new opportunity. Across samples in the U.S. and Ghana, we find that "favors," or non-pecuniary corruption, explicitly communicated, lowers opportunity pursuit the most, while "monetary," or pecuniary corruption, implicitly communicated has little effect on opportunity pursuit. Our study sheds light on an under-explored area of corruption research; scholars—and policy makers—should look beyond only monetary forms when exploring corruption's impact on entrepreneurship. For transparency, we post all data, code, and study materials online at http://bit.ly/2wipQ8u.

1. Introduction

That corruption exists and impedes entrepreneurial activity is not a controversial claim (Campos et al., 2010; Anokhin and Schulze, 2009). The challenge is understanding the degree to which corruption—which can take different forms—impacts entrepreneurial activity. While prevalent, corruption is generally illegal. Government and other public-sector officials engaging in corruption are likely to lose their jobs if caught, and in most countries, it is against the law to bribe, or to offer to bribe, a governmental official (Rose-Ackerman, 2016). As such, it behooves corrupt officials and those who bribe them to keep their activities secret. Most data on corruption thus comes from victims who did not—or could not—pay a bribe, or researchers estimating corruption's impact from missing government funds (Armantier and Boly, 2011). It is difficult then to collect reliable corruption data, and inference depends on the corruption measure itself (Bardhan, 1997, Chatterjee and Ray, 2012; Shacklock and Galtung, 2016).

Another complication is that corruption comes in many forms (Gong, 1994; Rose-Ackerman and Palifka, 2016). We often think of corruption in monetary (*pecuniary),* terms—the "fatter than necessary" envelope slipped across the desk to a government official. But corruption also comes in non-monetary (*non-pecuniary),* forms. For example, the official suggests that hiring his brother to work in the new business would "help the paperwork along." Further, an official wanting a bribe, or open to a bribe, has an incentive to communicate his or her intention or in opaque ways. True, some officials explicitly ask for a bribe—demanding (willingness *explicit),* for example, a "processing fee" to work on the entrepreneur's permit application. But less forthright officials may suggest (*implicit)* that doing a favor might improve the chance of the official granting the permit.

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* Corresponding author.
  E-mail address: cdc69c@umkc.edu (C.D. Coffman).

In this study we investigate the impact of the form of corruption (*pecuniary versus non-pecuniary*), and the communication of the corruption (*implicit versus explicit*), on the likelihood of pursuing a new business opportunity. We use a modified conjoint design in three studies; two studies in the United States, and our primary study with Ghanaian entrepreneurs in sub-Sahara Africa. Our results suggest that non-pecuniary corruption, explicitly communicated, lowers the probability of pursuing an opportunity the most. We estimate our models with Bayesian hierarchical modeling, and post all data, code, and study materials online at http://bit.ly/2wipQ8u. Our results highlight the importance of an overlooked form of corruption (*non-pecuniary*) and type of communication as meaningful factors influencing the decision to pursue an entrepreneurial opportunity.

2. Theoretical development and research question

2.1. Functionalist and transactional perspectives on corruption

There are two competing perspectives on corruption. The functionalist perspective, often referred to as the "grease the wheels" theory, holds that individuals or businesses engage in corrupt activity because of the socio-economic benefits they are likely to obtain, particularly where government or administrative systems are excessively bureaucratic—or outright dysfunctional (Huntington, 1968; Leff, 1964). The functionalist perspective recognizes that a corrupt system is far from ideal, but corruption arises from administrative failure and, under certain circumstances, creates economic efficiencies (Dreher and Gassebner, 2013; Yeboah-Assiamah and Alesu-Dordzi, 2016).

The transactional perspective holds that corruption is an agreement between two parties: a power-wielding official, and an individual or business that needs access to the authority or service that the official controls. Engaging in corruption is to mutual benefit, where the corrupt official obtains a monetary payment or a favor, and the individual or business accesses a constrained resource. However, the transactional perspective assumes that these arrangements, despite benefitting the parties involved, harm society and stymie economic development (Barr and Serra, 2010; Ryvkin and Serra, 2012).

