

Topics in Banking and Political Economy

Module 1: Political Institutions and Financial Structure

Thomas Lambert (Erasmus University Rotterdam)

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Key questions

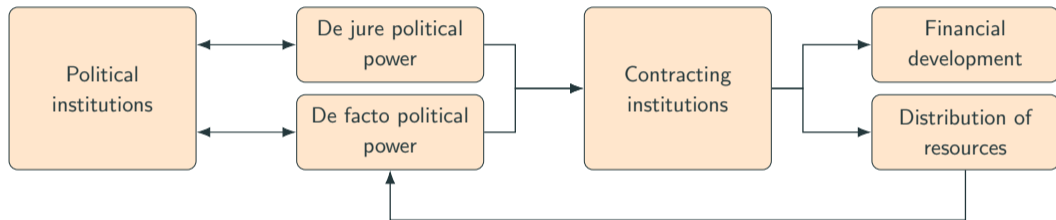
What fundamentally drives the evolution of countries' financial structure?

Why does political power account for cross-country and intertemporal variation?

What is the relative importance of contracting institutions versus political institutions, and how do they interact in shaping financial structure?

Does democracy matter for financial development?

Conceptual framework



Source: Lambert and Volpin (2018 [17])

Foundations of financial development across countries

Legal environments and capital markets across countries

External Market Capitalization of Equity/GNP Regressions

Ordinary least squares regressions of the cross-section of 49 countries around the world. The dependent variable is "External Cap." The independent variables are (1) GDP Growth; (2) Log GNP; (3) Rule of law; (4) French origin; (5) German origin; (6) Scandinavian origin; (7) Antidirector Rights; (8) One-share = One-Vote. Standard errors are shown in parentheses.

Independent Variables	Dependent Variable: External Cap/GNP				
GDP growth	0.0617 ^b (0.0232)	0.0544 ^b (0.0201)	0.0584 ^b (0.0238)	0.0562 ^b (0.0242)	0.0441 ^b (0.0209)
Log GNP	-0.0129 (0.0333)	-0.0168 (0.0334)	0.0038 (0.0386)	-0.0053 (0.0382)	0.0091 (0.0324)
Rule of law	0.0378 ^c (0.0206)	0.0455 ^b (0.0203)	0.0417 (0.0250)	0.0424 ^b (0.0243)	0.0437 ^c (0.0231)
French origin			-0.3225 ^a (0.1131)	-0.2142 ^c (0.1194)	-0.3341 ^a (0.1084)
German origin			-0.2962 ^c (0.1497)	-0.1849 (0.1599)	-0.3230 ^b (0.1438)
Scandinavian origin			-0.3391 ^b (0.1373)	-0.2816 ^c (0.1479)	-0.3056 ^b (0.1218)
Antidirector rights	0.1171 ^a (0.0353)			0.0675 ^c (0.0354)	
One-share = one-vote		0.2745 ^b (0.1235)			0.2890 ^b (0.1111)
Intercept	-0.2437 (0.2880)	0.0100 ^b (0.3063)	0.0336 (0.3677)	-0.0860 (0.3629)	-0.0475 (0.3066)
Observations	45	45	45	45	45
Adjusted R ²	0.2936	0.2347	0.2867	0.3016	0.3801

^a Significant at 1%; ^b Significant at 5%; ^c Significant at 10%.

From [La Porta et al. \(1997 \[16\]\)](#):

- Similar findings for the number of listed firms and IPOs
- Their findings also apply for debt markets (debt securities + loans)

A good legal environment:

- mitigates expropriation risk faced by investors
- enhances their willingness to provide external finance
- ultimately fosters capital market development

Source: [La Porta, Lopez-de-Silanes, Shleifer, and Vishny \(1997 \[16\]\)](#)

Legal origins and investor protection

ORDINARY LEAST SQUARES REGRESSIONS: CROSS SECTION OF 49 COUNTRIES

INDEPENDENT VARIABLE	DEPENDENT VARIABLE											
	Efficiency of Judiciary System (N = 49)		Rule of Law (N = 49)		Corruption (N = 49)		Risk of Expropriation (N = 49)		Repudiation of Contracts by Government (N = 49)		Accounting Standards (N = 41)	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Log of GNP per capita	.8421*	.9763*	1.4761*	1.5541*	1.3088*	1.4020*	.9099*	.9679*	.9951*	1.0976*	4.3348*	5.7747*
Civil-law dummy ^a	...	-1.3774*	...	-.3642	...	-1.1388*	...	-.3855***	...	-.4111***	...	-14.331*
		(.4235)		(.4290)		(.3024)		(.2132)		(.2228)		(2.7407)
French origin	-1.6609*	...	-.5250	...	-1.3236*	...	-.5164**	...	-.6459**	...	-17.366*	...
	(.4796)		(.4563)		(.3190)		(.2518)		(.2520)		(2.9445)	
German origin	-1.0305***	...	-.2715	...	-1.2422*	...	-.0009	...	.3803***	...	-11.890*	...
	(.6033)		(.6312)		(.4749)		(.2097)		(.1946)		(2.9104)	
Scandinavian origin	.2392	...	.7174	...	.4369	...	.0054	...	.1300	...	-1.5272	...
	(.3550)		(.4681)		(.3152)		(.2242)		(.2095)		(4.7556)	
Intercept	1.2677	.1702	-5.6050*	-6.2421*	-3.6367*	-4.3986*	.4732	-.0018	-.7290	-1.5671*	31.807*	19.249
	(1.3598)	(1.2862)	(1.3600)	(1.2087)	(.9881)	(.8711)	(.8431)	(.7181)	(.7250)	(.6493)	(10.844)	(11.442)
Adjusted R ²	.5719	.5185	.7744	.7605	.8442	.8056	.8120	.7998	.8465	.8146	.6125	.5131

NOTE.—Robust standard errors are in parentheses.

^a The dummy variable civil law takes a value equal to one when the country belongs to the civil-law tradition (i.e., all French, German, and Scandinavian codes) and zero when the country belongs to the common-law tradition (i.e., English common law).

* Significant at the 1 percent level.

** Significant at the 5 percent level.

*** Significant at the 10 percent level.

Source: La Porta et al. (1998 [26])

LLSV's seminal work: countries with Common Law tend to have more developed financial systems than those with Civil Law

Their argument:

- Stronger **investor protection** (minority shareholders and creditors)
- Better **enforcement** and less rigid courts
- More **market-supporting regulation** (more favorable to private contracting over state control)

→ Deeper capital markets and greater access to finance

Legal environments and financial structure across countries

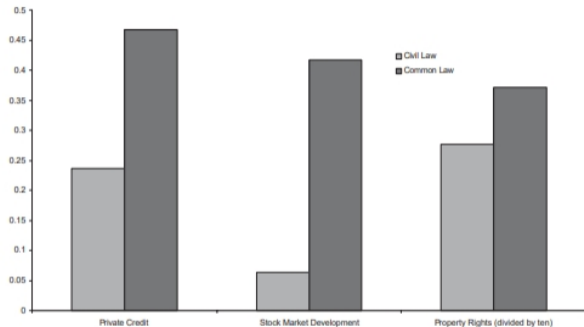
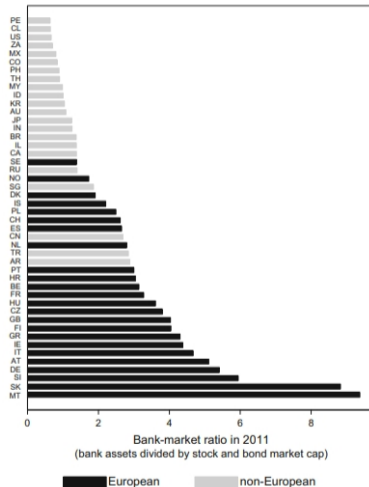


Fig. 1. Financial development across Common and Civil law countries. Private Credit is the value of credits by financial intermediaries to the private sector as a share of GDP. Stock Market Development measures the value of shares listed on the stock exchange as a share of GDP. Property Rights reflects the degree to which government enforces laws that protect private property, with higher numbers indicating better enforcement. Civil law countries are countries whose legal system is of French Civil law origin, whereas Common law countries are countries whose legal system is of British Common law origin.

