

Entrepreneurship and Financing: Empirical Characterization of New Catalan Companies and the Influence of Belonging to a Business Group

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Abstract

This paper studies behavior of funders' agents in Catalonia, with the aim of determine if there are differences between traditional (bank) or alternative (venture) capital in financing entrepreneurship's projects, considering the relationship with business group and other characteristics. The study is based on quantitative analysis of financing in 300 new Catalan companies created in Catalonia from 2006 to 2011. The results indicate a tendency in firms belonging to business groups to have more funding from banks and greater perception of public aids. There are also differences regarding export activity and complexity, which are higher in companies belonging to business groups.

Keywords: finance, entrepreneurship, innovation, business group

1. Introduction

Entrepreneurship in the economics refers the ability to take the initiative to start new business ventures. Different authors (Schumpeter, 1934; El Harbi and Grolleau, 2011) have emphasized the central role of the innovative entrepreneur, instead of the accumulation of capital, as the main pillar of economic development. The entrepreneurship has always been an engine of economic growth, whether "innovative" or "replicator" entrepreneurs.

Although for many decades, academic interest in entrepreneurship and in particular the SMEs was rather limited, the need to promote innovation as a key element for the social and economic progress has indeed arouse the interest in entrepreneurship and their requirements and put it in the center of the conditions for the effective development of the economy (Djankov et al 2012; Williamson 2000; Parker 2004, 2007).

Launch a company requires at least 3 different elements: the business idea, the organizational development and the resources: Funding. It is on funding where we have focused our study. According to OECD data (2011), the behavior of Spain in relation to entrepreneurship is clearly unfavorable compared to other countries.

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The general report for GEM 2011 (Global Entrepreneurship Monitor 2011) collects the rate of entrepreneurial activity in Spain different regions. According to this estimate, Catalonia has one of the highest rates among them.

The financial system comprises a set of institutions, markets and instruments designed to channel the economic savings to deficit agents, transferring resources to projects with better mix profitability - risk. For some authors the current economic situation, characterized by a financial crisis in terms of financial disturbances, has led to unstable economic situation (Bezemer, 2011; Martín-García and Ballesté-Morillas, 2012). In this environment, financing has become a scarce commodity (Carreira and Silva, 2010). In geographic areas subjected to tax regulations that suggest certain imbalances, as in the case of Catalonia in the year 2012, the demand for value creation and provision of new sources of competitiveness and productivity is higher and there is a greater competition to determine secure funding for entrepreneurial projects (Torrent et al, 2012).

This difficulty for obtaining credit lead to alternatives to traditional bank financing, which has so far developed a lesser role in Catalonia. To learn more about the investments in intangible assets, a study was developed about this type of investment in the new companies in Catalonia and compared to the rest of Spain (2008-2010) (Torrent et al, 2012). This study identified a greater propensity in Catalonia in this new venture type of investment in intangible assets (17% of the total compared to 12% compared to measured total cumulative investment in the long run), but the levels and patterns of solvency in the medium and long term, and economic and financial viability and growth showed no difference.

These results indicated that the type of business could influence over the access to financing. To know more about those possible relationships between business and financing is the object of this research work.

2. Material and Methods

The work was carried out using quantitative analysis, based on the analysis of the database of companies created in Catalonia. The technical details of the research is described in Joan Torrent et al (2012) and corresponds to a universe of 28,146 companies registered in the SABI database⁴, from which the sample of 300 were selected by totally random process with a margin of error of + / - 5.74% for global data in the case of maximum uncertainty ($p = q = 50$) and for a confidence level of 95.5%. The data were obtained through telephone interviews with business leaders and where quotas are weighted by sample size (number of employees) and sector of business. The sample includes a wide range of data related to financing, sector, organization, public aids received and degree of technology innovation. The characterization of these companies belonging to empresarial group or not is showw in Appendix A).

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The 13% of the companies of the sample come from a corporate group, while the remaining 87% were developed by entrepreneurs. For some analyses, 2 companies from the total sample were extracted to avoid distortions due to their high size.

In each company we studied the access to 4 types of financing: Own capital, Traditional external financing, Venture capital and Public aids and we determined the percentage of each source of funding in the total funding of the company. The variance of these four variables revealed values of sampling error between 6% and 8%, acceptable for similar studies. Coefficient of variance was 0.84 and 0.65 for the variables that represent the traditional and self-financing, and 2.97 and 4.60 for venture capital funding and public aids.

