BEYOND THE DISCIPLINARY ROLE OF GOVERNANCE:
HOW BOARDS AND DONORS ADD VALUE
TO SPANISH FOUNDATIONS

PABLO DE ANDRÉS ALONSO
VALENTÍN AZOFRA PALENZUELA
M. ELENA ROMERO MERINO

FUNDACIÓN DE LAS CAJAS DE AHORROS
DOCUMENTO DE TRABAJO
Nº 365/2008
De conformidad con la base quinta de la convocatoria del Programa de Estímulo a la Investigación, este trabajo ha sido sometido a evaluación externa anónima de especialistas cualificados a fin de contrastar su nivel técnico.

La serie DOCUMENTOS DE TRABAJO incluye avances y resultados de investigaciones dentro de los programas de la Fundación de las Cajas de Ahorros. Las opiniones son responsabilidad de los autores.
Abstract

Foundations play a key role in the development of modern societies, helping to funnel private wealth to social services and educational and research activities. Using a sample of Spanish foundations, we present evidence on the effect of the board composition and institutional donors on foundations’ organizational efficiency. We show that board size and independence do not directly impact the entity’s efficiency. Instead, the heterogeneity of knowledge inside the boardroom and the proactive character of trustees have a positive influence on resource allocation. We confirm the benefits of a private institutional donor who effectively monitors managerial decisions.

Acknowledgement

We wish to thank the anonymous FUNCAS reviewer for the helpful comments and suggestions.
BEYOND THE DISCIPLINARY ROLE OF GOVERNANCE MECHANISMS: HOW BOARDS AND DONORS ADD VALUE TO SPANISH FOUNDATIONS

1. INTRODUCTION

During last decades we have seen important growth in nonprofit organizations and an increased involvement of these organizations in the development process of a country's society. Nonprofits are supposed to be specially shaped to assist the governments in the country’s progress, because they combine the best characteristics of for-profit corporations and governments (Gauri & Galef, 2005).

In the nonprofit world, there is one legal status that has acquired exceptional relevancy. We refer to the foundations that, due to their idiosyncratic characteristics, are experiencing remarkable growth. According to the legal definition, these foundations are independent entities that have their own boards, and whose endowments, by the express wish of their private or public founders, are tied to the pursuit of diverse objectives of general interest. In the aggregate, these foundations act as a conduit that transfers private wealth today to charitable beneficiaries in the future (Sansing & Yetman, 2006).

From the era of Andrew Carnegie and John D. Rockefeller to the start of this century, the growth of nonprofit foundations reflects the evolution of philanthropy (Fleishman, 2007). Nonprofit foundations have been a popular and effective method for wealthy families and private corporations to create a legacy of philanthropy. A contemporary and outstanding example of this trend is the Bill and Melinda Gates Foundation, which dedicates its endowment (about US$31.9 billion by October 2006) to enhancing healthcare and reducing extreme poverty worldwide.

Although the philanthropic phenomenon is more closely related to the United States than to Europe, in recent years we have witnessed its growth in Europe. According to the data of the European Foundation Centre, at the beginning of this century European foundations allocated more than €51,000 million, mainly to social services (Spain, United Kingdom, Holland, and Germany), arts and culture (Belgium and Italy), education (Finland), health (France), or science (Sweden) (EFC, 2005).

“It seemed as if Europe was about to rediscover itself through the eyes of an American legacy. What Tocqueville had detected in the formative process of the United States –the role of freely founded associations formed by active citizens- became an important point of reference in Europe” (Evers & Laville, 2004:1).

Beyond their purely philanthropic role, European nonprofit foundations have acquired a unique role in the European research activities and funding. Due to their economic independence and autonomy in their decision making, foundations have been described as “philanthropic venture
capitalists” that add value by taking risks, fostering innovation and testing feasibility, and implementing new concepts (European Commission, 2005).

As the size and scope of foundations grows, the society’s concern over the allocation of their voluntary contributions increases, and so too does the need for an effective governance model that guarantees the optimal allocation of the nonprofit resources.

Although nonprofit practitioners have indicated that good governance is critical to the success of these entities (European Commission, 2005), there are few studies that have analyzed the relationship between the governance mechanisms and the organizational performance (e.g., Bradshaw et al., 1992; Callen & Falk, 1993; Callen et al., 2003; Brown, 2005; O’Regan & Oster, 2005; Andrés et al., 2006) and even less focus on the foundations (e.g., Stone, 1975; Sansing & Yetman, 2006).

In this paper, we examine the role of the governance mechanisms in the foundations and provide empirical evidence on the foundations of a particular European country, Spain. The main growth of the Spanish third sector coincided with the introduction of the democracy in the 1970s. In 2001, Spanish foundations managed more than €1,700 million and employed 80,000 workers. Using unique data from a survey that comprised 144 entities during the year 2004, we explore the influence of the board and the donors on the foundation’s efficiency.