Source: Beck, Demirgüç-Kunt and Levine (2003 [6])



Source: Langfield and Pagano (2016 [19])

The “great reversals”

Evolution of the different indicators of financial development

Whole sample indicates an average across all the countries we have data for. Constant sample indicates an average across countries for which we have data every year. Deposits to GDP is the ratio of commercial and savings bank deposits to GDP. Stock market cap to GDP is the ratio of the aggregate market value of equity of domestic companies divided by GDP. Number of companies to population is the ratio of number of domestic companies whose equity is publicly traded in a domestic stock exchange to the country’s population in millions. Equity issues to GFCF is the ratio of funds raised through public equity offerings (both initial public offerings and seasoned equity issues) by domestic companies to gross fixed capital formation. N is the number of observations. Sources are in the Data Appendix, which is available on request from the authors.

Year	Deposits to GDP			Stock market cap to GDP			No. of companies to population			Equity issues to GFCF		
	Whole	<i>N</i>	Constant sample (<i>N</i> = 20)	Whole	<i>N</i>	Constant sample	Whole	<i>N</i>	Constant sample	Whole	<i>N</i>	Constant sample (<i>N</i> = 7)
1913	0.38	22	0.40	0.57	22	0.40	28.68	22	24.00	0.12	12	0.13
1929	0.49	21	0.51	0.60	11	0.53	33.80	14	27.75	0.35	15	0.34
1938	0.45	21	0.46	0.58	13	0.57	30.12	13	27.69	0.13	12	0.10
1950	0.33	22	0.34	0.30	14	0.27	38.63	16	23.80	0.06	11	0.03
1960	0.31	22	0.33	0.47	18	0.44	31.85	19	22.38	0.07	16	0.05
1970	0.31	22	0.33	0.49	19	0.42	23.66	19	21.22	0.06	16	0.02
1980	0.34	22	0.35	0.26	22	0.25	26.70	21	23.71	0.03	18	0.03
1990	0.41	21	0.40	0.57	21	0.51	22.18	22	23.21	0.05	20	0.05
1999	0.46	21	0.45	1.02	23	1.08	26.30	22	24.46	0.13	20	0.18

Source: Rajan and Zingales (2003 [27])

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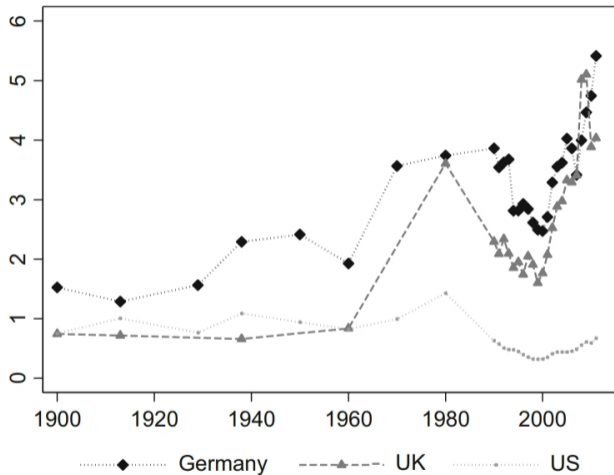
Year	Deposits to GDP			Stock market cap to GDP			No. of companies to population			Equity issues to GFCF		
	Whole	<i>N</i>	Constant sample (<i>N</i> = 20)	Whole	<i>N</i>	Constant sample	Whole	<i>N</i>	Constant sample	Whole	<i>N</i>	Constant sample (<i>N</i> = 7)
1913												13
1929												34
1938												10
1950												03
1960												05
1970												02
1980												03
1990												05
1999												18

Takeaway

Countries (including with Civil Law) already had highly developed financial systems in 1913, comparable to those in 1980 or 1990, irrespective of the measurement employed

Source: Rajan and Zingales (2003 [27])

Financial structure in the 20th century



Source: [Langfield and Pagano \(2016 \[19\]\)](#)

The “adaptability” channel

Legal origins differ in their **formalism** and **ability to adjust** to changing economic conditions ([Gennaioli and Shleifer 2007 \[13\]](#)):

- **Common Law**: case law, judicial discretion → flexible
- **Civil Law**: codified, formalistic → less flexible

Inflexibility creates gaps between legal rules and contracting needs of the economy

More adaptable systems better support financial contracting

[Beck et al. \(2003 \[6\]\)](#) provide cross-country evidence for the adaptability channel

Critiques of the legal-origin approach

The critiques:

1. Legal environments and financial outcomes are jointly determined, political institutions being the link between them → **political choice** (Pagano and Volpin 2005 [24] and Perotti and von Thadden 2006 [25])
2. Direct influence of political institutions on financial outcomes, larger than contracting institutions → **horse race** (Acemoglu and Johnson 2005 [1])

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Takeaway

The political economy literature does not refute per se that contracting institutions (incl. investor protection) have a causal effect on financial development, but argues that legal origins are not their foundation

Political institutions as the missing link

The “great reversal” phenomenon

The existence of correlations between legal origins and financial development is questionable when examined using historical data ([Rajan and Zingales 2003 \[27\]](#), [Lamoreaux and Rosenthal 2005 \[18\]](#), and [Malmendier 2009 \[21\]](#))

Political explanations based on:

1. Median voter's preferences ([Perotti and von Thadden 2006 \[25\]](#))
2. Incumbents' opposition to reform finance ([Rajan and Zingales 2003 \[27\]](#))

Perotti–von Thadden: model setup

Continuum of firms and individuals: individual i works in firm i and has firm-specific human capital

Labor rents are a senior, concave claim on firm returns:

$$h(R_i) = \min\{H, R_i\}$$

Financial wealth is diversified; individual i owns share a_i of aggregate financial wealth F :

$$W_i = a_i F + h(R_i), \quad U_i = \mathbb{E}(W_i) - \frac{A}{2} \text{Var}(W_i)$$

Key friction

Financial risk can be diversified, while firm-specific labor income risk cannot

Governance determines corporate risk taking

Firms choose between two strategies:

s : low mean, low variance, r : high mean, high variance,

with

$$\bar{R}_s < \bar{R}_r, \quad \text{Var}(R_s) < \text{Var}(R_r)$$

Equity dominance

Equity has convex upside exposure, so it chooses the risky strategy r

Bank dominance

Bank claims are capped and downside-exposed, so they choose the safe strategy s when H is not too high

Politics chooses governance; governance selects the risk profile of firms

Preferred labor rents: insurance vs. diversification

Given strategy $j \in \{s, r\}$, utility can be written as

$$U(a_i, H, j) = a_i \bar{R}_j + (1 - a_i) \mathbb{E}[\min(H, R)] - \frac{A}{2} \text{Var}[\min(H, R)]$$

For $a_i < 1$, the preferred labor rent solves

$$\int_0^{H_j^*(a_i)} G_j(R) dR = \frac{1 - a_i}{A}.$$

Comparative statics

- Lower a_i : labor income matters more \Rightarrow higher desired H
- Higher a_i : financial returns matter more \Rightarrow lower desired H
- If $a_i \geq 1$, the voter prefers $H = 0$: income is better received through diversified financial claims

The median voter's financial stake is decisive

Let a_m be the median voter's financial wealth share; under the regularity condition, there exists a cutoff $\bar{a} \in [0, 1)$ such that:

$a_m < \bar{a}$:

- High labor rents
- Bank dominance
- Safe corporate strategies

$a_m > \bar{a}$:

- Low labor rents
- Equity dominance
- Riskier, higher-return strategies

Intuition

- When the median voter has little financial wealth, she wants to insure labor income risk and politically supports bank control
- When she has enough financial wealth, she prefers diversified financial returns and supports equity control

Hyperinflation and great reversals

MARKET CAPITALIZATION AND BANKING ASSETS, 1913 AND 1970

	1970			1913	
	Stock Market Capitalization/GDP	Total Bank Deposits/ Stock Market Capitalization	Demirguc-Kunt and Levine Classification	Stock Market Capitalization/GDP	Total Bank Deposits/ Stock Market Capitalization
Australia	.76	50	M	.39	95
Austria	.09	344	B	.76	147
Belgium	.23	174	B	.99	69
Canada	1.75	21	M	.74	30
France	.16	206	B	.78	53
Germany	.16	181	B	.44	120
Italy	.14	386	B	.17	135
Japan	.23	144	B	.49	27
Netherlands	.42	62	M	.56	39
Sweden	.14	357	M	.47	147
Switzerland	.50	138	M	.58	160
United Kingdom	1.63	14	M	1.09	9
United States	.66	38	M	.39	85

SOURCE.—Demirguc-Kunt and Levine (1999) and Rajan and Zingales (2003b).