While the functionalist perspective posits potential benefits to corrupt behavior, scholars generally agree that corruption diminishes economic growth (Shleifer and Vishny, 1993; Ehrlich and Lui, 1999; Mauro, 1995; La Porta et al., 1999; Mo, 2001; Glaeser and Saks, 2006). But for the individual entrepreneur, there is a potential benefit—although at a risk—for engaging in corruption (Dreher and Gassebner, 2013; Rose, 2000; Méon and Weill, 2010; Vial and Hanoteau, 2010). We take the perspective that a rational entrepreneur *may* be willing to engage in corrupt activities to pursue an opportunity because of the potential benefit (e.g., faster timeframe, access to resources, and so forth). However, we posit that the willingness to do so varies as a function of the form of corruption, and how an official communicates the corrupt behavior.

2.2. Opportunity pursuit

While corruption likely effects entrepreneurs at all stages of the entrepreneurial process, we chose to begin our analysis in the early stages of entrepreneurial intention: when nascent entrepreneurs move from *intuiting* an idea to *interpreting* an idea (Crossan et al., 1999; Dutta and Crossan, 2005). It is in this phase that nascent entrepreneurs begin to engage with key stakeholders such as partners, investors, customers, and suppliers (Dimov, 2007). For many ventures, government officials are a key stakeholder and, in corrupt contexts, entrepreneurs in this stage begin to evaluate the costs (pecuniary or non-pecuniary) of interreacting with corrupt government officials. We argue that the form and communication of corruption, effects whether nascent entrepreneurs choose to *integrate* the costs of corruption into their venture and pursue a new entrepreneurial opportunity or choose to forego the opportunity because of the cost of corruption. This may ultimately lead entrepreneurs to *institutionalize* corrupt practices.

2.3. Form of corruption

2.3.1. Pecuniary corruption

Pecuniary corruption is the easiest type to define, and generally the easiest to address from a law enforcement perspective (Rose-Ackerman, 1999). Pecuniary corruption occurs when an official accepts financial compensation, beyond that provided by his or her employer, in exchange for providing a service under his or her control (Kurer, 1993). The person making the bribe may or may not be the direct beneficiary, but some individual or entity benefits in a way that is not fair or equitable. Pecuniary corruption often occurs in economies without well-developed banking systems, because it is easier to conceal large, irregular financial transactions (Bardhan, 1997). Pecuniary corruption is also more common in economies where public officials are not well compensated (Lui, 1985; Mauro, 2002).

2.3.2. Non-pecuniary corruption

A public official may also use his or her influence to secure non-monetary compensation—favors—rather than seeking a financial payment (Rose-Ackerman, 1999). For example, the official may secure a job for a relative, or steer a government contract towards a friend's company. Here, the official may or may not be the direct beneficiary of the corrupt act. There is a grey area distinguishing non-pecuniary corruption from helping behaviors. For example, the official may steer an entrepreneur towards a supplier whom the official knows can meet an unfilled need. The key question however, as with pecuniary corruption, is whether the official receives some type of benefit from engaging in the behavior outside of the compensation received by his or her employer (Basu, 2006; Pande, 2007).

2.4. Communication of corruption

2.4.1. Implicit communication

Implicit communication is a safer alternative for the corrupt official, because it can provide plausible deniability. Implicit corruption occurs when the official merely suggests that some form of compensation would result in some type of benefit for the entrepreneur (Rose-Ackerman, 1999). For example, the official may paperclip his brother's resume to the application approval. The entrepreneur may simply view the resume as a suggestion and is free to accept or reject. Conversely, the entrepreneur may interpret the suggestion as corruption, but due to its implicit nature, the entrepreneur may view the official as lacking the capacity to enforce the request. Implicit communication thus increases uncertainty for the entrepreneur.

2.4.2. Explicit communication

There is little ambiguity with explicit corruption. The corrupt official demands some type of compensation in exchange for doing something for the benefit of the entrepreneur (Fisman and Svensson, 2007; Rose-Ackerman, 1999). There is equal clarity from the entrepreneur's perspective of the consequences of not engaging in the corrupt behavior—he or she will not receive the requested service. The entrepreneur must weigh the potential of being caught—and the ethical considerations—against the necessity of receiving the required service.

