Corruption and Property Rights: Evidence from the Arbitration Court System in Russia

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Motivation

Question: What are the governance costs of corruption?

- Diverted budget funding can hurt education and infrastructure outcomes (Ferraz et al. 2012, Olken 2007)

- But what are its (causally identified) effects on other public goods, such as rule of law and property rights protection?

Twin challenges

1. Measuring corruption at the micro-level

2. Clearly attributing policy outcomes to individuals and/or agencies

Paper Overview

Setting: Russian arbitration court system, 2011-2018

- Key institution for enforcing contracts, collecting unpaid taxes, declaring bankruptcy, etc.

Design / Data:

- Measuring corruption : Income and asset disclosures for individual judges; official asset registries
- Identifying policy effects : Random assignment of judges to cases

Theoretical Expectations:

- Wealthier litigants win more often
- Private firms win against the government
- Cases are decided quicker and more resolutely

How Corruption Works in the Arbitration Court System

Primary channel is through bribes given to judges:

- Supported by an array of journalistic accounts and public criminal cases

- Litigants arrange payments through intermediaries (judges' relatives or friends)

- Judges select among 'bids' and shape ruling in favor of highest bidder
  - Corruption resembles an auction

- Average bribe roughly $30,000; in big cases, this can equal annual income of the judge

Theoretical Expectations

Ability to Pay

- H1: In cases involving private firms, corrupt judges will be more likely to find in favor of better resourced litigants.

- H2: In cases involving private firms versus government agencies, corrupt judges will be more likely to find in favor of private firms.

Procedural Differences

- H3: Corrupt judges act more quickly and decisively.

- H4: Cases assigned to corrupt judges will be less likely to result in partial verdicts or negotiated settlements.

- H5: Cases assigned to corrupt judges will be more likely to be overturned on appeal.

Data

Arbitration Cases:

- 1.7 million cases heard in Moscow and Moscow Oblast from 2011-2018
- Cover both civil and administrative disputes

Judges: 360 individuals passing rulings in first instance cases

- Career judiciary appointed by qualifying boards
- Coded biographies from official websites
- Annual income and asset disclosures for judges and immediate family members

Firms:

- Over 200,000 unique litigants
- Size, sector, and ownership

Developing the Corruption Measure

Challenge: income reported in disclosures is manipulated or incomplete.

- Solution: Adapt methodology on 'hidden earnings' developed by Braguinsky and Mityakov (2015)

1. Assign make and model to all cars that appear in judge's family disclosure (Honda + Civic)
2. Scrape leading online marketplace (auto.ru) for current car valuations (summer 2021)
3. Back out historical value of each car based on fixed depreciation rate (12%) and new car premium
4. Sum value of all family cars at time of disclosure and divided by total family income
   - Continuous measure of hidden earnings, mean: 0.53, sd: 1.04

- Stand-in: Best approach is to compare disclosed cars to official registry

Table: Most Common Car Types

Make	Num. Cars	Mean Price (Rub)	Mean Price (USD)
Toyota	38	3,115,343	47,928
Mercedes-Benz	29	3,714,080	57,140
Volkswagen	24	2,188,801	33,674
Kia	24	1,688,552	25,978
Volvo	24	2,584,229	39,757
Nissan	22	1,701,297	26,174
BMW	15	2,719,274	41,835
Lexus	15	4,237,008	65,185
Honda	14	2,062,148	31,725
Audi	14	2,395,678	36,857
Hyundai	13	1,437,369	22,113
Ford	12	1,039,156	15,987
Land Rover	10	3,490,552	53,701
VAZ	9	371,789	5,720
Mitsubishi	9	1,224,125	18,833

An Anonymous Illustration

Judge Background:

- Served from 2012-present
- Graduated from the law academy in 2007

Total Declared Family Income:

- Roughly 1.5 mil rubles per year in office ($40,000)

Overall Car / Earnings Ratio: **4.2**

Vehicles:

- Porsche Cayenne, Daewoo Nexia
- No cars declared for several years
- Total car value per year: roughly 3 million rubles ($90,000)

Table: Corrupt Versus Non-Corrupt Judges

Judge Type:	Corrupt	Non-Corrupt
(1) Number of Judges	180	180
(2) Female (%)	0.689	0.689
(3) Log Age (mean)	3.759	3.748
(4) Oblast Court (%)	0.306	0.344
(5) Log Years of Experience on Court (mean)	2.012	1.836
(6) University Rank, 1-7 scale (mean)	4.270	4.466
(7) Won Award (%)	0.567	0.545
(8) Leadership Position In Court (%)	0.161	0.174
(9) Judge Total Disclosed Income (mean, mil. rubles)	2.183	2.080
(10) Family Total Disclosed Income (mean, mil. rubles)	2.808	2.613

Table: Correlates of Hidden Earnings

	Hidden Earnings Ratio		
	(1)	(2)	(3)
Judge is Female	0.023	0.004	0.061
	(0.097)	(0.099)	(0.121)
Judge Age (log)	−0.127	−0.308	−0.225
	(0.244)	(0.293)	(0.388)
Moscow Oblast Court	−0.109	−0.120	−0.108
	(0.096)	(0.096)	(0.116)
Years of Experience on Court (log)		0.105	0.066
		(0.070)	(0.110)
Judge University Rank			−0.059*
			(0.032)
Won Award			−0.102
			(0.152)
Leadership Position In Court			−0.143
			(0.139)
Anecdotal Evidence of Corruption	0.157	0.078	0.176
	(0.272)	(0.274)	(0.296)
Observations	353	347	237
R^2	0.006	0.013	0.028