NOTE.—M = market-oriented and B = bank-oriented. The four most strongly market-oriented values in each column are in boldface.

Source: Perotti and von Thadden (2006 [25])

Hyperinflation and great reversals

MARKET CAPITALIZATION AND BANKING ASSETS, 1913 AND 1970

	1970			1913	
	Stock Market Capitalization/GDP	Total Bank Deposits/Stock Market Capitalization	Demirguc-Kunt and Levine Classification	Stock Market Capitalization/GDP	Total Bank Deposits/Stock Market Capitalization
Australia	.76	50	M	.39	95
Austria	.09	344	B	.76	147
Belgium	.23	174	B	.99	69
Canada	1.75	21	M	.74	30
France	.16	288	B	.78	53
Germany	.10	200	B	.10	10
Italy	.10	100	B	.10	5
Japan	.10	100	B	.10	7
Netherlands	.10	100	B	.10	9
Sweden	.10	100	B	.10	7
Switzerland	.10	100	B	.10	0
United Kingdom	.10	100	B	.10	9
United States	.10	100	B	.10	5

Takeaway from Perotti and von Thadden (2006 [25])

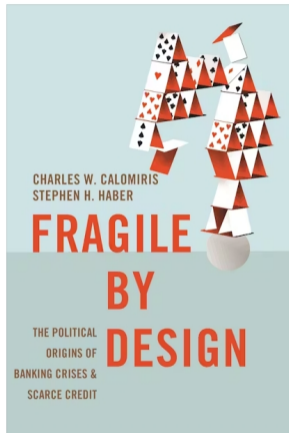
Hyperinflation eroded the financial wealth of the middle class (the median voter), shifting preferences away from equity markets toward safer, more protective institutions

SOURCE.—Demirguc-Kunt and Levine (1999) and Rajan and Zingales (2003b).

NOTE.—M = market-oriented and B = bank-oriented. The four most strongly market-oriented values in each column are in boldface.

Source: Perotti and von Thadden (2006 [25])

The role of suffrage: historical case studies



Calomiris and Haber (2014 [8])

Following a series of gradual expansions of suffrage in 19th-century Britain, [Calomiris and Haber \(2014 \[8\], p.128\)](#) describe the period as follows:

“By 1904, there were over 15,000 branches of the Post Office Savings Bank and roughly 400 offices of trustee savings banks. These new institutions reflected the rise of the middle class as both an economic reality and a political force seeking its own sources of financing.”

[Benmelech and Moskowitz \(2010 \[7\]\)](#): enfranchised elites exploited usury laws to limit access to credit and to control entry in 19th-century America

Suffrage institutions and financial structure: cross-country evidence

The Effect of Suffrage Institutions on Financial Structure, 1913–99: Panel Data

	(1)	(2)	(3)	(4)	(5)	(6)
<i>Suffrage institutions</i>						
Suffrage	-2.010*** (0.723)	-1.942*** (0.670)				
Universal Manhood Suffrage			-0.578*** (0.200)	-0.576*** (0.197)		
Universal Suffrage					-1.009*** (0.293)	-0.983*** (0.293)
<i>Controls</i>						
ln(GDP Per Capita _t)	-0.334 (0.379)	-0.360 (0.330)	-0.600* (0.362)	-0.597* (0.322)	-0.629** (0.322)	-0.623** (0.277)
Urbanisation Rate	0.444 (0.897)	0.358 (0.805)	0.635 (0.915)	0.531 (0.788)	0.201 (0.869)	0.106 (0.751)
War Mobilisation	-0.058 (0.248)	-0.085 (0.239)	-0.016 (0.251)	-0.033 (0.242)	-0.099 (0.219)	-0.130 (0.212)
Left Executive		-0.110 (0.137)		-0.111 (0.132)		-0.119 (0.132)
Majoritarian Rule		-0.169 (0.399)		-0.088 (0.380)		-0.091 (0.358)
Executive Constraints		-0.038 (0.060)		-0.071 (0.059)		-0.046 (0.057)
<i>Fixed effects</i>						
Year	Yes	Yes	Yes	Yes	Yes	Yes
Country	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.670	0.674	0.654	0.661	0.690	0.695
Wald χ^2 (p-value)	0.000	0.000	0.000	0.000	0.000	0.000
Number of countries	18	18	18	18	18	18
Number of observations	138	138	138	138	138	138

Source: Degryse, Lambert, and Schwiabacher (2018 [9])

Suffrage institutions and financial structure: cross-country evidence

The Effect of Suffrage Institutions on Financial Structure, 1913–99: Panel Data

	(1)	(2)	(3)	(4)	(5)	(6)
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Urbanisation Rate	0.444 (0.897)	0.358 (0.805)	0.635 (0.915)	0.531 (0.788)	0.201 (0.869)	0.106 (0.751)
Wage Male:Female	0.058 (0.025)	0.085 (0.025)	0.016 (0.016)	0.033 (0.025)	0.000 (0.000)	0.130 (0.130)
Wald χ^2 (p-value)	0.000	0.000	0.000	0.000	0.000	0.000
Number of countries	18	18	18	18	18	18
Number of observations	138	138	138	138	138	138

Takeaways from Degryse et al. (2018 [9])

- Political institutions (suffrage) shaped financial structure over time by shifting the location of the median voter
- Empirical support for Perotti–von Thadden mechanism

Source: Degryse, Lambert, and Schwiabacher (2018 [9])

Rajan–Zingales: the role of incumbents

Benefits of stronger institutions often accrue to the broader population

Incumbents (industrialists, financiers) may be hurt (e.g. higher entry rates) → creating a motive to stall reforms

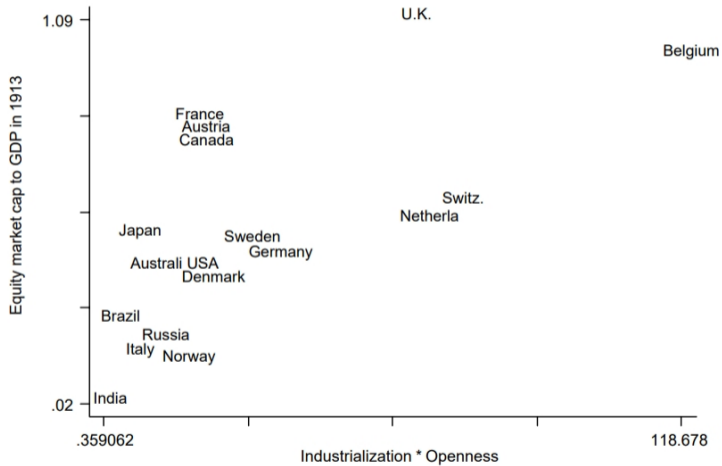
Economic elites have de facto political power → creating opportunities for influence

Rajan and Zingales (2003 [27]): the great reversals arise from changes in dominant elites' ability to shape policies on access to external finance (prevent new entrants)

Key factors are:

1. trade openness
2. financial openness

Financial development in 1913



Source: [Rajan and Zingales \(2003 \[27\]\)](#)

Financial development over time

Financial development and variation in capital flows

The dependent variable is the ratio of equity market capitalization to gross domestic product measure in a year. In Column (i), we pool the cross-sections from the following years: 1913, 1929, 1938, 1950, 1960, 1970, and 1980. In Column (ii), we pool the data averaged over 1980–1982 with the data averaged over 1996–1998. In Columns (iii) and (iv) we pool data for 1990 and 1999 with the data used for the estimates in Column (i). All estimates are obtained by instrumental variables, where openness is instrumented by constructed trade share in Frankel and Romer (1999). In the first column the proxy for demand for finance is the index of industrialization for that country in that year as computed by Bairoch (1982) divided by one thousand. In the other columns it is the logarithm of the per-capita GDP. Openness is the ratio of the sum of exports and imports of goods to GDP that year. The indicator for low international capital mobility equals one in the years from 1938–1980 and zero otherwise. The level of capital mobility is the mean absolute level of current account to GDP in 14 countries as computed by Taylor (1998) and extended by us to 1999. All regressions include a calendar year dummy. The standard errors, which are corrected for possible clustering of the residual at a country level, are in parentheses. (*) indicates significance at the 10% level, (**) at the 5% level, (***) at the 1% level.

