Appendix A: Relationship Between Norms and Severity of Corruption (Oprobit)

Dependent Variable: Bribes/Revenue (%)	(1) Baseline	(2) Controls	(3) Ebalance	(4) Ebalance	(5) Ebalance	(6) Ebalance
Rent-Seeking Corruption=1	0.139**	0.173***	0.141**	0.140**	0.146***	0.020
	(0.064)	(0.067)	(0.066)	(0.067)	(0.054)	(0.062)
Industry-Province Corruption Norm	1.410***	1.484***	1.420***	1.382***	1.044***	0.834***
	(0.077)	(0.082)	(0.079)	(0.082)	(0.080)	(0.072)
Rent-Seeking*Corruption Norm	-0.439***	-0.494***	-0.410***	-0.412***	-0.405***	-0.115
	(0.103)	(0.107)	(0.106)	(0.107)	(0.089)	(0.098)
Labor Size at Establishment (1-8)		-0.022***				
		(0.005)				
Age of Firm		-0.001				
		(0.001)				
Number of Administrative Units (ln)				0.033**	-0.178	0.053***
				(0.015)	(0.203)	(0.011)
Constant cut1	-0.025	-0.046	-0.020	0.128	-1.494	-0.026
	(0.050)	(0.052)	(0.050)	(0.082)	(1.283)	(0.065)
Constant cut2	0.740***	0.728***	0.763***	0.912***	-0.707	0.761***
	(0.049)	(0.052)	(0.050)	(0.082)	(1.283)	(0.065)
Constant cut3	1.219***	1.210***	1.253***	1.402***	-0.213	1.258***
	(0.049)	(0.051)	(0.049)	(0.081)	(1.283)	(0.065)
Constant cut4	1.759***	1.750***	1.797***	1.946***	0.334	1.813***
	(0.048)	(0.050)	(0.049)	(0.081)	(1.282)	(0.065)
Constant cut5	2.280***	2.273***	2.323***	2.471***	0.863	2.355***
	(0.048)	(0.050)	(0.049)	(0.081)	(1.282)	(0.066)
Constant cut6	2.771***	2.765***	2.808***	2.956***	1.351	2.857***
	(0.048)	(0.051)	(0.050)	(0.081)	(1.281)	(0.067)
Survey Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Province Fixed Effects	No	No	No	Yes	Yes	Yes
Two-Digit Sector Fixed Effects	No	No	No	No	Yes	Yes
Observations	72,260	64,643	64,503	64,480	64,480	64,480
Clusters	2554	2534	2531	2522	2522	2522
Log Likelihood	-125886	-112580	-111637	-111592	-111231	-110796
Chi-Square	1174	1150	1118	1092	1783	2217

Oprobit with robust standard errors, clustered at province-industry level, in parentheses (*** p<0.01, ** p<0.05, * p<0.1). Models 3 through 6 employ Ebalance to match types of corruption on observables. *Source:* Authors' estimated results based on PCI and enterprise survey (GSO) datasets.

Appendix B: belationship Between Predictability and Severity of Corruption (OPROBIT)

Dependent Variable: Bribes/Revenue (%)	(1) Baseline	(2) Corruption Norms	(3) Chairmen Controls	(4) Chairmen FE
		Using Entropy Balancing		
Closed-Competition Firm=1	-0.078***	-0.025	-0.052	-0.061
	(0.020)	(0.052)	(0.059)	(0.058)
New People's Committee Chairman==1	-0.009	-0.009	-0.028	-0.037
	(0.016)	(0.016)	(0.019)	(0.027)
Closed-Competition*New Chairman	0.055**	0.053**	0.063***	0.067***
	(0.022)	(0.022)	(0.024)	(0.024)
Industry-Province Corruption Norm		0.410***	0.381***	0.380***
		(0.066)	(0.072)	(0.072)
Closed-Competition*Corruption Norm		-0.093	-0.063	-0.054
		(0.081)	(0.090)	(0.090)
Education Level of Chairman			0.011	
			(0.009)	
Age of Chairman			-0.002	
			(0.003)	
Chairman Serving in Hometown			-0.014	
			(0.025)	
Number of Administrative Units (ln)			-0.202	-0.473*
			(0.206)	(0.254)
Constant cut1	-0.949***	-0.694***	-2.073	-2.727**
	(0.042)	(0.059)	(1.322)	(1.199)
Constant cut2	-0.168***	0.098*	-1.293	-1.945
	(0.041)	(0.059)	(1.323)	(1.199)
Constant cut3	0.329***	0.598***	-0.796	-1.448
	(0.041)	(0.059)	(1.323)	(1.199)
Constant cut4	0.882***	1.153***	-0.266	-0.917
	(0.041)	(0.059)	(1.323)	(1.199)
Constant cut5	1.424***	1.697***	0.274	-0.376
	(0.042)	(0.060)	(1.322)	(1.199)
Constant cut6	1.927***	2.202***	0.785	0.135
	(0.043)	(0.060)	(1.321)	(1.198)
Survey Year Fixed Effects	Yes	Yes	Yes	Yes
Province Fixed Effects	Yes	Yes	Yes	Yes
Two-Digit Sector Fixed Effects	Yes	Yes	Yes	Yes
Chairman Fixed Effects	No	Yes	Yes	Yes
Observations	63,786	62,344	51,457	51,457
Clusters	2690	2491	2415	2415
R-Squared	-109143	-106790	-88791	-88698
RMSE	4765	3574	3116	3648