To analyze the concordance between the variables we used the D Cohen's coefficient, which measures the relationship between a continuous variable (ex. the percentage of a type of financing) and a dichotomous (ex. belonging to a group business or not). D index close to 1 indicates that there is a association between variables. Since Cohen, and provided that other interpretive criteria exist, absolute values of between 0.2 and 0.5 indicate a low intensity of the association. Association between average values between 0.5 to 0.8 indicate medium association and values from 0.8, indicating high association. The positive or negative value indicates whether the relationship is in one direction or another (for example, belonging to a business group or not) To focus the study to external finance, and due to most of the companies only used their own resources for financing, we have extracted a subsample of companies that have some kind of external finance (banking, venture capital or public assistance), thus reducing the sample to 83 companies, where the 16% belonged to a business group and 84% not.

The characterization of the subsample firms was similar to that of the initial sample, as well as detailed in Appendix B, and therefore does not generate any bias. Although we observed a slight decrease in the proportion of companies that rely on external funding devoted to the sector of industry and construction, and slight decrease of small companies (between 1 and 5 employees), these small variations were not significant. In a second stage of analysis, we used a Cluster analysis. The process of clustering used the method of K- means and absolute convergence with mobile average with a maximum of 20 iterations.

3. Theory

Many authors have previously described the influence of several variables on financing (Von Kalckreuth, 2004; Estapé-Dubreuil and Torreguitart-Mirada, 2010) but in the recent years, the economic crisis (Reinhart and Rogoff, 2008) and some other causes derivated from that (reduction of credit, etc) (Wing Lam, 2010) had lead to special conditions for entrepreneurship and financing. Our premise states that the pattern of funding could be different depending on the nature of the business, particularly if the new company or project belongs or not to a business group.

Among all types of funding, work has focused on the analysis of external agents, mainly traditional (banking) and alternative (venture capital, family offices and other private investors). The hypothesis of work relies in highlighting possible differences in financing due to the focus of those agents: i) Traditional Banking could have a tendency in regarding on the warranties provided by the founders and ii) Alternative Capital, where the investment decision is more related on the project itself, Cash-flow rate indicators and market variables where the new project/company will operate.

The aim of our research is to know what differential conditions could affect the participation of traditional versus alternative capital funding in new projects, and specially whether the fact of belonging to a business group influences the on funding.

4. Results

4.1. Differences when companies belong to a business group or not

As shown in Appendix A, companies belonging to a corporate group have a more consolidated activity, as evidenced by a higher percentage of exports over total sales as well as higher structures and larger number of employees (average of 13.3 in companies belonging to a group, and 5.7 in those which do not). Another difference observed between the companies that belong to the business group is about the use of technology in business: While those belonging to a group have higher computer equipment (attributable to the magnitude) companies that do not belong to a business group have a slight but significant advantage in areas such as social networks and mobile devices, which can be considered the most innovative and entrepreneurial initiatives which can be highlighted.

4.2. Analysis of financing

4.2.1. Type of funding:

The overall data indicate that most of the new companies studied are financed mainly by own resources. Firms not belonging to business groups are more likely to be financed by alternative capital and receive less public aid. Figure 1 shows the type of funding into both types of new companies.

Type of company	Whole sample				Reduced sample			
	N	Average	Variance	Type of financing	N	Average	Variance	Type of financing
Business Group	41				14			
Own resources		45.77	31.696	82,38		45.77	35.110	45,77
Traditional ext		47.31	30.251	15,38		47.31	38.113	47,31
Venture Capit		3.08	4.311	1,00		3.08	7.511	3,08
Public Aids		3.85	7.715	1,25		3.85	13.868	3,85
Not business group	257				69			
Own resources		82.07	33.252	82,07		34.42	29.785	33,93
Traditional ext		15.54	31.256	15,16		56.67	34.691	55,86
Venture Capital		2.00	11.552	2,00		7.46	21.516	7,36
Public Aids		0.39	3.643	0,39		1.45	6.972	1,43
Coef. D Cohen					Coef. D Cohen			
Own resources		1.10035				-0.36926		
Traditional ext		-1.02256				0.266095		
Venture Capital		-0.09968				0.219106		
Public Aids		-0.78056				-0.28671		