In contrast to what codes of best practices indicate, our results show that there is no "one size that fits all," and that it is not always advisable to increase the number of independent directors on a board. According to our data, size and independence do not have a direct effect on a foundation’s efficiency. Instead, their directors' diversity of knowledge emerges as particularly relevant to determining the best allocation of the foundation’s resources. Additionally, although foundations lack owners in a legal sense, we find that some types of donors carefully monitor the allocation of their contributions and thus become a positive influence on the entities’ efficiency.

We develop these arguments and results as follows. First, we revisit the traditional studies on nonprofit governance and identify those mechanisms that are effective in the nonprofit world from a traditional view of the agency theory. Second, we introduce the cognitive dimension to build an extended model of governance. This framework helps us to define our hypotheses on the mechanisms that affect the foundations’ efficiency. Next, we describe our data collection, empirical model and variables, and the statistical technique we use to contrast their significance. Finally, we present the results of the model estimation and the primary conclusions we derive from our empirical analysis.

2. NONPROFIT GOVERNANCE FROM A DISCIPLINARY VIEW

Agency theory has been the dominant theory used to explain problems of corporate governance. According to agency theory, the firm is a nexus of contracts between principals (primarily owners) and agents (managers). As owners delegate their control over decisions to the managerial team, the latter can behave opportunistically and expropriate the wealth of the principals. In this
context, agency theory defines corporate governance as a set of mechanisms that constrain the managerial decisions and, by limiting their discretionary behavior, reduce the threat of expropriation.

The search for an effective model of governance for the foundations leads us to apply the traditional arguments of the agency theory to the relationships established in this kind of nonprofit. However, extrapolating the agency framework to the nonprofit world becomes more complex, since in the nonprofit setting there are no legally defined ownership rights, and because there are no legal owners in nonprofits, some of the governance mechanisms that are useful in for-profit corporation are questionable or vague.

We refer particularly to managerial remuneration, the takeover market, and the owners’ active monitoring. In foundations, since they are not for profit, some forms of incentive remuneration are illegal, and when these forms do exist, they do not influence the managers' performance or organizational effectiveness (Hartarska, 2005). Additionally, since there are no strong takeover markets (Glaeser, 2003; O'Regan & Oster, 2005) or owners with legal control rights (Hansmann, 1980; Brody, 1996; Glaeser, 2003), the responsibility for monitoring and counseling the managers mainly devolves to the board and, when they exist, those donors who are especially committed to the nonprofit's mission. According to previous studies, the board and the significant donors are the only effective mechanisms of governance in the nonprofit world (O'Regan & Oster, 2002, 2005; Callen et al., 2003; Andrés et al., 2006).

On the one hand, as the legal governing body of the organization, the foundation's board of trustees is responsible for monitoring and counseling the nonprofit managerial team. On the other hand, some significant donors are specially involved and qualified to govern. Key donors are motivated to monitor the entity because they assume any cost (economic or not) that derives from an inadequate management of the nonprofit's resources. Key donors are also empowered to control, because their contributions are vital to the financial survival of the foundation, so they acquire a de facto right to make organizational decisions.

Under a traditional agency framework, both board and donors basically play a monitoring role. Thus, they can only add value to the organization by avoiding the resources expropriation. However, this narrow focus of the governance role is frequently criticized, and even more when it is used to explain the nonprofit world (Miller, 2002).

3. AN EXTENDED MODEL OF NONPROFIT GOVERNANCE

To overcome some of the shortcomings of the traditional agency framework, we introduce an extended model of governance that establishes more complex links between governance and value creation. This model is inspired by Charreaux (2004, 2005), in which he constructs a theory of corporate governance where disciplinary and cognitive aspects are simultaneously at work. By including the disciplinary model of governance, we can consider the effects of conflicts of interest
among the stakeholders of the organization in relation to resource allocation. Further, by introducing a cognitive dimension, we assume that the system of governance also influences the strategic decisions, particularly those related to the innovation process (Charreaux, 2005).

The inclusion of the cognitive dimension in the model of governance for the nonprofit sector is especially pertinent, given the environment in which nonprofit organizations function and the higher involvement of their boards. On the one hand, whenever there is a high level of information asymmetry and uncertainty, both customers and donors seem to have more trust in nonprofit organizations than in for-profit corporations (Arrow, 1963; Hansmann, 1980). The occurrence of information asymmetries and high uncertainty not only supposes a source of agency problems and a need for effective mechanisms of control (Jensen & Meckling, 1976), but also generates the need for more critical and reflective processes of interactive decision (Forbes & Milliken, 1999). In such environments, it is advisable to take advantage of mental schemes that differ or conflict. The presence of this type of cognitive conflict in a group stimulates discussions and the consideration of more alternatives or viewpoints, and a more accurate evaluation of the different options. This careful decision-making process helps to create value in environments where there is high uncertainty (Forbes & Milliken, 1999).

On the other hand, in addition to the specific studies on the nonprofit sector, the board's involvement in strategic planning is often highlighted, as is its influence on the organizational performance (Bradshaw et al., 1992; Brown, 2005). Even when compared with their counterparts in the corporate sector, the boards of trustees stand out for their level of commitment to the strategic planning and decision processes (Judge & Zeithmal, 1992). Certainly, eliminating this role from the analysis of the model of governance would diminish its explanatory power.