OLS with robust standard errors, clustered at province-industry level, in parentheses (*** p<0.01, ** p<0.05, * p<0.1). All models employ Ebalance to match firms in different competition environments on observables.
Source: Authors' estimated results based on PCI and enterprise survey (GSO) datasets.

Appendix C: All People's Committee Chairmen Used in Analysis

Province	Name	Birth Year	Home Province	Education	Term
Bà Rịa – Vũng Tàu	Trần Minh Sanh	1956	Bà Rịa – Vũng Tàu	Bachelor	2
Bắc Giang	Bùi Văn Hải	1960	Bắc Giang	Master	2
Bắc Kạn	Hoàng Ngọc Đường	1954	Bắc Kạn	PhD	2
Bến Tre	Nguyễn Văn Hiếu	1959	Bến Tre	Master	2
Bình Định	Lê Hữu Lộc	1954	Bình Định	Bachelor	2
Bình Phước	Trương Tấn Thiệu	1955	Quảng Bình	Bachelor	2
Bình Thuận	Lê Tiến Phương	1957	Bình Thuận	Bachelor	2
Cao Bằng	Nguyễn Hoàng Anh	1963	Hải Phòng	Master	2
Đắk Lắk	Lữ Ngọc Cư	1955	Quảng Ngãi	Bachelor	2
Đắk Nông	Lê Diễn	1960	Bình Định	High school graduate	2
Gia Lai	Phạm Thế Dũng	1955	Bình Định	High school graduate	2
Hà Giang	Đàm Văn Bông	1956	Hà Giang	PhD	2
Hà Nam	Mai Tiến Dũng	1959	Hà Nam	Master	2
Hà Nội	Nguyễn Thế Thảo	1952	Bắc Ninh	PhD	2
Hà Tĩnh	Võ Kim Cự	1957	Hà Tĩnh	MBA	2
Hải Phòng	Dương Anh Điền	1955	Hải Phòng	Bachelor	2
Hậu Giang	Trần Công Chánh	1959	Hậu Giang	Bachelor	2
Hoà Bình	Bùi Văn Tỉnh	1958	Hoà Bình	Bachelor	2
Hưng Yên	Nguyễn Văn Thông	1956	Hưng Yên	Bachelor	2
Khánh Hoà	Nguyễn Chiến Thắng	1955	Khánh Hoà	PhD	2
Kon Tum	Nguyễn Văn Hùng	1964	Quảng Nam	PhD	2
Lạng Sơn	Vy Văn Thành	1956	Lạng Sơn	Bachelor	2
Lào Cai	Nguyễn Văn Vịnh	1960	Yên Bái	Bachelor	2
Long An	Dương Quốc Xuân	1955	Long An	Bachelor	2
Nam Định	Nguyễn Văn Tuấn	1954	Nam Định	Bachelor	2
Nghệ An	Hồ Đức Phớc	1963	Nghệ An	PhD	2
Ninh Bình	Bùi Văn Thắng	1954	Ninh Bình	Bachelor	2
Phú Thọ	Hoàng Dân Mạc	1958	Phú Thọ	Master	2
Phú Yên	Phạm Đình Cự	1956	Phú Yên	Bachelor	2
Quảng Bình	Nguyễn Hữu Hoài	1958	Quảng Bình	PhD	2
Quảng Nam	Lê Phước Thanh	1956	Quảng Nam	PhD	2
Quảng Ninh	Nguyễn Văn Đọc	1959	Hải Phòng	Bachelor	2
Quảng Trị	Nguyễn Đức Cường	1954	Quảng Trị	Bachelor	2
Sóc Trăng	Nguyễn Trung Hiếu	1959	Sóc Trăng	Bachelor	2
Tây Ninh	Nguyễn Thị Thu Thuỷ	1957	Tây Ninh	Bachelor	2
Thanh Hoá	Trịnh Văn Chiến	1960	Thanh Hoá	PhD	2
Thừa Thiên - Huế	Nguyễn Văn Cao	1958	Thừa Thiên - Huế	Bachelor	2
Tiền Giang	Nguyễn Văn Khang	1956	Tiền Giang	Master	2
TP. Hồ Chí Minh	Lê Hoàng Quân	1953	Bình Dương	Bachelor	2
Vĩnh Long	Nguyễn Văn Diệp	1954	Vĩnh Long	Bachelor	2
Vĩnh Phúc	Phùng Quang Hùng	1955	Vĩnh Phúc	Master	2
An Giang	Vương Bình Thạnh	1959	An Giang	Bachelor	1
Bạc Liêu	Phạm Hoàng Bê	1955	Bạc Liêu	High school graduate	1
Bắc Ninh	Nguyễn Nhân Chiến	1960	Bắc Ninh	PhD	1
Bình Dương	Lê Thanh Cung	1954	Bình Dương	High school graduate	1
Cà Mau	Phạm Thành Tươi	1955	Cà Mau	Bachelor	1
Cần Thơ	Nguyễn Thanh Sơn	1957	Kiên Giang	Master	1
Đà Nẵng	Văn Hữu Chiến	1954	Quảng Nam	Bachelor	1
Điện Biên	Mùa A Sơn	1964	Điện Biên	Bachelor	1
Đồng Nai	Đinh Quốc Thái	1959	Bến Tre	Bachelor	1
Đồng Tháp	Lê Minh Hoan	1961	Đồng Tháp	Bachelor	1

