BRIBES AND FIRM VALUE

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Abstract

I exploit the passage of the U.K. Bribery Act 2010 as a shock to U.K. firms' cost of doing business in order to study the effect of bribes on firm value. Around the Act's passage, U.K. firms operating in high-corruption countries display a drop in value. However, their non-U.K. competitors in these countries exhibit an increase in value. U.K. firms respond to the Act by reducing the expansion of their network of subsidiaries into perceivably corrupt regions. Moreover, compared to their non-U.K. competitors, U.K. firms' sales in such regions grow 12 percentage points slower and their M&A activity declines. Taken together, I show that bribes facilitate doing business in certain regions. Imposing unilateral anti-bribery regulation on some firms benefits their unregulated competitors.

Keywords: valuation, regulation, corruption, bribes

JEL classification: G30, G34, G38, K22

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Corruption reduces levels of investment and ultimately economic growth (e.g., Mauro 1995).[1] Indeed, the World Bank estimates that corruption costs $2.6 trillion (5% of global GDP) per year, with $1 trillion paid in bribes every year. Corruption in the form of bribery is also widespread across firms. According to a survey of more than 11,000 firms from 125 countries, one in three firms believes their competitors use bribes to secure public procurement contracts (D'Souza and Kaufmann 2011).[2] In an attempt to fight corruption, some developed nations have implemented unilateral regulation punishing the use of bribes; other nations like India have not. Opponents of unilateral anti-bribery regulation argue that such regulation puts affected firms at a competitive disadvantage vis-à-vis competitors who are allowed to use bribes because bribes often facilitate doing business in certain regions.

Despite their prevalence in business transactions around the globe, relatively little is known about the causal effect of bribes on firm value. An important challenge with this research agenda is that bribes are largely unobserved. From 1978 to early 2013, only 143 bribery-related enforcement actions were initiated against publicly listed firms by the U.S. Securities and Exchange Commission (SEC) or the Department of Justice for violations of the 1977 U.S. Foreign Corrupt Practices Act (FCPA; Karpoff, Lee, and Martin 2015).

In this paper, I examine whether the ability to use bribes creates firm value. To this end, I employ a quasi-experimental design that allows me to study the market reaction of firms that are subject to a plausibly exogenous increase in their cost of doing business in perceivably corrupt regions. Specifically, I exploit the passage of the draft of the U.K. Bribery Act 2010 on March 25, 2009. This Act, enforced since July 1, 2011, imposes substantial increases in penalties for firms and managers found to be using bribes. Moreover, the Act requires firms to implement internal controls aimed at preventing the use of bribes. If firms use bribes as an investment to increase the probability of winning contracts, then the passage of

[1] Reviews of the literature on corruption and growth are provided by Shleifer and Vishny (1993), Bardhan (1997), and Svensson (2005).

[2] Firm-level statistics on bribery are based on the 2006 Executive Opinion Survey conducted by the World Economic Forum. Global estimates of the cost of corruption and bribes paid are obtained from reports by the World Bank Institute and the World Economic Forum. These reports are based on 2001-2002 survey data.

anti-bribery regulation should reduce firm value. On the other hand, if managers use bribes for their personal benefits, anti-bribery regulation that punishes managers for bribery should increase value.

Exploiting the passage of the U.K. Bribery Act 2010 is appropriate only if it resolved residual uncertainty about anti-bribery regulation being passed and if it had a substantial effect on firms. One can plausibly argue that these conditions are met for at least three reasons. In the first place, the Act's passage on March 25, 2009 was not covered by the media until that day. Second, the fines assessed for violating the Act are much higher than the fines stipulated in previous U.K. legislation, by the OECD Anti-Bribery Convention, or by comparable legislation in the U.S. The Act imposes potentially unlimited fines on corporations found not to have implemented internal anti-bribery controls, as well as on firms found to have paid bribes and on the individuals responsible for the bribery, both inside and outside the U.K.[3] Third, the Act unexpectedly ran counter to precedent as it also applies to foreign firms with U.K. operations. This provision made it harder for U.K. industry lobbyists to argue that the Act placed U.K. firms at a disadvantage vis-à-vis foreign competitors. Taken together, the Act imposes substantial unexpected fines on the use of bribes; this facilitates my investigation of the extent to which bribes affect firm value.

To test for the importance of bribes for firm value, I focus on publicly listed firms. I measure firm value by abnormal returns around passage of the U.K. Bribery Act. I try to capture firms' propensity to engage in bribery through a variable named *Corruption exposure*, which combines firm-level subsidiary locations with Transparency International's Corruption Perceptions Index to measure firms' exposure to high-corruption regions. My findings are based primarily on 1,097 U.K. firms and 9,457 non-U.K. firms. I further explore channels through which the U.K. Bribery Act affects firms using data on subsidiary

[3] The U.K. Bribery Act 2010 encompasses both active and passive bribery. In the Act, *active* bribery is defined as offering, giving, or promising to give a financial or other advantage to a person in exchange for that person's improper performance of a relevant function; this includes the bribery of foreign public officials and other firms. Conversely, *passive* bribery is defined as receiving or agreeing to receive a financial or other advantage in exchange for improperly performing a relevant function. The Act also prohibits the use of so-called facilitation payments, a stipulation that is more stringent than previous regulation in this field. Facilitation payments are those made with the aim of inducing government officials to perform tasks that they are already obligated to perform.

revenues, merger and acquisition (M&A) activity, and joint venture activity between 2007 and 2012.

I report three main results. First, the passage of the U.K. Bribery Act did indeed adversely affect the value of U.K. firms. U.K. firms that are one standard deviation more exposed to perceivably corrupt regions than average firms have 0.7% lower abnormal returns around passage, reflecting a loss in market value of $12.9 million for such firms. A negative effect on firm value is also present in prior attempts by U.K. regulators to pass anti-bribery regulation. On seven such events prior to 2010, U.K. firms that are one standard deviation more exposed to perceivably corrupt regions had 1.9% lower returns. One example illustrating a one–standard deviation difference in *Corruption exposure* is given by a comparison between a U.K. firm with seven subsidiaries in the U.K. and an otherwise comparable U.K. firm that operates six subsidiaries in the U.K. and one subsidiary in Russia.

Second, the U.K. Bribery Act had positive effects on direct competitors of U.K. firms that do not fall under the provisions of the Act. I define direct competitors as non-U.K. firms that operate at least one subsidiary within (i) the same non-OECD country and (ii) the same industry as at least one U.K. firm. Competitors do not have to comply with the Act if they do not have a U.K. subsidiary. I document that, around the passage of the Act, such direct competitors had 0.5% higher abnormal returns than comparable non-U.K. firms. This effect is almost twice as large for direct competitors headquartered outside of OECD countries, suggesting that direct competitors headquartered in the least regulated countries benefited the most.

Third, I document the real implications of the U.K. Bribery Act. I find that U.K. firms opened fewer subsidiaries in non-OECD countries after passage of the Act and their revenues grew 12 percentage points slower than those of non-U.K. firms in these countries. These effects are even stronger in those non-OECD countries perceived to be most corrupt according to Transparency International's Corruption Perceptions Index. I also document that, relative to non-U.K. firms, M&A activity by U.K. firms outside the OECD increased 6-8 percentage points slower. One might suspect that U.K. firms substituted direct ownership with third-party transactions; however, I do not find evidence that U.K. firms circumvented the

Act by engaging increasingly in joint ventures in perceivably corrupt regions.

The Act may have curtailed profitable business associated with bribes, thereby reducing the value of regulated firms. Beck and Maher (1986) and Lien (1986), for instance, model bribes as a side payment within Vickrey's (1961, 1962) first-price auction framework. In this framework, firms make side payments to increase the probability of winning contracts tendered by corrupt government officials. Imposing costly anti-bribery regulation on some firms will hurt these firms and benefit their unregulated competitors (Beck and Maher 1989).

However, the empirical setting—passage of the U.K. Bribery Act—might also subject my results to alternative interpretations that are unrelated to bribes. First, it is possible that U.K. firms found it optimal to withdraw from perceivably corrupt regions in face of substantial costs of implementing effective internal anti-bribery controls without having used bribes in the first place. However, one of the Act's features specific to non-U.K. firms allows me to alleviate this concern. Notably, non-U.K. firms are exempted from the internal control requirements in Section 7 of the Act (i.e., they are not required to implement costly control systems). Nevertheless, I find that non-U.K. firms with U.K. exposure and exposure to perceivably corrupt countries through subsidiary presence are negatively affected by the Act.

A second potential alternative interpretation, which certainly merits consideration, is that negative market response and subsequent withdrawal from perceivably corrupt regions reflect higher expected legal costs and penalties associated with operating in such regions. I examine revenue data on subsidiaries that existed throughout the sample period in order to alleviate concerns that this interpretation explains all results. Notably, if the Act solely led to higher expected legal costs and penalties, the revenues of *surviving* subsidiaries should be unaffected. Yet, I find that surviving subsidiaries experienced a relative decline in revenue growth as a result of the Act, more so in countries perceived to be more corrupt.

Due to agency conflicts, it is, of course, not ex ante clear that bribes always create firm value. For instance, a corruptible firm manager in charge of tendering a contract might allocate that contract to an inefficient subcontractor offering him/her a side payment. In this case, anti-bribery regulation can serve as

an external monitoring device that makes accepting bribes costly to the manager, thereby aligning his/her incentives with shareholders'. Desai, Dyck, and Zingales (2007) model this channel more formally and provide evidence that increased tax enforcement enhanced the value of Russian oil firms. To this end, my results suggest that such value created through improvements in governance is outweighed by the costs associated with anti-bribery regulation, although my setting does not allow me to quantify each of these potentially offsetting effects.

On a cautionary note, any estimate of the magnitude of the effect of bribes on firm value from passage of the U.K. Bribery Act is likely conservative. For one thing, it is possible that the Act was passed at a time when U.K. regulators expected less lobbying because the economic prospects of U.K. firms were generally less positive. In addition, firms may circumvent some of the costly implications of anti-bribery regulation by reorganizing in order to reduce their exposure. Despite evidence that the Act did not cause an immediate increase in joint venture activity, such strategic decisions might take time to filter through—and might take other forms that are harder to observe.

My empirical setting does not allow examination of the potential impact of anti-bribery regulation on growth in the UK and in perceivably corrupt regions. In terms of UK growth, passage of the U.K. Bribery Act constitutes one shock in the history of the U.K.; it will be hard to establish a causal link between passage of the Act and U.K. growth after 2009 due to confounding factors. In terms of economic growth in perceivably corrupt regions, with few exceptions, the fraction of non-OECD countries' overall economic activity determined by U.K. firms is low on average; therefore, the economic effect of U.K. anti-bribery regulation on such countries should be small. Additionally, a decline in U.K. firms' economic activity in certain regions can be substituted by other firms. Nevertheless, my findings are indicative of the role potentially played by multinational firms in propagating corruption in developing countries. More generally, multinationals' bribery decisions may be aimed at maximizing shareholder value, yet that decision may have externalities on the environment within which they operate. This setting reflects the possible tensions between firms making decisions in shareholders' interest and governments seeking to

correct distributive failures (e.g., Bénabou and Tirole 2010).