The inclusion of a cognitive dimension presupposes the redefinition of some of the good practices related to the effectiveness of the governance mechanisms. First, board composition, which is traditionally defined in terms of size and independence, requires a more complex definition. When adding the cognitive dimension to the board, the accumulation of heterogeneous knowledge and the proactivity of the members becomes more important than the number of trustees or its objectivity. Second, the presence of significant donors in a foundation not only means a careful monitoring, but also a decision-making, control that translates into an efficient allocation of the nonprofit resources.

So, to examine their influence on the entity’s efficiency, we will go along with the main characteristics of the board and the weight and nature of the major donors of a foundation.

3.1. Board of trustees

Using an extended model of governance, we can examine the functions and composition of the board of trustees from a less parochial, more global perspective. Trustees do not limit themselves to monitoring the managerial team. They also play an active part in the strategic decision-making
process, the definition of the organizational mission, and the agreements on resource allocation. Therefore, the composition of the board (size, independence, and individual characteristics of the trustees) must be defined not only in terms of increasing its disciplinary ability, but also in terms of introducing the knowledge that is critical to constructive decision making.

**Size and independence**

As we note above, traditional agency theory defines the monitoring effectiveness of the boards in terms of size and independence. Agency theory proponents argue that a substantial increase of the board size could result in a slowdown in decision making and an increase in costs (Yermack, 1996; Callen et al., 2003; O'Regan & Oster, 2005). And, when considering the independence of the board, both codes of good governance and researchers emphasize the benefits of an increase in the number of outsiders (defined as those board members who also have an executive charge in the organization). The directors’ independence assures their objectivity when monitoring the managerial team, thus reducing the managers' opportunistic behavior and increasing the organizations’ efficiency (Baysinger & Hoskisson, 1990; O’Regan & Oster, 2005). However, there is no conclusive empirical evidence on the influence of board size and independence on the organizations’ efficiency.

When we introduce the cognitive role of the board, the effect of board size and independence becomes more ambiguous. The inclusion of more directors in the board implies more access to sources of information (Hambrick & Mason, 1984; Olson, 2000) and a major volume of cognitive resources for decision making (Bantel & Jackson, 1989; Olson, 2000). Therefore, a bigger board might not always have a negative influence on the efficient resources allocation. When we focus on the nonprofit sector, this statement is even more appropriate. Because boards of trustees represent the “voice of the society” (Herzlinger & Krasker, 1987: 104), its size should reflect many different interests, so its size should be bigger, and the board members must assume more tasks than do their for-profit corporation counterparts (Houle, 1989; O’Regan & Oster, 2005).

However, the independence of the board is not such a favorable factor when we incorporate the cognitive dimension. The presence of independent directors (outsiders) in the board can harm the innovation and creativity of the organization (Hill & Snell, 1988; Baysinger & Hoskisson, 1990). Additionally, in the nonprofit sector, where the trustees are normally unpaid helpers, the voluntary character of the outsiders might reduce the amount of effort and time they give to their roles as directors (Brody, 1996).

So, according to all these arguments, we cannot define the influence of both size and independence of the board on the organizations’ efficiency in advance. Our definition needs to be supplemented by a description of the resources (such as knowledge and attitude) that any new director needs to bring to the board. Thus, we hypothesize that:
Hypothesis 1: Board size and independence do not have a direct effect on the nonprofit foundation’s efficiency.

Knowledge and proactive character of the trustees

As a mechanism for creating value through the contribution of experience and knowledge (Donaldson, 1990; Castanias & Helfat, 1991), the board benefits from the different kinds of knowledge that the individual board members bring to the board, not only in the corporate sector (Boeker & Goodstein, 1991; Judge & Dobbins, 1995), but also in the nonprofit area (Bowen, 1994).

Thus, our second hypothesis is:

Hypothesis 2: The cumulative knowledge of the board has a positive effect on the nonprofit foundation’s efficiency.

But it is not only the cumulative of knowledge that influence the organizational efficiency. According to previous studies, the heterogeneity of this knowledge is even more important, because it favors the creativity of the board (Bantel & Jackson, 1989) and increases the decision-making capabilities of the group. Heterogeneous groups can offer many possible solutions to a problem, because they have many different sources of information (Hambrick & Mason, 1984). Also, groups with diverse points of view can better select the best option for each problem (Olson, 2000). Thus, heterogeneous groups seem to favor the optimal allocation of nonprofit resources. Hypothesis 3 tests this effect.

Hypothesis 3: The diversity of trustees’ knowledge has a positive effect on the nonprofit foundation’s efficiency.

Nevertheless, the breadth and heterogeneity of knowledge on the board does not guarantee an effective use of that knowledge (Forbes & Milliken, 1999). The extended model of governance differs from the resource dependence theory by considering not only the accumulation of resources (e.g., knowledge, skills, and capabilities), but also its active use. Although earlier evidence is limited, it suggests that the most effective boards show the highest levels of dynamism and proactivity (Axelrod et al., 1990; Chait et al., 1996). Therefore, we hypothesize that:

Hypothesis 4: Trustees’ proactive character has a positive effect on the nonprofit foundation’s efficiency.