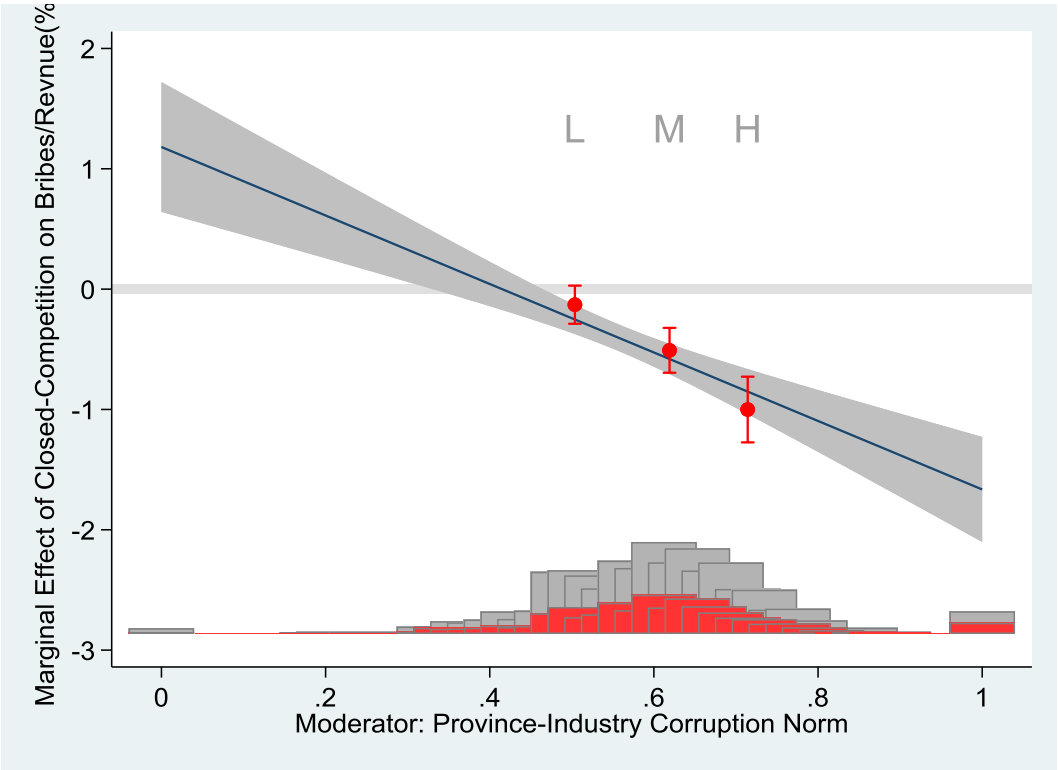
Hải Dương	Nguyễn Mạnh Hiển	1960	Hải Dương	MBA	1
Kiên Giang	Lê Văn Thi	1957	Kiên Giang	Bachelor	1
Lai Châu	Nguyễn Khắc Chử				1
Lâm Đồng	Nguyễn Xuân Tiến	1958	Thừa Thiên - Huế	Bachelor	1
Long An	Đỗ Hữu Lâm	1958	Long An	Bachelor	1
Ninh Thuận	Nguyễn Đức Thanh	1962	Hà Tĩnh	High school graduate	1
Quảng Ngãi	Cao Khoa	1954	Quảng Ngãi	Bachelor	1
Sơn La	Cầm Ngọc Minh	1959	Sơn La	Bachelor	1
Thái Bình	Phạm Văn Sinh	1958	Thái Bình	Bachelor	1
Thái Nguyên	Dương Ngọc Long	1957	Bắc Giang	Bachelor	1
Trà Vinh	Trần Khiêu	1954	Trà Vinh	Bachelor	1
Tuyên Quang	Chấu Văn Lâm	1967	Tuyên Quang	MBA	1
Yên Bái	Phạm Duy Cường	1958	Hà Nội	MBA	1