Sample period:	1913–1980 (i)	1981–1997 (ii)	1913–1999 (iii)	1913–1999 (iv)
Demand for finance	1.201 (1.220)	0.127** (0.054)	0.143 (0.106)	0.145 (0.108)
Interaction of demand for finance and openness	6.549*** (0.976)	0.062** (0.024)	0.037 (0.036)	-0.162 (0.097)
Interaction of demand for finance and openness * dummy = 1 if period of low international capital mobility	-10.420*** (0.222)	-0.034** (0.015)	-0.077* (0.040)	
Interaction of demand for finance and openness * level of international capital mobility				6.695** (3.038)
Observations	100	90	151	151

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Key results of [Rajan and Zingales \(2003 \[27\]\)](#)

- Financial development is positively correlated with trade openness, especially in periods when cross-border capital flows are free
- Empirical support for private interest theory of financial development

Capital mobility	(0.222)	(0.013)	(0.010)	
Interaction of demand for finance and openness * level of international capital mobility				6.695** (3.038)
Observations	100	90	151	151

How does legal origin matter?

Openness and legal system over time

In the first two columns the dependent variable is the change in the ratio of equity market capitalization to gross domestic product between 1913 and 1970 (in the first column, it is the absolute change, in the second, the % change). In the next two columns the dependent variable is the change in the ratio of equity market capitalization to gross domestic product between 1970 and 1999 (in the third column, it is the absolute change, in the fourth the % change). In the first two columns the proxy for the change in the demand for finance is the change in the index of industrialization for that country in that year as computed by Bairoch (1982) divided by 1000. In the next two columns the proxy for the change in demand for finance is the change in the logarithm of the per-capita GDP in PPP dollars as reported in the World Development Indicators. The indicator for Civil Law is one in countries with Civil Law and is zero otherwise. All regressions include calendar year indicators. The standard errors, which are corrected for possible clustering of the residual at a country level, are in parentheses. (*) indicates significance at the 10% level, (**) at the 5% level, (***) at the 1% level.

	Change in stock market capitalization/GDP over the 1913–1970 period		Change in stock market capitalization/GDP over the 1970–1999 period	
	Changes in level	Percent change	Changes in level	Percent change
Change in demand for finance	0.655 (0.792)	-2.270** (1.063)	-0.398 (1.014)	-3.650 (3.687)
Civil law indicator	-0.745*** (0.165)	-1.551*** (0.221)	0.762* (0.393)	3.207** (1.428)
R^2	0.57	0.77	0.10	0.16
Observations	16	16	18	18

How does legal origin matter?

Openness and legal system over time

In the first two columns the dependent variable is the change in the ratio of equity market capitalization to gross domestic product between 1913 and 1970 (in the first column, it is the absolute change, in the second, the % change). In the next two columns the dependent variable is the change in the ratio of equity market capitalization to gross domestic product between 1970 and 1999 (in the third column, it is the absolute change, in the fourth the % change). In the first two columns the proxy for the change in the demand for finance is the change in the index of industrialization for that country in that year as computed by Bairoch (1982) divided by 1000. In the next two columns the proxy for the change in demand for finance is the change in the logarithm of the per-capita GDP in PPP dollars as reported in the World Development Indicators. The indicator for Civil Law is one in countries with Civil Law and is zero otherwise. All regressions include calendar year indicators. The standard errors, which are corrected for possible clustering of the residual at a country level, are in parentheses. (*) indicates significance at the 10% level,

Takeaway from [Rajan and Zingales \(2003 \[27\]\)](#)

“[Legal origin / institutions] might matter, not so much in directly favoring or disfavoring financial development, but in filtering the impact of interest groups and the forces that affect their incentives.” (p.43)

Civil law indicator	-0.745*** (0.165)	-1.551*** (0.221)	0.762* (0.393)	3.207** (1.428)
R ²	0.57	0.77	0.10	0.16
Observations	16	16	18	18

Incumbent banks

Kroszner and Strahan (1999 [15]) examines the interest group theory of deregulation: lifting of bank branching restrictions in the U.S.

They show that:

- small banks lose out most on branching deregulation (increased competition)
- insurance companies would also be natural opponents (in states where banks can sell insurance)

HAZARD MODEL OF POLITICAL ECONOMY FACTORS AFFECTING THE TIMING OF STATE BRANCHING DEREGULATION, 1970-1992

	(1)	(2)	(3)	(4)	(5)	(6)
Small bank asset share of all banking assets in state	6.48*** (1.22)	5.19*** (1.37)	6.32*** (1.35)	5.16*** (1.18)	4.88*** (1.33)	4.45*** (0.88)
Capital ratio of small banks relative to large in the state	13.25*** (3.48)	9.21*** (3.19)	13.01*** (3.62)	10.67*** (3.46)	11.44*** (3.75)	9.06** (3.81)
Relative size of insurance in states where banks may sell insurance, 0 otherwise	3.24** (1.61)	2.59* (1.49)	3.15* (1.65)	2.85* (1.54)	2.72* (1.59)	0.55 (1.34)
Indicator is 1 if banks may sell insurance in the state	0.45*** (0.10)	0.37*** (0.11)	0.45*** (0.10)	0.38*** (0.08)	0.36*** (0.09)	0.01 (0.12)
Relative size of insurance in states where banks may not sell insurance, 0 otherwise	-0.93** (0.43)	-0.90*** (0.33)	-1.02** (0.51)	-0.93* (0.48)	-0.96* (0.53)	-0.04 (0.39)
Small firm share of the number of firms in the state	-9.72*** (2.11)	-6.14*** (2.15)	-9.52*** (2.11)	-9.43*** (2.30)	-9.52*** (2.70)	-15.09*** (2.76)
Share of state government controlled by Democrats	0.31** (0.12)	0.23** (0.11)	0.30** (0.12)	0.27** (0.11)	0.26** (0.11)	0.11 (0.13)
Indicator is 1 if state controlled by one party	-0.04 (0.10)	-0.04 (0.07)	-0.04 (0.07)	-0.01 (0.09)	-0.02 (0.10)	0.17* (0.09)
Average yield on bank loans in the state minus Fed funds rate	—	0.23 (3.19)	—	—	—	—
Bank failure rate	—	—	0.92 (1.11)	—	—	—
Indicator is 1 if state has unit banking law	—	—	—	0.18** (0.10)	0.19* (0.10)	0.30*** (0.09)
Indicator is 1 if state changes bank insurance powers	—	—	—	—	-0.08 (0.12)	-0.26** (0.13)
Includes regional indicators?	No	No	No	No	No	Yes
N	637	408	637	637	637	637
Log likelihood	-3.74	9.00	-3.60	-2.12	-1.91	11.92
p-value of χ^2 for regression	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

The relative role of contracting and political institutions

Factor endowments, institutions, and long-run growth

Engerman and Sokoloff (1997 [12]) argue that **initial factor endowments** (e.g. climate, soil quality, and suitability for plantation agriculture) shaped the degree of inequality in colonial societies