2.5. Research question

Adopting a Bayesian perspective, as we discuss in Section 3, frees us from relying on a null hypothesis with little *a priori* validity—in this case, that corruption has zero impact on entrepreneurial activity (Arin et al., 2014; Kruschke and Liddell, 2018). Generally, we expect that non-pecuniary corruption will lower the probability more than pecuniary corruption, because the cost of the corruption is uncertain. For example, hiring the corrupt official's brother, whose ability and work ethic are unknown, means that the entrepreneur must deal with the brother for an indefinite period. We also expect that implicit communication will be less impactful than explicit communication. With implicit corruption, the entrepreneur may feel that the corrupt official is less threatening or lacks the capacity to enforce a corrupt request.

3. Research design

3.1. Overview

We used a three-study replication design. Studies 1 and 3 used a sample of U.S. business students and for Study 2, our primary focus, we recruited a sample of Ghanaian entrepreneurs. We used a modified conjoint-based design, where we presented respondents with a series of five fictitious scenarios. While not causal, we did manipulate the type and form of corruption, as we describe below. We enlisted a panel of five Ghanaian entrepreneurs to pretest the instrument for cultural validity. We posted all data, code, and the study instrument online at http://bit.ly/2wipQ8u. We estimated all models with the `rstanarm` 2.3.1 package (Carpenter et al., 2017) in R version 3.5.

Each respondent saw all five scenarios in two rounds per study, in a repeated measures design. The only difference between the two rounds was the type of business presented. For Round 1, we used a construction business, with the prompt being "You are considering an opportunity to start a construction company." For Round 2 we switched to a supermarket; "You are considering an opportunity to start a small supermarket." The panel of Ghanaian entrepreneurs in our pilot study confirmed both business types as feasible for a Ghanaian context, and we made a similar assumption for U.S. respondents. In Studies 1 and 3, we randomized the scenarios using Qualtrics. We did not randomize the scenarios in Study 2 because we used a paper instrument.

3.2. Instrument and variables

We used a "No Corruption" scenario for a baseline, with the prompt being that the government official in charge of issuing permits for the business will not accept any form of bribe. We then created four scenarios varying the form (pecuniary and non-pecuniary) and communication (implicit and explicit) of corruption. For example, in the implicit/pecuniary corruption condition, we prompted respondents with "The government official in your area…informed you that a cash payment would make it easier and faster for you to get permits in the future." For the explicit/non-pecuniary condition, we prompted "The governmental official in your area…informed you that you must hire his brother if you wish to have your permits approved." We refined these scenarios based on feedback from our Ghanaian panel.

3.3. Bayesian modeling

3.3.1. Benefits of a Bayesian approach

For a non-technical introduction to Bayesian inference, we refer readers to Kruschke and Liddell (2018) and Kruschke et al. (2012), and for a technical introduction to Gelman et al. (2013). Briefly, Bayesian inference is the right choice for our research question because we can test the research question we wish to answer (estimating the probability of corruption as a function of the scenario), and because the null hypothesis is not realistic in this case (Gelman et al., 2013). Bayesian inference also produces results

that are easier to interpret, more realistic, and are more useful for theory and practice (Kruschke and Liddell, 2018).

3.3.2. Model specification

Because our study is a type of repeated measures design, we used Bayesian hierarchical modeling, and given the binary outcome variable, specified a logit link function. The posterior distribution is in the log-odds scale, like a logit frequentist model. Bayesian hierarchical models use both within and between variance to shrink the parameter estimate towards a value consistent with all other observations (Gelman et al., 2013). We used a weakly-informative prior for each model for regularization (Carpenter et al., 2017).

3.4. Study 1 – U.S. Sample

We recruited 51 participants from a student behavioral research pool at a Midwestern research university, yielding a final sample of 510 (10 responses per participant). Participants received class-credit for participating. Ninety percent of respondents were between the ages of 18 and 29, and 65% were female. Each respondent saw a practice question before seeing the scenarios, and in addition to age and gender, we tracked duration in the study, which we included as a covariate.

3.5. Study 2 – Ghanaian sample

We recruited 100 Ghanaian entrepreneurs in the rural villages of Sampa and Kabile to participate, yielding a final sample of 1000 responses. Respondents received five USD ($5) for participating, and we provide additional information on our data collection in Appendix 1. Due to the sensitive nature of collecting corruption data, we did not collect covariates on the respondents. However, in the verbal screening process, we identified entrepreneurs in businesses ranging from micro-enterprises, such as selling phone credit or water packets at the bus station, to medium-sized enterprises, such as supermarkets. It is against Ghanaian law to bribe or offer to bribe a governmental official, but it is reasonable to assume that Ghanaian entrepreneurs regularly encounter corruption. *Transparency International*, a non-governmental agency tracking corruption, scored Ghana a 43 on their *Corruption Perception Index* (Transparency International, 2016), which matches the global average.

