

# Property Rights and Finance

## 产权与金融

这里是答辩的标题地方

**Author: SIMON JOHNSON, JOHN MCMILLAN, AND CHRISTOPHER WOODRUFF\***

**Category: JEC D23, P23**



文献概述  
数据处理  
实证分析  
文献总结



# 文献概述

## 核心摘要

From a survey of new firms in post-communist countries, we find that weak property rights discourage firms from reinvesting their profits, even when bank loans are available.

即使银行可以提供贷款，弱势产权依旧不利于企业把利润拿出来再投资。

## 主要框架

文献主体为两部分：

- （1）数据收集及描述性统计：展示询问企业敏感的财务信息和产权问题的一种合理方式，确定产权安全指标并对各个变量进行描述性统计；
- （2）模型框架及实证分析：测试产权安全是否足以影响企业家的投资决策。



# 数据处理

## 样本选择

为了控制产权保护与外部融资不相关，选取五个转型（共产主义转资本主义）国家中近期成立的和小型的制造业企业作为研究对象：

三个东欧国家：波兰（303）、罗马尼亚（321）、斯洛伐克（308）

两个远东国家：俄罗斯（269）、乌克兰（270）

虽然这些前共产主义国家的制度环境都相对薄弱，但在保护财产权的程度上却有相当大的差异。

# 问卷设计

## 两大思路结合

- (1) 对于利润再投资：比例与封闭类答案（选项）相结合，提高回复率
- (2) 对于敏感问题：以你行业的公司代替自己公司来提问  
(这种问题的答案往往反映了企业家自己的经历)

涵盖了包括公司基本情况、客户情况、供应商情况、合同纠纷、信贷情况等五个方面，共262个问题。

# 产权安全的测量及指标的选定

表 1-关于感知上产权安全性的测量指标

TABLE 1—PERCEIVED SECURITY OF PROPERTY RIGHTS

Survey result	All countries	Poland	Slovakia	Romania	Russia	Ukraine
1) Percentage of respondents who say firms make extralegal payments for government services	37.3 (1,117)	20.1 (298)	38.2 (306)	20.0 (315)	91.2 (114)	86.9 (84)
2) Percentage of respondents who say firms make extralegal payments for licenses	37.9 (1,128)	19.3 (300)	42.2 (303)	17.0 (317)	91.7 (120)	87.5 (88)
3) Percentage of respondents who say firms make payments for protection	24.4 (1,163)	7.9 (302)	14.9 (308)	0.6 (320)	92.9 (126)	88.8 (107)
4) Percentage of respondents who say firms make unofficial payments for ongoing registration	14.0 (805)	0.4 (234)	3.0 (236)	19.1 (267)	80.0 (55)	76.9 (13)
5) Percentage of respondents who say firms make unofficial payments for fire/sanitary inspection	19.2 (881)	2.8 (254)	12.1 (248)	21.8 (289)	67.9 (56)	91.2 (34)
6) Percentage of respondents who say firms make unofficial payments for tax inspection	12.9 (843)	0.8 (247)	2.5 (242)	17.3 (289)	75.6 (45)	85.0 (20)
7) Tax payments to government as a percentage of sales for firms in industry	18.9 (1,130)	15.5 (277)	16.4 (278)	17.2 (321)	26.9 (119)	28.0 (135)
8) Percentage of respondents who say courts cannot be used to enforce contracts	31.6 (1,470)	27.1 (303)	32.1 (308)	13.1 (321)	44.2 (269)	45.4 (269)
Number of entrepreneurs surveyed	1,471	303	308	321	269	270

Note: The number of observations is given in parentheses below each response level.