3.2. Significance and nature of donors

In addition to the board, there is another governance mechanism that can also influence the efficient allocation of a foundation’s resources. Similar to the shareholders of a public company, but
without residual economic rights, significant donors can (and do) monitor resources’ allocation in the nonprofit organizations (Olson, 2000). These stakeholders have been called “quasi-owners” (Ben-Ner & Van Hoomissen, 1994). They have also been considered the best way to encourage the board to take on its monitoring role (Vanderwarren, 2002).

Nowadays, it is very common to find wealthy families and corporations financing foundations that become the family's or firm's public image in the society. When donors make a substantial contribution to a foundation, they are usually interested in the efficient use of their contributed funds, especially if they are a private company or a public donor (O’Regan & Oster, 2002; Andrés et al., 2006). In this line of arguments, a single donor achieves internalizing all externalities and solving the “common pool-problem” which might arise where there are many small donors financing the organization’s mission. Thus, we can argue that:

**Hypothesis 5:** The presence of a significant donor, especially when that donor is a public institution or a private company, has a positive effect on the nonprofit foundation’s efficiency.

### 4. DATA AND MODEL DESCRIPTION

We used a mail survey to obtain the necessary data for our study. Since the essential source of both money and resources for the nonprofits is voluntary contributions, we expect nonprofits to have a high level of transparency and visibility. Nevertheless, the scarcity of data has been an obstacle for the researchers interested in the nonprofit world (Hartarska, 2005). In Spain, there are more than 7,000 registered foundations, although more than two thirds of them are inactive entities (García et al., 2004). In October 2004, we sent more than 2,200 questionnaires to those Spanish foundations that were listed in a national register, but ignored *ex ante* if all of them were still active. According to the statistical data of García and his collaborators (2004), our expected active population was about 650 entities.

Our questionnaire was made to be responded by the main executive of the foundation. We contacted them by mail, e-mail, and telephone, and received a total of 124 responses with complete information. This response level represents an answer rate of about 19% over the expected active population. In economic terms, our 124 foundations manage more than €360 million in 2003, which comprises more than a third of the total resources spent by Spanish foundations (EFC, 2005).

#### 4.1. Variables and description of the sample

In Table 1, we summarize the general description of the sample and the different variables we use for proving the hypotheses.
### Table 1. Hypotheses, variables, and descriptive analysis.

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>TYPE of VARIABLE</th>
<th>VARIABLE PREDICTION</th>
<th>DESCRIPTIVE STATISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Administrative efficiency (administrative costs/ total costs)</td>
<td>ADEF</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Economic efficiency (using Data Envelopment Analysis)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1) INPUTS: total income, total number of workers, total assets, and OUTPUTS: resources destined to the mission of the foundation, number of activities, geographical dispersion*</td>
<td>ECEF1</td>
<td>----</td>
</tr>
<tr>
<td></td>
<td>(2) INPUTS: total income, total number of workers and volunteers, total assets, and OUTPUTS: resources destined to the mission of the foundation, number of activities, geographical dispersion*.</td>
<td>ECEF2</td>
<td>----</td>
</tr>
<tr>
<td></td>
<td>板 size (Total number of trustees – normalized)</td>
<td>SIZE</td>
<td>no relationship</td>
</tr>
<tr>
<td></td>
<td>Independence (% trustees without executive charge in the foundation)</td>
<td>OUTS</td>
<td>no relationship</td>
</tr>
<tr>
<td></td>
<td>Trustees who are also directors of other nonprofits (%)</td>
<td>KNOW1</td>
<td>positive</td>
</tr>
<tr>
<td></td>
<td>Trustees who are also executives of other nonprofits (%)</td>
<td>KNOW2</td>
<td>positive</td>
</tr>
<tr>
<td></td>
<td>Trustees who are also executives of a for-profit firm (%)</td>
<td>KNOW3</td>
<td>positive</td>
</tr>
<tr>
<td></td>
<td>Trustees who are expert in law (%)</td>
<td>KNOW4</td>
<td>positive</td>
</tr>
<tr>
<td></td>
<td>Trustees who are expert in auditing (%)</td>
<td>KNOW5</td>
<td>positive</td>
</tr>
<tr>
<td></td>
<td>Sum of dummy variables that recognize the existence or not of trustees with knowledge of type 1 to 5 (KNOW1, KNOW2, KNOW3, KNOW4, KNOW5) divided by 5 (types of knowledge and experience)</td>
<td>DIVER</td>
<td>positive</td>
</tr>
<tr>
<td></td>
<td>Trustees who are proactive in the decision-making process (propose new ideas and future lines of action for the foundation) (%)</td>
<td>PROAC</td>
<td>positive</td>
</tr>
<tr>
<td>Hypothesis 5. About donors</td>
<td>The total income provided by the principal public donor (%)</td>
<td>PUBDON</td>
<td>positive</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------------------------------------------</td>
<td>--------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td>The total income provided by the principal private institutional donor (%)</td>
<td>INSDON</td>
<td>positive</td>
</tr>
<tr>
<td></td>
<td>The total income provided by the principal private individual donor (%)</td>
<td>INDDON</td>
<td>positive</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control variables</th>
<th>Size of the foundation (total expenses in thousands of Euros–normalized)</th>
<th>INCOME</th>
<th>positive</th>
<th>2,907.60</th>
<th>6,672.17</th>
<th>1.31</th>
<th>44,100.00</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age of the foundation (age of the foundation – normalized)</td>
<td>AGE</td>
<td>positive</td>
<td>14.20</td>
<td>17.20</td>
<td>1.00</td>
<td>112</td>
</tr>
</tbody>
</table>