One key contribution of this paper is to provide firm-level evidence of anti-bribery regulation's impact on foreign operations, such as revenue, opening and closing of subsidiaries, and M&A activity. So far, very few studies have documented implications of the U.S. Foreign Corrupt Practices Act (FCPA) of 1977 on aggregate U.S. exports (Graham 1984; Beck et al. 1991), as well as foreign direct investment, aircraft exports, joint venture activity, and the capital/labor ratio (Hines 1995). Ultimately, this paper adds the cost of doing business to the list of drivers of foreign activity and international cross-border flows.[4]

Firm-level evidence has so far focused on detected bribery cases or survey data. In a sample of 166 prosecuted international bribery cases, Cheung, Rau, and Stouraitis (2012) find that, on average, a bribe of $1 returns $11 of contract value. Voluntary disclosure of sensitive foreign payments under the SEC's voluntary disclosure program prior to passage of the FCPA comes with negative abnormal returns (Smith, Stettler, and Beedles 1984). Karpoff, Lee, and Martin (2015) study 143 enforcement actions for violations of the FCPA. They find that prosecution costs more than offset the value of contracts obtained through bribe payments, but only if prosecution for bribery is accompanied by charges of financial fraud. Along those lines, Hong and Liskovich (2015) document that socially responsible firms pay lower fines when found violating the FCPA. Self-reported survey data from Uganda reveals that using bribes is negatively correlated with firm growth (Svensson 2003; Fisman and Svensson 2007). Also using survey data, Bennedsen et al. (2007) show that large firms lobby while small firms bribe. Exploiting passage of the U.K. Bribery Act allows me to address some concerns about selection, sample size, measurement error, and limited participant information inherent in studying detected cases and survey data. Also, I provide new insights into the long-run implications of restricting firms in their use of bribes.

Taken together, the evidence in this paper supports the notion that bribes facilitate doing business in certain regions. Imposing unilateral anti-bribery regulation on some firms hurts these firms but benefits

[4] Examples include studies of the determinants of international portfolio investment decisions (e.g., Brennan and Cao 1997; Kang and Stulz 1997; Graham et al. 2005; Portes and Rey 2005; Gianetti and Simonov 2006; Kho et al. 2009; Leuz et al. 2009), cross-border M&As (e.g., Erel et al. 2012), and cross-listing decisions (e.g., Doidge et al. 2004).

their unregulated competitors. The rest of the paper is organized as follows. In Section 1, I describe event and methodology, in Section 2 the data. In Section 3, I conduct an event study around passage of the U.K. Bribery Act. Long-run implications of the Act for UK firms are analyzed in Section 4. Section 5 concludes.

1. Event and methodology

In this section, I describe event and methodology.

1.1 U.K. Bribery Act 2010

The draft of the U.K. Bribery Act 2010 was passed by a U.K. government commission and put forward by the Secretary of State for Justice on March 25, 2009. I identify March 25 as the event date by a Factiva keyword search of "bribery" and "United Kingdom" in major U.K. newspapers for ten weeks surrounding March 25, 2009. There was no other significant regulatory development in the U.K. during that period. Importantly, news about the passage of the draft did not leak prior to the event day (Figure 1). As I will argue below, the draft faced little risk of being watered down and, indeed, received Royal Assent in almost unchanged form on April 8, 2010. Enforcement of the U.K. Bribery Act began on July 1, 2011.[5]

[[INSERT Figure 1 about Here]]

Estimates from event date March 25, 2009 are likely conservative because—following the signing of the OECD Anti-Bribery Convention of 1997 in 1999—the U.K. went through some attempts to pass anti-bribery regulation in the early 2000s. However, these earlier attempts by the U.K. government failed after facing opposition by lobbyists and, in rather spectacular fashion, after facing opposition even from within the government. A letter sent by the OECD's anti-bribery working group to the U.K.

[5] See http://www.legislation.gov.uk/ukpga/2010/23/pdfs/ukpga_20100023_en.pdf and http://www.justice.gov.uk/downloads/legislation/bribery-act-2010-quick-start-guide.pdf for the Act's official text and guidance provided by the Ministry of Justice, respectively. In the Factiva search, I remove "non-events," that is, articles that do not constitute news, such as journalistic opinions on past events. I also exclude articles linked to bribery regulation elsewhere (e.g., in the U.S.) and those related to potential bribery *cases* as opposed to bribery *regulation*; examples include speculation about bribery of the Olympic Committee or bribery in cricket and football. One unrelated article prior to March 25 covers investigations into alleged bribery conducted by two U.K. employees in Nigeria; according to the article, these two individuals face charges under the US FCPA of 1977.

government in June 2008 accused the government of not bringing to court a single foreign bribery case and of not reforming its outdated anti-corruption laws. This letter revived efforts by the government to reform its laws. I study these related events in the robustness section.

The content of the Act's draft passed on March 25, 2009 was surprising due to two unexpected developments: (i) the penalties stipulated by the Act were more severe than anticipated, and (ii) one of the key features of the Act made it much harder for special interest groups to lobby against passage of the Act. These developments will be discussed in turn.

First, the provisions of the U.K. Bribery Act went well beyond existing U.K. regulations, the OECD Anti-Bribery Convention of 1997, and the U.S. FCPA of 1977. Prior U.K. anti-bribery regulation—notably the Public Bodies Corrupt Practices Act 1889, the Criminal Cases Act 1908, and the Criminal Justice Act 1967—did not explicitly address bribery by corporations and focused on active and passive bribery of U.K. public officials while the U.K. Bribery Act addresses these issues. According to the OECD Anti-Bribery Convention, signed by the U.K. in 1997, signatory countries agree to enact legislation that penalizes the bribing of foreign public officials. The U.K. Bribery Act extends beyond these requirements by making it a criminal offense (i) for individuals and corporations to engage in either active or passive bribery and (ii) for corporations to have no internal control procedures designed to prevent associated persons from acts of bribery. Furthermore, the Act prohibits facilitation payments: payments meant to induce government officials to perform tasks that they are obligated to perform in any case. Further, corporate fines for violating the Act are potentially unlimited; individuals who violate the requirements of the Act can be fined and imprisoned. Along similar dimensions, the U.K. Bribery Act also goes well beyond the provisions of the FCPA.[6] U.K. organizations can defend against allegations by

[6] First, the U.K. Bribery Act (unlike the FCPA) stipulates that a firm is strictly liable if it fails to implement anti-bribery controls. Second, whereas the FCPA was initially interpreted to prohibit only active bribery, the U.K. Bribery Act proscribes both active bribery (offering a bribe) and passive bribery (accepting a bribe). Third, the FCPA focuses on bribing foreign public officials; in contrast, the U.K. Bribery Act covers the bribing of private persons as well as other firms and also the employees of those firms. Fourth, there is no upper limit to the amount a firm can be penalized under the U.K. Bribery Act; under the FCPA, the maximum fine is $2 million. Fifth, of the two Acts, only the U.K. one criminalizes facilitation payments. Sixth, the U.K. Bribery Act's jurisdiction explicitly extends to non-U.K. firms with U.K. operations, regardless of where the bribery occurs. The FCPA initially applied solely to U.S. firms and has only recently been interpreted as applying to foreign firms with U.S. operations. Sources:

proving that they have adequate anti-bribery controls in place.

Second, prior attempts to pass anti-bribery regulation were aimed solely at U.K. firms. This feature made previous attempts an easy target for industry lobbyists, who argued that enforcing any such anti-bribery regulation would be at the expense of U.K. firms because it would benefit non-U.K. competitors. A distinct and decisive feature of the U.K. Bribery Act 2010 is that it also applies to non-U.K. firms with U.K. operations (such as subsidiaries), which addresses lobbyists' concerns. Both U.K. firms and non-U.K. firms with links to the U.K. fall within the Act's jurisdiction, irrespective of where violations occur, although non-U.K. firms are exempted from the requirement to implement internal anti-bribery controls according to Section 7 of the Act.

While drafts can certainly fail to survive the formal procedure for being turned into an Act of Parliament (i.e., into legislation), the draft of the U.K. Bribery Act faced little risk of being watered down. First, the Labour Party was in charge of drafting the Act and had the power of turning it into legislation. The draft was passed by a government commission dominated by the Labour Party. Likewise, that party held the majority in the House of Commons (occupying 355 of the 646 seats in Parliament after the 2005 general election). Importantly, even though both the House of Commons (lower house) and the House of Lords (upper house) participate in the process of turning bills into Acts of Parliament, it is possible for a bill to be passed by the House of Commons if no agreement is reached between the houses (see Appendix for an outline of the U.K. Legislative Procedure). Second, unlike previous attempts to implement anti-bribery regulation, in this case there was considerable pressure to act quickly: OECD sanctions were looming and there was also a relatively short time until the next general elections. With election outcomes predicted to be unfavorable for the Labour Party, it was highly pressured to turn the Act into legislation quickly so as to avoid time-consuming amendments. Indeed, amendments to the draft focused on marginal wording and not on substantive content. Ultimately, the Act was pushed so hard that once turned

'The U.K. Bribery Act 2010– What U.S. Companies Need to Know' in *Mondaq Business Briefing* (June 21, 2010) and 'The U.K. Bribery Act 2010 *v* Foreign Corrupt Practices Act of 1977: How Different Are They & Should Your Business be Concerned?' in *Mondaq Business Briefing* (April 26, 2010).

into legislation, its enforcement had to be delayed twice because firms had not been provided with sufficient guidelines for implementation.

Up to 2015, there have been few charges under the U.K. Bribery Act 2010, yet these cases are illustrative of the strictness by which the U.K.'s Serious Fraud Office (SFO) seeks to punish violations of the Act. The first individual charged under the Act was a London-based court clerk who pleaded guilty to one count of taking a GBP 500 bribe so as not to put details of a traffic summons into a court database. In November 2011, he was sentenced to six years in prison, three years of which were for violations of the U.K. Bribery Act.

The first charge against agents of a corporation came against four former employees of Sustainable AgroEnergy Plc and associated companies for bribery that occurred between April 2011 and February 2012 in association with selling bio-fuel investment products involving plantations in Southeast Asia. Three individuals were convicted of conspiracy to commit fraud, conspiracy to furnish false information, fraudulent trading, and Bribery Act 2010 offences. They were sentenced to 13, 9, and 6 years' imprisonment and disqualified from being directors for 15, 15, and 10 years, respectively.[7]

The low number of convictions is due to two features of bribery investigations. First, these investigations are diverse, complex, and lengthy, and often involve other jurisdictions. The case of Securency International PTY Ltd is illustrative of the worldwide scope and complexity of bribery cases. Investigations into bribery started in October 2011 and are still ongoing. The first request for the extradition of a British national was made in February 2015; the case currently requires collaboration with jurisdictions in Australia, Nigeria, and Brazil. Second, the low number of convictions is because the Act only applies to cases of bribery that occurred after June 2011. Also, the sensitivity of information revealed by the Serious Fraud Office (SFO) makes it indispensable to keep investigations confidential or to

[7] The fourth person was acquitted of all charges. No charges were made against Sustainable AgroEnergy Plc or its parent company Sustainable Growth Group because Sustainable Growth Group was placed in administration in March 2012.

withhold further details on investigations. Harlequin Property, for instance, has been investigated since March 2013 yet no other information was available 2.5 years later.[8]

1.2 Empirical methodology

One approach to studying the effect of bribes on firm value is to collect data on bribes paid as well as the benefits received from paying bribes using data available from bribery cases detected by regulators. However, (i) detected cases may differ from undetected bribery cases along dimensions that correlate with the value they create, and (ii) using detected cases omits unsuccessful bribery attempts. To alleviate these concerns, I exploit the passage of anti-bribery regulation, specifically the U.K. Bribery Act 2010, and I construct a proxy for firms' likelihood of using bribes from subsidiary data.