3.6. Study 3 – U.S. replication

Study 3 is a direct replication of the Qualtrics-based design in Study 1, again using a student sample at a Midwestern U.S. research university. Sixty-one respondents participated, yielding 610 observations. Ninety-two percent of respondents were between the age of 18 and 29, and 54% were female.

4. Results

We present the median posterior predicted log odds estimates and standard deviations for all three studies in Table 1. Because the posterior is a distribution, it is helpful to think about the parameters as the ratio between the median posterior estimate and the standard deviation (median: sd). The larger the ratio, the lower the variance in the posterior (the tighter the distribution around the median), and so the lower the uncertainty around the parameter. Because we scaled the outcome measure as 1 = Yes (would pursue the opportunity), a negative parameter estimate indicates a decrease in the log-odds distribution (less likely to pursue).

Table 1
Model Results (DV: Pursue Opportunity)[a].

	Study 1	Study 2	Study 3
Focal Predictors			
(Intercept)	2.83 (1.77)	2.03 (0.32)	2.88 (2.15)
Implicit/Pecuniary	−3.06 (0.55)	−0.36 (0.28)	−2.3 (0.36)
Explicit/Pecuniary	−3.71 (0.59)	−1 (0.25)	−2.98 (0.4)
Implicit/Non-Pecuniary	−3.9 (0.55)	−1.25 (0.25)	−2.61 (0.38)
Explicit/Non-Pecuniary	−5.03 (0.61)	−3.07 (0.29)	−3.96 (0.42)
Covariates			
Age (30–39)	0.14 (1.12)		1.75 (0.81)
Age (50–59)	3.01 (1.97)		
Gender (Female)	1.02 (0.53)		−0.31 (0.41)
Duration (log)	−0.16 (0.22)		−0.08 (0.42)
Random Effects			
Sigma (Respondent)	3.41 (1.3)	0.9 (0.26)	1.61 (0.48)
Sigma (Round)	0.19 (0.26)	0.06 (0.08)	0.05 (0.08)
Model Fit			
Bayes R^2	0.5 (0.03)	0.29 (0.02)	0.38 (0.02)

[a] Log-odds median posterior estimate; Standard deviation in parentheses.

Table 2
Posterior Predicted Probabilities[a].

	Study 1	Study 2	Study 3
No Corruption	85% [22–97%]	88% [80–93%]	92% [83–97%]
Implicit/Pecuniary	19% [2–59%]	84% [75–91%]	53% [34–73%]
Explicit/Pecuniary	11% [2–43%]	73% [62–83%]	36% [21–58%]
Implicit/Non-Pecuniary	9% [1–38%]	69% [55–79%]	45% [27–66%]
Explicit/Non-Pecuniary	3% [0–17%]	26% [17–38%]	18% [8–34%]

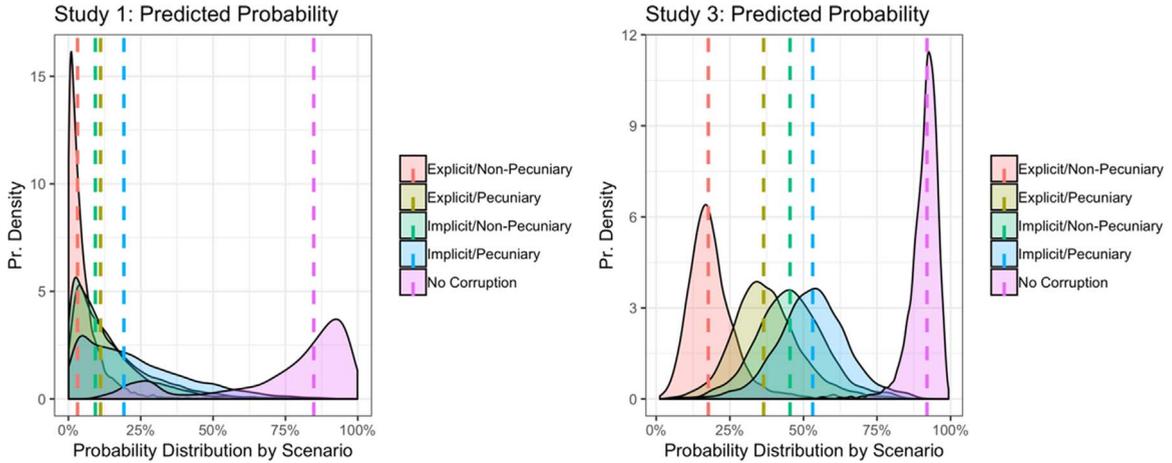[a] Predicted probabilities; 90% uncertainty interval in brackets.