Appendix D: Balance between People's Committee Chairmen Terms

Covariate	First Term		Second Term		Difference	
	Mean	SD	Mean	SD	T-Statistic	P-Value
Age	53.82	3.36	55.07	2.79	1.58	0.12
Years of Education	2.32	1.04	2.83	1.28	1.60	0.11
Serving in Birth Province	0.65	0.49	0.76	0.43	0.88	0.38
Must Retire (Age>54)	0.61	0.50	0.71	0.46	0.80	0.43

Each row represents the results of a t-test with null hypothesis that there is no difference between new and old PCOMS on the covariate.

Appendix E: Replication of Figure 4 with Interflex



Using STATA's inteflex package (see Xu, Y., Hainmueller, J., Mummolo, J. and Liu, L., 2017. INTERFLEX: Stata module to estimate multiplicative interaction models with diagnostics and visualization.)

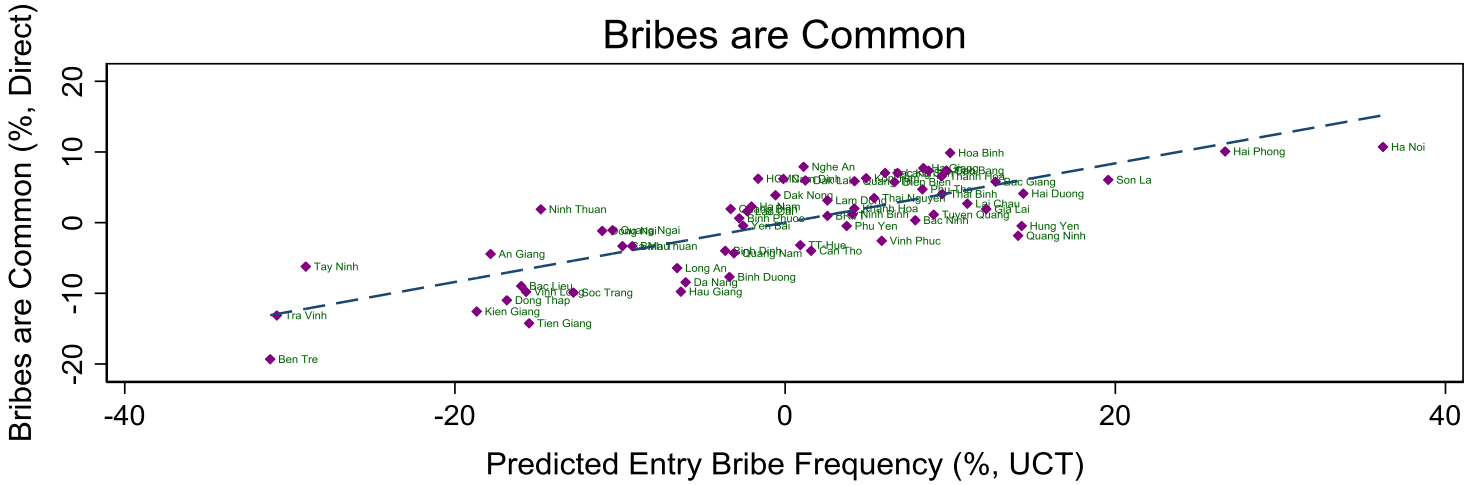
Appendix F: Correlation between Bribes over Revenue and UCT Measure of Corruption in PCI Surveys.

The figure below demonstrates the spatial correlation between our direct measure of bribes size and a shielded response measure of bribe propensity using the Unmatched Count Technique (UCT) (sometimes called a "list experiment") that was added to the PCI data set in 2010-2016. The two measures are strongly correlated at the provincial level (R^2=.61). Provinces seen as highly corrupt on one measure are also seen as corrupt on the other. This indicates that social desirability bias is not driving our findings. See Malesky, Georguiev, and Jensen (2015) for a description of the method and specific application to Vietnam.[1] We use the following UCT question as a benchmark.

