Corruption and entrepreneurship in developed and emerging economies

Fabio Yoshio Suguri Motoki

Norwich Business School, University of East Anglia. Norwich Research Park, Norwich NR4 7TJ, United Kingdom. f.motoki@uea.ac.uk. ORCID 0000-0001-7464-3330. Work number: +44 1603 456161. Mobile number: +44 7838 647237.

Emerson Wagner Mainardes

Corresponding author. Turku School of Economics, University of Turku, Pori Unit, Finland. emersonwm@yahoo.com. ORCID 0000-0003-2525-275X.

José Tejeda

FUCAPE Business School. Av. Fernando Ferrari, 1358 - Boa Vista, Vitória - ES, 29075-505, Brazil. jtejedaalmonte@gmail.com.

Declarations

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Conflict of interests

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Abstract

The aim of this study was to clarify how entrepreneurship is affected at the individual level by corruption. To this end, we investigated how major corruption scandals impact entrepreneurs in developed and emerging economies. After observing what the literature says, we developed quantitative research with secondary data. We use individual-level data from the Global Entrepreneurship Monitor to study how entrepreneurs react to major corruption scandals in a developed and an emerging economy. Results indicate that for the developed economy, major corruption events have virtually no direct effect on entrepreneurs' decisions, and relations between entrepreneurs' perceptions and characteristics and entrepreneurial variables are stable. However, in the emerging economy, it has a severe negative direct impact on future intentions. It can change the relationship between several entrepreneurs' perceptions and characteristics and entrepreneurial variables, further impairing future intentions. The volatility we document in the weaker institutional environment is a novel result that may help conciliate conflicting results in the literature and expands the literature on moderating factors in entrepreneurship.

Keywords: entrepreneurship, corruption, developed economies, emerging economies

1 Introduction

Corruption can have important implications for business and economic growth (Acemoglu et al., 2005; Cieślik & Goczek, 2018). Notably, it can severely affect entrepreneurs because they (a) have no established lobbies nor are part of a governing elite, (b) are often credit-constrained, with human capital being poor collateral, so they cannot pay bribes and are deterred from entering the market, (c) have long-term projects involving slow accumulation of capital, being easy targets for future expropriations, and (d) have risky projects, if they succeed the entrepreneur is expropriated, if they fail the entrepreneur bears the cost (Murphy et al., 1993). However, entrepreneurs also constitute a significant factor in economic development and growth (Bjørnskov & Foss, 2016; Fuentelsaz et al., 2018; Nguyen et al., 2022; Urbano et al., 2019). Therefore, our goal is to shed light on how entrepreneurship is affected at the individual level by investigating how major corruption scandals impact entrepreneurs in developed and emerging economies.

Political scandals are intimately related to corruption, a theme with important implications for politics, the economy, and society (Avis et al., 2018). Boef and Kellstedt (2004) argue that extraordinary political events, such as political scandals involving corruption, are capable of affecting consumer confidence. Lowered consumer confidence leads to lower prospects for the economy. Entrepreneurs may suffer from an indirect effect of grimmer economic prospects or a direct effect of diminished confidence. However, since entrepreneurs' risk tolerance may differ from the general population (Kerr et al., 2018), it is unclear whether corruption should impact entrepreneurs' decisions or how it affects them, ultimately becoming an empirical question. As Karmann et al. (2016) document, entrepreneurial orientation can even increase organizational corruption. Furthermore, the lack of institutional development, poorly developed markets, and political instability, characteristic of emerging markets (Payne et al., 2013), may affect elements such as entrepreneurs' perception of opportunities (Bruton et al., 2009) and the decision to start a business (Wang, 2010). Hence, entrepreneurs operating under different levels of development behave differently, threatening the external validity of studies conducted in developed economies (Fuentelsaz et al., 2018; Hoskisson et al., 2013).

These perspectives are in line with the principles of New Institutional Economics (NIE) (Richter, 2005). According to this approach, institutions contribute strongly to economic performance and entrepreneurship. This is mainly because strong institutions reduce transaction costs and entrepreneurial risks, benefiting national economies (Ince, 2024). Highly efficient markets are the result of institutions that provide, at low cost, the means and measures for contract enforcement. And institutions are responsible for the economic performance of societies and their evolution (Hodgson, 2014).

In practice, the present study may help to conciliate the conflicting evidence on the relationship between entrepreneurship and corruption. One strand of the literature argues that corruption hampers entrepreneurship by decreasing entrepreneurial intention, activity, and innovation (Belitski et al., 2016; Costa & Mainardes, 2016), draining the entrepreneurs' emotional energy (Doern & Goss, 2014), or leading to non-productive forms of entrepreneurship (Avnimelech et al., 2014). Another strand indicates that corruption may have a "grease the wheels" effect, reducing the impact of excess regulation (Dreher & Gassebner, 2013). The effect seems to be conditional on the quality of the country's institutions: the likelihood of entrepreneurs engaging in bribery increases with inefficient institutions (Tonoyan et al., 2010), even if corruption overall curbs entrepreneurship (Dutta & Sobel, 2016).

Our study uses individual-level entrepreneur data and a change in the perception of corruption in countries with different levels of institutional strength. Therefore, the design attempts to sort out the mechanisms at the micro level that might lead to lower or higher economic development, conditional on the institutional environment. The approach is to use two countries with differing institutional development levels which suffered the disclosure of a major corruption scandal in the same year. The disclosure of a major national scandal acts as a shift in the perception of corruption. Therefore, we require that both a developed (strong institutions) and an emerging economy (weak institutions) experience the disclosure of a scandal in the same year so that we have two distinct cases with the same pre- and post-disclosure periods. Our study includes the US (developed) and Brazil (emerging), which disclosed scandals in 2005, with developed countries classified as the least corrupt acting as controls. We measure how entrepreneurs react to the disclosure using Global Entrepreneurship Monitor (GEM) individual-level responses. Besides a direct effect of uncovering the scandal, we also measure whether the relation between entrepreneurs' perceptions and characteristics and entrepreneurial variables changes after the disclosure.

Overall, the evidence suggests that for the US, a developed economy, major corruption events have little direct effect on entrepreneurs' decisions, and relations between entrepreneurs' perceptions and characteristics and entrepreneurial variables are mostly stable. However, results strongly suggest that in Brazil, an emerging economy, a major corruption scandal negatively impacts future intentions and can change the relation between several entrepreneurs' perceptions and characteristics and entrepreneurial variables, further impairing future intentions. These results uncover a potential channel linking corruption to economic growth, showing that corruption can disturb future entrepreneurs' plans under weak institutions.

The present study addresses some shortcomings documented in the institutions & entrepreneurship literature (Bjørnskov & Foss, 2016; Urbano et al., 2019). Following the precepts of the NIE (Richter, 2005), we shed some light on the little-understood transmission mechanisms from institutions, to entrepreneurs, to economic growth, by considering the institutional setting and linking macro-level institutions to entrepreneur-level responses. We mitigate omitted variable bias with a design based on country and year fixed effects and time-trends, besides adding macroeconomic variables that potentially affect entrepreneurs.

The volatility we document in the weaker institutional environment is a novel result, to the best of our knowledge, and may help conciliate conflicting results in the literature on corruption and entrepreneurship and expands the literature on moderating factors in entrepreneurship (Edelman & Yli–Renko, 2010; Fuentelsaz et al., 2018; Gao et al., 2022; Munir et al., 2019; Shahab et al., 2019). The fragility in the weaker institutional environment may have important practical implications for policy. In such environments, actions that foster entrepreneurship may not achieve the desired results under certain conditions. Furthermore, even if policies incentivize entrepreneurship, their results may be easily and rapidly undone by a shift in the perception of the quality of institutions. We believe we open up an avenue to investigate policies resilient to such shifts, based on the NIE.

2 Corruption and Entrepreneurship

Bad policy-making can impose barriers to entry and limits to competition (Bjørnskov & Foss, 2016; Tonoyan et al., 2010), raise compliance costs with excess regulation (Dreher & Gassebner, 2013), lead to inefficient rules (Dutta & Sobel, 2016), and induce wrong incentives (Anokhin & Schulze, 2009). Along with other weak institutions, these bad policies may incentivize corruption, affecting entrepreneurship. This is bad because entrepreneurial activities generate more jobs and opportunities (Komninos et al., 2024). These results depend on controlling corruption (Oueghlissi, & Derbali, 2024), which can be achieved through policies to combat corrupt activities, increasing foreign investment in countries that have fought and controlled corruption (Yahyaoui, 2024). Such investments favor entrepreneurship, leading to economic growth of nations (Chowdhury et al., 2024).

Corruption might prevent entry and discourage innovation, hampering useful investment and growth (Jungo et al., 2023; Shleifer & Vishny, 1993). Boef and Kellstedt (2004) argue that extraordinary political events, such as political scandals involving corruption, are capable of affecting consumer confidence. Lowered consumer confidence leads to lower prospects for the economy. Entrepreneurs may suffer from an indirect effect of grimmer economic prospects, or a direct effect of diminished confidence. However, it is not clear if entrepreneurs would react the

same way as consumers. For instance, Karmann et al. (2016) document evidence that entrepreneurial orientation may lead to risk orientation, increasing organizational corruption. Along these lines, Kerr et al. (2018) state that entrepreneurs possess risk attitudes that differ from the general population. In sum, how entrepreneurs react to corruption is an open empirical question.