Fig 1: Type of funding

As it is shown in fig. 1 we calculated the D Cohen coefficient, which measures the degree of association between a continuous variable and a dichotomous. The more distant is the absolute value of zero, the stronger the association. The sign means the direction of the variable, in this case, a positive value means a tendency to higher values for firms belonging to a business group. The D Cohen coefficient shows that companies belonging to a business group have better access to external traditional financing (banking). To go in depth into this first observation, we used a segmentation of the initial sample based on the type of financing, as discussed in section 3.2.2. Among the total 298 companies considered, only 73 had a degree of traditional external financing, 11 companies had venture capital financing and/or 5 of them received public aid. That means that 215 companies, corresponding to 72% used exclusively own resources. The 32% of companies belonging to a business group used external funding versus the 17% of non-group companies.

4.4.2. Companies with external funding

To focus the study on companies using external funding and its types (banking, venture or public aids), we analyzed a subsample composed by the 83 companies which used some kind of external financing (ie, where the proportion of financing through own resources is less than 100%). As we have said, the 16% of those 83 companies belonged to a business group and 84% do not. The average of funding received by those 83 companies was:

- Own resources: 34%
- Traditional banking: 55%

- Alternative sources or venture capital 7%
- Public Funding: 2%

This results confirm that financing through venture capital is underdeveloped in Catalonia, as discussed in previous sections, and the majority of external financing comes from traditional financial institutions (banking). When analyzing the type of financing based on whether or not the firm belongs to a business group, there are some differences, as shown in fig. 1. Indeed, the results show significant differences in terms of access to Venture capital and public aid. On one hand, the percentage represented by public aids, in the case of companies belonging to a group is more than twice that of firms that do not. On the other hand, the percentage of venture capital is less than a half in firms of a group with respect to new entrepreneurs.

However, when the sample is limited to firms with access to external capital, the contingency coefficient measured by the index of Cohen does not allow to interpret these differences as significant, since the variance is very high and would require a larger sample. To focus the analysis on types of external financing, new variables were defined to express the percentage of each source of external financing (traditional, venture capital or public aids) over total external financing. The proportion of each of these external funding types over the total external financing are shown in the same fig. 3, where no differences appear in access to traditional financing between both types of new companies. Instead of that, there is a remarkable difference in the distribution of public aid, significantly higher in companies belonging to a business group.

The companies that reported having received public aids were asked about its satisfaction. Firms belonging to a group have on average a significant higher satisfaction:

- Satisfaction about public aids in group companies: 8.50 out of 10
- Satisfaction about public aids in individual companies: 5.22 out of 10

4.3. Analyse of factors that could influence on financing

To continue the study in respect of which conditions can affect the type of financing, we analyzed the effect on funding of the following variables:

- Year of establishment (before or after 2008)
- Sector
- Size by number of employees
- Internationalization (Export activity)
- Level of education
- Innovation in last 2 years

Analyses were performed for the entire sample of 298 companies as well as for the subsample of 83 firms accessing external finance. Results are shown in fig 2 as described below.

a) Total sample.

	Year		Sector					Size (num employees)			Export		Innovation		Background education					
	<2008	2008-11	Industr	Build	Less intens service	Intensi service	ICT	1 to 5	6 to 9	>10	No	Yes	Yes	No	Prim	Sec	HS	Deg	Univ	PhD/M
Num of companies	179	119	39	35	160	53	11	196	54	48	257	41	141	157	21	51	92	37	91	6
%Public aids	0.56	0.42	0.64	0.00	0.41	0.94	0.91	0.71	0.00	0.21	0.54	0.24	0.53	0.48	0.00	0.49	0.16	1.35	0.66	0.00
%Venture Capital	1.65	2.18	3.46	1.43	2.06	0.75	0.00	2.27	0.00	2.29	1.77	2.44	1.77	1.94	2.38	1.47	1.63	0.54	2.20	10.00
%Traditional /external	18.02	10.92	6.92	12.14	17.66	16.7	10.91	12.81	21.67	17.60	14.84	17.32	19.33	14.85	20.00	11.37	17.17	15.95	14.89	0.00
%Own resources	79.22	86.47	88.97	86.43	79.25	81.6	88.18	83.70	78.33	79.90	82.45	80.00	83.65	80.73	77.62	86.67	81.03	82.16	81.15	90.00

