

## **STATISTICAL ANNEXES**

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### **CHAPTER IV**

#### **FINANCIAL CONSTRAINTS AND INVESTMENT IN FRANCE AND SPAIN: A COMPARISON USING FIRM LEVEL DATA**

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Table IV.1. Size distribution of firms and observations by mean employment

	France					Total
	n < 20	20<n<=100	100<n<=250	250<n<500	n>500	
<b>No. of firms</b>	1.083 15,5%	3.894 55,9%	1.141 16,4%	450 6,5%	397 5,7%	6.965 100,0%
<b>No. of obs.</b>	6.611 14,7%	25.319 56,1%	7.581 16,8%	2.984 6,6%	2.616 5,8%	45.111 100,0%

	Spain					Total
	n < 20	20<n<=100	100<n<=250	250<n<500	n>500	
<b>No. of firms</b>	368 16,7%	1.180 53,4%	353 16,0%	168 7,6%	139 6,3%	2.208 100,0%
<b>No. of obs.</b>	2.190 16,1%	7.260 53,3%	2.259 16,6%	1.078 7,9%	844 6,2%	13.631 100,0%

## Percentage of Listed Companies (Firms and Observations)

	France		Spain	
	Listed	Total	Listed	Total
<b>No. of firms</b>	117 1,7%	6.965 100,0%	64 2,9%	2.208 100,0%
<b>No. of obs.</b>	773 1,7%	45.111 100,0%	359 2,6%	13.631 100,0%

Table IV.2. Variable acronyms and definitions

Variable Acronyms	Description of Variable
I/K	Gross Investment / Capital = $I(t) / K(t-1)$
S/K	Sales / Capital = $S(t) / K(t-1)$
Y/K	Production / Capital = $Y(t) / K(t-1)$
CF/K	Cash Flow / Capital = $CF(t) / K(t-1)$
CS/K	Cash Stock / Capital = $CS(t) / K(t-1)$
GP/K	Gross Operating Profit / Capital = $GP(t) / K(t-1)$
B/K	Total Debt / Capital = $B(t) / K(t-1)$
YP	Number of Employees
ROA	Ordinary Return on Net Assets (R1)
EFC	External Finance Cost (R2)



Table IV.3. Descriptive statistics

## FRANCE

Variable	Mean	St. dev.	Percentiles				
			Min	25%	50%	75%	Max
I/K	0,139	0,144	0,002	0,048	0,094	0,174	1,026
S/K	4,123	3,771	0,717	2,001	3,001	4,779	79,800
Y/K	3,718	3,488	-0,737	1,818	2,727	4,287	79,800
CF/K	0,332	0,312	-0,652	0,161	0,262	0,411	4,219
CS/K	0,284	0,634	0,000	0,017	0,086	0,302	26,500
GP/K	0,196	0,302	-2,637	0,047	0,122	0,256	5,920
B/K	0,592	0,651	0,013	0,219	0,402	0,709	9,780
YP	169	933	1	27	48	120	63.258
ROA	0,116	0,422	-33,090	0,045	0,105	0,179	69,200
EFC	0,084	0,527	0,000	0,046	0,064	0,089	73,000

## SPAIN

Variable	Mean	St. dev.	Percentiles				
			Min	25%	50%	75%	Max
I/K	0,148	0,184	-0,156	0,035	0,092	0,193	1,285
S/K	4,477	4,673	0,370	1,808	3,032	5,362	64,359
Y/K	4,538	4,676	0,348	1,841	3,094	5,362	64,359
CF/K	0,339	0,444	-1,081	0,114	0,228	0,424	4,154
CS/K	0,370	0,895	-0,071	0,024	0,103	0,332	19,870
GP/K	0,409	0,441	-1,142	0,169	0,296	0,504	4,737
B/K	0,711	0,926	0,000	0,140	0,447	0,918	9,858
YP	199	769	1	26	49	131	15.665
ROA	0,130	0,782	-29,727	0,056	0,111	0,188	79,500
EFC	0,178	0,610	0,000	0,064	0,105	0,161	40,000

Table IV.4. Descriptive statistics (median by sub-samples)

Variable	FRANCE		SPAIN	
	Dividends = 0	Dividends > 0	Dividends = 0	Dividends > 0
Number of observations	30.532	14.579	10.771	2.860
S/K	2,938	3,138	3,016	3,100
Y/K	2,653	2,874	3,076	3,137
CF/K	0,222	0,351	0,194	0,377
CS/K	0,058	0,192	0,090	0,177
GP/K	0,134	0,216	0,273	0,396
B/K	0,444	0,323	0,515	0,223
YP	46	56	44	86
ROA	0,081	0,154	0,099	0,168
EFC	0,066	0,061	0,108	0,090