In the first part of the analysis, I use event study methodology to examine whether bribes affect firm value. Specifically, I run the regression:

$$CAR_i = \alpha + \beta_1 CE_i + \gamma' \mathbf{X_i} + \varepsilon_i, \qquad (1)$$

where CAR_i denotes the cumulative returns of firm *i* around the day of passage of the Act, CE_i denotes a firm's exposure to corrupt regions, and $\mathbf{X_i}$ is a vector of controls including industry fixed effects. The coefficient of interest $ß_1$ captures whether exposure to corrupt regions impacts firm value around passage of the Act.

One major prediction from auction theory with side payments and costly regulation is that unregulated non-U.K. firms competing directly with U.K. firms are positively affected by the passage of unilateral regulation (e.g., Beck and Maher 1989). I test this prediction using the following regression:

$$CAR_i = \alpha + \beta_1 NO\_UK\_LINK_i + \beta_2 UK\_COMP_i + \beta_3 NO\_UK\_LINK_i \times UK\_COMP_i + \gamma' \mathbf{X_i} + \varepsilon_i, \quad (2)$$

where UK_COMP_i measures the competition of non-U.K. firms with U.K. firms in perceivably corrupt regions, $NO\_UK\_LINK_i$ is a dummy variable equal to one if a non-U.K. firm has no exposure to the U.K.,

[8] The Serious Fraud Office (SFO) lists ongoing cases under https://www.sfo.gov.uk/our-work/our-cases/. Some of these cases relate to bribery but partly bribery that occurred before June 2011 (i.e., before the U.K. Bribery Act was enforced).

and $\mathbf{X_i}$ contains controls including country times industry fixed effects. Of particular interest is $ß_3$ (i.e., whether firms unaffected by the Act and competing with U.K. firms are differentially affected).

In the second part of the analysis, I test for the long-run effects of the U.K. Bribery Act on U.K. firms by running a pooled panel regression, as follows:

$$Y_{i,t} = \alpha + \beta_1 MID\_EVENT_t + \beta_2 MID\_EVENT_t \times UK\_FIRM_i + \beta_3 POST\_EVENT_t + \beta_4 POST\_EVENT_t \times UK\_FIRM_i + \gamma' \mathbf{X_{i,t}} + \varepsilon_{i,t}, \quad (3)$$

where $Y_{i,t}$ is an outcome for firm i at time t, MID_EVENT_t is a dummy variable equal to one if an observation occurs between passage and enforcement of the Act, and $POST\_EVENT_t$ a dummy variable equal to one if an observation occurs after the Act is enforced. UK_FIRM_i denotes firms headquartered in the U.K. $\mathbf{X_{i,t}}$ contains firm fixed effects. Of particular interest are coefficients $ß_2$ and $ß_4$, denoting whether firms headquartered in the U.K. are differentially affected after passage and enforcement. In a key robustness test, I additionally augment this set-up by country times time fixed effects (which makes $ß_1$ and $ß_3$ redundant).

Equation (1) uses heteroscedasticity-robust standard errors that are clustered at the industry level. Equation (2) uses two-way clusters at the industry and country level and equation (3) uses two-way clusters at the year and country level.[9]

2. Data

In this section, I describe the sample and key variables. Appendix 2 contains detailed variable definitions.

2.1 Sample

For the first part of my analysis, I obtain subsidiary information from Orbis, stock return data from Datastream/Worldscope, and accounting data from Osiris. Orbis contains 26,094 unique publicly listed firms with at least one subsidiary in 2008. Matching these to Datastream, I obtain 18,848 firms that are

[9] I have experimented with various dimensions of clusters and obtained similar results. Clustering standard errors at the dimensions mentioned here generally produces the most conservative (largest) standard errors.

active in March 2009 and have price data for March 24-26, 2009.[10] After merging these data with Osiris data, I obtain 12,906 firms (1,244 headquartered in the U.K.) for which assets are larger than zero. For most of my analyses, I require at least 100 return observations during days [-294;-41) relative to March 25, 2009 so as to construct abnormal returns. After removing firms with insufficient return observations and penny stocks, this leaves a final sample of 1,097 firms headquartered in the U.K. and 9,457 firms headquartered outside the U.K.

The second part of my analysis employs subsidiary data from Orbis, as well as M&A and joint venture (JV) data from Zephyr. Zephyr provides information on 238,384 M&As involving 95,877 unique acquirers and 29,815 JVs involving 12,472 unique partners for 2007-2012. I focus on M&As in which the acquirer is public and increases its share in the target to above 50%.

2.2 Main variables

All continuous variables described in the following are winsorized at the 1% and 99% levels, although the results are insensitive to these levels.

Firm value. I measure the effect of the U.K. Bribery Act on firm value using cumulative abnormal returns (*CAR*) on the day of passage of the U.K. Bribery Act (March, 2009) and the day thereafter. I calculate returns on the basis of price changes between closing on March 24, 2009 and closing on March 26, 2009. To calculate *CAR*[0;1], I follow the early work of Fama et al. (1969), although I use daily stock return data and control for firm size and the book-to-market ratio (Fama and French 1993), as well as momentum (Carhart 1997). All portfolios are constructed using local stocks.[11] The estimation period starts 294 days before the event and ends 41 days before the event.

Corruption exposure. Because I do not have a direct measure of bribes paid, I try to capture firms'

[10] In 2008, more than 20% of the firms listed in Datastream/Worldscope are inactive: Datastream/Worldscope does not remove such firms. I identify inactive firms as firms without price movements within 20 trading days prior to March 25, 2009.
[11] I follow Ince and Porter (2006) in "cleaning" daily return data. Long–short portfolios based on size, book-to-market ratio, and momentum are constructed as described in Kenneth French's data library, but for U.K. firms, I split size into the top 30% and the bottom 70% firms in order to account for the skewed size distribution in the U.K. Results are not affected by using these cut-offs.

propensity to use bribes by constructing *Corruption exposure* from firms' exposure to regions with high levels of perceived corruption. For each firm *i*, I combine two data sources as follows:

$$Corruption\ exposure_i = \sum_{c \in C} \left((10 - CPI_c) \times \frac{\#Subsidiaries_{i,c}}{\#Subsidiaries_i} \right),$$

where CPI_c is Transparency International's Corruption Perceptions Index of country *c* in 2008, $\#Subsidiaries_{i,c}$ is the number of subsidiaries headquartered in country *c* and owned by firm *i* in 2008, and $\#Subsidiaries_i$ is the total number of subsidiaries of firm *i* in 2008. By construction, this measure is increasing in firms' exposure to corruption. It is bounded by [0.7; 8.9] because 10 − *CPI* is 10 − 9.3 = 0.7 for the least corrupt countries (Denmark, Sweden, and New Zealand) and is 10 − 1.1 = 8.9 for the most corrupt country (Somalia). In the *Corruption exposure* measure, I assume that each subsidiary is equally important in creating firm value yet the ideal measure would capture the fraction of value attached to certain regions of the world. The robustness section suggests some value-weighted variations of the measure.

Long-run outcome variables. I also consider long-run outcome variables using annual subsidiary, M&A, and JV data for the 2007-2012 period from Orbis and Zephyr. I aggregate firms' revenues by geographic region using subsidiary revenue data of subsidiaries held to 50% or more. The number of acquisitions (joint ventures) at the firm-year level is constructed for all firms that incur at least one acquisition (joint venture) between 2007 and 2012. M&As are restricted to deals where the acquirer increases their share to more than 50% of the target; JVs are restricted to those with at least one public partner.

Controls. Under the U.K. Bribery Act, some firms may incur compliance costs that are related to firm size, which is why I control for the natural logarithm of total assets. Also, some firms may incur a fixed per-subsidiary compliance cost under the Act. I therefore control for the natural logarithm of the number of subsidiaries. Moreover, some firms are more likely than others to be affected by the Act. A number of firms must also comply with other anti-bribery regulations, most notably the U.S. FCPA. *US Link* is a

dummy variable equal to one if a firm is subject to the FCPA, which I infer in two ways: (i) from the Bank of New York's list of ADRs, in combination with Worldscope data, and (ii) from subsidiary data to indicate whether firms have U.S. subsidiaries. Additionally, some firms voluntarily adhere to corporate social responsibility (CSR) standards. Much like the Domini 400 Social Index for S&P 500 firms in the U.S., FTSE Group publishes the FTSE4Good Index for firms in the U.K. Firms listed in this index are those that comply with certain environmental, human rights, social, and stakeholder relations criteria. FTSE Group obtains compliance information from firms and from publicly available sources. Firms voluntarily adhering to CSR standards might be less affected by the Act.[12]

Non-U.K. firms. I proxy for being subject to the U.K. Bribery Act using *U.K. Link*, a dummy variable set equal to 1 if a foreign firm has at least one subsidiary in the U.K. *U.K. Competition* is a dummy set equal to one if at least one of a non-U.K. firm's non-OECD subsidiaries competes directly with a U.K. firm's non-U.K. subsidiary. Direct competition is defined as two subsidiaries operating in the same industry and in the same non-OECD country.

Robustness. In robustness tests, I also study raw returns, variations in the event period, and changes in Tobin's Q. I also provide estimates using alternative corruption measures by additionally weighing subsidiaries by revenues and employing alternative measures of perceived corruption.

2.3 Summary statistics

Summary statistics are presented in Table 1. Panel A shows that the equally-weighted CAR[0;1] for U.K. firms around the event date is -0.43%, suggesting more negative returns for small firms around the event. In line with the notion that the Act may be more costly for firms exposed to perceivably corrupt regions, U.K. firms with foreign subsidiaries have more negative returns. The average (median) sample firm has 41.4 (9) subsidiaries in 2008 and roughly one in six U.K. firms are FTSE4GOOD constituents; 38% of firms have a U.S. link through having an ADR (18%), a U.S. subsidiary (30%), or both. In order to

[12] See Bénabou and Tirole (2010) and Cheng, Hong, and Shue (2014) for reviews of the literature on CSR and firm value.

account for the differences in firms that operate abroad, I repeat my main analysis for the subset of U.K. firms with foreign subsidiaries.

[[INSERT Table 1 about Here]]

In Panel B of Table 1, I present summary statistics for the sample of non-U.K. firms. Non-U.K. firms with U.K. subsidiaries are less exposed to perceivably corrupt regions on average, are larger, and more likely to be cross-listed, to have U.S. exposure, and to be FTSE constituents than non-U.K. without U.K. subsidiary. Some of these differences are magnified because 40% of non-U.K. firms are smaller local firms without foreign subsidiaries. Roughly half of the revenues generated by non-U.K. sample firms outside of the OECD are in direct competition with subsidiaries owned by U.K. parents.

Panel C of Table 1 provides subsidiary, M&A, and JV results for the 2007-2012 sample period. An average sample firm has a *Corruption exposure* of 3.7 through its 21.7 subsidiaries; 63% of subsidiaries, accounting for 73% of revenues, are located in OECD countries. The average sample firm conducts 1.8 M&As per year, three in four in OECD countries. Out of firms' average 2.9 JVs, less than half (41%) take place in OECD countries.

3. The U.K. Bribery Act 2010 and firm value

I now document the results of event studies for U.K. and non-U.K. firms for March 25, 2009 and the day thereafter.