a) Reduced sample

	Year		Sector					Size (num employees)			Export		Innovation		Background education					
	<2008	2008-11	Industr	Build	Less intens service	Intensi service	ICT	1 to 5	6 to 9	>10	No	Yes	Yes	No	Prim	Sec	HS	Deg	Univ	PhD/M
Num of companies	52	31	8	7	50	16	2	51	18	14	69	14	50	31	7	11	26	10	28	1
%Public aids	1.52	1.61	3.13	0.00	1.30	3.13	5.00	2.75	0.00	0.71	2.03	0.71	1.88	1.74	0.00	2.27	0.58	5.00	2.14	0.00
%Venture Capital	5.67	8.39	16.88	7.14	6.60	2.50	0.00	8.73	0.00	7.86	6.59	7.14	6.25	1.09	7.14	6.82	5.77	2.00	7.14	60.00
%Traditional /external	62.02	41.94	33.75	60.71	56.50	55.31	60.00	49.22	65.00	60.36	55.29	50.71	47.00	61.51	60.00	52.73	60.77	59.00	48.89	0.00
%Own resources	28.46	48.06	46.25	32.14	33.60	39.08	35.00	37.35	35.00	31.07	34.64	41.43	42.38	25.65	32.86	38.18	32.88	34.00	58.75	40.00

Fig. 2: Financing according several factors

4.3.1. Year of establishment

Companies were divided according they were created before or after 2008. This classification allows the estimation of possible effects of the economic crisis in funding. As shown in fig. 2, in both cases, whole and reduced sample, results show a slight but significant reduction of bank financing in companies created before 2008, and consequently, an increase in the proportion of venture and own capital funds. The reduced sample is not significant, probably due to its little size.

4.3.2. Sector

Companies analyzed were classified according to sectors: Industry, Building, Intensive services, Less intensive services and ICT. This classification responds to figure out whether the intangible assets can have an effect on funding. Results, shown in fig. 2 said that the majority of new companies are in the "Less intensive services" sector. Regarding funding, the differences are not significant because the sample size is insufficient to conclude results. However, the sector with the lowest share of banking is "industry", where venture capital is higher.

4.3.3. Size

Companies were also classified in three groups according to the number of workers. The analysis in fig. 3 shows that small companies have more difficulties to use external financing.

Option 1	n	Ext. tradit	Ext venture	Ext public aid	Own resources
Cluster 1	12	11,11	69.44	19.44	-
Cluster 2	71	99,04	0,28	0,68	-
TOTAL	83				
Missing	0				
Option 2					
Cluster 1	30	5	15	16	62
Cluster 2	53	0	2	77	21
TOTAL	83				
Missing	0				

Fig. 3: Cluster analysis

4.3.4. Internationalization

The same analysis was done according to the export activity. Results in fig. 2 show that exporters receive more external funding (traditional and venture capital). No significant differences were found related to public aids.

4.3.5. Level of education

Companies have been classified according to the predominant level of background education among workers, in order to find out whether the knowledge economy affects financing. Results in fig. 2 do not seem to show influences of the degree of background education in external financing access. In the reduced sample, the number of cases is insufficient to draw conclusions.

4.3.6. Innovation

Finally, companies have been classified according to the introduction of innovations in the last 2 years. The results in fig. 2 show that the degree of innovation seems not to favor external funding, although the differences are not significant.

4.4. Cluster analysis

In order to figure out specific trends in financing among the different factors analyzed, we used the cluster analysis. The process of clusterization using the method of K-means and a maximum of 20 iterations, delivered the 83 companies into 2 clusters related to funding behavior. Total and reduced sample were analyzed in two options, according to the variables "percentage of external funding" (option 1) and "percentage of total funding" (option 2) Results are shown in fig 3 and discussed below:

4.4.1. Clusters referred to % of external funding (Option 1)

As seen in fig. 3, the cluster centers represent the average behavior of each group. Thus, we could find a segment of 12 companies where the external financing rests largely on venture capital, with a small percentage of traditional financing and public aids, and another consisting of 71 companies, where nearly all of the funding is traditional. No significant differences in belonging to a business group or not were found.