Colonies characterized by high inequality (e.g. plantation economies relying on slave labor) developed institutions that concentrated political and economic power in the hands of elites

In contrast, colonies with more equal factor endowments developed broader access to economic opportunities and more inclusive institutions

These institutional differences persisted over time and contributed to divergent paths of growth

Colonial origins of comparative growth

Acemoglu, Johnson and Robinson (2001 [2]) extend this argument by focusing on the **mode of European settlement**

Core idea:

- Low settler mortality (e.g. United States, Australia): Europeans settled permanently and established stronger property rights and inclusive institutions
- High settler mortality (mostly in Central America, the Caribbean, South Asia, or Africa): Europeans avoided settlement and established extractive institutions

Identification strategy:

- Instrument for institutions: historical **settler mortality rates** ▶ Reduced form
- Assumption: settler mortality affected modern income only through institutions
- Result: Better institutions causally lead to higher income per capita

Unbundling institutions

Contracting institutions

- Support private contracting and exchange
- Improve enforcement of contracts
- Reduce transaction costs
- Govern “horizontal” relations
- Examples: courts, commercial law, legal enforcement

Political institutions

- Constrain governments and elites
- Protect citizens against expropriation
- Support secure property rights
- Govern “vertical” relations
- Examples: constraints on executive power, rule of law, protection against expropriation

[Acemoglu and Johnson \(2005 \[1\]\)](#) study development using settler mortality and legal origin as instruments for political and contracting institutions, respectively

Second stage:

$$Y_c = \alpha F_c + \beta I_c + Z'_c \gamma + \varepsilon_c$$

First stages:

$$F_c = \delta_1 L_c + \eta_1 M_c + Z'_c \gamma_1 + u_{1c}$$

$$I_c = \delta_2 L_c + \eta_2 M_c + Z'_c \gamma_2 + u_{2c}$$

- L_c : English legal origin
- M_c : log settler mortality or log population density in 1500

Identification requires: $\text{Cov}(\varepsilon_c, L_c) = 0$ and $\text{Cov}(\varepsilon_c, M_c) = 0$

Samples of former European colonies ($N = 71$)

DESCRIPTIVE STATISTICS

	WORLD SAMPLE (1)	EX-COLONIES SAMPLE (2)	ENGLISH EX-COLONIES (3)	ENGLISH EX-COLONIES		FRENCH EX-COLONIES (6)	FRENCH EX-COLONIES	
				Low Settler Mortality (4)	High Settler Mortality (5)		Low Settler Mortality (7)	High Settler Mortality (8)
Legal formalism	3.67 (1.07)	3.78 (1.24)	2.77 (.88)	2.46 (.94)	2.98 (.79)	4.65 (.75)	4.77 (.84)	4.48 (.62)
Procedural complexity	5.77 (1.37)	5.94 (1.54)	4.53 (1.03)	4.54 (1.04)	4.53 (1.06)	6.72 (1.19)	6.87 (1.33)	6.60 (1.07)
Number of procedures	27.19 (12.09)	28.73 (12.89)	20.4 (7.37)	19.67 (5.18)	21.08 (9.12)	33.26 (13.04)	30.8 (10.85)	35.15 (14.43)
Constraint on executive	4.47 (2.09)	4.15 (1.91)	4.48 (2.06)	5.58 (1.51)	3.75 (2.08)	3.99 (1.78)	5.02 (1.73)	3.33 (1.49)
Average protection against risk of expropriation	7.07 (1.81)	6.39 (1.47)	6.93 (1.70)	7.73 (1.73)	6.27 (1.40)	6.02 (1.16)	6.46 (.94)	5.61 (1.21)
Private property	3.3 (1.18)	3.04 (1.05)	3.54 (1.07)	3.79 (1.19)	3.38 (.97)	2.67 (.88)	3.15 (.59)	2.32 (.91)
Log GDP per capita in 1995 (PPP measure)	8.35 (1.10)	7.91 (1.00)	8.17 (1.14)	8.91 (1.11)	7.80 (.98)	7.71 (.83)	7.26 (.64)	8.35 (.64)
Average investment-GDP ratio	14.73 (7.89)	12.30 (7.21)	14.86 (8.37)	18.76 (9.65)	12.91 (7.04)	10.53 (5.49)	12.77 (4.73)	9.03 (5.51)
Credit to the private sector	.41 (.39)	.36 (.35)	.48 (.44)	.79 (.55)	.31 (.25)	.26 (.21)	.35 (.19)	.19 (.20)
Stock market capitalization	.22 (.37)	.17 (.37)	.30 (.51)	.67 (.68)	.07 (.11)	.04 (.14)	.11 (.17)	.03 (.09)
Log settler mortality	n.a.	4.69 (1.20)	4.25 (1.49)	3.10 (.70)	5.48 (1.06)	4.93 (.92)	4.12 (.37)	5.59 (.68)
Log population density in 1500	n.a.	.52 (1.53)	.25 (1.77)	-.27 (2.62)	.51 (1.11)	.75 (1.30)	.93 (1.70)	.99 (.92)

NOTE.—Mean values, with standard deviations in parentheses. High and low settler mortality are defined as above- and below-median values for all former colonies. For detailed sources and definitions, see App. table A1.

First-stage results

1. English legal origin has a large and precisely estimated effect on legal formalism and no significant effect on constraint on executive
2. Settler mortality and population density (in 1500) have a large effect on the constraint on executive and no impact on legal formalism
3. Robust with the other two measures, respectively

FIRST-STAGE REGRESSIONS FOR CONTRACTING AND PROPERTY RIGHTS INSTITUTIONS
(OLS, Sample of Ex-Colonies)

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Measure of Contracting Institutions						
	Dependent Variable: Legal Formalism		Dependent Variable: Procedural Complexity		Dependent Variable: Number of Procedures	
English legal origin	-1.98 (.23)	-1.79 (.20)	-2.28 (.34)	-2.24 (.29)	-11.29 (3.31)	-12.39 (2.88)
Log settler mortality	.09 (.09)		-.08 (1.32)		1.59 (1.29)	
Log population density in 1500		.04 (.06)		-.13 (.86)		-.38 (.84)
R ² in first stage	.64	.58	.47	.47	.23	.22
Observations	53	64	60	68	61	69
Panel B. Measure of Property Rights Institutions						
	Dependent Variable: Constraint on Executive		Dependent Variable: Protection against Expropriation		Dependent Variable: Private Property	
English legal origin	-.002 (.48)	.05 (.43)	.60 (.31)	.87 (.30)	.72 (.22)	.73 (.18)
Log settler mortality	-.66 (.19)		-.71 (.12)		-.30 (.09)	
Log population density in 1500		-.40 (.13)		-.36 (.09)		-.29 (.05)
R ² in first stage	.21	.15	.50	.35	.37	.47
Observations	51	60	51	57	52	60

NOTE.—Standard errors are in parentheses. All regressions are cross-sectional OLS with one observation per country. For detailed sources and definitions, see App. table A1.