Fig. 1. Posterior predicted probability distributions by corruption scenario: student samples. Dashed line indicates median predicted probability.

We calculated the median predicted posterior probability for each scenario holding constant the random effect terms and the covariates at their baseline (or mean) value (Table 2). With the median probability is a 90% uncertainty interval. Unlike a frequentist confidence interval, there is a straightforward interpretation for a Bayesian uncertainty interval (also called credibility interval)—in this case, a 90% probability that the predicted probability falls within the range shown (Gelman et al., 2013). It also means that each value in that interval is possible but carries a different likelihood. We present the likelihood of each possible value graphically in Figs. 1 and 2, with the area under the curve for a given value on the *x-axis* a measure of the probability density. The larger the area under the curve for that value, the greater the likelihood (or credibility) of that predicted probability.

We observed a similar pattern of results across studies, although the uncertainty intervals for Study 1 are quite large. As expected, respondents generally assigned a high probability to pursuing an opportunity in the no corruption condition. Conversely, respondents demonstrably avoiding pursuing an opportunity in the Explicit/Non-Pecuniary condition. Interestingly, in the Study 2 and Study 3 results, respondents were somewhat forgiving to the pecuniary corruption scenarios. While lower than the baseline condition, Ghanaian respondents in Study 2 were still willing to pursue the opportunity despite paying an explicit or implicit monetary bribe.
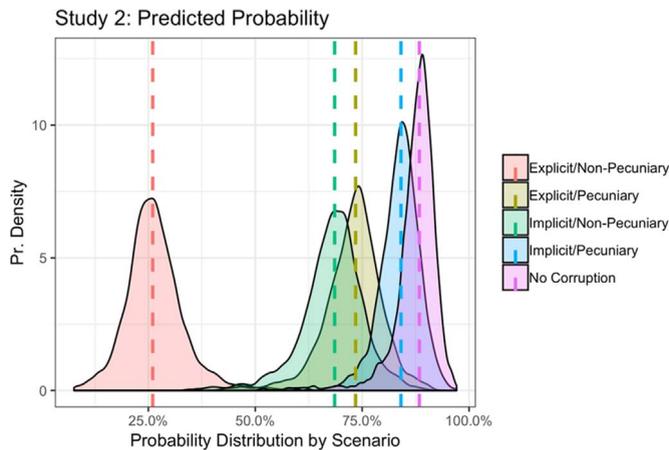

Fig. 2. Posterior predicted probability distributions by corruption scenario: Ghanaian sample. Dashed line indicates median predicted probability.

5. Discussion

Across all studies, non-pecuniary corruption, explicitly communicated decreased the likelihood of pursuing a venture opportunity more than did pecuniary corruption, whether implicitly or explicitly communicated. During the process of completing Study 2, many Ghanaian respondents volunteered that the cost of performing a favor was unknown, introducing uncertainty, and potentially ruining the business. Capital is often in short supply in developing economies such as Ghana (de Soto, 2000), but Ghanaian entrepreneurs in our sample still preferred paying a bribe over providing a favor to corrupt officials.

Another notable finding was the difference between U.S. respondents and Ghanaian respondents under the pecuniary corruption condition. U.S. respondents generally viewed pecuniary corruption negatively, demonstrably lowering opportunity pursuit. For Ghanaian entrepreneurs, implicitly communicated pecuniary corruption was not demonstrably different from the no-corruption baseline condition. Here more research is necessary, but one Ghanaian respondent offered that "If he helps you out, of course you should help him out," suggesting that implicitly communicated pecuniary corruption may be within normal business bounds (Fadahunsi and Rosa, 2002). Our findings suggest that there may be additional contextual factors influencing the effect of pecuniary corruption—particularly the manner in which it is communicated–on entrepreneurial outcomes (Mohamadi et al., 2017).