4.4.2. Cluster referred to total financing (internal and external) (Option 2)

When analyzing total financing, two clusters were determined here: 1) A segment of the 30 companies financed mostly by own resources, with an equitable distribution of traditional and alternative financing and a relatively large contribution of public aid. 2) A second segment of 53 companies with the bulk of bank funding, leaving the venture capital and public aids in a very low rate. These results unveil the interesting fact that the number of companies from a corporate group represent 11% of the first segment and 23% in the second, significantly enough to extract the conclusion that the second segment fits the behavior of a company belonging to a group, and have a high component of bank funding.

5. Discussion and Conclusions

Although the sample of 300 new companies here studied is rather small, its analysis over various parameters associated with its funding has provided information about some trends in financing in Catalonia. In general, new businesses start from new entrepreneurs rather than from business groups (87% vs 13% respectively). When analysing the type of financing, the main resources come from own resources (72%) compared to external funding.

The percentage of companies financed only by own resources is much higher in the case of entrepreneurs (32%) companies than in companies belonging to corporate groups (17%), although the sample was largely composed by a majority of entrepreneurs rather than companies belonging to a corporate group. The funding through the so-called venture capital represents only the 7% of the total financing, confirming the underdevelopment of this kind of financing in Catalonia. The majority of external financing comes from traditional financial institutions (banking).

There seems to be more access to traditional bank financing for companies belonging to a business group, and the same for public aids. A factor that could explain this higher rate for Public aids is the possible focus of aids on export which is higher in group companies. However, when we analyze how export affects financing, no significances appear. As a result, the lower proportion of public funds in no group companies is compensated by higher rates of funding from traditional banking.

No differences have been found between companies belonging to a business group or not regarding issues related to knowledge-intensive companies (education, innovation), but there is a slight relation in the use of technology, when companies that do not belong to a business group have a slight but significant advantage in areas such as social networks and mobile devices, which can be considered the most innovative and entrepreneurial initiatives to be highlighted (Economides, 2007; Martin-Rojas et al, 2011). However, these factors do not determine variation in the types of agents used for financing the companies studied.

With regard to sectors, the lowest traditional banking proportions are in industry, where is the highest use of alternative or venture capital. Smaller companies have more difficulty in accessing traditional external funding.

For both types of companies, those belonging to a group or not, there are significant differences in the reduction of bank financing for companies created after 2008, and hence an increase in the proportion of both venture capital and own resources. Cluster analysis suggests that with regard to financing, there are two types of behavior, the first type is financed mainly by own capital and does not differentiate between traditional external funds or venture capital and concentrate all public aids. The other group would go primarily to traditional financing (banks) and a secondary to own resources, with lower significance of venture capital and public aids.

Between these two types of behavior, firms belonging to a business group have preference for the latter (23% compared to 11%) Thus, the research conducted allowed us to characterize some aspects of the type of financing new ventures, where the variable "Belonging to a group business" seems to determine a possible tendency to facilitate access to traditional financing, but we need more data to determine a specific pattern.