Main result: economic and financial outcomes

CONTRACTING VS. PROPERTY RIGHTS INSTITUTIONS: GDP PER CAPITA AND INVESTMENT-GDP RATIO (2SLS)

	INSTRUMENT FOR PROPERTY RIGHTS INSTITUTIONS					
	Log Settler Mortality (1)	Log Population Density (2)	Log Settler Mortality (3)	Log Settler Mortality (4)	Log Settler Mortality (5)	Log Settler Mortality (6)
Panel A. Dependent Variable: Log GDP per Capita, Second Stage of 2SLS						
Legal formalism	.05 (.24)	-.002 (.21)			.35 (.15)	.85 (.45)
Procedural complexity			.097 (.17)			
Number of procedures				.82 (.04)		
Constraint on executive	.99 (.29)	.88 (.27)	.84 (.18)	.88 (.23)		
Average protection against risk of expropriation					.99 (.16)	
Private property						2.45 (.81)
Results in Equivalent OLS Specification						
Measure of contracting institutions	-.16 (.10)	-.13 (.10)	-.050 (.07)	-.013 (.009)	.11 (.09)	.01 (.10)
Measure of property rights institutions	.31 (.07)	.29 (.07)	.34 (.06)	.32 (.06)	.63 (.08)	.24 (.14)
Observations	51	60	60	61	51	52
Panel B. Dependent Variable: Investment-GDP Ratio, Second Stage of 2SLS						
Legal formalism	-.80 (1.55)	-1.34 (1.37)			.57 (1.08)	9.83 (2.52)
Procedural complexity			-.60 (1.10)			
Number of procedures				-.08 (.23)		
Constraint on executive	4.70 (1.87)	4.24 (1.77)	4.21 (1.20)	4.06 (1.44)		
Average protection against risk of expropriation					4.68 (1.11)	
Private property						13.16 (4.57)
Results in Equivalent OLS Specification						
Measure of contracting institutions	-1.05 (.85)	-.94 (.76)	-.50 (.60)	-.08 (.07)	.67 (.71)	.14 (.78)
Measure of property rights institutions	1.08 (.57)	1.00 (.51)	1.5 (.48)	1.31 (.49)	3.88 (.65)	4.68 (1.08)
Observations	51	60	60	61	51	52

NOTE.—Standard errors are in parentheses. All regressions are cross-sectional with one observation per country. The main regressions are 2SLS, with results from corresponding OLS specifications as the bottom of each panel. The instruments are English legal origin in all columns; in cols. 1 and 3–6, log settler mortality; and in col. 2, log population density in 1500. First stages are similar to those in table 3. For detailed sources and definitions, see App. table A1.

CONTRACTING VS. PROPERTY RIGHTS INSTITUTIONS: PRIVATE CREDIT AND STOCK MARKET CAPITALIZATION (2SLS)

	INSTRUMENT FOR PROPERTY RIGHTS INSTITUTIONS					
	Log Settler Mortality (1)	Log Population Density (2)	Log Settler Mortality (3)	Log Settler Mortality (4)	Log Settler Mortality (5)	Log Settler Mortality (6)
Panel A. Dependent Variable: Credit to Private Sector, Second Stage of 2SLS						
Legal formalism	-.08 (.08)	-.08 (.06)			-.01 (.07)	.16 (.14)
Procedural complexity			-.05 (.06)			
Number of procedures				-.010 (.012)		
Constraint on executive	.27 (.10)	.17 (.07)	.24 (.06)	.07 (.07)		
Average protection against risk of expropriation					.38 (.07)	
Private property						.70 (.25)
Results in Equivalent OLS Specification						
Measure of contracting institutions	-.13 (.04)	-.11 (.04)	-.059 (.030)	-.006 (.003)	-.09 (.04)	-.08 (.04)
Measure of property rights institutions	.05 (.03)	.06 (.02)	.06 (.02)	.071 (.02)	.13 (.04)	.21 (.05)
Observations	51	60	60	61	51	52
Panel B. Dependent Variable: Stock Market Capitalization, Second Stage of 2SLS						
Legal formalism	-.16 (.07)	-.14 (.06)			-.10 (.07)	.04 (.10)
Procedural complexity			-.11 (.06)			
Number of procedures				-.022 (.013)		
Constraint on executive	.20 (.09)	.13 (.07)	.19 (.06)	.14 (.08)		
Average protection against risk of expropriation					.21 (.07)	
Private property						.54 (.20)
Results in Equivalent OLS Specification						
Measure of contracting institutions	-.17 (.04)	-.15 (.04)	-.08 (.03)	-.006 (.004)	-.15 (.06)	-.08 (.04)
Measure of property rights institutions	.39 (.03)	.04 (.03)	.055 (.03)	.05 (.04)	.10 (.04)	.21 (.06)
Observations	50	59	59	59	50	51

NOTE.—Standard errors are in parentheses. All regressions are cross-sectional with one observation per country. The main regressions are 2SLS, with results from corresponding OLS specifications as the bottom of each panel. The instruments are English legal origin in all columns; in cols. 1 and 3–6, log settler mortality; and in col. 2, log population density in 1500. First stages are similar to those in table 4. For detailed sources and definitions, see App. table A1.

One interpretation is that private agreements or reputation-based mechanisms can adjust to weak contracting institutions, but alternative arrangements cannot compensate political institutions against the risk of expropriation → the state is the **ultimate arbiter** of contracts

E.g. banks can increase interest rates, provide closer monitoring, or develop credit relationships, when it is more difficult for them to collect on their loans

Modigliani and Perotti (2000 [23]) show that bank-based financial systems emerge in weak legal environment as banks are bound by some form of private enforcement

Additional (reduced-form) evidence

Beck et al. (2003 [6]) also examine whether factor endowments (proxying for political institutions) and legal origins predict financial development

Legal origin only appears to matter for stock market development but not for banking sector development → consistent with Acemoglu and Johnson (2005 [3])

	Settler Mortality	French Legal Origin	Latin America	Africa	Catholic	Muslim	Other Religion	Independence	Ethnic Fractionalization	Adjusted-R ²	Obs.
Private	-0.151*** (0.026)	-0.141** (0.059)								0.480	70
Credit	-0.130*** (0.034)	-0.097* (0.055)	-0.194* (0.082)	-0.148 (0.108)						0.514	70
	-0.157*** (0.028)	-0.054 (0.074)			-0.004 (0.003)	-0.003 (0.002)	-0.002 (0.003)			0.486	70
	-0.160*** (0.028)	-0.115 (0.077)						-0.090 (0.134)		0.478	70
	-0.148*** (0.028)	-0.144** (0.059)							-0.024 (0.073)	0.472	70
	-0.127*** (0.035)	-0.108 (0.069)	-0.0214* (0.117)	-0.110 (0.121)				0.029 (0.185)	-0.100 (0.110)	0.505	70

Inside the black box

	DEPENDENT VARIABLE: QUALITY OF THE COURTS		DEPENDENT VARIABLE: JUDICIARY FUNCTIONING FOR BUSINESS DISPUTES		DEPENDENT VARIABLE: VIOLATION OF COPYRIGHTS, PATENTS, OR TRADEMARKS	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Reduced Form						
English legal origin	-.81 (.21)	-.87 (.19)	-.68 (.18)	-.82 (.18)	-.72 (.12)	-.82 (.10)
Log settler mortality			.18 (.08)		.08 (.06)	
Log population density in 1500		-.02 (.07)		.01 (.07)		.05 (.03)
R^2	.09	.09	.13	.12	.09	.11
Panel B. Structural Form with Legal Formalism and Constraint on Executive, 2SLS						
Legal formalism	.44 (.11)	.45 (.12)	.39 (.13)	.43 (.11)	.38 (.06)	.44 (.06)
Constraint on executive	-.07 (.12)	.23 (.28)	-.18 (.14)	.11 (.23)	-.04 (.07)	-.07 (.14)
Includes firm-level sales?	yes	yes	yes	yes	yes	yes
Countries	38	44	38	44	38	44
Observations	3,043	3,379	3,282	3,637	3,029	3,347

	DEPENDENT VARIABLE: FREQUENCY OF ADDITIONAL PAYMENTS		DEPENDENT VARIABLE: CORRUPTION OF GOVERNMENT OFFICIALS		DEPENDENT VARIABLE: PREDICTABILITY OF LEGISLATION AND REGULATION	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel C. Reduced Form						
English legal origin	.37 (.31)	.04 (.19)	-.25 (.20)	-.49 (.14)	.09 (.14)	-.01 (.16)
Log settler mortality			.32 (.07)		.33 (.06)	
Log population density in 1500		.33 (.04)		.21 (.03)		.06 (.04)
R^2	.08	.12	.10	.14	.06	.01
Panel D. Structural Form with Legal Formalism and Constraint on Executive, 2SLS						
Legal formalism	-.04 (.28)	.10 (.36)	.24 (.16)	.33 (.23)	.05 (.14)	.03 (.09)
Constraint on executive	-.72 (.28)	-1.23 (.87)	-.42 (.18)	-.77 (.61)	-.45 (.16)	-.21 (.16)
Includes firm-level sales?	yes	yes	yes	yes	yes	yes
Countries	38	44	38	44	38	44
Observations	3,220	3,568	3,145	3,482	3,348	3,707

Source: Acemoglu and Johnson (2005 [3])

Some critiques of the settler mortality instrument

Data quality concerns: historical mortality data are incomplete, inconsistently coded, and partly based on soldiers or bishops rather than settlers, in turn weakening first-stage results ([Albouy 2012 \[5\]](#))

Exclusion restriction: geography and disease environment may directly affect long-run development rather than only through institutions ([Easterly and Levine 2003 \[11\]](#))

Human capital vs. institutions: colonial conditions may have shaped education and human capital accumulation rather than institutions per se ([Glaeser et al. 2004 \[14\]](#))

External validity: evidence is based on a limited sample of former colonies and may not generalize broadly beyond colonial settings

What about democracy?