Corruption can hinder economic development, especially in emerging countries (Kesar et al., 2024). If corruption is controlled, it can bring benefits, including stimulating entrepreneurship (Munyo & Veiga, 2024). On the other hand, Costa and Mainardes (2016) indicate that the increase of one standard deviation in the perceived level of corruption is related to a decrease of 1 percentage point in the likelihood of entrepreneurial intention. In turn, Doern and Goss (2014) find that corruption drains entrepreneurs' emotional energy and inhibits their businesses' development. Sharabi et al. (2014) and Collins et al. (2016) find that corruption is linked to lower levels of productive entrepreneurship, with the effect more pronounced in non-developed countries. Belitski et al. (2016) find that corruption directly discourages entry, while Anokhin and Schulze (2009) report that better control of corruption is related to more entrepreneurial activity and more innovation. In line with this strand of the literature, Bologna and Ross (2015) document that corruption reduces the number of formal business establishments in Brazil.

Counterintuitively, Dreher and Gassebner (2013) find that corruption actually reduces the negative impact of excess regulation on entrepreneurs (the so-called 'grease the wheels' effect), a similar result from Bologna and Ross (2015) for places with very poor institutional quality. Tonoyan et al. (2010) find that entrepreneurs' likelihood of bribery increases with inefficient financial and legal institutions, lack of enforcement, and society's tolerance of corruption. Dutta and Sobel (2016) adopt the same premise that corruption may compensate for poor institutions. However, their results differ. Overall, corruption curbs entrepreneurship, but the effect seems smaller when institutions are worse, partially corroborating Dreher and Gassebner (2013). Li et al. (2022) model the interplay between corruption, crony capitalism and state agents (local and provincial officials) in China. Their model indicates that a certain level of corruption is desirable since it leads to more economic growth. However, too much corruption could lead to loss of control by the Party Center, thus explaining the occasional anti-corruption initiatives. This model from Li et al. (2022) also points to some "grease the wheels" effect, with the maximum level of corruption kept in check by the Party. Ufere et al. (2012) upend the common view that entrepreneurs are passive sufferers of corruption, reporting that in Nigeria entrepreneurs themselves initiate corrupt acts through a well-embedded set of social norms, rules, routines, and power relations.

Overall, the evidence shows that the relationship between corruption and entrepreneurship is not trivial, with theoretical arguments and empirical evidence for both positive and negative

associations. Therefore, we do not make any directional hypotheses but posit that the two are related. Accordingly, *we test if a shift in entrepreneurs' perception of corruption, provoked by disclosing a major corruption event, leads to a shift in the relationship between entrepreneurial variables related to starting a business and entrepreneurial intention (H1).*

2.1 Corruption and entrepreneurs' perceptions

Extant literature indicates a direct relation between skill, value perceptions, personality traits, and entrepreneurial intention (e.g., Behling & Lenzi, 2019; Liñán, 2008). However, the evidence also suggests that these relations can be moderated by several factors (Edelman & Yli–Renko, 2010; Munir et al., 2019; Shahab et al., 2019) and that relations may fluctuate over time due to major events, like crises (Santos et al., 2017). For instance, Edelman and Yli–Renko (2010) suggest that environmental dynamism indirectly affects entrepreneurs' actions. Environmental dynamism is defined as 'the level of uncertainty and change in the environment' (Edelman & Yli–Renko, 2010), and one determinant of such dynamism is corruption (Guerrero et al., 2020). When comparing developed and developing countries, the literature shows that developing countries suffer more from corruption (Kesar et al., 2024; Oueghlissi, & Derbali, 2024). This has varied repercussions, inhibiting investment and innovation, as well as entrepreneurship (Yahyaoui, 2024). Developed countries have more policies and rules that inhibit corruption, having a more stable institutional environment (Khan et al., 2023), because, according to the NIE (Hodgson, 2014), institutions support economic and entrepreneurial development.

Furthermore, such external circumstances, or External Enablers, according to Davidsson (2015), are contingent on factors such as geographical area, event time, and the actor's characteristics. Depending on the entrepreneur's context, these external enablers may favor or hinder venture development attempts (Cenci et al., 2022; Li et al., 2023; Zhong, Yu, & Zaidi, 2023). Finally, Fuentelsaz et al. (2018) document that economic freedom, a factor related to the quality of institutions, moderates the relation between individual characteristics of entrepreneurs and their propensity to innovate.

Therefore, we hypothesize that *a shift in entrepreneurs' perception of corruption, provoked by disclosing a major corruption event, changes the relationship between entrepreneurs' perceptions and characteristics with variables related to starting a business and entrepreneurial intention (H2).*

3 Context, Methods, and Data

3.1 Research Context

We study how corruption may affect entrepreneurs in a developed (DE) and an emerging economy (EE). DEs are the UN's Developed Economies (United Nations, 2018, pp. 139–147). However, the UN states that the term' emerging economy' is 'not a formal definition but mainly refers to middle-income developing and transition countries that are integrated into the global financial system.' (United Nations, 2018, p. 139). Therefore, we define EEs as UN's Transition Economies or Developing Economies, also classified as upper middle or lower middle income countries (United Nations, 2018, p. 144). The level of development proxies for the quality of the country's institutions, with DEs possessing strong institutions and EEs, having weak institutions (Acemoglu et al., 2001).

Corruption is difficult to identify and prevent, making it a theme of interest for academia and regulators (Avis et al., 2018). A consequence of this difficulty in identifying corruption is the difficulty in measuring it. As Heywood and Rose (2014) state, 'we still have a relatively weak understanding of how best to measure corruption'. Therefore, we use the disclosure of a national-level scandal involving officials as a shift to the perceived level of corruption.

Scandals affect not only the average citizen but may also impact entrepreneurs. For entrepreneurs, identifying opportunities and threats is fundamental to business success (Mary George et al., 2016). Valliere (2013) posits that entrepreneurial alertness allows the entrepreneur 'to impute meaning to environmental change that would not be imputed by other managers.' Therefore, scandals could have a more significant effect on entrepreneurs than on the average individual. However, entrepreneurs also have a level of risk aversion that differs from the general population (Kerr et al., 2018), and it could mitigate the effect of scandals on entrepreneurs. Therefore, it is an empirical question if and how events that increase the perception of corruption affect entrepreneurs.

We used Google Search, which holds more than 90 percent of the search market share worldwide (StatCounter, 2018), to identify scandals that matched one well-known, relatively recent scandal in a DE, the *Mensalão* (Big Monthly Allowance), which was disclosed in 2005 in Brazil. We used the terms 'political scandal' and 'corruption scandal' to catalog events by country and year. The first criterion for selecting a matching scandal is the involvement of national public officials, such as presidents, prime ministers, legislators, and judges (Oxford, 2013). The second criterion is that it must be a major event, with wording on the media such as 'one of the {biggest, largest, broadest}', or have severe consequences after its disclosure, such as the resignation or imprisonment of the accused. The third criterion is that the event must have been disclosed in 2005 and that the

candidate country, which must be a developed economy, did not have other major scandals right before or after 2005. We do not claim our search is exhaustive. Instead, for our strategy, we only need two countries with different levels of development with a major corruption scandal in the same year. After we find a candidate pair, we check the pre- and post-periods for other major events that could affect our strategy. We find one matching developed country with these criteria, which we detail next.

Our point of departure is the Brazilian *Mensalão* (Big Monthly Allowance) scandal, in which the executive branch used public funds to buy political support for the Lula government and to pay off debts from election campaigns. It was classified as one of the country's biggest scandals in recent history (Michener & Pereira, 2016). The Brazilian Supreme Court convicted 25 people, including three legislators, Lula's former Chief of Staff, and the Workers Party's former head and its treasurer (BBC News, 2012). The matching country is the US, in which the Abramoff scandal was disclosed in the same year of the *Mensalão*, 2005. It involved accusations of illegal lobbying, including bribery of public officials, and obstruction of justice during the investigation (CBS News, 2011). Convictions include Abramoff himself and some of his aides and business partners, the Chief Procurement Officer, the Deputy Interior Secretary, several other Bush administration officials, a Representative, and congressional staffers (CBS News, 2011). The case's scale was classified as 'disturbingly broad' and 'shocking' by former congressman and Princeton professor Mickey Edwards (Schmidt & Grimaldi, 2005), pushing proposals to reform the lobbying rules (Milita & Bunch, 2017).

3.2 Econometric Model

We combine GEM microdata with macroeconomic data to form an individual-level repeated cross-sections dataset as Equation (1) specifies. Our design revolves around two different countries that experience the disclosure of the scandal in the same year. Besides the two DE/EE countries affected by scandals, we add countries from the Top 10 Countries in the Transparency International Corruption Perception Index in the year of the scandal as controls.

$$
\begin{aligned}
Entrep_{i,t} = \ & \beta_0 + \beta_1 ScandalDE_i \cdot Post_t + \ \beta_2 ScandalEE_i \cdot Post_t \\
& + \sum_j \gamma_{DE\,j} \cdot ScandalDE_{i,t} \cdot Post_t \cdot Indiv_{i,t,j} \\
& + \sum_j \gamma_{EE\,j} \cdot ScandalEE_{i,t} \cdot Post_t \cdot Indiv_{i,t,j} + \sum_j \gamma_j \cdot Indiv_{i,t,j} \\
& + \sum_j \sum_c \gamma_{c\,j} \cdot Indiv_{i,t,j} \cdot d_c + \sum_l \psi_l \cdot Demog_{i,t,l} \\
& + \sum_k \delta_k \cdot MacroControl_{c,t,k} + \kappa_c + \iota_t + \ \lambda_c \cdot t + \epsilon_{i,t}
\end{aligned}
\tag{1}
$$

$Entrep_{i,t}$ is the individual's i yes (1) or no (0) answer to entrepreneurship-related perceptions and intentions surveyed by GEM in year t. An individual i can come from a scandal DE – the US ($ScandalDE_i = 1, ScandalEE_i = 0$), a scandal EE – Brazil ($ScandalDE_i = 0, ScandalEE_i = 1$), or a control ($ScandalDE_i = ScandalEE_i = 0$). The individual i can also have answered GEM before the scandal ($Post_t = 0$) or after the scandal ($Post_t = 1$). Observations of the year of the scandal (2005) are dropped. Each entrepreneur i has j individual-level perceptions and characteristics $Indiv_{i,t,j}$And the relations are allowed to vary by country, with the interactions $Indiv_{i,t,j} \cdot d_c$, in which d_c are dummy variables indicating country c. Additionally, there are l individual-level demographic controls $Demog_{i,t,l}$ and k macroeconomic-level controls $MacroControl_{c,t,k}$. The model uses a double fixed-effects specification, with country fixed effects κ_c for each country c, year fixed effects ι_t for each year t, a country-specific linear time trend $\lambda_c \cdot t$, and different base levels for each country between individual entrepreneur characteristics and the dependent variables through the country dummy interactions $Indiv_{i,t,j} \cdot d_c$. These country and year fixed effects control for time-invariant country-level characteristics, such as culture or legal system, events that affect all entrepreneurs across all countries in a given year, and country-specific trends and base levels, reducing concerns of estimator bias.