* We use a categorical variable (1=local; 2=regional; 3=national; 4=international) to measure geographical dispersion.
We measure the foundations’ efficiency with three different variables. The first is a traditional ratio (ADEF), usually defined as administrative or technical efficiency. This ratio indicates the portion of costs dedicated to administrative functions, so the lower the value, the smaller amount of administrative expenses, and, in the end, a better result for the entity.

According to some previous nonprofit studies (Callen & Falk, 1993) and watchdog agencies (Sargeant & Kaehler, 1998), donors’ principal concern is the average percentage of their contributions that is dedicated to the principal organization’s mission. However, it is easy for the managers to manipulate the quantities integrated in administrative costs. To avoid this problem, we think it may be advisable to calculate other measures of efficiency. To do so, we include two additional measures, the Data Envelopment Analysis (ECEF1 and ECEF2). This kind of analysis has been widely used to value the efficiency of those organizations that use multiple inputs to obtain multiple outputs. It has been also used whenever the definition of prices and the weight of each input and output or the specification of the production function is problematic (Färe et al., 1985). Data Envelopment Analysis generates a multidimensional measure of efficiency that consists of all the inputs and outputs without including prices for factors or distributed services. Thus, this method has become popular, especially in the public and voluntary sectors (Callen & Falk, 1993).

To calculate our measures of efficiency, we include people (workers and volunteers); facilities (total assets and money); and total income as operational inputs, and the resources dedicated to the mission, the number of activities, and their geographical dispersion as the primary outputs of the foundation. Clearly, this multidimensional measure makes it possible for researchers to include more concepts so as to more accurately reproduce the performance of any organization.

The average size of the board (SIZE) in our sample rises to 12 trustees, which is somewhat lower than the average size (16-19 trustees) of the typical board of a North American nonprofit (O’Regan & Oster, 2005). Although more than half of our sample has no insiders in their boards of trustees, the average independence of the boards of Spanish foundations (OUTS) is lower than that shown by American studies: 87% of outsiders in the Spanish nonprofits compared with 98% of the American boards (Callen et al., 2003).

When we examine the knowledge, diversity, and proactive character of the members of the board, we find that about 45% of the board members are also directors (30%) or executives (15%) of other nonprofits (KNOW1 and KNOW2 respectively), and a third of the board members are also executives of a for-profit firm (KNOW3). Finally, about 21% are experts in law (15%) or auditing (6%) (KNOW4 and KNOW5 respectively). Additionally, every board contains at least one director with a specific type of knowledge of all the five kinds (KNOW1 to KNOW5) we differentiate in our study (DIVER), and only 37% adopt a proactive character in the decision-making process (PROAC).

According to our data on the nature and significance of their founders and donors, 16% of the total resources that Spanish foundations handled in 2003 came from a public source (PUBDON), 23% from a private institution (INSDON), and 5% from a private individual source (INDDON). The rest of
the foundations’ income derived from small donations (less than 5% of the foundation’s income), its economic activity, or the monies from their endowments’ investment.

In the nonprofit research, size and age are traditionally associated with the legitimacy and reputation of the organization. Both dimensions have been always related to synergies and knowledge accumulation that increase their performance (Marcuello & Salas, 2001; O’Regan & Oster, 2002; Callen et al., 2003). Thus, we expect size and age to influence positively on the organizational efficiency. On average, the foundations we analyze were constituted 12 years ago (AGE) and handled an average of funds close to €3 million (INCOME).

4.2. Empirical model and statistical techniques

The empirical model to test the hypothesis takes the following form:

\[
EFFICIENCY_i = \alpha + \beta_1 SIZE_i + \beta_2 OUTS_i + \beta_3 KNOW1_i + \beta_4 KNOW2_i + \beta_5 KNOW3_i + \beta_6 KNOW4_i + \beta_7 KNOW5_i + \beta_8 DIVER_i + \beta_9 PROAC_i + \beta_{10} PUBDON_i + \beta_{11} INSDON_i + \beta_{12} INDDON_i + \beta_{13} INCOME_i + \beta_{14} AGE_i + \mu_i
\]

We measure EFFICIENCY\(_i\) using three different variables (ADEF, ECEF1, and ECEF2). In this model, as explanatory variables we include the size (SIZE) and independence (OUTS) of the board; the different types of knowledge of the members that comprise the board (KNOW1, KNOW2, KNOW3, KNOW4, KNOW5); its heterogeneity (DIVER); and how proactive it is (PROAC). The model also contains diverse measurements of the importance of the major stakeholders (PUBDON, INSDON, INDDON) and two control variables for the organizational size (INCOME) and mature (AGE).

