

DOES LOCAL FINANCIAL DEVELOPMENT MATTER?

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April.1st.2018

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Introduction

- the effects of differences in local financial development within an integrated financial market (Italy)
- Financial development enhances the probability an individual starts business, favors entry of new firms, increases competition, and promotes growth
- Weaker effects for larger firms
- Local financial development is an important determinant of the economic success

Introduction: About Italy

- unified for the last 140 years, from both a political and a regulatory point of view.
- 20 regions and 95 provinces (110 provinces now)
- A 1936 banking law
strictly regulated entry up to the mid-1980s

National banks: main cities

Cooperative and local commercial banks: within province

Savings bank: within region

Introduction: Data Sets

- The Survey of Households Income and Wealth (SHIW)
detailed information on demographic, income, consumption, and wealth of households; profession of different individuals
- Italian Statistical Institute (ISTAT)
numbers of firms, rate of formation, and the incidence of bankruptcy
- Centrale dei Bilanci (CB)
the balance sheets and income statements of firms

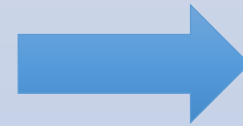
Indicator of Financial Development

measures how easy it is for an individual to borrow at a local level

the probability that a household is shut off from the credit market

based on two questions:

Applied for a loan and turned down?
Thought of applied a loan but didn't?



“Discouraged or
turned down”

$$1 - \frac{\text{Conditional Probability of Rejection}}{\max \{ \text{Conditional Probability of Rejection} \}}$$

Indicator of Financial Development

1 – Conditional Probability of Rejection/ max {Conditional Probability of Rejection}

THE INDICATOR OF FINANCIAL DEVELOPMENT		
Region	Coefficient on regional dummy	Normalized measure of financial development
Marche (Center)	0.118	0.587
Liguria (North)	0.118	0.586
Emilia (North)	0.136	0.523
Veneto (North)	0.138	0.516
Piemonte (North)	0.151	0.472
Trentino (North)	0.155	0.457
Lombardia (North)	0.161	0.435
Friuli ven. (North)	0.168	0.410
Umbria (Center)	0.172	0.398
Sardegna (South)	0.179	0.374
Toscana (Center)	0.183	0.360
Abruzzo (South)	0.183	0.359
Basilicata (South)	0.187	0.347
Molise (South)	0.215	0.248
Sicilia (South)	0.225	0.214
Puglia (South)	0.238	0.165
Lazio (South)	0.266	0.067
Campania (South)	0.278	0.027
Calabria (South)	0.286	0.000
F test for regional effects = 0		
(p -value): $F(19, 8060)$	4.95	
Prob > F	0.0000	

Instruments:

The structure of the local banking markets in 1936

Dependent variable:
**Financial
development in the
1990s**

Explanatory
variables:
**The number of total
branches present in
a region in 1936**

	Financial development
Branches per million inhabitants in the region in 1936	0.0006* (0.0003)
Fraction of branches owned by local banks in 1936	0.6121*** (0.1758)
Number of savings banks per million inhabitants in the region: 1936	0.0182* (0.0088)
Number of cooperative banks per million inhabitants in the region: 1936	-0.0186*** (0.0049)
Constant	-0.1230 (0.1172)
Observations	19
R^2	0.720

Instruments: why 1936 & 1951

Banking structure differences in 1936:

Higher concentration for savings banks in the North East and in the Center

More savings bank survived, less smaller commercial banks and cooperatives

No provincial GDP in 1936:

Use number of vehicles per inhabitants in 1936

GDP in 1951:

the time when Italy regained the prewar level of production

the first date for which provincial GDP are available

Instruments: why 1936 & 1951

1936 BANKING STRUCTURE AND ECONOMIC DEVELOPMENT

A

	Bank branches per 1000 inhabitants in the region in 1936		Fraction of bank branches owned by local banks in 1936	
Number of cars per capita in a province in <u>1936</u>	.0119***	0.0050	0.0031	-0.0135**
	(0.003)	(0.0037)	(0.0059)	(0.048)
South dummy	—	-0.0904***	—	-0.2156***
		(0.0264)		(0.0442)

C

	Bank branches per 1000 inhabitants in the region in 1936		Fraction of bank branches owned by local banks in 1936	
Log of provincial value added per capita in <u>1951</u>	0.1110**	-9.16e-06***	0.076	-0.135***
	(0.045)	(1.48e-06)	(0.047)	(0.048)
South dummy	—	-0.174**	—	-0.238***
		(0.066)		(0.033)