Coefficients β_1 and β_2 test the first hypothesis, that a shift in the perception of corruption directly affects entrepreneurial variables related to starting a business and entrepreneurial intention, whereas $\gamma_{DE\,j}$ and $\gamma_{EE\,j}$ test the second hypothesis, that a shift in the perception of corruption changes the relation between entrepreneurs' perceptions and characteristics with entrepreneurial variables related to starting a business and entrepreneurial intention. This setup allows a comparative study with independent coefficients for developed and emerging countries since the effects can differ between countries.

3.3 Data

The main data comes from GEM's Adult Population Survey (APS) (GEM, 2017), which was the most recent data we were able to access. We use microdata at the individual level of all respondents classified as TEA (Total Early-Stage Entrepreneurial Activity) by GEM. Macroeconomic control variables come from the World Bank (unemployment rate, GDP growth, and population growth) and the Fraser Institute (Economic Freedom Index). Variables definitions are in Table 1.

<Table 1 about here>

As control countries, we use the ones listed as the Top 10 Countries in Transparency International's Corruption Perceptions Index (CPI), a composite indicator used to measure perceptions of corruption in the public sector (Transparency International, 2018), in the year of the scandal, 2005. Such indices have been criticized for not reflecting actual corruption (Heywood & Rose, 2014). However, we are concerned with how entrepreneurs perceive corruption. Therefore, a perception index is adequate and does not pose a significant issue. After crossing CPI's classification with data availability from GEM, we obtain Denmark, Sweden, Norway, Iceland, and Finland as controls for the scandal. These top-ranked countries have very stable corruption indices and virtually no corruption scandal, making them reasonable controls[1].

To mitigate concerns about relying solely on CPI's classification, we cross-check the ranking using the Control of Corruption (CC) dimension of the World Governance Indicators (WGI) calculated by the World Bank. Like the CPI, WGI-CC captures 'perceptions of the extent to which public power is exercised for private gain' (Kaufmann et al., 2010, p. 4). Using WGI-CC, the Netherlands (11th in CPI, 9th in WGI-CC) would be included, and Austria would be excluded (10th in CPI, 11th in WGI-CC). However, Austria only has GEM data for 2007 and was not included, while the Netherlands has the entire period 2002-2004 and 2006-2008. We run a robustness test including the Netherlands, with qualitatively similar results.

4 Results and Discussion

4.1 Descriptive Statistics

Panels A and B from

[1] We found events involving national public officials in Iceland in 2006 and Finland in 2007. In Iceland the Minister of Fisheries, Einar K. Guðfinnsson, failed to pay the license to hunt puffins, for which he was fined (Visir, 2006). In Finland it was the election of Timo Kalli, chairman of the Centre party, who failed to declare who made donations to his campaign, although there is no sanction for such fault and there was no evidence of corruption (Ibison, 2008).

Table 2 show the descriptive statistics for the Brazilian and US scandals. We use three years pre and post the event, with the year of the scandal, 2005, out of the sample. Panel A is the original sample, with the top 10 countries in the Transparency International ranking included as control countries. After data requirements, controls in Panel A are Denmark, Sweden, Norway, Iceland, and Finland. Panel B is a robustness sample with the top 10 countries in the World Governance Index – Control of Corruption dimension, which adds the Netherlands to the sample as a control.

<

Table 2 about here>

Table 3 shows the correlation matrices for the datasets. There are no apparent collinearity problems between variables that might influence the estimates' variance nor prevent the estimation.

<Table 3 about here>

4.2 Effects of Corruption on Entrepreneurship

It can be problematic to interpret interaction coefficients from non-linear Logit or Probit estimators used for dichotomic dependent variables. As Ai and Norton (2003, p. 200) explain, the sign of the interaction terms may differ for different observations, and the statistical significance cannot be determined from the standard Z statistic, besides problems in calculating marginal effects. However, since we test our hypotheses through interactions, it is crucial to interpret their coefficients correctly. According to Wooldridge (2010, Chapter 15) and Jiménez et al. (2012), linear probability models (LPMs) estimated by OLS yield directly interpretable average marginal effects and produce consistent estimators of the coefficients. Additionally, the heteroskedasticity problem is easily handled by robust standard errors. Given these advantages, we estimate LPMs in Table 4 and present a robustness test using Logit in the Appendix (Table A.1). Both estimates are qualitatively similar.

Models (1) - (3) in Table 4 show results using the sample with control countries based on Transparency International's index., while models (4) – (6) show results from the robustness sample built using the Corruption Control dimension of the World Governance Indicators. Both samples yield similar results.

<Table 4 about here >

Coefficients from Post scandal US and Post scandal BR tell us whether a corruption scandal directly impacts entrepreneurship variables (H1). Relative to the control group, American entrepreneurs show no sign of being affected after disclosing the corruption scandal. This evidence matches entrepreneurs believing that uncovering a scandal indicates functional institutions at play: oversight of illegal activities exists, the justice system works, the involved will be held accountable, and institutions will be improved and strengthened if needed (Bruton et al., 2013). It indicates that the disclosure of a scandal in a DE does not prevent entrepreneurs from starting a business nor modify their plans.

In the Brazilian case, no immediate effect exists since the coefficients indicate no difference in starting a business or start-up efforts. However, there is an economically important negative effect on entrepreneurs' future intentions. It may signal distrust in institutions, with entrepreneurs

viewing the event as negative for prospects (Bruton et al., 2010). It is compatible with them believing the uncovering is not the result of monitoring but chance, with a low probability of the event leading to better institutions, since in a developing economy, people may be more condescending about corruption (Andriani & Ashyrov, 2022). This finding reinforces the importance of building a set of fair and stable conditions to foster entrepreneurship, which leads to economic development and growth (Bjørnskov & Foss, 2016; Bruton et al., 2010; Urbano et al., 2019). This result also strengthens previous findings on the negative relationship between corruption and intention or entry (Anokhin & Schulze, 2009; Belitski et al., 2016; Bologna & Ross, 2015; Costa & Mainardes, 2016). However, our result brings a new perspective by suggesting that corruption leads to a decline in the future intention of opening new businesses and that the effect is contingent on the quality of institutions.

Overall, the evidence suggests that for the US, a developed economy with strong institutions, major corruption events have little effect on entrepreneurs' decisions, thus not supporting our first hypothesis. However, results strongly suggest that in Brazil, an emerging economy with weaker institutions, a major corruption scandal can severely impair future intentions, with potentially serious implications for economic growth. Therefore, H1 is supported in a weaker institutional context, corroborating the importance of taking into account these different settings when studying entrepreneurship (Bjørnskov & Foss, 2016; Fuentelsaz et al., 2018; Urbano et al., 2019), whereas, according to the NIE, the institutional environment directly impacts economic development and entrepreneurship (Ince, 2024).

4.2.1 Testing changes in relations.

Coefficients under the section "Slope change – entrepreneurs' perceptions and characteristics" indicate whether the relation of these variables with the dependent variable changes after the corruption scandal (H2). For Americans, the relations are mostly stable. The exception is Social equality, which gains importance as a determinant of starting a business, although it is only marginally significant ($p<0.1$). These results reinforce the view that, in a DE, the disclosure of a scandal indicates functioning institutions and that appropriate measures will be taken (Bruton et al., 2013).

The Brazilian case presents more variation than the US. Although there is little change in the relations with current decisions, future intentions to open a business generally suffer from corruption. The negative effect of risk intolerance on the future intention of starting a business is amplified. This is compatible with corruption affecting entrepreneurs' confidence, thus lowering their future intentions to start a business through a stronger negative relation with risk intolerance

(Boef & Kellstedt, 2004). It also supports Cacciotti et al. (2020), who argue that 'fear of failure in entrepreneurship is not stable over time and that it may also differentially affect (…) perceived behavioral tendencies'. Therefore, although entrepreneurs possess a risk profile that differs from the general population (Costa & Mainardes, 2016; Dreher & Gassebner, 2013; Goss & Sadler-Smith, 2018; Kerr et al., 2018), a major corruption event seems capable of affecting how they judge the link between risk and a future enterprise.

Having previous experience and skills loses power as a determinant of future intention, having about the same magnitude of the level variable (0.06) and thus canceling the positive effect of experience. This perception is linked to entrepreneurial self-efficacy (ESE), which Cassar and Friedman (2009) define as the person's 'belief that s/he can perform tasks and fulfill roles, and is directly related to expectations, goals, and motivation.' The literature documents a positive relation between ESE and small business growth (Baum & Locke, 2004), so corruption has the potential to hinder growth by undermining the benefits of experience. Furthermore, Gielnik et al. (2017) sustain that ESE is a critical element in maintaining entrepreneurs' passion, which in turn leads to business creation in the long run. Thus, corruption may have shorter-term and longer-term negative effects on economic growth, because, according to the NIE, weak institutions, subject to corruption, can increase risks and transaction costs (Hodgson, 2014).