Table IV.5. The basic Euler equation model

	FRANCE		SPAIN	
	(i)	(ii)	(iii)	(iv)
$\frac{I_{i,t-1}}{K_{i,t-2}}$	0,132 (0,020)	0,529 (0,211)	0,211 (0,042)	0,456 (0,236)
$\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right)^2$	-0,170 (0,025)	-0,777 (0,346)	-0,190 (0,044)	-0,444 (0,325)
$\frac{GOP_{i,t-1}}{K_{i,t-2}}$	0,079 (0,012)	0,093 (0,031)	0,015 (0,019)	0,042 (0,044)
$\frac{Y_{i,t-1}}{K_{i,t-2}}$	0,014 (0,002)	0,008 (0,004)	0,014 (0,004)	0,018 (0,007)
$\left(\frac{B_{i,t-1}}{K_{i,t-2}}\right)^2$	-0,004 (0,001)	-0,001 (0,003)	-0,002 (0,001)	-0,003 (0,003)
$m_1$	-32,96	-6,17	-16,54	-4,37
$m_2$	-0,28	-0,33	0,18	-0,44
Sargan	92,80	39,30	74,60	35,50
(p-value)	(0,04)	(0,50)	(0,33)	(0,67)
Difference-Sargan		53,50		39,10
(p-value)		(0,00)		(0,12)
Instruments	t-2, t-3, t-4	t-3, t-4	t-2, t-3, t-4	t-3, t-4

Notes: The estimation method is orthogonal deviations GMM. Time dummies are included.  $m_i$  is a serial correlation test of order  $i$  using residuals in first differences (asymptotically, this test follows a standard normal distribution). Sargan is a test of the over-identifying restrictions (asymptotically  $X^2$ , degrees of freedom). Difference-Sargan is a test of the validity of the additional instruments (asymptotically  $X^2$ , degrees of freedom). See Table IV.2. for the definition of the variables.

Table IV.6. Tests for the absence of financial effects

	FRANCE	SPAIN
	(i)	(ii)
$\frac{I_{i,t-1}}{K_{i,t-2}}$	0,517 (0,211)	0,491 (0,221)
$\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right)^2$	-0,717 (0,344)	-0,558 (0,267)
$\frac{GOP_{i,t-1}}{K_{i,t-2}}$	0,109 (0,032)	0,070 (0,045)
$\frac{Y_{i,t-1}}{K_{i,t-2}}$	0,008 (0,004)	0,016 (0,007)
$\left(\frac{B_{i,t-1}}{K_{i,t-2}}\right)^2$	-0,002 (0,003)	-0,003 (0,003)
$\frac{D_{it}}{K_{it-1}}$	-0,232 (0,101)	-0,305 (0,170)
$m_1$	-6,59	-5,20
$m_2$	-0,11	0,10
Sargan	45,80	43,10
(p-value)	(0,56)	(0,67)
Instruments	t-3, t-4	t-3, t-4

See notes to Table IV.5.

Table IV.7. Tests for the absence of financial regimes

	FRANCE	SPAIN
	(i)	(ii)
$\frac{I_{i,t-1}}{K_{i,t-2}}$	0,490 (0,199)	0,449 (0,223)
$\left(\frac{I_{i,t-1}}{K_{i,t-2}}\right)^2$	-0,681 (0,313)	-0,413 (0,285)
$\frac{GOP_{i,t-1}}{K_{i,t-2}}$	0,069 (0,031)	-0,001 (0,044)
$\frac{Y_{i,t-1}}{K_{i,t-2}}$	0,008 (0,004)	0,017 (0,007)
$\left(\frac{B_{i,t-1}}{K_{i,t-2}}\right)^2$	-0,002 (0,003)	-0,004 (0,003)
$S_{it} \frac{GOP_{it-1}}{K_{it-2}}$	0,041 (0,024)	0,106 (0,044)
$m_1$	-6,71	-5,21
$m_2$	-0,06	0,60
Sargan	40,80	43,20
(p-value)	(0,76)	(0,67)
Proportion of observations with $S_{it} = 0$	0,32	0,21
Instruments	t-3, t-4	t-3, t-4

See notes to Table IV.5.