Instruments: why 1936 & 1951

B

	No. of savings banks per 1000 inhabitants in the region in 1936		No. of cooperative banks per 1000 inhabitants in the region in 1936	
Number of cars per capita in a province in 1936	0.0002 (0.0001)	2.0e-5 (1.36e-5)	-0.0006*** (0.0002)	-0.0003 (0.0025)
South dummy	—	-0.0026*** (0.001)	—	0.0033* (0.0017)

D

	No. of savings banks per 1000 inhabitants in the region in 1936		No. of cooperative banks per 1000 inhabitants in the region in 1936	
Log of provincial value added per capita in 1951	0.003*** (0.001)	0.0010 (0.001)	-0.004** (0.002)	-0.006*** (0.002)
South dummy	—	-0.003*** (0.001)	—	-0.002* (0.001)

I. Effects on the Probability of Starting a Business

identify **individuals who are self-employed** (dependent variable)
use **controls**

1936



1951



ENTREPRENEURSHIP AND FINANCIAL DEVELOPMENT

	Probit	Probit	OLS	IV	IV	IV-no South
Financial development	0.0957*** (0.0342)	0.0947*** (0.0356)	0.0977*** (0.0337)	0.0879** (0.0382)	0.0904** (0.0412)	0.1072* (0.0542)
Per capita GDP/1000	-0.1608 (0.2389)	-0.2107 (0.2519)	-0.2321 (0.2542)	-0.2346 (0.2487)	-0.0272 (0.3860)	0.0739 (0.4278)
Judicial inefficiency	0.0072** (0.0033)	0.0077** (0.0033)	0.0081** (0.0034)	0.0079** (0.0032)	0.0064** (0.0030)	-0.0009 (0.0071)
Social capital	0.0007 (0.0007)	0.0004 (0.0012)	0.0004 (0.0012)	0.0005 (0.0011)	0.0001 (0.0011)	0.0003 (0.0020)
Intergenerational transfers	0.0797*** (0.0115)	0.0800*** (0.0115)	0.0879*** (0.0119)	0.0879*** (0.0116)	0.0873*** (0.0118)	0.0684*** (0.0161)
Male	0.1000*** (0.0099)	0.1000*** (0.0100)	0.1015*** (0.0095)	0.1015*** (0.0092)	0.1015*** (0.0092)	0.0876*** (0.0058)
Years of education	-0.0072*** (0.0010)	-0.0072*** (0.0010)	-0.0073*** (0.0010)	-0.0073*** (0.0010)	-0.0072*** (0.0010)	-0.0069*** (0.0011)
Age	0.0015*** (0.0003)	0.0015*** (0.0003)	0.0015*** (0.0003)	0.0016*** (0.0003)	0.0016*** (0.0003)	0.0015*** (0.0005)
South		-0.0085 (0.0200)	-0.0050 (0.0198)	-0.0051 (0.0197)	-0.0168 (0.0204)	
Per capita GDP/1000 in 1951					-0.0049 (0.0037)	-0.0059 (0.0041)

II. Effects on the Age at which People Become Entrepreneurs

SELF-EMPLOYED AGE AND LOCAL FINANCIAL DEVELOPMENT

	OLS	OLS	IV	IV	IV-no South
Financial development	-8.3117** (3.2015)	-8.2923** (3.2449)	-5.8957 (4.8297)	-6.0256 (4.5803)	-11.4730** (4.6583)
Per capita GDP/1000	124.1770** (44.1353)	136.3543** (47.9748)	132.2601*** (45.9894)	148.2946*** (43.2360)	134.6580** (56.4051)
Judicial inefficiency	-0.4637 (0.3471)	-0.5191 (0.3411)	-0.4921 (0.3095)	-0.6157* (0.3271)	-0.9670 (0.7122)
Social capital	-0.0744 (0.0961)	0.0144 (0.1518)	-0.0144 (0.1415)	-0.0147 (0.1386)	0.1343 (0.1957)
South		2.0242 (2.5451)	2.0302 (2.5146)	1.3773 (2.6273)	
Per capita GDP/1000 in 1951				-0.6965 (0.4509)	-0.4765 (0.5142)
Observations	92	92	92	92	59
R^2	0.093	0.102	0.0987	0.123	0.145

III. Effects on the Entry on New Firms

Dependent variable:

the fraction of new firms registered in a province scaled by the number of inhabitants