Knowing an entrepreneur suffers a similar fate as a determinant of start-up effort, although the positive effect of the level variable (about 0.06) is only cut by half (about 0.03). The effect of knowing an entrepreneur is closely related to peer effects, which the literature documents as an important determinant of entrepreneurship. Wyrwich et al. (2019) argue that proximity increases peer effects, so personally knowing an entrepreneur is a potentially strong driver of entrepreneurship. For instance, Minniti (2005) shows that individuals are influenced by other people's choices, especially under uncertainty, and therefore existing entrepreneurs can foster more entrepreneurship through network externalities. Our results suggest that corruption in EEs can seriously impair the positive effects of this externality.

Interestingly, good media starts having a negative effect on Future. One possible explanation is related to Hindle e Klyver (2007), who find that mass media can only reinforce the audience's existing values, not shape them. Moreover, crony capitalism is widespread in Brazil (Lazzarini, 2011), with a thin line between political connectedness and corruption (Domadenik et al., 2016), with evidence that such connectedness pays off in institutionally weak settings like the Brazilian one (Brockman et al., 2013). Therefore, entrepreneurs might be discouraged by inferring that these advertised successful cases may have less to do with merit and more with luck, like being born into a rich and influential family (Li et al., 2022).

All in all, there is support for our second hypothesis. The evidence for the US, a developed economy, is weaker, as most relations are stable. However, the evidence for Brazil, an emerging economy, strongly suggests that a major corruption event can change the relationship between several entrepreneurs' perceptions and characteristics and entrepreneurial variables. Again, the results reinforce the importance of taking institutional context into account when researching entrepreneurship (Bjørnskov & Foss, 2016; Fuentelsaz et al., 2018; Urbano et al., 2019). It also extends previous results, shedding light on the mechanisms that might end up preventing entry (Bologna & Ross, 2015).

Individual level variables present the expected coefficients' signs. The macroeconomic variables do not present a clear pattern. However, it is possible that much of their effect is being absorbed by the year fixed effect and country-specific trends included.

Taken in conjunction, our tests of H1 and H2 yield a clear pattern. Major corruption events lead to little or no effect on entrepreneurship in a developed economy. In DEs, institutions are strong, promoting a more level playing field. Our results suggest that this strong institutional foundation is enough to avert most of the potential negative effects of a perception of increased corruption. However, in an emerging economy, the results suggest an economically important effect of corruption on entrepreneurs. In this case, the weak institutional foundation is not enough to prevent a change of mind of entrepreneurs, especially regarding the future, consistent with entrepreneurs perceiving worse institutional quality. Effects are almost all negative, canceling out or heavily diminishing the effect of aspects that usually foster entrepreneurship, such as risk tolerance, previous knowledge, and knowing another entrepreneur. Thus, in an institutionally weak setting, policy efforts to develop such aspects can go down the drain instantly, wasting precious time and resources. These results also uncover a potential channel linking corruption to economic growth, showing that corruption can disturb future entrepreneurs' plans under weak institutions, in line with the NIE premises (Richter, 2005).

Our study highlights the importance of swift action and clear and credible communication when a major corruption scandal is unveiled, especially in emerging economies. Authorities must take steps to credibly ensure appropriate measures are being taken to curb future cases and properly communicate these actions. In this way, there is a long-term effect, which is the improvement of institutions, paired with a short-term effect, which is the mitigation of the negative effects of the current scandal. Therefore, the increase in the perception of corruption by entrepreneurs may be moderated by positive actions, dampening negative effects on economic development.

5 Conclusions and Implications

The present study addresses some shortcomings documented in the institutions & entrepreneurship literature. Bjørnskov and Foss (2016) and Urbano et al. (2019) highlight the importance of considering the institutional context, especially following the precepts of the NIE (Hodgson, 2014). Both studies argue that it is a relevant, albeit mostly ignored, feature that can have important implications for how entrepreneurs act and react. Our comparative results from a developed and an emerging economy suggest that, in line with what was proposed by the NIE (Richter, 2005), the institutional setting is an important factor when studying the entrepreneurial phenomenon since the effects are contingent on the level of economic development and, thus, on the strength of institutions. We also shed some light on the little-understood transmission mechanisms from institutions, to entrepreneurs, to economic growth, by linking macro-level institutions to entrepreneur-level responses (Bjørnskov & Foss, 2016).

Our study also addresses methodological concerns of the existing entrepreneurship and institutional theory literature. One concern is omitted variable bias since there still is no consensus on what would be a minimal empirical specification besides the omission of known variables that may affect the decisions and intentions of entrepreneurs (Bjørnskov & Foss, 2016). The lack of consensus led us to adopt a design based on country and year fixed effects, per-country base levels, and time trends. Thus, even if the variables are unknown, but possess these characteristics of time-invariance, affect all countries at the same time, or possess a linear time trend, their effects are considered. Additionally, we add macroeconomic-level variables potentially affecting entrepreneurs, mitigating bias issues. Finally, we indirectly address two issues Bruton et al. (2010) highlighted: the reliance on a single perspective of institutional theory and the reliance on the examination of culture.

Our results show that institutions matter for entrepreneurs and that, although institutions are slow-moving factors, the perception of institutional quality can change rapidly. This volatility is contingent on the baseline strength of institutions, with weaker institutions linked to a more unstable relationship between several entrepreneurs' perceptions and characteristics, and entrepreneurial variables, as highlighted by NIE (Ince, 2024). This finding parallels Acemoglu et al. (2003), who find that weaker institutions cause more macroeconomic volatility. To the best of our knowledge, this is a novel result that may help conciliate conflicting results in the literature on corruption and entrepreneurship (Anokhin & Schulze, 2009; Avnimelech et al., 2014; Belitski et al., 2016; Collins et al., 2016; Costa & Mainardes, 2016; Dheer, 2017; Doern & Goss, 2014; Dreher & Gassebner, 2013; Dutta & Sobel, 2016; Li et al., 2022; Liu et al., 2020; Ufere et al., 2012; Vorley &

Williams, 2016). It may also contribute to the literature on moderating factors in entrepreneurship (Edelman & Yli–Renko, 2010; Fuentelsaz et al., 2018; Munir et al., 2019; Shahab et al., 2019).

This fragility we document in the weaker institutional environment may have important practical implications for policy. In such environments, actions aimed at fostering entrepreneurship may not achieve the desired results under certain conditions, helping in understanding the reasons for failure. Furthermore, even if policies end up incentivizing entrepreneurship, their results may be easily and rapidly undone by a shift in the perception of the quality of institutions. Although we do not have an answer to mitigate this fragility, we suggest that credible communication may be a way. We believe we open up an avenue to investigate policies resilient to such shifts.

Despite our efforts in conducting careful analyses, care should be exercised when generalizing these results. The requirements for a corruption scandal disclosure in the same year restrict our candidates and, consequently, limit our study's external validity. We also focus on the shorter-term effects of the shift and leave it to future research to investigate whether the effects are lasting or subside after some time. We also leave it to future investigation whether these entrepreneur-level decisions have detectable effects at the macro level, such as economic growth or rate of innovation.

Another limitation of our study was the non-inclusion of specific institutional mechanisms, such as property rights, legal enforcement, and governance structures, as mediators of the relationship between corruption and entrepreneurship. The lack of sufficient data to test these mediators limits the findings of our study. Acemoglu and Robinson's theory of inclusive versus extractive institutions (Acemoglu & Robinson, 2019) indicates that these three aspects demonstrate the competence and quality of institutions. Competent and high-quality institutions reduce systemic corruption and may also have an impact on entrepreneurship. Studies (Aidt, 2009; Meramveliotakis, 2021, 2023; Thompson, 2018) discuss these relevant aspects, and it is important to include such mechanisms as mediators in the tested relationships, which is a suggestion for future studies to expand and deepen our findings, advancing knowledge on the relationship between corruption and entrepreneurship, an important topic for global society, especially in emerging countries, more subject to corruption and with developing entrepreneurial ecosystems (Kesar et al., 2024).