We propose a single-equation model that we estimate by using tobit analysis. The nature of the efficiency variables (ADEF, ECEF1 and ECEF2), with a substantial volume of observations concentrated on their limit values, requires a hybrid analysis. A tobit analysis not only considers the values of the intermediate variables, but also the occurrence probability of the limit values (Tobin, 1958)

5. EMPIRICAL RESULTS

Table 2 shows the results of the estimation of the model. We use two different models to avoid multicollinearity problems (see “Correlation matrix” in Appendix A).
# Table 2. Results of the model estimation

<table>
<thead>
<tr>
<th>Dependent variable:</th>
<th>EFAD</th>
<th>ECEF1</th>
<th>ECEF2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method of estimation:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobit analysis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1 with KNOW1, KNOW3 &amp; DIVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 2 with KNOW2, KNOW4 &amp; KNOW5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1 with KNOW1, KNOW3 &amp; DIVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 2 with KNOW2, KNOW4 &amp; KNOW5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1 with KNOW1, KNOW3 &amp; DIVER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 2 with KNOW2, KNOW4 &amp; KNOW5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE</td>
<td>-0.0022 (0.883)</td>
<td>-0.0081 (0.590)</td>
<td>0.0610 (0.200)</td>
<td>0.0705 (0.120)</td>
<td>0.0606 (0.206)</td>
<td>0.0687 (0.133)</td>
</tr>
<tr>
<td>OUTS</td>
<td>0.0205 (0.748)</td>
<td>0.0267 (0.678)</td>
<td>0.0110 (0.956)</td>
<td>0.0032 (0.987)</td>
<td>0.0314 (0.875)</td>
<td>0.0199 (0.919)</td>
</tr>
<tr>
<td>KNOW1</td>
<td>0.0372 (0.502)</td>
<td>-----</td>
<td>-----</td>
<td>-0.0626 (0.726)</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>KNOW2</td>
<td>-----</td>
<td>-----</td>
<td>0.0043 (0.947)</td>
<td>-----</td>
<td>-----</td>
<td>0.5470 (0.008)</td>
</tr>
<tr>
<td>KNOW3</td>
<td>0.0401 (0.431)</td>
<td>-----</td>
<td>-----</td>
<td>-0.0403 (0.805)</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>KNOW4</td>
<td>-----</td>
<td>-----</td>
<td>0.0261 (0.791)</td>
<td>-----</td>
<td>-----</td>
<td>-0.1117 (0.738)</td>
</tr>
<tr>
<td>KNOW5</td>
<td>-----</td>
<td>-----</td>
<td>0.0935 (0.572)</td>
<td>-----</td>
<td>-----</td>
<td>0.3677 (0.466)</td>
</tr>
<tr>
<td>H1 DIVER</td>
<td>-0.0930 (0.095)</td>
<td>-----</td>
<td>-----</td>
<td>0.3125 (0.080)</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>H2 PROAC</td>
<td>-0.0778 (0.065)</td>
<td>-0.0813 (0.059)</td>
<td>-0.0354 (0.793)</td>
<td>-0.0670 (0.617)</td>
<td>-0.0412 (0.762)</td>
<td>-0.0695 (0.607)</td>
</tr>
<tr>
<td>PUBDON</td>
<td>-0.0109 (0.861)</td>
<td>-0.0203 (0.744)</td>
<td>0.1082 (0.592)</td>
<td>0.0697 (0.720)</td>
<td>0.0593 (0.771)</td>
<td>0.0238 (0.903)</td>
</tr>
<tr>
<td>INSDON</td>
<td>-0.0347 (0.477)</td>
<td>-0.0270 (0.586)</td>
<td>0.4375 (0.006)</td>
<td>0.4390 (0.005)</td>
<td>0.4516 (0.005)</td>
<td>0.4503 (0.005)</td>
</tr>
<tr>
<td>INDDON</td>
<td>0.1260 (0.205)</td>
<td>0.1544 (0.122)</td>
<td>0.4442 (0.152)</td>
<td>0.4418 (0.141)</td>
<td>0.4397 (0.159)</td>
<td>0.4329 (0.152)</td>
</tr>
<tr>
<td>INCOME</td>
<td>-0.0194 (0.187)</td>
<td>-0.0242 (0.098)</td>
<td>0.1631 (0.002)</td>
<td>0.1665 (0.001)</td>
<td>0.1661 (0.002)</td>
<td>0.1693 (0.001)</td>
</tr>
<tr>
<td>AGE</td>
<td>-0.0284 (0.064)</td>
<td>-0.0285 (0.071)</td>
<td>-0.1062 (0.059)</td>
<td>-0.1316 (0.021)</td>
<td>-0.1058 (0.061)</td>
<td>-0.1296 (0.023)</td>
</tr>
<tr>
<td>C</td>
<td>0.2215 (0.002)</td>
<td>0.1700 (0.010)</td>
<td>-0.0874 (0.690)</td>
<td>0.0209 (0.915)</td>
<td>-0.0915 (0.678)</td>
<td>0.0204 (0.918)</td>
</tr>
</tbody>
</table>

| No. observations | 124 | 124 | 124 | 124 | 124 | 124 |
| Prob > chi2      | 0.1046 | 0.2154 | 0.0014 | 0.0002 | 0.0012 | 0.0002 |

The estimation coefficients of the variables are shown with the levels of significance in parentheses.
According to our results, neither size nor independence has a direct effect on the efficiency of the foundation. In fact, although the rest of our results do not change, the model’s explanatory ability increases when we exclude both of these variables (see “Model estimation without size and independence” in Appendix B). These results verify Hypothesis 1. Certainly, the traditional disciplinary model of governance alone cannot effectively explain the foundations’ efficiency.