A: Entry of new firms					
	OLS	OLS	IV	IV	IV-no South
Financial development	49.057** (17.83)	49.084** (20.61)	44.149*** (16.79)	44.481*** (16.25)	42.048** (19.92)
Per capita GDP/1000	-1.221*** (0.31)	-1.155*** (0.34)	-1.150*** (0.32)	-1.036*** (0.27)	-1.245*** (0.23)
Judicial inefficiency	-2.424 (2.71)	-2.648 (2.53)	-2.716 (2.40)	-3.475 (2.49)	-4.757 (4.44)
Social capital	0.788 (0.54)	1.165 (0.86)	1.229 (0.75)	1.203 (0.76)	1.816* (1.10)
South	—	8.803 (11.50)	8.799 (11.07)	5.395 (12.10)	
Per capita GDP/1000 in 1951	—	—	—	-0.004** (0.00)	-0.003* (0.00)
Observations	100	100	100	100	65
R^2	0.187	0.190	0.1894	0.203	0.222

IV. Effects on the Degree of Competition in the Local Market

Dependent variable:

Firm's markup as earnings before interest, taxes, depreciation, and amortization divided by sales

FIRMS' MARKET POWER AND FINANCIAL DEVELOPMENT					
	OLS	OLS	IV	IV	IV-no South
Financial development	-0.0228** (0.0091)	-0.0230** (0.0096)	-0.0201** (0.0092)	-0.0207** (0.0091)	-0.0300*** (0.0090)
Per capita GDP/1000000	0.0055 (0.0049)	0.0060 (0.0044)	0.0060 (0.0044)	0.0061 (0.0050)	0.0069 (0.0046)
Judicial inefficiency	0.0004 (0.0005)	0.0002 (0.0005)	0.0003 (0.0005)	0.0003 (0.0005)	0.0004 (0.0010)
Log (size)	-0.0021*** (0.0003)	-0.0021*** (0.0003)	-0.0021*** (0.0003)	-0.0021*** (0.0003)	-0.0021*** (0.0003)
Social capital	-0.0003* (0.0001)	-0.0002 (0.0002)	-0.0003 (0.0002)	-0.0003 (0.0002)	-0.0002 (0.0002)
South	—	0.0014 (0.0037)	0.0013 (0.0040)	0.0013 (0.0041)	0.0014 (0.0037)
Per capita GDP/1000 in 1951	—	—	—	1.32e-08 (4.14e-07)	1.79e-07 (3.67e-07)
No. Obs.	296,846	296,846	296,846	296,846	258,016
Adj. R ²	0.0224	0.0224	0.0224	0.0224	0.0248

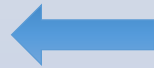
V. Effects on firm's growth

Dependent variable: **Annual nominal rate of growth**

THE EFFECT OF FINANCIAL DEVELOPMENT ON FIRMS' GROWTH

	OLS	OLS	IV	IV	IV-no South
Financial development	0.0754*** (0.0168)	0.0762*** (0.0191)	0.0703*** (0.0216)	0.0768*** (0.0209)	0.0710** (0.0240)
Internally financed growth	0.0971*** (0.0085)	0.0969*** (0.0086)	0.0971*** (0.0087)	0.0970*** (0.0086)	0.0985*** (0.0098)
Per capita GDP/1000000	-0.1210 (0.0739)	-0.1390 (0.0900)	-0.1390 (0.0892)	-0.2030** (0.0990)	-0.1350 (0.0850)
Judicial inefficiency	0.0017 (0.0017)	0.0022 (0.0013)	0.0020 (0.0012)	0.0012 (0.0014)	0.0011 (0.0016)
Size	0.0149*** (0.0021)	0.0149*** (0.0021)	0.0145*** (0.0021)	0.0149*** (0.0021)	0.0137*** (0.0021)
Social capital	0.0015*** (0.0003)	0.0013* (0.0006)	0.0014* (0.0006)	0.0012* (0.0006)	0.0017* (0.0008)
South	—	-0.0053 (0.0096)	-0.0049 (0.0101)	-0.0073 (0.0104)	—
Per capita GDP/1000 in 1951	—	—	—	-1.7e-06 (1.4e-06)	-2.36e-06 (1.58e-06)
No. obs.	252,101	252,101	252,101	252,101	217,834
Adj. R ²	0.0608	0.0608	0.0608	0.0609	0.0617

**Internally
financed
growth:**



max g =
ROA/(1-ROA)

Conclusion

- More financially developed:
easier to start business, younger entrepreneurs, favors formation of new firms, more larger firms, more competition, faster firms' growth
- Local financial development matter
- Local financial development is differentially important for large and small firms