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Tables

Table 1: Full variable definitions

Variable name	Source	Definition
Dependent variables		
Starting	GEM	Indicates if individuals are starting a business, 0 for 'No' and 1 for 'Yes' ('bstart', question Q1A1)
Start-up effort	GEM	Indicates if individuals are nascent entrepreneurs (actively involved in creating a business, have some kind of ownership, have no wages yet), 0 for 'No' and 1 for 'Yes' ('suboanw', several questions).
Future	GEM	Indicates if individuals have an intention of starting a business within the next three years, 0 for 'No' and 1 for 'Yes' ('futsup', question Q3A)
Individual-level variables		
Opport. 6mo	GEM	Indicates if the individual perceives business opportunities within the next 6 months on the region he lives, 0 for 'No' and 1 for 'Yes' ('opport', question Qi2)
Risk-intolerant	GEM	Indicates if the individual fears starting a new business, 0 for 'No' and 1 for 'Yes' ('fearfail', question Qi4)
Prev exper./skills	GEM	Indicates if the individual has the competences needed to start a new business, 0 for 'No' and 1 for 'Yes' ('suskill', question Qi3)
Discontinued business	GEM	Indicates if the individual has recently discontinued a business, 0 for 'No' and 1 for 'Yes' ('discent', question Qi3)
Knows entrepreneur	GEM	Indicates if the individual knows an entrepreneur, 0 for 'No' and 1 for 'Yes' ('knowent', question Qi1)
Social equality	GEM	Indicates if the entrepreneur thinks that in his/her country most people would prefer that everyone had a similar standard of living, 0 for 'No' and 1 for 'Yes' ('equalinc', question Qi5)
Entrep. desirable	GEM	Indicates if the entrepreneur thinks that in his/her country most people consider starting a new business a desirable career choice, 0 for 'No' and 1 for 'Yes' ('nbgoodc', question Qi6)
High social status	GEM	Indicates if the entrepreneur thinks that in his/her country those successful at starting a new business have a high level of status and respect, 0 for 'No' and 1 for 'Yes' ('nbstatus', question Qi7)
Entrep. good media	GEM	Indicates if the entrepreneur thinks that in his/her country s/he will often see stories in the public media about successful new businesses, 0 for 'No' and 1 for 'Yes' ('nbmedia', question Qi8)
Female	GEM	0 for male and 1 for female ('gender'). The literature indicates that entrepreneurship is more common among men (Kerr et al., 2018).
Age (years)	GEM	Age of the respondent in years ('age'). Kerr et al. (2018) report that older people have lower business initiation rates than younger people.
Job status	GEM	GEM harmonized work status ('gemwork3'; has three original values: 10 for either full-time or part-time work, 20 for not working, and 30 for retired or student), coded as two dummies. There is a consensus that employed individuals are more likely to start a business (Arenius & Minniti, 2005)
Schooling	GEM	Highest schooling level attained by the respondent ('uneduc'), coded as six dummies. The effect of only having pre-primary education is absorbed by the constant, with dummies for the other levels until masters or more advanced. Kerr et al. (2018) report conflicting evidence regarding education and entrepreneurship.
Macro-level control variables		
Var. in unemp. rate	World Bank	Variation in unemployment rate, calculated from the 'Unemployment, total (% of total labor force) (national estimate)' ('SL.UEM.TOTL.ZS', World Bank Open Data). It is not clear if unemployment discourages entrepreneurship by reducing potential customers or encourages entrepreneurship by providing income to unemployed workers (Blanchflower, 2004), but there is some evidence indicating that it may influence entrepreneurship (Blanchflower & Oswald, 1998)
% GDP PPP growth	World Bank	Variation of purchasing power parity gross domestic product per capita at constant 2011 international dollars, calculated from the 'GDP per capita, PPP (constant 2011 international $)' ('NY.GDP.PCAP.PP.KD', World Bank Open Data). There is some indication that economic growth can have an impact on entrepreneurial motivations (Hessels et al., 2008)

Variable name	Source	Definition
% economic freedom growth	Fraser Institute	Variation of the Economic Freedom Summary Index from the Fraser Institute. Evidence indicates that economic freedom can affect entrepreneurial preference (Freytag & Thurik, 2007) and activity (Bjørnskov & Foss, 2008)
% population growth	World Bank	Variation of population size calculated from the 'Population, total' ('SP.POP.TOTL', World Bank Open Data). Data suggest that population growth affects firm entry rates (Hopenhayn et al., 2018; Lee et al., 2004).

Table 2: Descriptive statistics

Panel A: original sample, 2002-2004 & 2006-2008									
	Mean	SD	Min	P1	P25	P50	P75	P99	Max
Starting	0.0820	0.2744	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Start-up effort	0.0543	0.2267	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Future	0.2002	0.4001	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Opportunities	0.4689	0.4990	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000
Fail	0.3317	0.4708	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000
Prev. exper./skills	0.5055	0.5000	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000
Discontinued business	0.0426	0.2019	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Knows entrepreneur	0.4994	0.5000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000
Social equality	0.6244	0.4843	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000
Entrep. desirable	0.5704	0.4950	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000
High social status	0.6610	0.4734	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000
Entrep. good media	0.5724	0.4947	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000
Female	0.4630	0.4986	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000
Age (years)	40.7069	15.0749	15.0000	18.0000	28.0000	40.0000	53.0000	70.0000	99.0000
Not working	0.1322	0.3387	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Retired/Student	0.1277	0.3337	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Some secondary	0.4343	0.4957	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000
Secondary degree	0.2425	0.4286	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Post secondary	0.1148	0.3188	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Graduate experience	0.2079	0.4058	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Variation unemp. rate	0.2047	0.7008	-1.9800	-1.4800	-0.4600	0.6400	0.6400	1.1300	2.1500
% GDP PPP growth	3.4591	1.0104	-0.1510	-0.1510	3.5720	3.9110	3.9110	5.0287	7.1549
% economic freedom growth	0.1731	1.2497	-3.2698	-2.5680	0.1328	0.1429	0.1429	5.2713	6.2413
% population growth	0.5393	0.3313	0.2387	0.2724	0.3941	0.3941	0.5641	1.5955	2.3752
Observations	47275								
Panel B: robustness sample, 2002-2004 & 2006-2008									
	Mean	SD	Min	P1	P25	P50	P75	P99	Max
Starting	0.0839	0.2773	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Start-up effort	0.0571	0.2321	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Future	0.2030	0.4023	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Opportunities	0.4698	0.4991	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000
Fail	0.3283	0.4696	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000
Prev. exper./skills	0.5134	0.4998	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000
Discontinued business	0.0432	0.2034	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Knows entrepreneur	0.5005	0.5000	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000
Social equality	0.6224	0.4848	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000
Entrep. desirable	0.5761	0.4942	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000
High social status	0.6606	0.4735	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000
Entrep. good media	0.5725	0.4947	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000
Female	0.4602	0.4984	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000
Age (years)	40.7606	15.0007	15.0000	18.0000	28.0000	40.0000	53.0000	70.0000	99.0000
Not working	0.1301	0.3365	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Retired/Student	0.1259	0.3318	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Some secondary	0.4250	0.4943	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000
Secondary degree	0.2480	0.4318	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Post secondary	0.1206	0.3257	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Graduate experience	0.2060	0.4044	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
Variation unemp. rate	0.2067	0.7030	-1.9800	-1.4800	-0.4600	0.6400	0.6400	1.1300	2.1500
% GDP PPP growth	3.4203	1.0438	-0.1881	-0.1510	3.3465	3.9110	3.9110	5.0287	7.1549
% economic freedom growth	0.1731	1.2774	-3.2698	-2.5680	0.1328	0.1429	0.1429	5.2713	6.2413
% population growth	0.5332	0.3300	0.1607	0.2339	0.3941	0.3941	0.5641	1.5955	2.3752
Observations	48450								

Notes: For both panels, 2005 is dropped because it is the year of disclosure of the corruption scandal. Panel A includes only TEA respondents from Brazil and the US (corruption scandal countries) and Denmark, Sweden, Norway, Iceland, and Finland (controls using the Transparency International ranking criterion). For Panel B, the Netherlands is added as a control (World Governance Indicators - Control of Corruption dimension ranking criterion). Mean is the arithmetic

mean, SD is the standard deviation, Min is the minimum value, PXX is percentile XX, Max is the maximum value. Starting is 1 if the entrepreneur is starting a business. See Table 1 for variable definitions.

Table 3: Correlation matrices

Panel A: original sample, 2002-2004 & 2006-2008

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
(1) Starting	1.00																							
(2) Start-up effort	0.62	1.00																						
(3) Future	0.32	0.27	1.00																					
(4) Opportunities	0.10	0.10	0.14	1.00																				
(5) Fail	-0.08	-0.07	-0.08	-0.06	1.00																			
(6) Prev. exper./skills	0.19	0.17	0.24	0.16	-0.21	1.00																		
(7) Discontinued business	0.08	0.06	0.10	0.03	-0.03	0.13	1.00																	
(8) Knows entrepreneur	0.11	0.10	0.16	0.15	-0.08	0.23	0.07	1.00																
(9) Social equality	-0.01	-0.02	0.02	-0.04	0.05	-0.05	-0.00	-0.04	1.00															
(10) Entrep. desirable	0.07	0.04	0.10	0.07	0.00	0.04	0.03	0.03	0.08	1.00														
(11) High social status	0.03	0.02	0.04	0.07	0.06	-0.03	0.00	0.01	0.07	0.25	1.00													
(12) Entrep. good media	0.07	0.05	0.09	0.06	-0.01	0.08	0.04	0.06	0.06	0.19	0.18	1.00												
(13) Female	-0.07	-0.07	-0.11	-0.09	0.09	-0.21	-0.05	-0.12	0.05	-0.03	0.01	-0.03	1.00											
(14) Age (years)	-0.04	-0.04	-0.18	-0.00	-0.01	0.09	0.02	-0.10	-0.11	-0.06	-0.09	0.03	0.02	1.00										
(15) Not working	-0.02	-0.02	-0.02	-0.06	0.04	-0.06	0.03	-0.10	-0.00	-0.01	-0.03	0.02	0.09	0.34	1.00									
(16) Retired/Student	-0.01	-0.02	0.04	-0.04	-0.01	-0.11	0.01	-0.05	0.05	0.04	0.06	-0.02	0.02	-0.30	-0.15	1.00								
(17) Some secondary	-0.11	-0.10	-0.07	-0.14	0.06	-0.13	-0.04	-0.12	0.13	0.06	-0.02	0.04	-0.03	-0.03	0.13	0.06	1.00							
(18) Secondary degree	0.04	0.04	0.06	-0.01	-0.03	0.03	0.02	0.05	0.01	0.01	-0.01	0.03	0.00	-0.07	-0.02	0.04	-0.50	1.00						
(19) Post secondary	0.10	0.08	0.04	0.08	-0.03	0.07	0.03	0.04	-0.10	-0.00	0.03	-0.04	-0.00	0.06	-0.05	-0.04	-0.32	-0.20	1.00					
(20) Graduate experience	0.01	0.02	-0.00	0.12	-0.02	0.08	0.00	0.07	-0.10	-0.08	0.01	-0.04	0.04	0.07	-0.09	-0.08	-0.45	-0.29	-0.18	1.00				
(21) Variation unemp. rate	-0.11	-0.10	-0.11	-0.15	0.00	-0.09	-0.06	-0.04	0.08	-0.02	-0.09	0.01	0.01	-0.04	0.07	-0.00	0.28	0.07	-0.28	-0.20	1.00			
(22) % GDP PPP growth	-0.23	-0.16	-0.18	-0.03	0.06	-0.16	-0.11	-0.06	0.03	-0.05	-0.04	-0.07	0.04	-0.04	0.02	0.03	0.20	-0.07	-0.24	0.03	-0.05	1.00		
(23) % economic freedom growth	0.02	0.03	-0.03	0.03	-0.00	-0.00	-0.02	0.01	-0.04	-0.02	0.01	0.00	-0.00	0.02	-0.02	-0.01	-0.06	-0.00	0.03	0.06	-0.12	-0.14	1.00	
(24) % population growth	0.25	0.21	0.37	0.07	-0.03	0.21	0.16	0.08	0.05	0.16	0.06	0.19	-0.06	-0.04	-0.01	0.00	-0.05	0.09	0.00	-0.04	-0.28	-0.27	0.04	1.00
Observations	47275																							