# 产权安全的测量及指标的选定

表2-不同产权安全性指标之间的相关系数表

Indicator	Payments for services	Payments for licenses	Payments for protection	Index of property rights
Firms make extralegal payments for licenses	0.66 (1,105, <0.01)			
Firms make payments for protection	0.52 (1,109, <0.01)	0.54 (1,122, <0.01)		
Index of property rights insecurity	0.87 (1,099, <0.01)	0.87 (1,099, <0.01)	0.79 (1,099, <0.01)	
Courts cannot enforce contracts	0.1 (1,117, <0.01)	0.11 (1,117, <0.01)	0.22 (1,163, <0.01)	0.15 (1,099, <0.01)
Tax payments as a percentage of sales for firms in industry	0.24 (996, <0.01)	0.24 (1,007, <0.01)	0.31 (1,042, <0.01)	0.29 (981, <0.01)
Firms make unofficial payments for ongoing registration	0.29 (775, <0.01)	0.27 (783, <0.01)	0.36 (789, <0.01)	0.38 (769, <0.01)
Firms make unofficial payments for fire/sanitary inspection	0.33 (840, <0.01)	0.32 (843, <0.01)	0.29 (857, <0.01)	0.39 (830, <0.01)
Firms make unofficial payments for tax inspection	0.36 (816, <0.01)	0.34 (818, <0.01)	0.32 (828, <0.01)	0.43 (806, <0.01)
Firm had loan before 1996	0.15 (1,072, <0.01)	0.16 (1,082, <0.01)	0.26 (1,115, <0.01)	0.20 (1,055, <0.01)
Firm has collateral	-0.05 (997, 0.13)	-0.03 (1,006, 0.28)	-0.03 (1,040, 0.28)	-0.05 (980, 0.09)

Notes: Correlations are for all five countries combined. The number of observations and significance level are in parentheses.

# 产权安全的测量及指标的选定

表2-不同产权安全性指标之间的相关系数表

Indicator	Courts enforce	Taxes as a percentage of sales	Bribes registration	Bribes fire/sanitary	Bribes taxes	Loan before 1996
Firms make extralegal payments for licenses						
Firms make payments for protection						
Index of property rights insecurity						
Courts cannot enforce contracts						
Tax payments as a percentage of sales for firms in industry	0.11 (1,130, <0.01)					
Firms make unofficial payments for ongoing registration	0.06 (805, 0.09)	0.19 (756, <0.01)				
Firms make unofficial payments for fire/sanitary inspection	0.03 (881, 0.40)	0.17 (820, <0.01)	0.49 (757, <0.01)			
Firms make unofficial payments for tax inspection	0.01 (843, 0.74)	0.16 (789, <0.01)	0.47 (734, <0.01)	0.63 (811, <0.01)		
Firm had loan before 1996	0.06 (1,302, 0.02)	0.15 (1,094, <0.01)	0.16 (739, <0.01)	0.16 (863, 0.01)	0.08 (828, 0.02)	
Firm has collateral	-0.05 (1,217, 0.08)	-0.04 (1,018, 0.25)	0.08 (739, 0.03)	0.03 (805, 0.37)	0.04 (769, 0.29)	0.30 (1,189, <0.01)

Notes: Correlations are for all five countries combined. The number of observations and significance level are in parentheses.

# 产权安全的测量及指标的选定

## 产权不安全考虑因素

- ① 公司对政府服务进行法外支付
- ② 公司对许可证进行法外支付
- ③ 公司为保护付款
- ④ 公司认为法院不能有效执行合同

## 三种产权不安全指数

(1) 加和指数：①+②+③

(2) 简单指数：只要有①②③任意一项或几项就取1，否则取0

(3) 调整指数：①+②+③+④

采用 (1)、(3)

# 利润再投资率的描述性统计

表 3-内部资金的使用

TABLE 3—USE OF INTERNAL FINANCE

Measure	Poland	Slovakia	Romania	Russia	Ukraine
Number of firms	303	308	321	269	270
1996 profit after taxes, percentage of annual sales	9.9	5.7	12.9	20.6	18.0
Estimated industry profit rate after taxes	11.1	10.0	13.4	17.6	14.3
Profit reinvestment, percentage of profits after taxes	52.6	42.3	52.8	38.8	29.6
Unreinvested profit, percentage of annual sales	4.8	3.6	5.7	11.7	12.3
Profit after taxes in first year of operation, for firms started in:					
1989–1991	9.9	2.4	8.3	4.3	7.6
1992–1993	4.2	–0.2	7.8	4.5	6.6
1994–1996	2.1	–1.1	6.7	3.9	7.4
<i>Start-ups:</i>					
Number of firms	237	238	281	128	82
1996 profit after taxes, percentage of annual sales	10.5	6.0	13.4	20.8	19.0
Estimated industry profit rate after taxes	11.3	9.8	13.8	18.3	14.9
Profit reinvestment, percentage of profits after taxes	53.6	44.8	54.2	37.5	29.4
Unreinvested profit, percentage of annual sales	4.8	3.7	5.8	12.2	12.9
<i>Spin-offs:</i>					
Number of firms	66	70	40	123	183
1996 profit after taxes, percentage of annual sales	7.7	4.6	9.6	20.3	17.7
Estimated industry profit rate after taxes	10.1	10.6	10.5	17.1	14.0
Profit reinvestment, percentage of profits after taxes	49.0	33.7	42.5	39.4	29.6
Unreinvested profit, percentage of annual sales	5.0	3.5	5.0	11.2	12.1