Regarding the knowledge composition of the board, not all kinds of knowledge is favorable for value creation in a foundation. Only those trustees who are simultaneously managers of another nonprofit organization have a positive effect on the efficient allocation of the resources. However, this effect is only significant when we use the multidimensional measures (ECEF1 and ECEF2). Therefore, we cannot completely verify our second hypothesis. Not every kind of knowledge has a positive influence on the adequate assignment of the foundation’s funds to its ultimate mission.

In fact, when we look at the rest of the types of knowledge, we can see that they have a negative effect not only on the administrative costs, but also on the multidimensional measure of the economic efficiency. Even though none of our variables has a significant influence on the efficiency, according to the results, the breadth of knowledge implicit in having on the board executives of for-profit corporations, directors of other nonprofits, and experts in law or auditing does not mean better monitoring or counseling for the executive team of the foundation.

As we note above, the cumulative knowledge in the board is not as influential as its heterogeneity. Looking at the results of the model estimation, we see that the diversity of knowledge in the members of the board of trustees is the only variable that has a positive effect on every measure of efficiency. When many different types of cognitive schemes join the same board, the impact they have on each other generates more creative decision-making processes. This result verifies our third hypothesis on the value generation derived from the cognitive conflicts. This result also makes it possible for us to support the increase in the explanatory ability of the agency theory when we include the cognitive arguments.

Contrary to this result, when trustees use their knowledge, their proactive character is not as conclusive. This variable seems to have a positive effect on the reduction of the administrative costs, but when we include the human dimension and the facilities in the economic efficiency, it loses its good effect. Therefore, our data do not verify our fourth hypothesis.

For our fifth hypothesis, which deals with the subject of donors, our results illustrate that not every kind of donor who makes major gifts to a foundation plays an effective monitoring role. However, institutional private donors seem to be especially favorable for nonprofits. Although they do not significantly lessen the administrative costs, when we use a multidimensional measurement, we find that institutional private donors seem to be the most qualified to design an efficient allocation of those resources that they have provided. Our research indicates that those foundations that are essentially financed by a company are usually identified with the for-profit corporation itself. The results in table 2 show us that the company carefully monitors how the foundation expends its funds.
The first control variable we introduce in our model show us that, according to previous studies, economies of scale have a good effect on the foundation’s performance. The size of the entity, measured as the volume of resources that it handles, is positively related to the efficiency of the foundation. But when we examine the second control variable, the nonprofit’s age, the effect turns out to be quite confusing. Although experience seems to reduce administrative expenses, when we include more dimensions in the construction of the efficiency measurement, it changes the sign and shows an adverse effect on the foundation’s value creation. When entities age they lose creativity, and with that loss, their use of the resources becomes less efficient. In this respect, the introduction of dynamic trustees with heterogeneous types of knowledge might help to relieve the problem derived from the unavoidable life cycle of the foundation.

6. CONCLUSIONES

Our results confirm that the extended model of governance, including both disciplinary and cognitive dimensions, is actually much more revealing than is the traditional view of the agency theory. Therefore, we conclude that those organizations that operate in an uncertain and dynamic world not only need a monitoring board that keeps the managerial team under control, but also need an active group of creative people who comprehend and foresee the world changes, or at least those changes concerning the organization to which they belong.

We observe that some of the so-called “best practices of governance” are not best practices for every organization. According to our results, there is no “one size that fits all,” and that it is not always wise to add an independent trustee to the board. The directors’ ability to create value for the organization depends not only on their objectivity, but also on their specific knowledge and proactive character. In particular, the efficient allocation of resources seems to be related to the existence of mental schemes that conflict inside the board or with the heterogeneity of directors’ knowledge. This evidence confirms that nowadays, foundations, as independent thinking and pioneering spirits, must promote diversity and differentiation in thought if they wish to achieve their mission in the development of the modern societies. Thus, these organizations and their boards can benefit from a high breadth of expertise that will allow them to adapt to the environment and to take advantage of any investment opportunities that might arise.