6. References

- Aghion, P.; Fally, T. And Scarpetta, S. (2007) "Credit Constraints as Barrier to the Entry and Post-entry Growth of Firms" *Economic Policy*, 22: 731-779
- Martín-García, R. and Ballesté-Morillas, E. (2012) "*Herencia en España tras la crisis financiera internacional: recorte drástico de expectativas, especulación sobre el precio del dinero y la transformación del sistema financiero*". *Análisis Financiero* 118, 2012 pag. 54-62
- Bezemer, D.J. (2011) "Causes of instability: don't forget finance". Working paper num 665. Levy Institute of Bard College.
- Carreira, C. and Silva F. (2010) "No Deep Pockets: Some Stylized Empirical results on firms' Financial constraints", *Journal of Economics surveys*, 24: 731-753
- Djankov, S. La Porta, R.; López de Silanes, F. And Shleifer, A. (2002) "*The Regulation of Entry*" *Quarterly Journal of economics* 107: 1-37
- Economides, N (2007) "*Economics of the Internet*" Net Institut Working Paper, num. 7, 01 (NY). Stern School of Business, NY
- Estapé-Dubreuil, G. i Torreguitart-Mirada, C. (2010). "*Microfinance and gender considerations in developed countries: The Case of Catalonia*". *Management Research Review*. *Global Entrepreneurship Monitor (GEM)*, informes annuals 2009, 2010, 2011
- Goodacre, A. Tonks, I. (1995) "Finance and Technological Change" a Stoneman P. (ed) *Handbook of the Economics of Innovation and Technological Change*. Oxford: Blackwell, pp 298-341
- Report OECD *Entrepreneurship at a Glance 2011*, (OECD)
- Rodrigo Martín-Rojas, Víctor J. García-Morales i Encarnación García-Sánchez (2011) *The influence on corporate entrepreneurship of technological variables*. *Business Management Department, Business Administration and Economics School, Univ. of Granada*
- Sana El Harbi, Gilles Grolleau, Insaf Bekir (2011) "*Advances in the Study of Entrepreneurship, Innovation & Economic Growth*" Emerald Book Chapter: Chapter 4 Entrepreneurship and Growth: What Causes What?
- Schumpeter, J.A. (1934) *The Theory of economic Development*. NY: Oxford Univ. Press
- Torrent –Sellens, J. (2012) "*Emprendre en temps de crisi: Cap a les noves xarxes de generació de valor*" (Editorial UOC Octubre 2012) Dirigit per i amb la col.laboració d'Angels Fitó-Bertrán, David Castillo-Merino, Ana Isabel Jiménez-Zarco, Pilar Ficapal-Cusí, Laura Lamolla-Kristiansen, Mònica Cerdán-Chiscano, Iván Soler-Ramos.
- Von Kalckreuth, U. (2004) "Financial Constraints for Investors and the Speed of Adaptation: Are Innovators Special?" *Deutsche Bundesbank Discussion Papers*, 20/2004
- Wing lam (2010). *Funding gap, what funding gap? Financial bootstrapping: Supply, demand and creation of entrepreneurship*. *International journal of Entrepreneurship Behavior & Research*

APPENDIX A

Comparison between companies belonging or not to a corporate group

Fig A.1 shows a higher degree of export activity in companies belonging to a business group.

Fig: A.1. Geographical distribution of sales⁵

	Catalonia	Other Spanish regions	European Countries	Other Countries
Business group	83.43	9.95	4.20	2.43
No business group	76.67	13.95	6.36	3.02

Analysis of ICT's equipment (Fig A.2) indicate is higher in firms belonging to a corporate group, attributable to the bigger size and organization of the group. There is also a small but significant advantage in non group companies in areas such social networks and mobile devices that can be considered somewhat more innovative and entrepreneurial initiatives.

Fig: A.2. ICT's Equipment

	Computer connected to internet	Business e-mail	intranet	Social networks	Mobile devices
No	80.52	78.64	42.70	28.42	71.49
Yes	88.12	87.76	75.38	26.38	69.52

APPENDIX B

Characteristics of the whole and the reduced sample

The sample and subsample were analyzed according several parameters, as shown in figures B.1 to B.7. This characterization reveals that the subsample is representative of the sample of 300 companies, because there are no significant differences respect to these variables (gender, innovation, education, destination of the product, public aids sector and number of employees, despite a slight decrease in those 2 latter)

Fig. B.1. Gender of main entrepreneur

	Male	Female
Whole sample	56,30	42,00
Reduced sample	66,67	33,33

Fig. B.2 Number of employees

	1 - 5	6 - 9	> 10
Whole sample	65,30	18,00	16,70
Reduced sample	61,40	21,70	16,90

Fig. B.3 Sector

⁵ Percentage of sales

	Industry	Building	Less intensive services	Intensive services	ICT
Whole sample	13,30	11,70	53,70	17,70	3,70
Reduced sample	9,60	8,40	60,20	19,30	2,40

Fig. B.4 Level of predominant education

	Primary	Secondary	HichSch	Degree	Univ	PhD/M
Whole sample	7,00	17,00	31,00	12,30	30,70	2,00
Reduced sample	8,40	13,30	31,30	12,10	33,70	1,20

Fig. B.5 Destination of the product

	Private sector: industry	Private sector: services	Public sector	Final costumer
Whole sample	26,07	32,95	7,56	33,42
Reduced sample	23,86	35,60	5,60	33,73

B.6. Perception of public aids

	Yes	No
Whole sample	10,00	90,00
Reduced sample	13,20	86,80

Fig. B.7 Innovation in the last 2 years

	Yes	No
Whole sample	47,30	52,70
Reduced sample	48,10	51,90