# 外部融资

表 4-外部融资的来源

TABLE 4—SOURCES OF EXTERNAL FINANCE

Measure	Poland	Slovakia	Romania	Russia	Ukraine
Number of firms	303	308	321	269	270
Percentage of firms with bank loans at start-up	6.6	27.0	9.7	15.2	12.2
Percentage of firms with bank loans ever	70.0	51.0	49.8	92.4	79.0
Percentage of firms with bank loans in 1996	48.8	27.6	24.1	17.0	13.8
Percentage of firms with collateral at the time of interview	95.7	80.8	94.4	87.2	75.5
Average 1996 loan, percentage of annual sales					
All firms (no loan = 0 percent)	2.3	2.5	1.7	2.3	0.8
Firms with loans	4.8	10.6	7.3	24.7	13.4
Accounts payable, percentage of annual sales					
All firms	2.7	3.4	NA	0.1	0.7
Firms with 1996 loans	2.5	4.2	NA	0.04	0.3

# 外部融资

表 4-外部融资的来源

TABLE 4—SOURCES OF EXTERNAL FINANCE

Measure	Poland	Slovakia	Romania	Russia	Ukraine
<i>Start-ups:</i>					
Number of firms	237	238	281	128	82
Percentage of firms with bank loans: ever	72.2	42.4	46.6	95.4	81.9
in 1996	50.6	22.7	20.8	12.0	11.1
Average 1996 loan, percentage of annual sales (no loan = 0 percent)	2.5	2.0	1.7	1.7	1.3
Accounts payable, percentage of annual sales	2.5	3.2	NA	0.1	0.9
<i>Spin-offs:</i>					
Number of firms	66	70	40	123	183
Percentage of firms with bank loans: ever	62.1	80.0	72.5	89.4	78.5
in 1996	42.4	44.3	47.5	21.5	14.6
Average 1996 loan, percentage of annual sales (no loan = 0 percent)	1.5	4.4	2.2	2.8	0.6
Accounts payable, percentage of annual sales	3.2	4.0	NA	0.1	0.7





# 实证分析

## 实证模型

$I$ : 一家企业的意愿投资水平是同时考虑行业和公司具体因素的函数。

$$(1) \quad I^d = I(\pi, s, r^I, r^L)$$

$\pi$  代表预期利润（敲诈勒索前）， $s$  代表被腐败官员或罪犯提取的利润， $r^I$  代表企业家通过把公司利润对外投资所得的利率， $r^L$  代表企业家借钱贷款的利率。

$$(2) \quad I^d = R + L^d$$

$I^d$  为意愿投资水平， $R$  代表再投资利润， $L^d$  代表企业的贷款需求。

$$(3) \quad \begin{aligned} I^d &= R & \text{if } I^d \leq E_i \\ I^d &= E_i + L^d & \text{if } I^d > E_i. \end{aligned}$$

第  $i$  家公司愿意拿出现有利润再投资的数目为  $E_i$



## 实证模型

$$(4) \quad \begin{aligned} R &= I(\pi, s, r^I) && \text{if } I^d \leq E_i \\ R &= E_i && \text{if } I^d > E_i. \end{aligned}$$