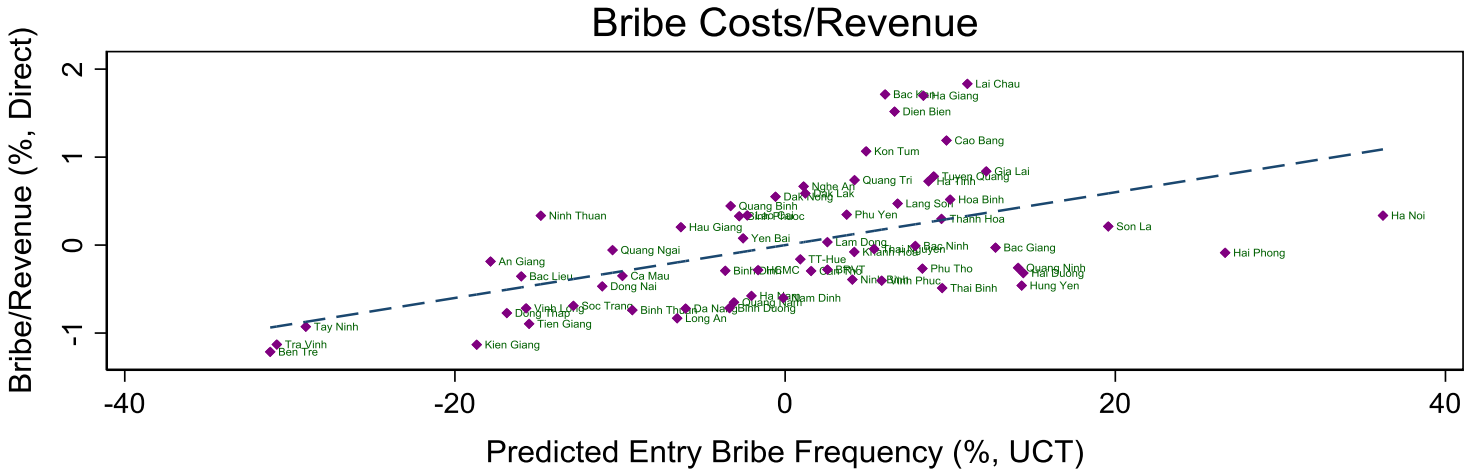
> **UCT Question:** Please take a look at the following list of common activities that firms engage in to expedite the steps needed to receive their investment license/registration certificate. How many of the activities did you engage in when fulfilling any of the business registration activities listed previously?
>
> 1. Followed procedures for business license on website.
> 2. Hired a local consulting/law firm to obtain the license the firm for you.
> 3. *Paid informal charge to expedite procedures* **(Only Available on Form B of the Survey)**[2]
> 4. Looked for a domestic partner who was already registered

[1] Malesky, E.J., Gueorguiev, D.D. and Jensen, N.M., 2015. Monopoly money: Foreign investment and bribery in Vietnam, a survey experiment. American Journal of Political Science, 59(2), pp.419-439.

[2] Note informal charges (*chi phi khong chinh thuc*) is the common Vietnamese and English term to describe this type of bribery.



coef = .41967303, se = .04213913, t = 9.96



coef = .03004923, se = .00610048, t = 4.93

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Click here to download Relication Data (.ZIP): WD_replication.7z

Highlights

- We synthesize rent-seeking and norm-based explanations of firm bribery, showing their applicability depends on market competition.
- In open markets with easy business entry, the social norm theory is most relevant, which explains non-collusive (coercive) forms of bribery.
- In restricted markets (due to formal or informal entry barriers), rent-seeking explanations are applicable, explaining collusive bribes.
- Uncertainty increases the benefits of rent-seeking in restricted environments, increasing firm participation in collusive bribery.
- These hypotheses are tested on 11 years (2006 to 2017) of high-quality annual survey data of 10,000 businesses in 63 Vietnamese provinces.

Credit Author Statement

Edmund J. Malesky: Methodology, Software, Validation, Investigation, Resources, Writing (Original), Writing (Review).

Thang V. Nguyen: Conceptualization, Supervision, Project Administration, Writing (Original), and Writing (Review).

Thang N. Bach: Contributed to software and provided draft methodological analysis. Also assisted in conceptualization with theoretical insights.

Ho D. Bao: Contributed to draft methodological analysis and draft conceptualization.