Panel B: robustness sample, 2002-2004 & 2006-2008

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
(1) Starting	1.00																							
(2) Start-up effort	0.62	1.00																						
(3) Future	0.32	0.27	1.00																					
(4) Opportunities	0.10	0.10	0.14	1.00																				
(5) Fail	-0.08	-0.07	-0.08	-0.06	1.00																			
(6) Prev. exper./skills	0.19	0.18	0.24	0.16	-0.21	1.00																		
(7) Discontinued business	0.08	0.06	0.10	0.02	-0.03	0.13	1.00																	
(8) Knows entrepreneur	0.11	0.10	0.16	0.16	-0.08	0.23	0.07	1.00																
(9) Social equality	-0.01	-0.02	0.01	-0.04	0.06	-0.05	-0.00	-0.04	1.00															

(10) Entrep. desirable	0.07	0.05	0.09	0.07	0.00	0.05	0.03	0.03	0.08	1.00															
(11) High social status	0.03	0.02	0.04	0.07	0.06	-0.03	0.00	0.01	0.07	0.24	1.00														
(12) Entrep. good media	0.07	0.05	0.09	0.06	-0.01	0.08	0.04	0.06	0.06	0.18	0.18	1.00													
(13) Female	-0.07	-0.07	-0.11	-0.09	0.09	-0.21	-0.05	-0.12	0.05	-0.03	0.01	-0.03	1.00												
(14) Age (years)	-0.04	-0.04	-0.18	-0.01	-0.01	0.09	0.02	-0.10	-0.11	-0.06	-0.09	0.03	0.02	1.00											
(15) Not working	-0.02	-0.02	-0.02	-0.06	0.04	-0.06	0.03	-0.10	0.00	-0.01	-0.03	0.02	0.09	0.34	1.00										
(16) Retired/Student	-0.01	-0.03	0.04	-0.04	-0.01	-0.11	0.01	-0.05	0.05	0.03	0.06	-0.02	0.02	-0.29	-0.15	1.00									
(17) Some secondary	-0.11	-0.11	-0.08	-0.14	0.07	-0.14	-0.04	-0.12	0.13	0.05	-0.02	0.04	-0.03	-0.04	0.13	0.06	1.00								
(18) Secondary degree	0.04	0.04	0.06	-0.01	-0.03	0.03	0.02	0.04	0.01	0.01	-0.01	0.03	0.00	-0.07	-0.03	0.03	-0.49	1.00							
(19) Post secondary	0.11	0.09	0.05	0.08	-0.04	0.08	0.03	0.04	-0.10	0.00	0.03	-0.04	-0.00	0.06	-0.06	-0.04	-0.32	-0.21	1.00						
(20) Graduate experience	0.01	0.02	-0.00	0.12	-0.02	0.07	0.00	0.07	-0.10	-0.08	0.01	-0.05	0.04	0.07	-0.08	-0.08	-0.44	-0.29	-0.19	1.00					
(21) Variation unemp. rate	-0.11	-0.09	-0.11	-0.15	0.00	-0.09	-0.05	-0.04	0.08	-0.02	-0.08	0.01	0.01	-0.04	0.07	0.00	0.28	0.06	-0.26	-0.19	1.00				
(22) % GDP PPP growth	-0.22	-0.16	-0.18	-0.03	0.07	-0.17	-0.11	-0.06	0.03	-0.06	-0.03	-0.06	0.05	-0.04	0.02	0.03	0.21	-0.09	-0.25	0.04	-0.08	1.00			
(23) % economic freedom growth	0.02	0.03	-0.03	0.03	-0.00	-0.00	-0.02	0.01	-0.03	-0.02	0.01	0.00	-0.00	0.02	-0.02	-0.01	-0.06	-0.00	0.03	0.06	-0.14	-0.10	1.00		
(24) % population growth	0.24	0.19	0.36	0.07	-0.02	0.19	0.15	0.08	0.05	0.15	0.06	0.18	-0.05	-0.05	-0.01	0.01	-0.03	0.08	-0.01	-0.04	-0.26	-0.24	0.03	1.00	
Observations	48450																								

Notes: For both panels, 2005 is dropped because it is the year of disclosure of the corruption scandal. Panel A includes only TEA respondents from Brazil and the US (corruption scandal countries) and Denmark, Sweden, Norway, Iceland, and Finland (controls using the Transparency International ranking criterion). For Panel B, the Netherlands is added as a control (World Governance Indicators - Control of Corruption dimension ranking criterion). Mean is the arithmetic mean, SD is the standard deviation, Min is the minimum value, PXX is percentile XX, Max is the maximum value. See Table 1 for variable definitions.

Table 4: Double fixed-effects estimates (LPM) of determinants of entrepreneurship variables

	Original sample			Robustness sample		
	(1)	(2)	(3)	(4)	(5)	(6)
	Starting	Start-up effort	Future	Starting	Start-up effort	Future
Post scandal US=1	0.0106	0.0209	-0.0695	0.0112	0.0250	-0.0546
	(0.8839)	(0.7234)	(0.3215)	(0.8776)	(0.6718)	(0.4352)
Post scandal BR=1	-0.0026	-0.0623	-0.3905***	-0.0027	-0.0608	-0.3845***
	(0.9613)	(0.1240)	(0.0000)	(0.9597)	(0.1343)	(0.0000)
Slope change – entrepreneurs' perceptions & attitudes						
Post scandal US=1 # Opport. 6mo	-0.0079	-0.0172	-0.0149	-0.0078	-0.0171	-0.0146
	(0.8281)	(0.5857)	(0.6751)	(0.8284)	(0.5876)	(0.6817)
Post scandal US=1 # Risk-intolerant	0.0270	0.0371	-0.0265	0.0271	0.0371	-0.0268
	(0.5452)	(0.3302)	(0.5376)	(0.5442)	(0.3310)	(0.5339)
Post scandal US=1 # Prev. exper./skills	-0.0544	-0.0049	0.0292	-0.0542	-0.0048	0.0294
	(0.2041)	(0.8807)	(0.4843)	(0.2060)	(0.8832)	(0.4806)
Post scandal US=1 # Discontinued business	-0.0300	-0.0574	0.0498	-0.0302	-0.0574	0.0502
	(0.5588)	(0.2146)	(0.3336)	(0.5551)	(0.2145)	(0.3299)
Post scandal US=1 # Knows entrepreneur	0.0307	0.0336	-0.0223	0.0308	0.0337	-0.0219
	(0.3916)	(0.2804)	(0.5306)	(0.3913)	(0.2786)	(0.5371)
Post scandal US=1 # Social equality	0.0612*	-0.0056	0.0433	0.0614*	-0.0055	0.0437
	(0.0772)	(0.8503)	(0.2004)	(0.0763)	(0.8532)	(0.1970)
Post scandal US=1 # Entrep. desirable	0.0043	0.0175	0.0107	0.0043	0.0175	0.0109
	(0.9140)	(0.6146)	(0.7838)	(0.9148)	(0.6145)	(0.7785)
Post scandal US=1 # High social status	0.0457	0.0037	-0.0234	0.0453	0.0034	-0.0241
	(0.2709)	(0.9196)	(0.5601)	(0.2756)	(0.9253)	(0.5490)
Post scandal US=1 # Entrep. good media	-0.0187	0.0011	-0.0378	-0.0186	0.0011	-0.0376
	(0.6496)	(0.9762)	(0.3483)	(0.6507)	(0.9755)	(0.3503)
Post scandal BR=1 # Opport. 6mo	-0.0162	0.0147	-0.0303	-0.0162	0.0147	-0.0303
	(0.4878)	(0.4264)	(0.3394)	(0.4893)	(0.4258)	(0.3399)
Post scandal BR=1 # Risk-intolerant	0.0066	-0.0108	-0.0771**	0.0069	-0.0106	-0.0769**
	(0.7753)	(0.5467)	(0.0179)	(0.7657)	(0.5526)	(0.0182)
Post scandal BR=1 # Prev. exper./skills	-0.0274	0.0094	-0.0610*	-0.0270	0.0096	-0.0606*
	(0.2430)	(0.5827)	(0.0787)	(0.2489)	(0.5756)	(0.0808)
Post scandal BR=1 # Discontinued business	0.0494	-0.0007	0.0041	0.0493	-0.0006	0.0044
	(0.1964)	(0.9816)	(0.9306)	(0.1972)	(0.9836)	(0.9262)
Post scandal BR=1 # Knows entrepreneur	-0.0074	-0.0317*	-0.0171	-0.0076	-0.0318*	-0.0174
	(0.7551)	(0.0920)	(0.5869)	(0.7492)	(0.0909)	(0.5794)
Post scandal BR=1 # Social equality	-0.0429	-0.0097	-0.0058	-0.0429	-0.0097	-0.0060
	(0.1365)	(0.6816)	(0.8805)	(0.1370)	(0.6818)	(0.8773)
Post scandal BR=1 # Entrep. desirable	0.0229	-0.0023	0.0676*	0.0228	-0.0023	0.0679*
	(0.4119)	(0.9103)	(0.0843)	(0.4147)	(0.9137)	(0.0829)
Post scandal BR=1 # High social status	0.0263	-0.0114	0.0222	0.0261	-0.0113	0.0226
	(0.3287)	(0.5857)	(0.5626)	(0.3325)	(0.5882)	(0.5550)
Post scandal BR=1 # Entrep. good media	-0.0136	0.0059	-0.1071***	-0.0133	0.0060	-0.1066***
	(0.6226)	(0.7909)	(0.0051)	(0.6303)	(0.7846)	(0.0053)
Entrepreneurs' perceptions & attitudes						
Opport. 6mo	0.0365**	0.0399***	0.0521***	0.0365**	0.0398***	0.0519***
	(0.0312)	(0.0092)	(0.0092)	(0.0314)	(0.0093)	(0.0096)
Risk-intolerant	-0.0066	-0.0239*	-0.0365*	-0.0066	-0.0244*	-0.0383*
	(0.7213)	(0.0992)	(0.0798)	(0.7217)	(0.0929)	(0.0670)
Prev. exper./skills	-0.0260	0.0269*	0.0599***	-0.0258	0.0277*	0.0631***
	(0.1719)	(0.0883)	(0.0080)	(0.1745)	(0.0796)	(0.0053)
Discontinued business	0.0297	-0.0104	-0.0465	0.0295	-0.0088	-0.0402
	(0.5481)	(0.8061)	(0.4043)	(0.5499)	(0.8353)	(0.4654)
Knows entrepreneur	0.0527***	0.0628***	0.0681***	0.0523***	0.0632***	0.0697***
	(0.0015)	(0.0000)	(0.0005)	(0.0016)	(0.0000)	(0.0004)
Social equality	0.0064	0.0227	0.0056	0.0065	0.0227	0.0053
	(0.7107)	(0.1425)	(0.7904)	(0.7073)	(0.1425)	(0.8024)