在我们的数据中，我们使用明确的方式来测量  $\pi$  和  $s$ 。在样本不同公司间  $r^I$  的差异会被归入国家/行业的控制变量中。

## 实证结果

表 6-1996年的再投资利率的有序probit模型结果

TABLE 6—ORDERED PROBITS FOR REINVESTMENT RATE IN 1996

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Index for perceived insecurity of property rights	-0.17 (5.51)	-0.12 (3.39)	-0.12 (1.97)	-0.18 (2.83)	-0.0003 (0.01)		-0.18 (2.87)		-0.17 (2.88)
Dummy for believing courts ineffective		-0.18 (2.01)	-0.18 (1.85)	-0.15 (1.31)	-0.11 (0.47)		-0.16 (1.32)	-0.45 (1.95)	-0.23 (1.85)
Index for perceived insecurity of property rights including courts (four-element index)						-0.17 (2.93)			
Estimated industry profit rate		0.005 (1.13)	0.004 (0.91)	0.01 (1.80)	-0.02 (0.97)	0.01 (1.81)	0.01 (1.86)	-0.07 (1.55)	0.01 (1.90)
Log of firm age		-0.25 (3.34)	-0.30 (3.73)	-0.25 (2.35)	-0.77 (3.51)	-0.25 (2.36)	-0.25 (2.40)	-0.35 (1.22)	-0.33 (2.69)
Dummy for being a start-up		0.30 (2.80)	0.35 (2.73)					-0.04 (0.15)	
Tax payments as a percentage of sales		-0.01 (1.69)	-0.01 (1.68)	-0.004 (0.92)	-0.02 (1.50)	-0.004 (0.93)	-0.003 (0.86)		-0.002 (0.43)
Dummy for collateral to offer bank									-0.11 (0.64)
Dummy for obtaining loan prior to 1996									0.14 (1.57)
Industry controls	no	yes	yes	yes	yes	yes	yes	yes	yes
Country controls	no	no	yes	yes	yes	yes	yes	yes	yes
Manager characteristics included in regression	no	no	yes	yes	yes	yes	yes	yes	yes
Number of observations:	815	815	815	619	196	619	574	116	559
Chi-square:	30.3	236.2	570.4	722.9	28.3	314.6	549.2	98.8	263.6
Probability:	<0.001	<0.001	<0.001	<0.001	0.005	<0.001	<0.001	<0.001	<0.001