3.1 U.K. firms

Table 2 provides results for the full regression (1) for U.K. firms. The dependent variable is *Cumulative abnormal returns* (*CAR*) [0; 1] in columns (1)-(4) and *Cumulative raw returns* (*CRR*) [0; 1] in columns (5)-(6). Without further controls, *Corruption exposure* loads significantly negatively on abnormal returns with a coefficient of −0.72, i.e., firms that are more exposed to high-corruption regions have more negative abnormal returns around passage of the U.K. Bribery Act (column (1)). This result is robust to controlling for industry fixed effects and further firm-level controls, alleviating concerns that industry

corruption levels or other firm-specific characteristics may drive the result. In the full specification (column (3)), an increase of one standard deviation in *Corruption exposure* is associated with an 0.73% (= 0.79 × 0.93%) decline in firm value, which is equivalent to $12.9 million (= $1,772 million * 0.73%) for the mean firm. One example illustrating a one standard deviation difference in *Corruption exposure* is given by the comparison between an average sample U.K. firm with seven subsidiaries in the U.K., with a *Corruption exposure* of 2.3 (= 10 − 7.7), and an otherwise comparable U.K. firm that operates six subsidiaries in the U.K. and one in Russia; this latter firm's *Corruption exposure* is 3.1 = (10 − 7.7)*(6/7) + (10 − 2.1)*(1/7)).

[[INSERT Table 2 about Here]]

As shown in Table 1, of the U.K. sample firms, 43.4% do not have subsidiaries outside the U.K.; these firms have a *Corruption exposure* of 2.3 by construction. The coefficient for *Corruption exposure* is still significantly negative (−0.79) when I re-run the main regression for firms with at least one foreign subsidiary. None of the other control variables provide explanatory power around the passage of the U.K. Bribery Act; the number of subsidiaries loads insignificantly negatively, while size loads weakly positively.[13] I repeat the main analysis using raw returns and controls (column (5)), as well as additional controls used to construct four-factor alphas (column (6)), and confirm my previous results from Columns (1)-(4).

For robustness, I repeat the analysis using alternative event days, event windows, measures of corruption exposure, measures of firm value, and a sample of non-U.K. firms. I first consider other attempts to pass anti-bribery regulation in the U.K., as well as failures to do so. Using related events alleviates concerns that other events drive the results on March 25, 2009. I follow the procedure described in Section 1.1 to identify announcements in U.K. newspapers of attempts to pass anti-bribery regulation (and the failure of such attempts) in the U.K. during 2000–2011.

[13] The correlation between the natural logarithm of the value of assets and the number of subsidiaries is 0.53. My results are unaffected by removing either (or both) of these controls.

Following the main specification (column (3) in Table 2) for alternative event days, in Table 3 I find that the coefficients on *Corruption Exposure* are not statistically significant on most related event dates, yet they do reliably follow the direction of news in most cases. Specifically, two early announcements of legislative attempts to tackle bribery result in negative returns for firms exposed to perceivably corrupt regions while later events do not incur statistically significant abnormal returns. One may speculate that some of the later events are not associated with statistically significant abnormal returns because these attempts look exactly like earlier attempts that subsequently failed.

[[INSERT Table 3 about Here]]

Stacking all events bearing news in favor of stronger regulation, I find that *Corruption exposure* provides significant explanatory power for abnormal returns on event days; the same is not true for days bearing news on reversals of efforts to toughen regulation. The average event with newspaper coverage in favor of stronger regulation is associated with a coefficient of −0.34% on *Corruption exposure*. To put this estimate into perspective, firms one standard deviation more exposed to perceivably corrupt regions lose 1.88% = 7*0.34%*0.79 over all seven such events. Over five events with newspaper coverage suggesting a weakening of regulation, the average effect is relatively small (0.16% = 5*0.04%*0.79).

Panel B of Table 3 presents the results of alternative event windows up to eight weeks before and after passage of the U.K. Bribery Act. I find the full effect around March 25, 2009, rather than before or after that day.

One concern with the *Corruption exposure* measure is that it weighs subsidiaries equally. In Panel C, I therefore examine a range of alternative measures. Weighing each subsidiary by its revenues reconfirms the main result from Table 2, although with fewer observations and at lower statistical significance. Neither excluding sovereign tax havens from the construction of *Corruption exposure* nor using *Worldwide Governance Indicators*' *Control for Corruption* as a measure of corruption affects results, as shown in Panel C. A further extension is that bribery is more common in certain industries. While industry fixed effects take care of this if subsidiaries operate in the same industry as their

headquarter firms, it might be that some firms are more exposed to certain industries through their subsidiaries. I examine this idea using sector corruption measures obtained from the World Bank's BEEPS survey and from Transparency International's Sectoral Corruption Indicator. Not all industries are captured by these sources, so that the sample size drops considerably. I find that firms more exposed to corrupt industries through operating subsidiaries in corrupt industries are more negatively affected.

Panel D in Table 3 shows that the negative firm value reaction of U.K. firms is also reflected in long-term firm value measures. For the 2007-2012 sample period, I estimate a pooled panel regression using Tobin's Q and revenue growth as dependent variables. Using dummy variables to identify the time after passage of the Act but before enforcement (*mid-event*), as well as the time after enforcement of the Act (*post-event*), I document that Tobin's Q and revenue growth go down after passage, more so for U.K. firms with higher exposure to perceivably corrupt regions and also relative to non-U.K. firms.

I also investigate whether something else may have driven the negative market reaction of U.K. firms with high exposure to perceivably corrupt regions on March 25, 2009 by studying non-U.K. firms. These firms are subject to the U.K. Bribery Act if they are exposed to the U.K. and perceivably corrupt regions. Panel E in Table 3 shows that non-U.K. firms that (i) have a U.K. subsidiary and (ii) higher *Corruption exposure* exhibit more negative abnormal returns on the event date. For such firms, an increase of one standard deviation in *Corruption exposure* is associated with a 0.58% (=1.77 * 0.33) decrease in firm value. Not all non-U.K. firms are equally affected by U.K. regulations, in part because of differences in detection probabilities and costs, prosecution and enforcement probabilities, and reputational losses, but also due to different levels of home country anti-bribery regulation. Splitting the sample into non-U.K. firms headquartered inside and outside of the OECD, I find that the negative spillovers are more pronounced among OECD firms.

This last test also helps rule out an alternative explanation for my main result. It could be that U.K. firms with high exposure to perceivably corrupt regions find it optimal to withdraw from a perceivably corrupt region when facing substantial costs of implementing effective internal anti-bribery

controls without having used bribes in the first place. However, non-U.K. firms are exempted from the internal control requirements in Section 7 of the Act; nevertheless, as shown in Panel E, they are negatively affected on the day the Act is passed.

My results are robust to a range of additional standard event study tests that are unreported for brevity. First, I use non-U.K. indices to calculate *CARs* (Zhang 2007).[14] Second, event-time clustering could bias the coefficient found for *Corruption exposure*. To alleviate this concern, I follow Karpoff and Malatesta (1995) in using seemingly unrelated regressions (SURs) to calculate CARs on portfolios of firms with different levels of exposure to perceivably corrupt countries. Third, results on related events (Table 3 Panel A) are robust when I allow slopes on *Corruption exposure* to shift on event days (following Schipper and Thompson 1983). Finally, the results reported in this paper are not sensitive to other specifications of the estimation period or different treatment of outliers.

3.2 Direct competitors of U.K. firms

I have shown that the U.K. Bribery Act reduced the value of U.K. firms with exposure to perceivably corrupt regions. I now examine spillovers of the U.K. Bribery Act on competitors of U.K. firms.

Table 4 presents the results of regression (2), which tests whether non-U.K. firms with exposure to U.K. competition and without exposure to the U.K. are positively affected by the Act. In addition to dummy variables indicating whether (i) subsidiaries owned by non-U.K. firms compete directly with those owned by U.K. firms and (ii) non-U.K. firms are exposed to the U.K. Bribery Act, I control for non-U.K. firms' *Corruption exposure*. This is important because competing with U.K. firms may be correlated with *Corruption exposure*.[15]

[[INSERT Table 4 about Here]]

[14] Specifically, I follow specification (1a) in Zhang (2007), which contains contemporaneous Canadian, European, and Asian returns, as well as lead European and Asian returns. However, I restrain from using non-local indices in my main specification because, in a competitive setting with unilateral regulation, non-U.K. indices may reflect spillover and competitive effects.
[15] Empirically, the correlation between U.K. competition and corruption exposure is less than 0.1.

The results in Table 4 show that increased exposure to U.K. competition outside the OECD is associated with more positive CARs but only among non-U.K. firms that are not exposed to the U.K. Bribery Act through a U.K. subsidiary (columns (1) and (2)). Firms that are exposed to competition with U.K. firms through their non-OECD subsidiaries and not exposed to the U.K. have 0.51% more positive CARs around the passage of the U.K. Bribery Act.

Competitors of U.K. firms may benefit through two channels. First, some unregulated competitors' expected payoff from offering bribes may increase as regulated firms may decide to quit perceivably corrupt regions, resulting in a reduction in competition (e.g., Beck and Maher 1989). Second, competitors subject to anti-bribery regulation in their home country already but nevertheless competing in corrupt regions may benefit because the U.K. Bribery Act levels the playing field. In an attempt to shed light on the channel driving my main result on non-U.K. firms, I split the sample by headquarter regions. For instance, firms headquartered in OECD countries likely adhere to the OECD Bribery Convention, while U.S. firms likely adhere to the even stricter FCPA. I find that the positive effect of the U.K. Bribery Act on direct competitors is strongest among non-OECD firms (+0.97%), suggesting that presumably less unregulated firms benefit the most. The effect on OECD firms is insignificantly positive, and even less so for U.S. firms. The main result is similar in magnitude when including non-U.K. firms that do not have non-OECD country operations.

One might argue that, rather than the presence of a direct competitor, the size of that competitor is a good proxy for potential business opportunities that become available to non-U.K. firms after passage of the Act. For each non-U.K. firm, I measure the size of U.K. competition by the logarithm of sales made by those U.K. subsidiaries that compete directly with subsidiaries owned by respective non-U.K. firms. As before, I focus on subsidiaries headquartered outside OECD countries. Indeed, I find that non-U.K. firms exposed to competition from larger U.K. subsidiaries prior to passage of the Act have more positive abnormal returns around passage (column (8)).

4. Long-run implications of the U.K. Bribery Act

In order to shed more light on the drivers behind the drop in U.K. firms' value due to the U.K. Bribery Act, I examine U.K. firms' response to the Act in terms of subsidiary locations and revenues, as well as M&A and JV activity.

4.1 Geographic exposure

An increase in the cost of doing business affects the decision to open new subsidiaries or to continue operating existing ones, more so where corruption levels are perceived to be high. Consider a subsidiary whose revenue depends on paying bribes to local authorities. Anti-bribery regulations increase the expected costs of paying bribes, which makes the subsidiary less profitable, perhaps even unprofitable. Similarly, a subsidiary that has to implement costly internal anti-bribery controls due to anti-bribery regulations may turn unprofitable.

To test whether the U.K. Bribery Act affects firms' subsidiary locations, I examine U.K. firms' corruption exposure and their presence in regions where corruption levels are perceived to be high. I employ firm-level data for the 2007-2012 period.

In Panel A of Table 5, I present the results of an analysis of firms' *Corruption exposure*. In constructing the *Corruption exposure* variable, I weigh subsidiary countries using the 2008 Corruption Perceptions Index so that my results are not driven by changes in that index. I denote by *Mid-event* the period after passage of the Act but before its enforcement (2009-2010), and by *Post-event* the years thereafter (2011-2012).

[[INSERT Table 5 about Here]]

I document that, relative to 2007-2008, U.K. firms significantly increased their exposure to corrupt regions by 0.049 during 2009-2010 and by 0.074 (i.e., a further 0.025) thereafter; all sample firms increased their exposure by 0.083 and 0.120, respectively (columns (1)-(2)). Second, comparing the increase in corruption exposure by U.K. firms to that of non-U.K. firms, I find that U.K. firms increased

their exposure more slowly than non-U.K. firms, even after controlling for *industry times year* fixed effects (columns (3) and (4)). This effect occurs immediately after the passage of the U.K. Bribery Act and does not reflect a pre-trend, as shown when including a pre-event dummy for U.K. firms in 2008 (column (5)).