While much of the corruption research occurs in the economics discipline, when we 'dig deeper' into the different forms and communication of corruption, we uncover a more nuanced perspective on corruption's effect on entrepreneurial activity (Baron et al., 2018; Estrin et al., 2013). We hope this study sparks future research into the area of non-pecuniary corruption, in both developing and developed economies, to further enrich our understanding of an overlooked, but meaningful, factor in the decision to pursue a new venture opportunity

Conflict of interest

None.

Appendix 1. Data collection in Ghana

Data was collected over a two-week period in January of 2018 in the villages of Sampa and Kabile in west-central Ghana. We wished to distance ourselves from the relatively modern and Western capital city, Accra (Sampa and Kabile are fourteen hours from the capital by car), to better understand the situation in rural Africa. A member of the research team lived in this area for two years and maintained local contacts.

We presented our modified conjoint instrument in paper form, due to lack of reliable electricity and absence of internet service. The scenarios were kept deliberately simple, per our Ghanaian panel's recommendation but, even so, the majority of respondents would not be able to read the instrument in English, in its entirety. Thus, we read the scenarios aloud to all respondents. English is the official language in Ghana, so the majority of our respondents spoke some English, but we kept a translator present to spot-translate any words that were unclear. We considered translating the entire instrument into one of the two local languages—Twi or Nafana—but felt that this introduced greater threats to misunderstanding than simply translating the occasional word or phrase that was not understood.

Due to the sensitive nature of the topic, we collected no personal information from respondents, other than asking them what type of venture they owned to ensure that they were, in fact, entrepreneurs. We were also concerned with social desirability bias, since respondents might wish to appear averse to corrupt practices in the presence of an interviewer from the U.S. Thus, we asked respondents to provide the response that they felt most entrepreneurs in their community would provide, not their personal opinion. We collected a convenience sample through the simple process of walking around town and asking individuals to participate. We did not advertise payment, but upon completion of the interview, we gave respondents a phone credit coupon worth the equivalent of five USD ($5). We interviewed a wide array of entrepreneurs, from individuals selling water sachets for a few pennies each, to supermarket owners who employed more than ten people.

References

Anokhin, S., Schulze, W.S., 2009. Entrepreneurship, innovation, and corruption. J. Bus. Ventur. 24, 465–476.

Arin, K.P., Huang, V.Z., Minniti, M., Nandialath, A.M., Reich, O.F.M., 2014. Revisiting the determinants of entrepreneurship. J. Manag. 41, 607–631.

Armantier, O., Boly, A., 2011. A controlled field experiment on corruption. Eur. Econ. Rev. 55, 1072–1082.

Bardhan, P., 1997. Corruption and development: a review of issues. J. Econ. Lit. 35, 1320–1346.

Baron, R.A., Tang, J., Tang, Z., Zhang, Y., 2018. Bribes as entrepreneurial actions: why underdog entrepreneurs feel compelled to use them. J. Bus. Ventur. Forthcom., 1–12.

Barr, A., Serra, D., 2010. Corruption and culture: an experimental analysis. J. Public Econ. 94, 862–869.

Basu, P.K., 2006. Corruption: a theoretical perspective and relevance for economic growth. Int. Rev. Bus. Res. Pap. 2, 59–68.

Campos, N.F., Dimova, R.D., Saleh, A., 2010. Whither Corruption? A Quantitative Survey of the Literature on Corruption and Growth.

Carpenter, B., Gelman, A., Hoffman, M., Lee, D., Goodrich, B., Betancourt, M., Brubaker, M., Guo, J., Li, P., Riddell, A., 2017. Stan: a probabilistic programming language. J. Stat. Softw. 76, 1–32.

Chatterjee, I., Ray, R., 2012. Does the evidence on corruption depend on how it is measured? Results from a cross-country study on microdata sets. Appl. Econ. 44, 3215–3227.

Crossan, M.M., Lane, H.W., White, R.E., 1999. An organizational learning framework: from intuition to Institution. AMRO 24, 522–537.

Dimov, D., 2007. From opportunity insight to opportunity intention: the importance of person-situation learning match. Entrep. Theory Pract. 31, 561–583.

Dreher, A., Gassebner, M., 2013. Greasing the wheels? The impact of regulations and corruption on firm entry. Public Choice 155, 413–432.