# 实证结果

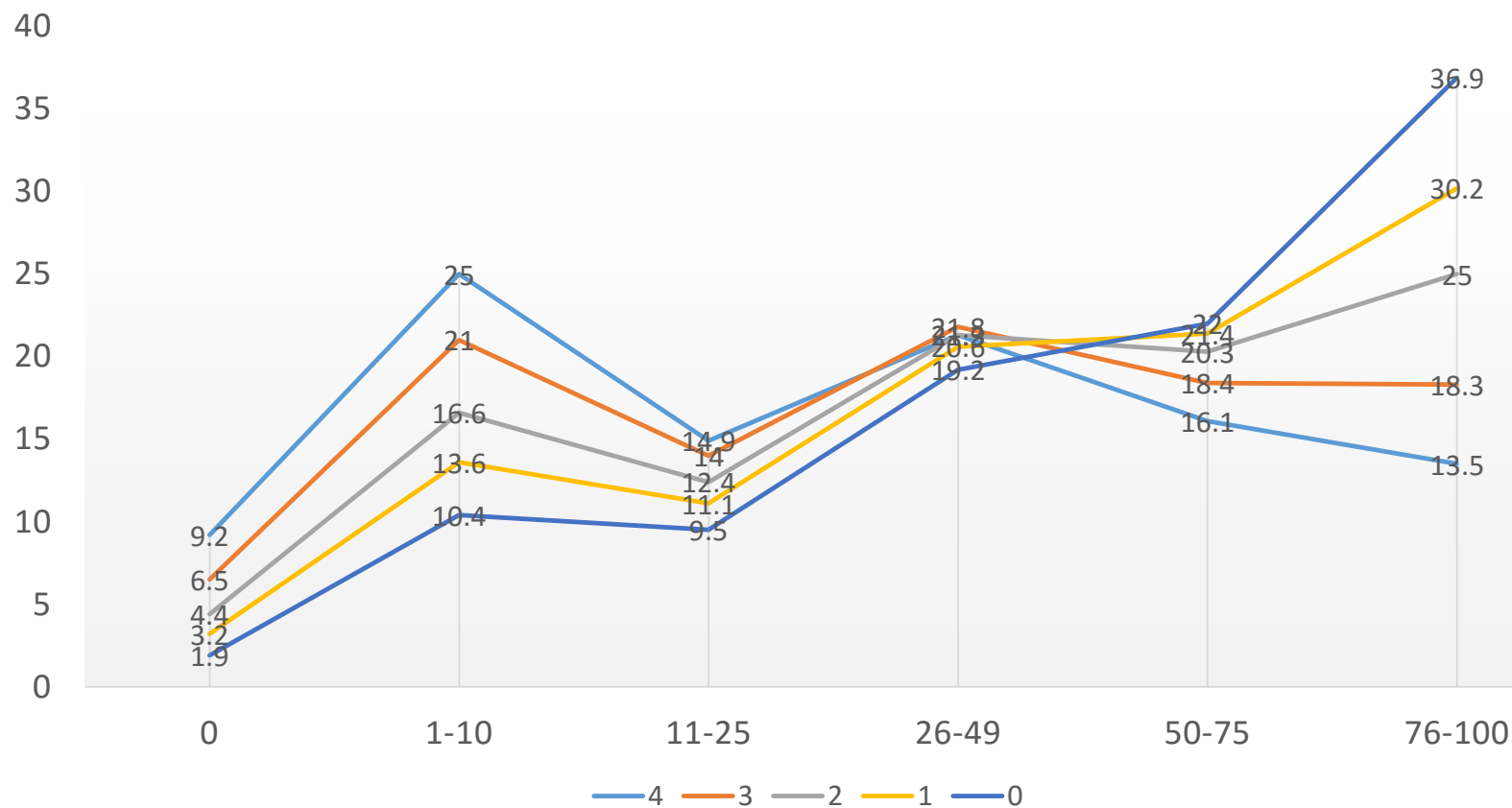
表 7-预测的利润再投资率——来自表6中有序probit模型中的列6数据

TABLE 7—PREDICTED PROFIT REINVESTMENT RATE FROM THE ORDERED PROBIT RESULTS IN TABLE 6, COLUMN (6)

Profit reinvestment rate (percent)	Percentage of firms in investment category					
	All firms	Insecurity of property-rights index <sup>a</sup>				
		4	3	2	1	0
0	3.3	9.2	6.5	4.4	3.2	1.9
1–10	13.7	25.0	21.0	16.6	13.6	10.4
11–25	10.9	14.9	14.0	12.4	11.1	9.5
26–49	20.2	21.3	21.8	21.3	20.6	19.2
50–75	21.0	16.1	18.4	20.3	21.4	22.0
76–100	30.8	13.5	18.3	25.0	30.2	36.9
Weighted investment rate:	49.9	33.5	39.0	45.3	49.8	55.1

## 实证结果

预测的利润再投资率折线图



# 稳健性检验

表 8-1996年再投资利率的有序probits模型结果：以5个国家中的初创企业为样本

TABLE 8—ORDERED PROBITS FOR REINVESTMENT RATE IN 1996:  
ALL FIVE COUNTRIES, START-UPS ONLY

Dummy variables	(1)	(2)	(3)	(4)	(5)	(6)
Firms make extralegal payments for services	-0.42 (4.33)					
Firms make extralegal payments for licenses		-0.11 (0.84)				
Firms make payments for protection			-0.34 (1.60)			
Firms make unofficial payments—ongoing registration				-0.40 (3.04)		
Firms make unofficial payments—fire and sanitary inspections					-0.31 (2.45)	
Firms make unofficial payments—tax inspection						-0.27 (1.76)
Courts cannot be used to enforce contracts	-0.16 (1.39)	-0.14 (1.20)	-0.13 (1.13)	-0.21 (1.65)	-0.14 (1.21)	-0.20 (1.63)
Controls included	industry/ country yes	industry/ country yes	industry/ country yes	industry/ country yes	industry/ country yes	industry/ country yes
Manager characteristics						
Number of observations:	619	619	619	499	538	529
Chi-square:	428.4	339.8	235.2	512.3	470.2	169.1
Probability:	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001



# 文献总结

## 不足之处

1. 文献假设产权对公司的投资决策是外生的，但至少有两个理由说明这可能不是个有效假设。

①更高的投资率可能导致更安全的产权

②较高的再投资率和更安全的产权可能都反映了管理者回答人的乐观情绪的可能性，管理者也可能通过说明产权的不安全性来试图证明他们不愿意来投资

2. 回归系数可能低估了产权不安全的影响。

①我们的样本中忽略了失败的企业和潜在的被进入门槛拦住的公司，这两个都反映了产权的不安全性。

②由于我们的回归主要看企业的边际投资决策在现有活动曲线的决定因素，我们不能排除接受部门间失真的可能。（比如安全性低的行业被企业家们回避了，某一因素易受产权安全影响，那么这一因素密集型的行业也会受影响）

## 结论

### 1. 公司的投资受产权安全感影响

①国家层面看：俄罗斯和乌克兰的再投资率比波兰、罗马尼亚、斯洛伐克低，其法院信任度较低，产权较不安全。

②公司层面看：那些具有最低安全性产权的企业家利润再投资率32%，具有最高安全性产权的企业家利润再投资率高达56%。

2. 到现在为止外部融资对私营企业的发展并不是绝对必要的，产权安全性对投资是必要也是足够（唯一）的。

①产权的不安全意味着公司投资的动机有限。

②在所有这些转型期经济体中的早期进入者的高利润意味着只要公司想要就能实现投资。

3. 虽然企业在我们调查的时间内对外部融资的需求不大，当这些经济体发展市场支持机构时他们将开始需要获得信贷。





**THANKS**