Second, I shed light on whether the relatively lower growth in Corruption exposure exhibited by U.K. firms was driven by (i) increases in U.K. firms' exposure to regions perceived to be less corrupt or (ii) decreases in U.K. firms' exposure to regions perceived to be corrupt.

In Panel B of Table 5, I examine changes in the logarithm of the number of subsidiaries in and outside of OECD countries, as well as in countries that are among the 50 most corrupt countries according to Transparency International's Corruption Perceptions Index, at the firm level. Overall, both U.K. and non-U.K. firms establish more subsidiaries in OECD and non-OECD countries after 2009 (columns (1)-(2) and (5)-(6)). During *Mid-event* and *Post-event* periods, the average sample firm increases its number of OECD subsidiaries by 19.1% and a further 17.4% (= 0.365-0.191), and its number of non-OECD subsidiaries by 23.8% and a further 29.9%, respectively.

Further, relative to non-U.K. firms, U.K. firms engage relatively more in OECD countries right after the passage of the U.K. Bribery Act (columns (3)-(4)), and relatively less in non-OECD countries right after enforcement of the U.K. Bribery Act in 2011 (columns (7)-(8)). This latter effect is economically slightly stronger for subsidiaries in the 50 most corrupt countries (column (9)).

Taken together, after passage of the U.K. Bribery Act, U.K. firms become less exposed to perceivably corrupt regions. Only part of this effect is driven by U.K. firms' reduced engagement in perceivably corrupt regions.

4.2 Revenues

Above I document that the U.K. Bribery Act slowed down U.K. firms' expansion into perceivably corrupt regions. In order to understand whether this development is associated with a drop in revenues or merely

reflects closures of small subsidiaries, I analyze revenues from perceivably corrupt regions at the firm and subsidiary level. In Table 6, the dependent variables are the sum of firms' revenues by region using data from all subsidiaries (columns (1)-(7)) and subsidiary revenues of surviving subsidiaries (i.e., subsidiaries with revenue data in the pre-, mid-, and post-event periods; columns (8)-(9)), respectively.

[[INSERT Table 6 about Here]]

As far as revenue from OECD countries is concerned, U.K. firms experience an increase after passage of the U.K. Bribery Act and a further increase after enforcement. Non-U.K. firms experience a slightly less pronounced increase after passage but catch up during the post-event period (columns (1)-(2)). This increase in revenues may partly reflect recovery from the financial crisis and is robust to additionally controlling for industry times time fixed effects (column (3)).

In terms of revenue from outside of the OECD, U.K. firms experience an increase of 11.6% and 16.3% during the mid- and post-event period, respectively. However, non-U.K. firms' revenues from such regions increase significantly faster after 2011, i.e. after enforcement of the Act (columns (4)-(5)). Economically, after enforcement, U.K. firms' revenues from non-OECD countries grow 11.9 percentage points more slowly after controlling for time-variant industry and parent headquarter country characteristics (column (6)). This effect is much more pronounced when focusing on revenue from the 50 most corrupt countries. Revenue generated by U.K. firms from such countries grew 28 percentage points more slowly after enforcement of the Act (column (7)).

The structure of the Orbis data additionally allows for analysis of subsidiary-level revenue data. This allows for making statements about U.K.-owned subsidiaries in perceivably corrupt regions after controlling for a wide range of subsidiary characteristics, alleviating concerns that U.K. subsidiaries are different. In columns (8) and (9) of Table 6, I focus on surviving subsidiaries. Indeed, compared to subsidiaries owned by non-U.K. firms, subsidiaries owned by U.K. firms experience a drop in revenue of 14.5 percentage points during the post-event period even after controlling for subsidiary fixed effects.

Further controlling for headquarter country times year and industry times year fixed effects, I find that the drop in revenues is significantly more pronounced among U.K.-owned subsidiaries headquartered in regions perceived to be more corrupt, as shown in Column (9), which reconfirms the previous results. This latter result helps alleviate one additional concern: It may be that the drop in firm value exhibited by U.K. firms (Section 3.1) reflects higher expected legal costs and penalties associated with operating in regions perceived to be more corrupt. For this explanation to drive the entire drop in firm value , the revenue of surviving subsidiaries should be unaffected by the Act.

4.3 Mergers and acquisitions

Above, I have shown that U.K. firms added fewer subsidiaries in perceivably corrupt regions than non-U.K. firms after enforcement of the U.K. Bribery Act. I now examine whether one form of opening new subsidiaries—M&A activity—was affected. Notably, acquisitions in perceivably corrupt regions may be associated with additional costs, such as costs of implementing internal controls or costs associated with the probability of such targets engaging in bribery regardless of internal controls. In Table 7, I study M&A activity around passage of the Act (2007-2012). The number of M&As with targets in OECD countries declined throughout mid- and post-event periods; this decline is pronounced for U.K. firms as much as for all sample firms (columns (1)-(3)).

[[INSERT Table 7 about Here]]

A different picture emerges from studying targets outside OECD countries. U.K. firms conducted 7.6% and 5.8% fewer M&As outside OECD countries during the mid- and post-event periods after controlling for firm fixed effects and time-variant industry effects, respectively, while the number of such deals by non-U.K. firms did not change (columns (4)-(6)).

The findings in this subsection show that one form of doing business in perceivably corrupt countries—M&As—was adversely affected by passage of the U.K. Bribery Act.

4.4 Joint ventures

It is not ex ante clear whether U.K. firms engage more or less in JVs after the Act. On the one hand, third-party transactions fall under the provisions of the U.K. Bribery Act; if JV partners are found to be engaged in bribery, U.K. firms are liable for partners' actions. On the other hand, it is harder to detect bribery by third parties and to link such activities back to U.K. firms.

In Table 8, I examine the number of JVs by target region for the 2007-2012 period. Overall, I document a reduction in the number of JVs inside OECD countries; this reduction is neither statistically significant nor more or less pronounced for U.K. firms relative to non-U.K. firms (columns (1)-(3)). Similarly, JV activity outside OECD countries does not increase or decrease throughout the sample period, and decreases only significantly for U.K. firms during the post-event period (columns (4)-(6)). It should be noted that JV data are relatively sparse and potentially biased towards JVs that occurred several years ago; also, JV data do not allow for statements about quality and types of JVs.

[[INSERT Table 8 about Here]]

5. Conclusion

In this paper, I show that passage of the U.K. Bribery Act leads to a permanent drop in the value of U.K. firms, while the value of non-U.K. firms competing directly with U.K. firms increases. Furthermore, passage of the Act adversely affects U.K. firms' economic activity in perceivably corrupt regions.

My evidence is consistent with the notion that bribes are a major aspect of doing business in certain regions. Anti-bribery regulation is costly for affected firms and reduces their ability to do business in some regions but benefits unregulated competitors. Some caution is warranted because part of the Act's effect on firm value may be due to higher expected legal costs and penalties associated with operating in perceivably corrupt regions. Similarly, U.K. firms may withdraw from these regions to avoid the costs of implementing internal controls without ever having used bribes. In order to show that these alternative explanations do not explain the full effect, I document a decline in the revenues of surviving subsidiaries

owned by U.K. firms and a drop in value of non-U.K. firms that are subject to penalties and fines but exempted from the internal control requirements in the Act.

One important topic for future research is whether the regulatory punishment that can be meted out under the U.K. Bribery Act has implications for firm boundaries, such as decisions about whether or not to internalize customers or suppliers. Additionally, I focus on the costs and benefits to firms of anti-bribery regulations. Research on the social benefits and costs of the U.K. Bribery Act for the U.K. but also for perceivably corrupt countries can help depict a more complete picture of the motives for anti-bribery regulation and its implications. This paper constitutes a first step towards understanding the implications of anti-bribery regulation for regulated firms and their unregulated competitors.

Appendix 1: Brief outline of U.K. legislative procedure

In the United Kingdom, a draft (bill) must go through various formal stages in the House of Lords (upper house of Parliament) and the House of Commons (lower house). Once the draft is passed in the same form by both houses, it receives Royal Assent (a formality) and becomes an official act.[16] A timeline of events related to the U.K. Bribery Act 2010 is given in Table A1.

Table A1: Timeline of the legislative process of the U.K. Bribery Act 2010

Date	Stage
Nov. 19, 2009	1st reading: House of Lords
Dec. 9, 2009	2nd reading: House of Lords
Jan. 7, 2010	1st sitting: House of Lords
Jan. 13, 2010	2nd sitting: House of Lords
Feb. 2, 2010	Report stage: House of Lords
Feb. 8, 2010	3rd reading: House of Lords
Feb. 9, 2010	1st reading: House of Commons
Mar. 3, 2010	2nd reading: House of Commons Programme motion: House of Commons
Mar. 16, 2010	1st sitting: House of Commons 2nd sitting: House of Commons
Mar. 18, 2010	3rd sitting: House of Commons 4th sitting: House of Commons
Mar. 23, 2010	5th sitting: House of Commons
Apr. 7, 2010	Report stage: House of Commons 3rd reading: House of Commons
Apr. 8, 2010	Ping pong: House of Lords/Commons Royal Assent

Legislation typically begins in the House of Lords. The first and second readings in the House of Lords transpire in front of the (present) Lords; the first reading is without debate, but concerns can be raised during the second reading. "Sittings" take place in committees of interested members of the House of Lords and are responsible for a detailed, line-by-line examination of the bill. Amendments are collected before sittings and are discussed and voted upon during the sitting. In a House of Lords sitting, the government is not allowed to restrict either the subjects discussed or the time spent in discussion. After sittings, the bill is printed with all agreed amendments and is moved to the report stage, during which any member of the House Lords can make further amendments and vote. The bill is "cleaned up" during the third reading, then it moves to the House of Commons. Here it follows the same steps, although sittings can face both subject and time restrictions. Once amended and voted on during the report stage, the bill is cleaned up and moves back to the House of Lords to ensure that its members agree on the amendments made by the House of Commons. "Ping pong" is the procedure of moving a bill back and forth between both houses until they reach agreement on the exact wording. Royal Assent consists of the Monarch formally agreeing to turn the bill into an Act. If no agreement is reached between the two houses then the bill fails; however, it can be passed by the House of Commons using the Parliament Acts—that is, without consent of the House of Lords.

[16] See http://www.parliament.uk/about/how/laws/passage-bill/lords/lrds-lords-first-reading/ (accessed August 15, 2013) for an excellent illustrative description of the process.