Dutta, D.K., Crossan, M.M., 2005. The nature of entrepreneurial opportunities: understanding the process using the 4I organizational learning framework. Entrep. Theory Pract. 29, 425–449.

Ehrlich, I., Lui, F.T., 1999. Bureaucratic corruption and endogenous economic growth. J. Polit. Econ. 107, S270–S293.

Estrin, S., Korosteleva, J., Mickiewicz, T., 2013. Which institutions encourage entrepreneurial growth aspirations? J. Bus. Ventur. 28, 564–580.

Fadahunsi, A., Rosa, P., 2002. Entrepreneurship and illegality: insights from the Nigerian cross-border Trade. J. Bus. Ventur. 17, 397–429.

Fisman, R., Svensson, J., 2007. Are corruption and taxation really harmful to growth? Firm level evidence. J. Dev. Econ. 83, 63–75.

Gelman, A., Carlin, J.B., Stern, H.S., Dunson, D.B., Vehtari, A., Rubin, D.B., 2013. Bayesian Data Analysis 3rd ed.. CRC Press, Boca Raton, FL.

Glaeser, E.L., Saks, R.E., 2006. Corruption in America. J. Public Econ. 90, 1053–1072.

Gong, T., 1994. The politics of corruption in contemporary China: an analysis of policy outcomes. Praeger Publishers, Westport, CT.

Huntington, S.P., 1968. Political Order in Changing Societies. Yale University Press, New Haven, CT.

Kruschke, J.K., Liddell, T.M., 2018. Bayesian data analysis for newcomers. Psychon. Bull. Rev. 25, 155–177.

Kruschke, J.K., Aguinis, H., Joo, H., 2012. The time has come: Bayesian methods for data analysis in the organizational sciences. Organ. Res. 15, 722–752.

Kurer, O., 1993. Clientelism, corruption, and the allocation of resources. Public Choice 77, 259–273.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 1999. The quality of government. J. Law Econ. Organ 15, 222–279.

Leff, N., 1964. Economic development through bureaucratic corruption. Am. Behav. Sci. 8 (3), 8–14.

Lui, F.T., 1985. An equilibrium queuing model of bribery. J. Polit. Econ. 93, 760–781.

Mauro, M.P., 2002. The Persistence of Corruption and Slow Economic Growth. International Monetary Fund.

Mauro, P., 1995. Corruption and growth. Q. J. Econ. 110, 681–712.

Méon, P.-G., Weill, L., 2010. Is corruption an efficient grease? World Dev. 38, 244–259.

Mo, P.H., 2001. Corruption and economic growth. J. Comp. Econ. 29, 66–79.

Mohamadi, A., Peltonen, J., Wincent, J., 2017. Government efficiency and corruption: a country-level study with implications for entrepreneurship. J. Bus. Ventur. Insights 8, 50–55.

Pande, R., 2007. Chapter 50. Understanding political corruption in low income countries. In: Schultz, T.P., Strauss, J.A. (Eds.), Handbook of Development Economics. Elsevier, 3155–3184.

Rose, A.K., 2000. One money, one market: the effect of common currencies on trade. Econ. Policy 15, 08–45.

Rose-Ackerman, S., 1999. Corruption and Government: Causes, Consequences, and Reform. Cambridge University Press, Cambridge, MA.

Rose-Ackerman, S., Palifka, B.J., 2016. Corruption and Government: Causes, Consequences, and Reform. Cambridge University Press, Cambridge, MA.

Ryvkin, D., Serra, D., 2012. How corruptible are you? Bribery under uncertainty. J. Econ. Behav. Organ. 81, 466–477.

Shacklock, A., Galtung, F., 2016. Measuring Corruption. Routledge, London.

Shleifer, A., Vishny, R.W., 1993. Corruption. Q. J. Econ. 108, 599–617.

de Soto, H., 2000. The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else. Basic, New York.

Vial, V., Hanoteau, J., 2010. Corruption, manufacturing plant growth, and the Asian paradox: indonesian evidence. World Dev. 38, 693–705.

Yeboah-Assiamah, E., Alesu-Dordzi, S., 2016. The calculus of corruption: a paradox of "strong" corruption amidst "strong" systems and institutions in developing administrative systems. N. Engl. J. Public Policy 16, 203–216.