Testing Hypotheses

- Collapsing rulings into simple outcomes: plaintiff or respondent winning

- Coding ownership and size of litigants to identify disputes between:
  - Only private firms ('private'-'private')
  - Private firms and government agencies ('private'-'government')

- Measuring procedural outcomes:
  - Length of case
  - Partial versus complete ruling
  - Appellateoutcomes

Table: Case Rulings

Outcome	Number	%
Court ends proceedings	148,835	8.2
Court refused to hear	56,176	3.1
Plaintiff loses	216,592	11.9
Plaintiff loses partially	1,726	0.1
Plaintiff wins	1,122,076	61.7
Plaintiff wins partially	122,504	6.7
Settled out of court	795	0
Total Cases	1,668,704	

Table: Balance Test for Case Assignment

Case Assigned to:		Non-Corrupt Judge		Corrupt Judge					
	Type	Mean	SD	Mean	SD	Std. Diff	M-Thr	V-Ratio	V-Thr
Specialization									
Judge Category Rank	Contin.	3.846	4.597	4.143	4.905	0.063	Bal., <0.1	1.139	Bal., <2
Judge Top 5 Category	Binary	0.808		0.783		-0.024	Bal., <0.1		
University Rank	Contin.	4.586	1.744	4.539	1.800	-0.027	Bal., <0.1	1.066	Bal., <2
Missing: University Rank	Binary	0.278		0.248		-0.030	Bal., <0.1		
Judge Num. Cases (Cumulative)	Contin.	7.903	1.087	8.043	1.058	0.131	Not Bal., >0.1	0.946	Bal., <2
Judge Age (log)	Contin.	3.740	0.191	3.752	0.167	0.072	Bal., <0.1	0.766	Bal., <2
Missing: Judge Age (log)	Binary	0.023		0.004		-0.020	Bal., <0.1		
Num. Plaintiffs	Contin.	1.073	0.334	1.075	0.342	0.007	Bal., <0.1	1.043	Bal., <2
Case Complexity									
Missing: Num. Plaintiffs	Binary	0.000		0.000		-0.000	Bal., <0.1		
Num. Respondents	Contin.	1.046	0.460	1.030	0.470	-0.033	Bal., <0.1	1.044	Bal., <2
Num. Other Parties	Contin.	0.098	0.370	0.120	0.407	0.057	Bal., <0.1	1.210	Bal., <2
Num. Third Parties	Contin.	0.168	0.674	0.167	0.667	-0.001	Bal., <0.1	0.978	Bal., <2
Num. Gov. Plaintiffs	Contin.	0.317	0.495	0.306	0.490	-0.023	Bal., <0.1	0.982	Bal., <2
Num. Gov. Respondents	Contin.	0.252	0.489	0.260	0.494	0.016	Bal., <0.1	1.018	Bal., <2
Claim Amount (log)	Contin.	11.320	2.720	11.379	2.712	0.022	Bal., <0.1	0.994	Bal., <2
Missing: Claim Amount (log)	Binary	0.157		0.195		0.038	Bal., <0.1		
Workload									
Judge Num. Cases in Month	Contin.	168.848	129.056	165.914	113.230	-0.024	Bal., <0.1	0.770	Bal., <2
Judge Num. Cases in Quarter	Contin.	469.227	321.523	464.175	277.534	-0.017	Bal., <0.1	0.745	Bal., <2
Other Characteristics									
Judge is Female	Binary	0.739		0.677		-0.062	Bal., <0.1		
Moscow Oblast Court	Binary	0.292		0.288		-0.005	Bal., <0.1		
Administrative Case	Binary	0.210		0.239		0.029	Bal., <0.1		
Total Cases:		763,576		1,055,200					

Table: Ability to Pay

	Private-Private Cases			Private-Government Cases	
	Larger Firm Wins			Private Firm Wins	
	(1)	(2)	(3)	(4)	(5)
Hidden Earnings Ratio	0.007***	0.005***	0.009***	0.010***	0.014***
	(0.003)	(0.002)	(0.003)	(0.002)	(0.002)
Hidden Earnings Ratio * Respondent Rev.					−0.004
					(0.005)
Respondent Revenue					0.005
					(0.005)
Judge, Case Covariates	Yes	Yes	Yes	Yes	Yes
Start Month, Category FE	Yes	Yes	Yes	Yes	Yes
Case Size	All	>$25,000	>$100,000	All	All
Observations	232,388	58,101	25,507	80,226	54,886
R^2	0.121	0.074	0.076	0.257	0.268

Table: Procedural Differences

	Case Length	Delayed	Partial Ruling	Appealed	Overturned
	(1)	(2)	(3)	(4)	(5)
Hidden Earnings Ratio	−0.027***	−0.011***	0.0004	0.0004	0.001
	(0.010)	(0.003)	(0.001)	(0.001)	(0.002)
Judge, Case Covariates	Yes	Yes	Yes	Yes	Yes
Start Month, Category FE	Yes	Yes	Yes	Yes	Yes
Dispute	All	All	All	All	All
Observations	1,082,375	1,082,404	996,936	1,461,676	125,541
R^2	0.498	0.147	0.035	0.182	0.018

Takeaways and Next Steps

- Case assignment may indeed be random, but much more work needed to perfect corruption measures

- Refining hypotheses and theoretical framework

- Generating new measure of corruption

- What are the potential distributional implications from corruption seeping into contract and tax enforcement?

  - Inequality between firms and market consolidation
  - Corruption as a barrier to entry
  - Lost tax revenue and regulatory evasion