Delis, Hasan and Ongena (2020 [10]) look at the cost of credit and show that:

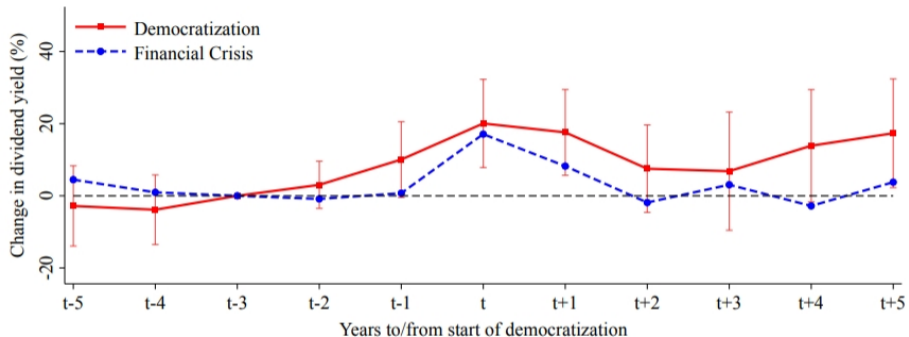
- Democratization (autocratization) has a sizable negative (positive) effect on loan spreads (from syndicated loan data)
- Results are robust to the instrumentation with regional waves of democratization à la Acemoglu et al. (2019 [4])

Democracy and loan spreads: IV results.

The table reports coefficients and *t*-statistics (in brackets). Dependent variable is *ASD* and all variables are defined in Table 1. The sample covers the period 1984-2014. Estimation method is the IV procedure of Eqs. (2) and (3) with standard errors clustered by borrower's country. The intermediate part of the table shows the main first-stage results (common across all regressions). The lower part of the table denotes the type of fixed effects used in each specification. Specifications 1, 3, and 5 include only macro controls, and specifications 2, 4, and 6 additionally include the loan characteristics as controls. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2	3	4	5	6
Democracy	-25.247**	-23.123**	-30.909***	-28.554**	-30.276***	-34.476***
	[-2.372]	[-2.244]	[-2.660]	[-2.626]	[-3.043]	[-3.258]
Creditor rights	-35.743***	-30.189**	-30.769***	-21.637*	-16.792**	-7.587**
	[-4.117]	[-2.224]	[-2.965]	[-1.813]	[-3.346]	[-1.950]
Loan amount		-11.733***		-10.093**		-7.289**
		[-10.658]		[-8.229]		[-2.488]
Maturity		-0.058		0.043		-0.129
		[-0.674]		[0.513]		[-1.706]
Collateral		55.806***		32.213***		74.508***
		[14.675]		[7.492]		[15.495]
Number of lenders		0.016		-0.154		-0.439*
		[0.091]		[-1.079]		[-2.203]
Performance provisions		-33.724***		-27.415***		-41.075***
		[-10.360]		[-10.373]		[-9.727]
General covenants		4.931***		4.432***		5.842***
		[3.808]		[4.503]		[3.469]
Firm size		-9.375***		-4.022		-13.334***
		[-8.779]		[-1.267]		[-7.611]
Firm market-to-book ratio		-0.123***		-1.265		-0.148**
		[-3.086]		[-1.656]		[-3.154]
Firm tangibility		94.557**		77.501		121.851***
		[2.271]		[0.630]		[2.990]
Firm leverage		14.659		25.409*		9.937
		[1.270]		[1.772]		[1.037]
GDP per capita	-0.002	-0.001	-0.001	-0.001	0.003***	0.001**
	[-1.034]	[-0.601]	[-0.657]	[-0.615]	[6.075]	[2.385]
GDP growth	-3.986**	-3.678**	-3.841**	-3.947**	-6.731**	-6.176**
	[-2.343]	[-2.253]	[-2.457]	[-2.780]	[-2.095]	[-2.188]
Domestic unrest	0.013	0.037	0.085**	0.105**	0.038	0.035
	[0.239]	[0.892]	[2.080]	[2.530]	[0.309]	[0.567]
Regional trade	-0.906**	-1.430***	-0.705**	-0.777**	-0.113	-0.829
	[-2.329]	[-4.247]	[-2.292]	[-2.333]	[-0.183]	[-1.424]
First stage results						
Regional democratization	4.504***					
	[2.702]					
Regional unrest	-1.523***					
	[-2.661]					
Observations	18,062	14,575	17,320	13,830	145,407	131,313
Loan-type effects	Y	Y	Y	Y	Y	Y
Loan-purpose effects	Y	Y	Y	Y	Y	Y
Year effects	Y	Y	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y	N	N
Country effects	Y	Y	N	N	N	N
Firm effects	N	N	Y	Y	N	N
Clustered standard errors	Country	Country	Country	Country	Country	Country

Who values democracy?



Source: Miller (2026 [22])

Gordon growth intuition: dividend yield (prior 12-month dividends divided by price) is discount rate less expected cashflow growth, $D/P = r - g$

Redistribution-based model of democratizations (Miller 2026)

1. Risk premia rise during democratizations

- Rule out other explanations: macroeconomic risk and generic political risk cannot explain the results
- Causal evidence: majority Catholic autocracies have higher average excess returns after Catholic doctrinal shift favoring democracy (1959–1963)

2. Driven by fear over future redistribution

- Redistribution after successful democratizations: 24% rise in tax revenue-GDP ratios, 2.1 pp decline in Gini coefficients, 6.2 pp rise in labor share
- Other redistribution: corruption and bribery indices fall and economic competition rises
- Asset pricing model with democratic transitions: standard redistribution channels can explain the asset pricing results
- There and back again: model matches asset prices during autocratizations too

Obvious endogeneity concerns → creative DID

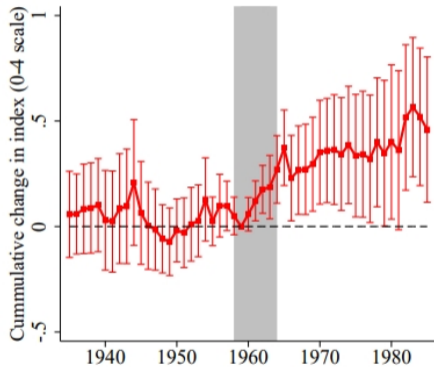
Doctrinal shift in the Catholic church in favor of democracy from 1959–1963:

- Unexpected election of Pope John XXIII
- Unexpected decision to call the Second Vatican Council

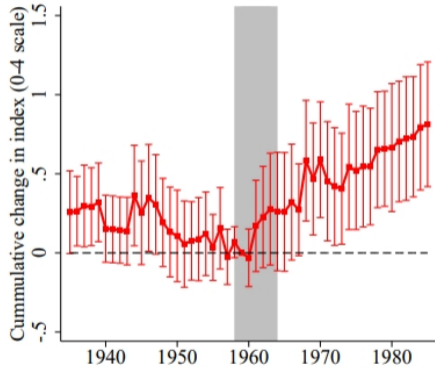
One of the main reasons Third Wave of Democracy occurred