Appendix 2: Variable definitions

Variable	Description	Data Source
Firm value measures		
Cumulative abnormal returns [a;b]	Cumulative daily abnormal returns in % from closing on day *a*-1 to closing of day *b* relative to some event date. Unless stated otherwise, the event date is March 25, 2009. Daily abnormal returns are obtained from parameters of a four-factor Carhart (1997) model estimated over days [−294; −41] relative to event days. *Excess return on the market* is the return of the local index over and above the local risk-free rate. *Size* and *book-to-market* ratio are constructed using the cutoffs described in Kenneth French's data library but using accounting data from Osiris; Momentum is constructed as described in Kenneth French's data library using returns on two size portfolios and three momentum portfolios (2x3 = 6 portfolios).	Datastream
Cumulative raw returns [a;b]	Cumulative daily stock returns in % from closing on day *a*-1 to closing of day *b* relative to some event day. Unless stated otherwise, the event date is March 25, 2009.	Datastream
Tobin's Q	(MV of Total Equity+MV of Total Liabilities)/(BV of Total Shareholder Equity +BV of Total Liabilities). Regressions use the natural logarithm.	Orbis
Corruption exposure measures		
Corruption exposure (main measure)	Combines, for each firm, subsidiary location data from Orbis with Transparency International's Corruption Perceptions Index (CPI). For each firm, *Corruption exposure* is the sum—over all countries—of the percentage of the firm's subsidiaries headquartered in the focal country in 2008 multiplied by the CPI of that country in 2008. The resulting sum is subtracted from 10 (the upper limit of the CPI) so that *Corruption exposure* is increasing in firms' exposure to high-corruption regions. This is the main measure used throughout the paper.	Orbis, Transparency International (TI)
Corruption exposure value-weighted by subsidiary revenues	Constructed like the main *Corruption exposure* measure (see above) but additionally weighing by the fraction of revenues generated from firms' subsidiaries.	Orbis, TI
Corruption exposure equally-weighted excluding tax havens	Constructed like the main *Corruption exposure* measure but excluding territories characterized as tax havens as per OECD's Grey List (as of August 17, 2009).	Orbis, TI, OECD
Corruption exposure equally-weighted using World Governance Indicators (WGI)	Constructed like the main *Corruption exposure* measure but using the *Control of Corruption* measure provided by Worldwide Governance Indicators (WGI).	Orbis, Worldwide Governance Indicators
Corruption exposure equally-weighted using *BEEPS Survey* Sector Corruption levels	Constructed like the main corruption exposure measure but using subsidiaries' industry corruption levels to weigh observations. Industry corruption levels are obtained from the 2009 version of the EBRD–World Bank Business Environment and Enterprise Performance Survey (BEEPS). This survey was conducted in 2008–2009 among 11,800 firms from 29 Eastern European and Asian countries. The corruption measure tabulates, by industry, the percentage of firms responding "major" (i.e., 4 on a 5-point scale) to this question: "please… [indicate whether this] factor is No Obstacle, a Minor Obstacle, a Moderate Obstacle, a Major Obstacle, or a Very Severe Obstacle to the current operations of this establishment" when the factor in question is "corruption." Respondents provide primary SIC codes, which are converted into the Fama–French industry classifiers.	Orbis, World Bank Business Environment and Enterprise Performance Survey (BEEPS)
Corruption exposure using *BEEPS Survey* Sector Corruption levels (value-weighted by subsidiary revenues)	Constructed as before but additionally weighing by the fraction of revenues generated from firms' subsidiaries.	Orbis, World Bank Economic Survey
Corruption exposure equally weighted using Transparency International's Sectoral Corruption levels	Constructed like the main corruption exposure measure but using Transparency International's Sector Corruption measure associated with the industry of firms' subsidiaries to weigh observations.	Orbis, TI

Controls		
Market value	Market value at the end of the calendar year.	
Assets	Total assets. Regressions use the natural logarithm.	Orbis
# Subsidiaries	Number of subsidiaries owned to more than 50%. Regressions use the natural logarithm.	Orbis
FTSE4GOOD	For U.K. firms, this is a dummy set equal to 1 if a firm was part of the FTSE4Good U.K. Index in 2008. For non-U.K. firms, this is a dummy set equal to 1 if a firm was part of the FTSE4Good All Index in 2008.	FTSE Group
ADR	A dummy variable set equal to 1 if a firm has an ADR in the U.S. in March 2009 or in the prior two years.	BNY Mellon
US subsidiary	A dummy set equal to 1 if a firm has a U.S. subsidiary in 2008.	Orbis
Beta	The coefficient on market excess returns in a regression of firm excess returns on market excess returns over days [−294; −41] before March 25, 2009.	Datastream
Market-to-book	Market value in 2008 over book value in 2008.	Orbis
Momentum	Cumulative raw returns over the 6 months up to 41 days before March 25, 2009.	Datastream
UK subsidiary	A dummy set equal to 1 if a firm has a U.K. subsidiary in 2008.	Orbis
Foreign subsidiary	A dummy set equal to 1 if a firm has a foreign subsidiary in 2008.	Orbis
Competes with U.K. firm outside OECD	A dummy variable set equal to 1 if at least one of a non-U.K. firm's non-OECD subsidiaries competes directly with a U.K. firm's subsidiary. A non-U.K. firm's subsidiary is defined as competing directly with a U.K. firm if that subsidiary (i) is headquartered in the same non-OECD country as at least one U.K. firm's subsidiary and (ii) operates in the same Fama-French 48 industry as that subsidiary.	Orbis
Subsidiaries, M&As, and JVs		
Number All	The number of subsidiaries/M&As/JVs at the firm-year level. Restricted to subsidiaries held to more than 50%, M&As that lead to >50% control, and JVs involving at least one public partner. Regressions use the natural logarithm.	Orbis, Zephyr
% … in OECD	% of subsidiaries/M&A targets/JV partners headquartered in OECD countries at the firm-year level.	Orbis, Zephyr
% Revenues OECD	% of firm revenues from OECD subsidiaries at the firm-year level. Uses data from all subsidiaries.	Orbis
% Firms with OECD (non-OECD) …	% of firms with at least one OECD (non-OECD) subsidiary/M&A/JV at the firm-year level.	Orbis, Zephyr
Subsidiary revenues	Average revenues obtained from a firm's subsidiary at the subsidiary-year level. Restricted to surviving subsidiaries, i.e. subsidiaries with revenue data in the pre-mid-, and post-event periods. Regressions use the natural logarithm.	Orbis
Time dummies		
Mid-event	A dummy set equal to 1 in years 2009 and 2010, i.e. in years during which the draft of the U.K. Bribery Act 2010 was passed by the government commission but not enforced.	
Post-event	A dummy set equal to 1 in years 2011 and 2012 (i.e., years during which the U.K. Bribery Act 2010 was enforced).	
Country classifications		
OECD	A dummy set equal to 1 if a firm is headquartered in/has a subsidiary in an OECD country.	
OECD non-US	A dummy set equal to 1 if a firm is headquartered in/has a subsidiary in an OECD country other than the U.S.	
Non-OECD	A dummy set equal to 1 if a firm is not headquartered in/does not have a subsidiary in an OECD country.	

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Table 1
Summary statistics

This table provides summary statistics for variables used in event studies for U.K. firms (Panel A) and non-U.K. firms (Panel B), as well as in the analysis of firms' responses to passage of the U.K. Bribery Act (Panel C). Appendix 2 provides detailed variable definitions. All continuous variables are winsorized at the 1% and 99% levels. In Panels A and B, observations are at the firm-level using 2008 data, with the exception of *Cumulative abnormal returns*, which denote abnormal returns relative to March 25, 2009 (when the draft of the U.K. Bribery Act was passed) and the next day. In Panel A, firms are additionally split by *Foreign subsidiary*, a dummy variable set equal to 1 if a firm has at least one subsidiary outside of the U.K. in 2008. In Panel B, firms are split by *U.K. subsidiary*, a dummy set equal to 1 if a firm has at least one subsidiary in the U.K. in 2008. ** and *** denote significance at the 5% and 1% level respectively. In Panel C, observations are at the firm-year (except *Subsidiary revenues ($000s)*, which is at the subsidiary-year level) over the 2007-2012 period.

Panel A: U.K. firms

	Mean	SD	Median	# Obs	Foreign Subsidiary		Difference	
					Yes	No		
Cumulative abnormal returns *CAR[0;1]*	-0.43%	2.38%	-0.52%	1,097	-0.55%	-0.27%	-0.28%	**
Corruption exposure	2.56	0.79	2.30	1,244	2.76	2.30	0.46	***
Market value ($mn)	1,772	9,813	107	1,244	2,833	400	2,433	***
Number of subsidiaries	41.4	256.9	9.0	1,244	65.4	10.3	55.1	***
FTSE4Good (dummy)	16.1%	36.7%	0.0%	1,244	22.4%	7.9%	14.5%	***
ADR (dummy)	17.6%	38.1%	0.0%	1,244	25.6%	7.2%	18.4%	***
US subsidiary (dummy)	30.2%	45.9%	0.0%	1,244	56.4%	0.0%	56.4%	***
US link (dummy)	37.9%	48.5%	0.0%	1,244	61.6%	7.2%	54.4%	***
Foreign subsidiary (dummy)	56.4%	49.6%	100.0%	1,244				

Panel B: Non-U.K. firms

	Mean	SD	Median	#Obs	U.K. Subsidiary		Difference	
					Yes	No		
Cumulative abnormal returns *CAR*[0;1]	0.27%	3.45%	-0.02%	9,457	0.36%	0.24%	0.12%	
Corruption exposure	3.48	1.77	2.72	11,662	2.93	3.69	(0.76)	***
Market value ($mn)	2,824	12,600	339	11,662	5,856	1,668	4,188	***
Number of subsidiaries	27.8	125.4	8.0	11,662	64.3	13.9	50.4	***
FTSE4Good (dummy)	2.6%	16.0%	0.0%	11,662	6.8%	1.0%	5.8%	***
ADR (dummy)	10.9%	31.2%	0.0%	11,662	18.5%	8.0%	10.5%	***
US subsidiary (dummy)	45.7%	49.8%	0.0%	11,662	73.2%	35.2%	38.0%	***
US link (dummy)	51.7%	50.0%	100.0%	11,662	78.5%	41.5%	37.0%	***
US link (non-U.S. firm; dummy)	32.3%	46.8%	0.0%	6,749	64.7%	22.4%	42.3%	***
Competes with U.K. firm outside OECD	43.2%	49.5%	0.0%	2,510	66.5%	31.4%	35.1%	***
Foreign subsidiary (dummy)	58.6%	49.3%	100.0%	11,662	100.0%	42.8%	57.2%	***
U.K. subsidiary (dummy)	27.6%	44.7%	0.0%	11,662				

Panel C: Subsidiaries, revenues, M&As, and JVs

	Mean	SD	Median	# Obs
(i) Subsidiaries				
Number all	21.7	104.9	6.0	84,256
% Subsidiaries in OECD	63%	44%	92%	84,256
% Revenues OECD	73%	43%	100%	84,256
% Firms with OECD subsidiary	73%	45%	100%	84,256
% Firms with non-OECD subsidiary	54%	50%	100%	84,256
Subsidiary revenues ($mn)	311	602.7	15.1	784,464
(ii) Mergers and Acquisitions (M&As)				
Number all	1.8	1.8	1.0	16,675
% Target in OECD	76%	41%	100%	16,675
% Firms with OECD M&A target	79%	41%	100%	16,675
% Firms with non-OECD M&A target	30%	46%	0%	16,675
(iii) Joint Ventures (JVs)				
Number all	2.9	1.7	2.0	2,250
% Partner in OECD	41%	48%	0%	2,250
% Firms with OECD JV partner	43%	50%	0%	2,250
% Firms with non-OECD JV partner	62%	49%	100%	2,250