	Original sample			Robustness sample		
	(1)	(2)	(3)	(4)	(5)	(6)
	Starting	Start-up effort	Future	Starting	Start-up effort	Future
Entrep. desirable	0.0521***	0.0073	0.0145	0.0519***	0.0073	0.0145
	(0.0037)	(0.6396)	(0.4865)	(0.0038)	(0.6390)	(0.4841)
High social status	-0.0135	-0.0276	0.0194	-0.0136	-0.0280	0.0179
	(0.5713)	(0.2134)	(0.4840)	(0.5677)	(0.2067)	(0.5171)
Entrep. good media	-0.0200	0.0027	-0.0279	-0.0197	0.0031	-0.0267
	(0.2943)	(0.8707)	(0.2217)	(0.3001)	(0.8534)	(0.2434)
Controls – demographics						
Female	-0.0073***	-0.0103***	-0.0335***	-0.0083***	-0.0107***	-0.0344***
	(0.0017)	(0.0000)	(0.0000)	(0.0004)	(0.0000)	(0.0000)
Age	-0.0012***	-0.0009***	-0.0046***	-0.0013***	-0.0009***	-0.0048***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Age # Age	-0.0000**	-0.0000***	-0.0000***	-0.0000**	-0.0000***	-0.0000***
	(0.0285)	(0.0002)	(0.0000)	(0.0187)	(0.0002)	(0.0000)
Job status						
Not working	0.0297***	0.0221***	0.1016***	0.0328***	0.0237***	0.1058***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Retired/Student	-0.0049	-0.0106***	0.0286***	-0.0054	-0.0111***	0.0281***
	(0.2332)	(0.0013)	(0.0000)	(0.1890)	(0.0009)	(0.0000)
Schooling						
Some secondary	0.1191*	0.0194	-0.0251	0.1188*	0.0198	-0.0234
	(0.0523)	(0.7480)	(0.8048)	(0.0533)	(0.7428)	(0.8186)
Secondary degree	0.1211**	0.0294	-0.0014	0.1207**	0.0295	-0.0002
	(0.0487)	(0.6265)	(0.9888)	(0.0498)	(0.6246)	(0.9981)
Post secondary	0.1196*	0.0324	0.0114	0.1211**	0.0343	0.0154
	(0.0523)	(0.5916)	(0.9109)	(0.0495)	(0.5704)	(0.8799)
Graduate experience	0.1163*	0.0267	-0.0008	0.1160*	0.0275	0.0025
	(0.0585)	(0.6585)	(0.9937)	(0.0594)	(0.6488)	(0.9802)
Controls – macro						
Variation unemp. rate	-0.0016	-0.0117*	0.0406***	-0.0015	-0.0106	0.0450***
	(0.8289)	(0.0787)	(0.0000)	(0.8386)	(0.1080)	(0.0000)
% GDP PPP growth	-0.0137*	-0.0200***	-0.0405***	-0.0136*	-0.0189***	-0.0367***
	(0.0703)	(0.0023)	(0.0000)	(0.0698)	(0.0034)	(0.0001)
% economic freedom growth	-0.0006	0.0016	-0.0058**	-0.0005	0.0023	-0.0033
	(0.7824)	(0.4088)	(0.0204)	(0.7879)	(0.2293)	(0.1669)
% population growth	-0.0826	-0.0663	-0.7435***	-0.0814	-0.0560	-0.7052***
	(0.3769)	(0.4178)	(0.0000)	(0.3830)	(0.4920)	(0.0000)
Constant	0.1656**	0.1116	0.3995***	0.1655**	0.1079	0.3861***
	(0.0305)	(0.1142)	(0.0005)	(0.0307)	(0.1264)	(0.0008)
Adjusted R^2	0.1983	0.1257	0.2681	0.1926	0.1244	0.2645
BIC	2532.4	-11423.2	33896.4	4037.8	-9288.7	35574.2
Wald test	0.8824	0.2371	0.0013	0.8764	0.2232	0.0010
Country-specific entrepreneurs' perceptions & attitudes variables	Included					
Country fixed effects	Included					
Year fixed effects	Included					
Country-specific trend	Included					
Observations	47275	47275	47275	48450	48450	48450

Notes: Double fixed-effects (country and year) with country-specific linear time trend and country-specific entrepreneurs' perceptions & attitudes variables' coefficients (country-entrepreneurs' perceptions & attitudes variables interactions) OLS regression of Equation (1) using robust standard errors. *p*-values in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models (1) - (3), with the original sample, include only TEA respondents from Brazil and the US (corruption scandal countries) and Denmark, Sweden, Norway, Iceland, and Finland (controls), years 2002–2004 (pre) and 2006–2008 (post); 2005 is dropped because it is the year of disclosure of the corruption scandal. Models (3) - (6), with the robustness sample, add the Netherlands as a control. See Table 1 for variable definitions.

Appendix

Table A.1: Robustness test with double fixed-effects Logit estimates

	Original sample			Robustness sample		
	(1) Starting	(2) Start-up effort	(3) Future	(4) Starting	(5) Start-up effort	(6) Future
Post scandal US=1	-0.0218	0.0796	-0.1596	0.0419	0.2318	-0.1975
	(0.9242)	(0.7584)	(0.4780)	(0.9147)	(0.6195)	(0.6043)
Post scandal BR=1	-0.3241	-0.6436*	-1.2547***	-0.6392	-1.4469**	-2.1058***
	(0.2662)	(0.0604)	(0.0000)	(0.2640)	(0.0453)	(0.0000)
Slope change – entrepreneurs' perceptions & attitudes						
Post scandal US=1 # Opport. 6mo	-0.0249	-0.0671	-0.0645	-0.0449	-0.1230	-0.0824
	(0.7996)	(0.5364)	(0.5350)	(0.7809)	(0.5169)	(0.6348)
Post scandal US=1 # Risk-intolerant	0.0890	0.1176	-0.0571	0.1531	0.2491	-0.1162
	(0.4656)	(0.3743)	(0.6572)	(0.4452)	(0.2744)	(0.5835)
Post scandal US=1 # Prev. exper./skills	-0.1533	-0.0208	0.1079	-0.2258	0.0144	0.2104
	(0.2278)	(0.8926)	(0.4193)	(0.2921)	(0.9601)	(0.3491)
Post scandal US=1 # Discontinued business	-0.1042	-0.2015	0.1382	-0.1703	-0.3816	0.2470
	(0.4861)	(0.2280)	(0.3764)	(0.4879)	(0.1875)	(0.3475)
Post scandal US=1 # Knows entrepreneur	0.0785	0.1208	-0.0612	0.1251	0.2099	-0.1196
	(0.4284)	(0.2735)	(0.5631)	(0.4426)	(0.2754)	(0.4995)
Post scandal US=1 # Social equality	0.1998**	0.0062	0.1563	0.3162**	-0.0052	0.2716
	(0.0359)	(0.9530)	(0.1228)	(0.0432)	(0.9768)	(0.1084)
Post scandal US=1 # Entrep. desirable	0.0243	0.0872	0.0533	0.0491	0.1458	0.0991
	(0.8281)	(0.4856)	(0.6521)	(0.7898)	(0.5026)	(0.6148)
Post scandal US=1 # High social status	0.0951	-0.0096	-0.1079	0.1448	-0.0541	-0.2146
	(0.4081)	(0.9393)	(0.3729)	(0.4441)	(0.8015)	(0.2896)
Post scandal US=1 # Entrep. good media	-0.0461	0.0165	-0.1030	-0.0590	0.0492	-0.1397
	(0.6856)	(0.8951)	(0.3994)	(0.7526)	(0.8195)	(0.4972)
Post scandal BR=1 # Opport. 6mo	0.0068	0.1397	-0.1180	0.0263	0.3191	-0.2002
	(0.9497)	(0.2670)	(0.1866)	(0.8960)	(0.2076)	(0.1788)
Post scandal BR=1 # Risk-intolerant	-0.0398	-0.1669	-0.2010**	-0.1238	-0.3420	-0.3161**
	(0.7379)	(0.2428)	(0.0289)	(0.5860)	(0.2509)	(0.0385)
Post scandal BR=1 # Prev. exper./skills	-0.0643	0.2615	-0.1646*	-0.0367	0.6483*	-0.2653
	(0.6167)	(0.1373)	(0.0946)	(0.8825)	(0.0980)	(0.1036)
Post scandal BR=1 # Discontinued business	0.2360	0.0171	0.0095	0.4283	0.0228	0.0318
	(0.1170)	(0.9256)	(0.9426)	(0.1127)	(0.9493)	(0.8863)
Post scandal BR=1 # Knows entrepreneur	0.0150	-0.1669	-0.0659	0.0128	-0.3185	-0.1266
	(0.8914)	(0.1889)	(0.4586)	(0.9498)	(0.2037)	(0.3917)
Post scandal BR=1 # Social equality	-0.1887	-0.0621	-0.0366	-0.3426	-0.1551	-0.0753
	(0.1541)	(0.6880)	(0.7396)	(0.1598)	(0.6073)	(0.6813)
Post scandal BR=1 # Entrep. desirable	0.1299	0.0207	0.1592	0.2772	0.1517	0.2464
	(0.3532)	(0.9031)	(0.1487)	(0.2958)	(0.6654)	(0.1798)
Post scandal BR=1 # High social status	0.1906	-0.0762	0.0494	0.3803	-0.0984	0.0794
	(0.1801)	(0.6261)	(0.6490)	(0.1647)	(0.7527)	(0.6600)
Post scandal BR=1 # Entrep. good media	-0.0607	0.0095	-0.2726**	-0.1175	0.0111	-0.4337**
	(0.6446)	(0.9522)	(0.0112)	(0.6311)	(0.9713)	(0.0157)
Entrepreneurs' perceptions & attitudes						
Opport. 6mo	0.1815*	0.2446**	0.1969**	0.3515**	0.4733**	0.3599**
	(0.0527)	(0.0165)	(0.0171)	(0.0462)	(0.0180)	(0.0146)
Risk-intolerant	-0.0545	-0.1977	-0.1763*	-0.0971	-0.4189	-0.3354*
	(0.6293)	(0.1255)	(0.0786)	(0.6535)	(0.1127)	(0.0664)
Prev. exper./skills	-0.0638	0.2488**	0.3055***	-0.1355	0.4869**	0.5459***
	(0.5421)	(0.0297)	(0.0012)	(0.4930)	(0.0355)	(0.0016)
Discontinued business	0.1488	-0.0273	-0.1389	0.2698	-0.0128	-0.2225
	(0.5010)	(0.9097)	(0.5149)	(0.4991)	(0.9775)	(0.5568)
Knows entrepreneur	0.3210***	0.4730***	0.2961***	0.5788***	0.9687***	0.5468***
	(0.0017)	(0.0001)	(0.0011)	(0.0040)	(0.0002)	(0.0012)