Anti-regime civil society organization activity and democratic mobilizations

Panel A: Anti-regime CSO activity



Panel B: Democratic mobilizations



Source: [Miller \(2026 \[22\]\)](#)

$$\text{Excess returns}_{c,t} = \alpha_c + \alpha_t + \beta \mathbf{1}_{c,t} \{ \text{Post} \times \text{Catholic} \times \text{Autocracy} \} + \omega' \text{Controls}_{c,t} + \varepsilon_{c,t}$$

	All Countries		Autocracies Only	
	(1)	(2)	(3)	(4)
Majority Catholic Autocracy \times Post	10.45*** (2.89)	6.35*** (2.13)	11.06*** (3.55)	9.89*** (2.80)
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Sample	1946–1976	1939–1983	1946–1976	1939–1983
R ²	0.14	0.09	0.16	0.13
Observations	1,069	1,584	512	736

Source: [Miller \(2026 \[22\]\)](#)

Excess returns $_{c,t} = \alpha_c + \alpha_t + \beta \mathbf{1}_{c,t} \{ \text{Post} \times \text{Catholic} \times \text{Autocracy} \} + \omega' \text{Controls}_{c,t} + \varepsilon_{c,t}$

Takeaways from [Miller \(2026 \[22\]\)](#)

- Democratizations increase risk premia; same magnitude as financial crises
- Effects appear driven by redistribution risk: democratization lowers expected payoffs to capital owners (the wealthy), increasing required returns by marginal investors
- Empirical support for redistribution-based models of democratization
- Any financial history that excludes democratizations is incomplete

Source: [Miller \(2026 \[22\]\)](#)

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Conclusion

Political institutions are the missing link accounting for the cross-country differences in, and the time-series variation of, financial development and structure

As pointed out by [Levine \(1997 \[20\]\)](#) in his appraisal of the finance–growth nexus: “*we will not have a sufficient understanding of long-run economic growth until we understand the evolution and functioning of financial systems*” (pp.720-721)

As argued in this module, a political-economy approach is essential to understanding the root causes of financial and economic development

This area has never been more relevant: see the next modules 😊

Thank You

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Appendix

Evolution of financial development (banking sector + stock market) per country

Evolution of the ratio of deposits to GDP

Deposits to GDP is the ratio of commercial and savings deposits divided by GDP. Until 1990 the source is Mitchell (1995). We extrapolate the 1999 data from the 1994 data in Mitchell using the rate of growth of deposits as reported in *International Financial Statistics* published by the International Monetary Fund.

Country	Year								
	1913	1929	1938	1950	1960	1970	1980	1990	1999
Argentina	0.29	0.36	0.36	0.30	0.22	0.19	0.28	0.07	0.24
Australia	0.37	0.45	0.45	0.69	0.43	0.38	0.29	0.42	0.49
Austria	1.12	0.37	0.33	0.21	0.28	0.31	0.62	0.73	0.70
Belgium	0.68	0.48	0.69	0.44	0.35	0.40	0.39	0.38	0.85
Brazil	0.12	0.16	0.21	0.20	0.15	0.12	0.17		
Canada	0.22	0.13	0.16	0.17	0.13	0.37	0.47	0.49	0.61
Chile	0.16	0.15	0.09	0.10	0.06	0.07	0.07	0.12	0.19
Cuba									
Denmark	0.76	0.46	0.39	0.32	0.27	0.25	0.28	0.55	0.54
Egypt				0.17	0.17	0.14	0.31	0.67	0.51
France	0.42	0.44	0.36	0.24	0.30	0.33	0.45	0.42	0.47
Germany	0.53	0.27	0.25	0.15	0.23	0.29	0.30	0.32	0.35
India	0.04	0.09	0.12	0.08	0.08	0.09	0.08	0.09	0.09
Italy	0.23	0.21	0.31	0.23	0.81	0.54	0.59	0.40	0.28
Japan	0.13	0.22	0.52	0.14	0.21	0.33	0.48	0.51	0.53
Netherlands	0.22	0.32	0.52	0.28	0.28	0.26	0.25	0.73	0.69
Norway	0.65	0.89	0.56	0.52	0.43	0.49	0.30	0.50	0.49
Russia	0.21								
South Africa	0.09	0.09	0.16	0.18	0.18	0.16	0.12	0.16	0.21
Spain	0.07	0.24	0.24	0.33	0.37	0.53	0.44	0.66	0.71
Sweden	0.69	0.69	0.73	0.59	0.54	0.50	0.48	0.40	0.39
Switzerland	0.93	1.08	1.13	0.79	0.78	0.69	0.69	0.54	0.66
UK	0.10	2.88	1.34	0.67	0.32	0.22	0.14	0.33	0.39
US	0.33	0.33	0.44	0.40	0.30	0.25	0.18	0.19	0.17

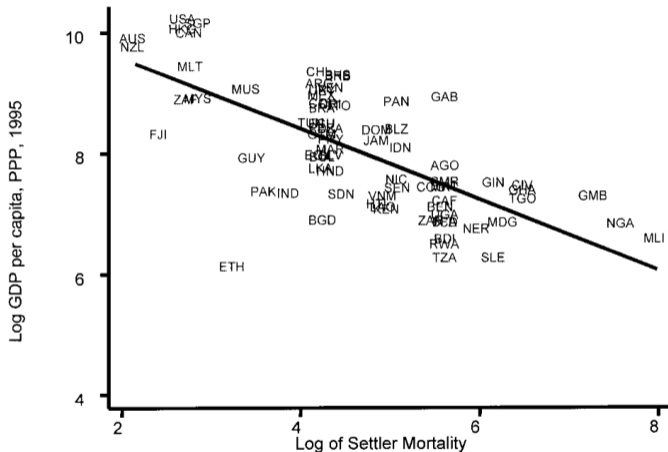
Evolution of stock market capitalization over GDP

Stock market capitalization to GDP is the ratio of the aggregate market value of equity of domestic companies to GDP. Sources are in the Data Appendix, which is available on request from the authors.

Country	Year								
	1913	1929	1938	1950	1960	1970	1980	1990	1999
Argentina	0.17				0.05	0.03	0.11		0.15
Australia	0.39	0.50	0.91	0.75	0.94	0.76	0.38	0.37	1.13
Austria	0.76					0.09	0.03	0.17	0.17
Belgium	0.99	1.31			0.32	0.23	0.09	0.31	0.82
Brazil	0.25						0.05	0.08	0.45
Canada	0.74		1.00	0.57	1.59	1.75	0.46	1.22	1.22
Chile	0.17				0.12	0.00	0.34	0.50	1.05
Cuba	2.19								
Denmark	0.36	0.17	0.25	0.10	0.14	0.17	0.09	0.67	0.67
Egypt	1.09				0.16		0.01	0.06	0.29
France	0.78		0.19	0.08	0.28	0.16	0.09	0.24	1.17
Germany	0.44	0.35	0.18	0.15	0.35	0.16	0.09	0.20	0.67
India	0.02	0.07	0.07	0.07	0.07	0.06	0.05	0.16	0.46
Italy	0.17	0.23	0.26	0.07	0.42	0.14	0.07	1.13	0.68
Japan	0.49	1.20	1.81	0.05	0.36	0.23	0.33	1.64	0.95
Netherlands	0.56		0.74	0.25	0.67	0.42	0.19	0.50	2.03
Norway	0.16	0.22	0.18	0.21	0.26	0.23	0.54	0.23	0.70
Russia	0.18								0.11
South Africa				0.68	0.91	1.97	1.23	1.33	1.20
Spain							0.17	0.41	0.69
Sweden	0.47	0.41	0.30	0.18	0.24	0.14	0.11	0.39	1.77
Switzerland	0.58					0.50	0.44	1.93	3.23
UK	1.09	1.38	1.14	0.77	1.06	1.63	0.38	0.81	2.25
US	0.39	0.75	0.56	0.33	0.61	0.66	0.46	0.54	1.52

Source: Rajan and Zingales (2003 [27])

Reduced-form relationship between income and settler mortality



Source: [Acemoglu et al. \(2001 \[2\]\)](#)



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