Table 2
Firm value of U.K. firms around passage of the U.K. Bribery Act

This table relates returns of U.K. firms around the passage of the U.K. Bribery Act to firm characteristics. The sample consists of all publicly listed U.K. firms, with the exception of column (4), which focuses on U.K. firms with at least one foreign subsidiary. The dependent variable is *Cumulative abnormal returns* [0;1] in columns (1)-(4) and *Cumulative raw returns* [0;1] in columns (5) and (6). These returns are relative to March 25, 2009 (when the draft of the U.K. Bribery Act was passed) and the next day. Appendix 2 provides detailed variable definitions. All continuous variables are winsorized at the 1% and 99% levels. Industry fixed effects (Fama–French 48) are included as indicated. Standard errors are clustered at the industry level. *t*-statistics are given in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	Dependent Variable: Cumulative abnormal returns [0;1]				Dependent Variable: Cumulative raw returns [0;1]	
	All Firms	All Firms	All Firms	Firms with Foreign Subsidiary	All Firms	All Firms
	(1)	(2)	(3)	(4)	(5)	(6)
Corruption exposure	-0.717**	-0.838**	-0.925**	-0.791*	-0.842**	-0.931**
	(-2.08)	(-2.26)	(-2.42)	(-1.85)	(-2.20)	(-2.43)
LN(Assets)			0.223	0.511	0.454**	0.226
			(1.00)	(1.60)	(2.48)	(1.01)
LN(# Subsidiaries)			-0.204	-0.021	-0.317	-0.206
			(-0.64)	(-0.05)	(-0.99)	(-0.64)
FTSE4GOOD (dummy)			-1.306	-0.835	-1.422	-1.285
			(-1.30)	(-0.67)	(-1.43)	(-1.28)
US link (dummy)			-0.607	-0.500	-0.526	-0.587
			(-0.81)	(-0.52)	(-0.71)	(-0.78)
Beta						0.979
						(0.77)
Market-to-book						0.022
						(0.70)
Momentum						-0.728
						(-1.18)
Industry FE	No	Yes	Yes	Yes	Yes	Yes
N	1,097	1,097	1,097	618	1,097	1,097
Adj. R^2	0.004	0.043	0.055	0.096	0.053	0.055

Table 3

Robustness tests

This table provides robustness tests for the main results (Table 2). Panel A replicates the main result for alternative event dates. Each row shows the coefficient on *Corruption exposure* when replicating the main specification (Table 2, column (3)) on a day with news concerning bribery regulation and the day thereafter. The left-hand side variable *Cumulative abnormal return* [0;1] is based on abnormal returns obtained relative to these alternative days. Events are derived from a Factiva search for "bribery" in U.K. newspapers. The table reports the coefficient for *Corruption exposure* constructed using Orbis data for the relevant year, using 2005 data for events prior to 2005. Besides the controls used in Table 2, the stacked regressions also contain date fixed effects multiplied with industry fixed effects, and standard errors are clustered at the firm level. For the stacked regression with all events, values for *CAR*[0;1] of events with the predicted positive direction are multiplied by −1. Panel B replicates the main result (Table 2, column (3)) using alternative event windows around the event date to construct the dependent variable. Panel C replicates the main specification (Table 2, column (3)) using alternative geographic and industry-level measures of *Corruption exposure.* Panel D relates long-run measures of firm value and revenue growth to firm characteristics for a panel of firms for 2007-2012. In columns (1)-(4), the dependent variable is the natural logarithm of *Tobin's Q*, and in Column (5), the dependent variable is *Revenue growth*. Corruption exposure is measured as before but held constant after 2009. Controls include the logarithm of total assets and fixed effects as denoted. Columns (1)-(2) consider publicly listed firms headquartered in the U.K.; other columns consider the Osiris universe of firms with available data. Standard errors are clustered at the year and country level (2-way clusters). Panel E documents spillovers of the U.K. Bribery Act to non-U.K. firms with exposure to the U.K.. Columns (1)-(2) consider all sample firms, columns (3)-(4) consider sample firms headquartered in the OECD (excluding the U.K.), and columns (5)-(6) consider firms headquartered outside the OECD. The dependent variable is *Cumulative Abnormal Returns* relative to March 25, 2009 (when the draft of the U.K. Bribery Act was passed) and the next day. Country fixed effects interacted with industry fixed effects (Fama–French 48) are included. Standard errors are clustered at the country and industry level. Appendix 2 provides detailed variable definitions. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Alternative bribery-related events

Date	Headline/Content	Source	Predicted direction	Corruption exposure	# Obs
03/30/2000	OECD urges U.K. to toughen anti-bribery laws	The Guardian	-	-0.241%	852
05/23/2000	U.K. government to announce new laws aimed at bribery crackdown	The Guardian; Financial Times	-	0.344%	843
06/21/2000	U.K. home secretary announces new anti-bribery law	The Independent; The Guardian	-	-0.535%**	829
11/09/2001	U.K. Government announces measures to tackle international corruption, proposes tightening bribery laws, pushes for crack-down on bribery by Britons abroad	Associated Press Newswires; Evening News - Scotland	-	-0.513%*	978
09/02/2002	British anti-corruption plans branded toothless	The Guardian	+	-0.103%	996
03/25/2003	U.K. government issues draft corruption bill	WMRC Daily Analysis	-	0.072%	993
08/01/2003	Corruption bill faces delay over loopholes	Financial Times	+	0.043%	1,072
02/18/2004	U.K. government backtracks over bribery	Financial Times	+	-0.052%	1,112
12/09/2005	Corruption laws to be overhauled in the U.K.	Global Insight Daily Analysis	-	-0.073%	1,219
11/19/2008	Bribery law reform plans focus on overseas work of businesses; managers face jail in bribery cases (published 20/11/2008)	The Times; Press Association National Newswire; The Guardian; The Daily Telegraph	-	-0.121%	1,367
07/20/2010	Clark delays enforcement of bribery law	Financial Times	+	0.109%	1,244
01/31/2011	U.K. delays enforcement of U.K. Bribery Act 2010 by 3 more months	The Wall Street Journal; Reuters	+	-0.030%	1,286
Stacked regressions					
All events with positive direction			1	0.040%	5,710
All events with negative direction			-1	-0.337%***	7,081
All events				-0.223%*	12,791

Panel B: Alternative event windows

	Around Event		Before Event			After Event		
	CAR [-10;10]	CAR [-1;+1]	CAR [-40;-11]	CAR [-10;-1]	CAR [-2;-1]	CAR [+2;+3]	CAR [+2;+10]	CAR [+11;+40]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Corruption Exposure	-0.848*	-0.988**	-0.006	0.001	0.008	0.023	-0.029	0.007
	(-1.89)	(-2.21)	(-0.29)	(0.00)	(0.09)	(0.25)	(-0.72)	(0.40)
Constant & Controls	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y
N	1,097	1,097	1,097	1,097	1,097	1,097	1,097	1,097
Adj. R^2	0.110	0.061	0.140	0.103	0.075	0.052	0.088	0.070

Panel C: Alternative measures of corruption exposure

	Geographic measures			Industry measures		
	Using Transparency International Corruption Measure	Using Transparency International Corruption Measure	Using Worldwide Governance Indicators Corruption Measure	Using World Bank *BEEPS* Survey Corruption Measure	Using World Bank *BEEPS* Survey Corruption Measure	Using Transparency International's Sectoral Corruption Measure
	Value-weighted by subsidiary revenues	Equally-weighted by subsidiary count excl. tax havens	Equally-weighted using Orbis subsidiary count	Equally-weighted by #subsidiaries in sector	Value-weighted by subsidiary revenues in sector	Equally-weighted by #subsidiaries in sector
	(1)	(2)	(3)	(4)	(5)	(6)
Corruption Exposure	-0.844*	-0.925**	-2.003*	-1.146*	-1.027*	-0.603
	(-1.94)	(-2.27)	(-1.80)	(-1.79)	(-1.75)	(-0.34)
Controls	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y
N	935	1097	1068	753	753	477
Adj. R^2	0.015	0.053	0.017	0.008	0.010	0.038

Panel D: Long-term firm value implications

	Dependent Variable: Tobin's Q				Dependent Variable: Revenue Growth
	U.K. Firms	U.K. Firms	All Firms	All Firms	All Firms
	(1)	(2)	(3)	(4)	(5)
Mid-Event * UK	-0.148		-0.090***		
	(-1.67)		(-3.70)		
Post-Event * UK	-0.121		-0.024*		
	(-1.54)		(-2.10)		
CPI * Mid-Event * UK		-0.042*		-0.058**	-0.020
		(-2.02)		(-3.05)	(-1.10)
CPI * Post-Event * UK		-0.050**		-0.040*	-0.060***
		(-2.97)		(-2.09)	(-4.30)
Mid-Event			-0.058		
			(-0.74)		
Post-Event			-0.097		
			(-1.27)		
CPI * Mid-Event				0.018**	-0.026**
				(3.15)	(-2.01)
CPI * Post-Event				0.004	-0.031**
				(0.65)	(-2.38)
Controls	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y
Year FE	N	Y	N	-	-
Country - Year FE	N	N	N	Y	Y
N	10,175	10,175	105,062	105,062	94,866
Adj. R^2	0.738	0.751	0.762	0.770	0.655

Panel E: Spillovers of the U.K. Bribery Act 2010 on non-U.K. firms with U.K. exposure

	All non-U.K. firms		OECD non-U.K. firms		Non-OECD firms	
	CAR[0;1]	CAR[0;1]	CAR[0;1]	CAR[0;1]	CAR[0;1]	CAR[0;1]
	(1)	(2)	(3)	(4)	(5)	(6)
Corruption exposure	-0.067	-0.024	-0.157	-0.060	0.104	0.153
	(-0.59)	(-0.20)	(-0.93)	(-0.34)	(0.75)	(1.03)
UK Subsidiary (dummy)	-0.063	0.874*	-0.182	1.246*	0.708	1.840
	(-0.30)	(1.65)	(-0.80)	(1.82)	(1.40)	(1.59)
Corruption Exposure X UK Subs. (dummy)		-0.326**		-0.529**		-0.277
		(-2.01)		(-2.26)		(-1.07)
Constant & Controls	Y	Y	Y	Y	Y	Y
Country * Industry FE	Y	Y	Y	Y	Y	Y
N	9,457	9,457	6,955	6,955	2,502	2,502
Adj. R^2	0.151	0.151	0.121	0.121	0.248	0.248

Table 4

Spillovers of the U.K. Bribery Act on direct competitors of U.K. firms

This table relates returns of non-U.K. firms around the passage of the U.K. Bribery Act to firm characteristics. The dependent variable *CAR* is constructed as in Table 1. In columns (1)-(7), the key control variable is *Competes with UK Firm outside OECD*, a dummy variable set equal to 1 if at least one of a non-U.K. firm's non-OECD subsidiaries competes directly with a U.K. firm's subsidiary. A non-U.K. firm's subsidiary is defined as competing directly with a U.K. firm if (i) that subsidiary is headquartered in the same non-OECD country as at least one U.K. firm subsidiary and (ii) that subsidiary operates in the same Fama-French 48 industry as the U.K. firm's subsidiary. In column (8), competition with U.K. firms is measured by the logarithm of average sales made by those U.K. subsidiaries that compete directly with subsidiaries owned by respective non-U.K. firms. *No U.K. Subsidiary* is a dummy equal to 1 if a non-U.K. firm does not have a U.K. subsidiary in 2008. Other controls are those included in Table 2 Column (3) and described in Appendix 2. Sample firms are all firms headquartered outside the U.K. that have at least one non-OECD subsidiary. Columns (3)-(6) further reduce this sample to firms headquartered in certain regions and column (7) contains all non-U.K. firms. Fixed effects are included as indicated. All continuous variables are winsorized at 1% and 99% level. Standard errors are clustered at the country and industry level. *t*-statistics are given in parentheses; *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	Competition Measure: Dummy							Competition Measure: Sales
	All non-U.K. Firms	All non-U.K. Firms	OECD non-U.K. Firms	OECD Non-U.S. Firms	U.S. Firms	Non-OECD Firms	All non-U.K. Firms	All non-U.K. Firms
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
U.K. Comp. X No U.K. Sub		0.514*	0.380	0.520	0.320	0.973***	0.591*	0.093**
		(1.91)	(1.21)	(1.32)	(0.58)	(3.08)	(1.80)	(2.07)
U.K. Competition	0.239	-0.012	-0.075	0.163	-1.101*	0.056	0.118	-0.058
	(0.99)	(-0.07)	(-0.30)	(0.61)	(-1.88)	(0.25)	(0.79)	(-1.58)
No U.K. Subsidiary	0.059	0.117	0.047	0.204	-0.235	0.408***	0.143	-0.008
	(0.81)	(1.25)	(0.40)	(1.45)	(-1.26)	(2.83)	(1.50)	(-0.05)
Corruption exposure	-0.060	-0.009	-0.026	-0.053	0.022	0.021	-0.009	-0.023
	(-1.38)	(-0.37)	(-0.67)	(-1.22)	(0.30)	(0.64)	(-0.33)	(-0.31)
Constant & Controls	Y	Y	Y	Y	Y	Y	Y	Y
Country X Ind FE	Y	Y	Y	Y	N	Y	Y	Y
Industry FE	-	-	-	-	Y	-	-	-
N	2,510	2,510	2,068	1,254	814	442	9,457	2,510
Adj. R^2	0.058	0.059	0.064	0.035	0.054	0.081	0.018	0.061