	Original sample			Robustness sample		
	(1) Starting	(2) Start-up effort	(3) Future	(4) Starting	(5) Start-up effort	(6) Future
Social equality	0.0404	0.1561	0.0206	0.0626	0.3008	0.0497
	(0.6682)	(0.1232)	(0.8102)	(0.7208)	(0.1236)	(0.7426)
Entrep. desirable	0.2949***	0.0686	0.0879	0.5366***	0.1491	0.1429
	(0.0016)	(0.4961)	(0.2958)	(0.0020)	(0.4445)	(0.3353)
High social status	-0.0919	-0.2007	0.0258	-0.1506	-0.3662	0.0801
	(0.4509)	(0.1097)	(0.8159)	(0.5129)	(0.1273)	(0.6843)
Entrep. good media	-0.1205	0.0141	-0.1073	-0.2069	0.0503	-0.1894
	(0.2273)	(0.8970)	(0.2280)	(0.2662)	(0.8097)	(0.2260)
Controls – demographics						
Female	-0.0870***	-0.1318***	-0.1819***	-0.1635***	-0.2610***	-0.3372***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Age	-0.0109***	-0.0109***	-0.0242***	-0.0208***	-0.0214***	-0.0439***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Age # Age	-0.0001	-0.0002***	-0.0003***	-0.0001	-0.0004***	-0.0006***
	(0.1629)	(0.0033)	(0.0000)	(0.2471)	(0.0020)	(0.0000)
Job status						
Not working	0.1713***	0.1344***	0.3890***	0.3697***	0.3146***	0.7539***
	(0.0000)	(0.0006)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Retired/Student	0.0205	-0.0636	0.1887***	0.0664	-0.0924	0.3897***
	(0.5480)	(0.1225)	(0.0000)	(0.2990)	(0.2559)	(0.0000)
Schooling						
Some secondary	0.4898	0.0247	-0.1749	0.9166	0.0499	-0.3440
	(0.2117)	(0.9493)	(0.5686)	(0.2340)	(0.9486)	(0.5297)
Secondary degree	0.5244	0.1791	-0.0471	0.9705	0.3469	-0.1275
	(0.1818)	(0.6449)	(0.8781)	(0.2083)	(0.6544)	(0.8160)
Post secondary	0.5222	0.1943	0.0173	0.9851	0.3913	-0.0025
	(0.1844)	(0.6176)	(0.9553)	(0.2020)	(0.6140)	(0.9963)
Graduate experience	0.5095	0.1767	-0.0171	0.9374	0.3474	-0.0694
	(0.1951)	(0.6497)	(0.9557)	(0.2248)	(0.6544)	(0.8994)
Controls – macro						
Variation unemp. rate	-0.0042	-0.0629	0.1273***	-0.0073	-0.1019	0.2521***
	(0.9097)	(0.1036)	(0.0000)	(0.9220)	(0.1956)	(0.0000)
% GDP PPP growth	-0.0826**	-0.1376***	-0.1673***	-0.1476**	-0.2498***	-0.2682***
	(0.0298)	(0.0008)	(0.0000)	(0.0351)	(0.0014)	(0.0000)
% economic freedom growth	-0.0075	0.0017	-0.0182**	-0.0087	0.0138	-0.0128
	(0.3957)	(0.8514)	(0.0175)	(0.5866)	(0.4040)	(0.3146)
% population growth	-0.6524	-0.8324*	-2.5901***	-1.1417	-1.5305*	-4.1934***
	(0.1031)	(0.0560)	(0.0000)	(0.1197)	(0.0664)	(0.0000)
Constant	-1.0162**	-1.2471***	-0.1577	-1.7883**	-2.2889**	-0.3090
	(0.0259)	(0.0068)	(0.6674)	(0.0444)	(0.0130)	(0.6382)
Pseudo R^2	0.2860	0.2460	0.2696	0.2784	0.2420	0.2654
Wald test	0.4037	0.0852	0.0003	0.3094	0.0446	0.0002
Country-specific entrepreneurs' perceptions & attitudes variables	Included					
Country fixed effects	Included					
Year fixed effects	Included					
Country-specific trend	Included					
Observations	47275	47275	47275	48450	48450	48450

Notes: Double fixed-effects (country and year) with country-specific linear time trend and country-specific entrepreneurs' perceptions & attitudes variables' coefficients (country-entrepreneurs' perceptions & attitudes variables interactions) Logit regression of Equation (1) using robust standard errors. *p*-values in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models (1) - (3), with the original sample, include only TEA respondents from Brazil and the US (corruption scandal countries) and Denmark, Sweden, Norway, Iceland and Finland (controls), years 2002–2004 (pre) and 2006–2008 (post); 2005 is dropped because it is the year of disclosure of the corruption scandal. Models (3) - (6), with the robustness sample, add the Netherlands as a control as well.

Table A.2: Complete GEM variable questions

Variable name	Source	Complete Question
Dependent variables		
Starting	GEM	Question 'Q1A1. Are you, alone or with others, currently trying to start a new business, including any self-employment or selling any goods or services to others?'; variable BSTART.
Start-up effort	GEM	Several questions: • Over the past twelve months have you done anything to help start this new business, such as looking for equipment or a location, organizing a start-up team, working on a business plan, beginning to save money, or any other activity that would help launch a business? • Will you personally own all, part, or none of this business? • Has the new business paid any salaries, wages, or payments in kind, including your own, for more than three months? Variable SUBOANW.
Future	GEM	Question 'Q3A. Are you, alone or with others, expecting to start a new business, including any type of self-employment, within the next three years?'; variable FUTSUP.
Individual-level perception & characteristic variables		
Opportunities	GEM	Question 'Qi2. In the next six months, will there be good opportunities for starting a business in the area where you live?'; variable OPPORT.
Fail	GEM	Question 'Qi4. Would fear of failure would prevent you from starting a business?'; variable FEARFAIL
Prev. exper./skills	GEM	Question 'Qi3. Do you have the knowledge, skill and experience required to start a new business?'; variable SUSKILL
Discontinued business	GEM	Question 'Qi3. Have you, in the past 12 months, sold, shut down, discontinued or quit a business you owned and managed, any form of self-employment, or selling goods or services to anyone?'; variable DISCENT.
Knows entrepreneur	GEM	Question 'Qi1. Do you know someone personally who started a business in the past 2 years?'; variable KNOWENT.
Social equality	GEM	Question 'Qi5. In my country, most people would prefer that everyone had a similar standard of living', variable EQUALINC
Entrep. desirable	GEM	Question 'Qi6. In my country, most people consider starting a new business a desirable career choice', variable NBGOODC
High social status	GEM	Question 'Qi7. In my country, those successful at starting a new business have a high level of status and respect', variable NBSTATUS
Entrep. good media	GEM	Question 'Qi8. In my country, you will often see stories in the public media about success new businesses', variable NBMEDIA