Table 5
Geographic exposure

This table relates changes in firms' *Corruption exposure* (Panel A) and number of subsidiaries by region (Panel B) between 2007 and 2012 to firm characteristics. In Panel A, the dependent variable *Corruption exposure* is constructed as described in Table 1, although subsidiary data are from Orbis for 2007-2012 and Transparency International's Corruption Perceptions Index for 2008 is used after 2008. The dependent variable in Panel B is the logarithm of the number of subsidiaries headquartered in OECD countries (columns (1)-(4)), non-OECD countries (columns (5)-(8)), and the 50 most corrupt countries by Transparency International's Corruption Perceptions Index in 2007 (column (9)). Controls include the logarithm of total assets and fixed effects as indicated. Appendix 2 provides detailed variable definitions. All continuous variables are winsorized at the 1% and 99% levels. Standard errors are clustered at the year and country level. *t*-statistics are given in parentheses; *, ** and *** denote significance at (respectively) the 10%, 5% and 1% level.

Panel A: Corruption exposure

	Sample: U.K. Firms	Sample: All Firms			
	(1)	(2)	(3)	(4)	(5)
Mid-Event * U.K.	0.049**		-0.040*	-0.033*	-0.021*
	(3.35)		(-2.09)	(-2.01)	(-1.84)
Post-Event * U.K.	0.074***		-0.051**	-0.044**	-0.032**
	(11.05)		(-2.75)	(-2.77)	(-2.57)
Mid-Event		0.083**	0.088**		
		(2.87)	(2.81)		
Post-Event		0.120***	0.126***		
		(5.52)	(5.20)		
Before * U.K.					0.014
					(1.26)
Controls	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y
Ind-Year FE	N	N	N	Y	Y
N	7,199	84,256	84,256	84,256	84,256
Adj. R^2	0.899	0.964	0.964	0.964	0.964

Panel B: Number of subsidiaries

	Dependent Variable: LN (1 + #Subsidiaries headquartered in the OECD)				Dependent Variable: LN (1 + #Subsidiaries headquartered outside the OECD)				Dependent Variable: LN (1 + #Subsidiaries in 50 countries perceived to be most corrupt)
	U.K. Firms	All Firms	All Firms	All Firms	U.K. Firms	All Firms	All Firms	All Firms	All Firms
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mid * U.K.	0.335**		0.160**	0.123***	0.270*		0.039	0.013	-0.014
	(4.39)		(1.99)	(3.12)	(2.53)		(1.81)	(0.69)	(-0.56)
Post * U.K.	0.398***		0.039	-0.004	0.430***		-0.118**	-0.129***	-0.145***
	(11.34)		(0.76)	(-0.09)	(30.24)		(-4.54)	(-5.39)	(-8.06)
Mid-Event		0.191***	0.175***			0.238***	0.235**		
		(4.54)	(4.00)			(2.73)	(2.43)		
Post-Event		0.365***	0.359***			0.537***	0.547***		
		(9.54)	(8.93)			(6.34)	(5.79)		
Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ind-Yr FE	N	N	N	Y	N	N	N	Y	Y
N	7,199	84,256	84,256	84,256	7,199	84,256	84,256	84,256	84,256
Adj. R^2	0.883	0.927	0.927	0.928	0.868	0.872	0.872	0.875	0.876

Table 6
Subsidiary revenues

This table reports revenue around the passage of the U.K. Bribery Act for a panel of firms (columns (1)-(7)) and subsidiaries (columns (8)-(9)) over the 2007-2012 period. In columns (1)-(7), the dependent variable is the logarithm of revenues generated by firms' subsidiaries headquartered in OECD countries (columns (1)-(3)), in non-OECD countries (columns (4)-(6)), and in the 50 most corrupt countries by Transparency International's Corruption Perceptions Index in 2008 (column (7)). Columns (8) and (9) consider subsidiary-level revenues of subsidiaries that existed since 2007. Controls include the logarithm of total assets and fixed effects as indicated. Appendix 2 provides detailed variable definitions. All continuous variables are winsorized at the 1% and 99% levels. Columns (1) and (4) consider firms headquartered in the U.K.; all other columns consider all firms. Standard errors are clustered at the year and country level. *t*-statistics are given in parentheses; *, ** and *** denote significance at (respectively) the 10%, 5% and 1% level.

	Dependent Variable:			Dependent Variable:			Dependent Variable:	Dependent variable:	
	LN(Firm revenues inside OECD)			LN(Firm revenues outside OECD)			LN(Firm rev. from 50 countries perceived to be most corrupt)	LN(Subsidiary Revenue)	
	U.K. Firms	All Firms	All Firms	U.K. Firms	All Firms	All Firms	All Firms	All Firms	All Firms
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mid * U.K.	0.227***	0.083**	0.085**	0.116***	-0.019	0.003	-0.051**	-0.053	
	(3.98)	(2.26)	(2.22)	(2.66)	(-0.41)	(0.06)	(-2.32)	(-0.99)	
Post * U.K.	0.346***	0.016	-0.037	0.163***	-0.149***	-0.119**	-0.277***	-0.145***	
	(4.22)	(0.28)	(-0.23)	(3.48)	(-2.93)	(-2.27)	(-6.31)	(-2.61)	
Mid-Event		0.142**			0.134***			0.032	
		(2.24)			(7.60)			(1.11)	
Post-Event		0.334***			0.313***			0.041	
		(11.28)			(16.97)			(1.22)	
Mid*U.K.*CPI									-0.016
									(-1.63)
Post*U.K.*CPI									-0.033***
									(-3.87)
Mid * CPI									0.035***
									(3.16)
Post * CPI									0.061***
									(5.19)
Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y	Y	N	N
Sub FE	N	N	N	N	N	N	N	Y	Y
Ind-Yr FE	N	N	Y	N	N	Y	Y	N	Y
Ctr-Yr FE	N	N	N	N	N	N	N	N	Y
N	7,199	84,256	84,256	7,199	84,256	84,256	84,256	784,464	784,464
Adj. R^2	0.839	0.901	0.901	0.753	0.804	0.807	0.814	0.950	0.951

Table 7
M&A activity

In a panel of public firms, this table reports changes in the number of mergers and acquisitions (M&As) by target region for 2007-2012. Sample firms are firms that engaged in at least one M&A activity during the sample period; the number of M&As is set to zeros in years in which such firms do not conduct an M&A. The dependent variable is the logarithm of (1 + the number of M&A targets headquartered in OECD countries) (columns (1)-(3)) and the logarithm of (1 + the number of M&A targets headquartered in non-OECD countries) (columns (4)-(6)). Controls include the logarithm of total assets and fixed effects as indicated. Appendix 2 provides detailed variable definitions. All continuous variables are winsorized at the 1% and 99% levels. Standard errors are clustered at the year and country level. *t*-statistics are given in parentheses; *, ** and *** denote significance at (respectively) the 10%, 5% and 1% level.

	Dependent Variable: LN(1 + # Targets in OECD)			Dependent Variable: LN(1 + # Targets outside OECD)		
	U.K. Firms	All Firms	All Firms	U.K. Firms	All Firms	All Firms
	(1)	(2)	(3)	(4)	(5)	(6)
Mid * U.K.	-0.125***	0.032	0.047	-0.001	-0.066*	-0.076**
	(-4.88)	(0.94)	(1.20)	(-0.11)	(-2.09)	(-2.68)
Post * U.K.	-0.105**	0.028	0.044	0.008	-0.051	-0.058
	(-3.31)	(0.92)	(1.39)	(0.35)	(-1.32)	(-1.43)
Mid-Event		-0.125**			0.001	
		(-3.51)			(0.06)	
Post-Event		-0.087**			-0.007	
		(-3.13)			(-0.59)	
Controls	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Industry-Year FE	N	N	Y	N	N	Y
N	2,006	16,675	16,675	2,006	16,675	16,675
Adj. R^2	0.289	0.418	0.420	0.160	0.440	0.439

Table 8
Joint venture (JV) activity

In a panel of public firms, this table reports changes in the number of joint ventures (JVs) by target region for 2007-2012. JV data are from Zephyr. Sample firms are firms that engaged in at least one JV activity during the sample period. The dependent variable is the logarithm of (1 + the number of JVs with partners headquartered in OECD countries) (columns (1)-(3)) and the logarithm of (1 + the number of JVs with partners headquartered in non-OECD countries) (columns (4)-(6)), set to zero in years in which firms did not conduct a JV. Controls include the logarithm of total assets and fixed effects as indicated. Appendix 2 provides detailed variable definitions. All continuous variables are winsorized at the 1% and 99% levels. Standard errors are clustered at the year and country level. *t*-statistics are given in parentheses; *, ** and *** denote significance at (respectively) the 10%, 5%, and 1% levels.

	Dependent Variable: LN(1 + # Partners in OECD)			Dependent Variable: LN(1 + # Partners outside OECD)		
	U.K. Firms	All Firms	All Firms	U.K. Firms	All Firms	All Firms
	(1)	(2)	(3)	(4)	(5)	(6)
Mid * U.K.	-0.179		-0.072	0.166		0.144
	(-0.66)		(-0.31)	(0.28)		(0.50)
Post * U.K.	-0.190		-0.048	-0.334		-0.281
	(-1.66)		(-0.34)	(-0.46)		(-0.42)
Mid-Event		-0.059	-0.045		-0.019	-0.032
		(-1.01)	(-0.67)		(-0.11)	(-0.21)
Post-Event		-0.126	-0.118		-0.042	-0.031
		(-1.42)	(-1.19)		(-0.28)	(-0.17)
Controls	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Year FE	N	Y	Y	N	Y	Y
N	197	2,250	2,250	197	2,250	2,250
Adj. R^2	0.129	0.279	0.313	0.210	0.242	0.242

Figure 1

Newspaper articles around passage of the U.K. Bribery Act 2010

This figure shows the number of newspaper articles related to bribery regulation that were published in major U.K. newspapers around the passage on March 25, 2009 of the U.K. Bribery Act 2010. The figure is based on a Factiva search in U.K. newspaper articles that include the term "bribery" and the term "United Kingdom" (or "Britain") but do *not* include the terms "cricket", "Olympic", "football", or "contract notice". Newspaper articles published after 8 pm in the online version are dated to the following day; duplicate articles are omitted.