Our data also prove that the vital finance provided by a private institution favors the foundation’s efficiency. Despite the fact that nonprofits are the "voice of the society," and therefore they should handle resources that come from multiple sources, when foundations depend on a unique corporation they appear to be especially efficient. Thus, we observe the emergence of a “new model of charitable corporate donations” in which the benefactors are no longer passive agents of the organizations they finance, but instead are active stakeholders. When a foundation and its role in the society become the public image of a corporation, the corporate board and managerial team monitor
the allocation of the foundation’s resources. Clearly, when there is a significant corporate donor, the foundation's efficiency benefits highly. The impact of foundations’ activities in the world development depends on their adequate resource allocation, which in the end is influenced by the effectiveness of the governance system. The results we present in this paper can serve as a guideline for those foundations that want to accept the challenge of ensuring proper levels of governance; for those trans-European bodies, such as the EFC, that develop best-practice regulations; and for those donors who want to identify those nonprofits that will make the best use of their contributions.
References


## APPENDIX A. Correlation Matrix

|       | ADEF | ECEF1 | ECEF2 | SIZE | OUTS | KNOW1 | KNOW2 | KNOW3 | KNOW4 | KNOW5 | DIVER | PROAC | PUBDON | INSDON | INDDON | INCOME | AGE |
|-------|------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|-------|-----|
| ADEF  | 1.000|       |       |      |      |       |       |       |       |       |       |       |        |        |        |       |      |
| ECEF1 | -0.142| 1.000 |       |      |      |       |       |       |       |       |       |       |        |        |        |       |      |
| ECEF2 | -0.145| 0.995 | 1.000 |      |      |       |       |       |       |       |       |       |        |        |        |       |      |
| SIZE  | -0.024| 0.103 | 0.104 | 1.000|      |       |       |       |       |       |       |       |        |        |        |       |      |
| OUTS  | 0.001 | 0.094 | 0.104 | 0.157| 1.000|       |       |       |       |       |       |       |        |        |        |       |      |
| KNOW1 | 0.003 | -0.028| -0.034| 0.124| 0.071| 1.000 |       |       |       |       |       |       |        |        |        |       |      |
| KNOW2 | -0.09  | 0.193 | 0.181 | 0.066| 0.014| 0.358 | 1.000 |       |       |       |       |       |        |        |        |       |      |
| KNOW3 | 0.073 | 0.084 | 0.097 | -0.006| 0.049| 0.284 | -0.016| 1.000 |       |       |       |       |        |        |        |       |      |
| KNOW4 | -0.004 | -0.129| -0.145| -0.132| -0.054| 0.114 | -0.099| 0.171| 1.000 |       |       |       |        |        |        |       |      |
| KNOW5 | 0.076 | 0.102 | 0.107 | 0.023| 0.032| 0.031 | 0.086 | 0.178 | 0.183| 1.000 |       |       |        |        |        |       |      |
| DIVER | -0.187| 0.206 | 0.203 | 0.288| 0.045| 0.289 | 0.365 | 0.230 | 0.188 | 0.398| 1.000 |       |        |        |        |       |      |
| PROAC | -0.154| 0.022 | 0.021 | -0.079| 0.047| 0.047 | 0.098 | 0.096| 0.083 | 0.033| 0.080| 1.000 |       |        |        |       |      |
| PUBDON| -0.032| -0.016| -0.046| -0.031| -0.018| -0.015| 0.124 | 0.260| 0.031| 0.027| -0.006| 1.000 |       |        |        |       |      |
| INSDON| -0.015| 0.185 | 0.193 | -0.141| -0.019| -0.025| 0.089 | 0.175| -0.110| 0.007| -0.058| -0.017| 0.293 | 1.000 |       |        |      |
| INDDON| 0.207 | 0.007 | 0.010 | -0.088| 0.056| -0.147| -0.158| 0.107| -0.124| 0.025| -0.183| -0.017| -0.087| -0.146| 1.000 |       |      |
| INCOME| -0.178| 0.280 | 0.284 | 0.074| 0.131| -0.006| 0.129 | 0.014| -0.057| 0.008| 0.233 | 0.079 | 0.082 | -0.158| -0.074| 1.000 |      |
| AGE   | -0.139| -0.193| -0.189| 0.017| 0.038| 0.013 | 0.158 | -0.203| 0.112| -0.126| -0.059| -0.091| -0.103| -0.158| -0.095| -0.005| 1.000|

Dependent variables

Hypothesis 1

Hypothesis 2

Hypothesis 3

Hypothesis 4

Hypothesis 5
### APPENDIX B. Model estimation without size and independence

<table>
<thead>
<tr>
<th>Dependent variable:</th>
<th>EFAD</th>
<th>ECEF1</th>
<th>ECEF2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of estimation: Tobit analysis</td>
<td>Model 1 with KNOW1, KNOW3, &amp; DIVER</td>
<td>Model 2 with KNOW2, KNOW4, &amp; KNOW5</td>
<td>Model 1 with KNOW2, KNOW4, &amp; KNOW5</td>
</tr>
<tr>
<td>KNOW1</td>
<td>0.0379 (0.492)</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>KNOW2</td>
<td>-----</td>
<td>-----</td>
<td>0.0028 (0.965)</td>
</tr>
<tr>
<td>KNOW3</td>
<td>0.0410 (0.419)</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>KNOW4</td>
<td>-----</td>
<td>-----</td>
<td>0.0319 (0.742)</td>
</tr>
<tr>
<td>KNOW5</td>
<td>-----</td>
<td>-----</td>
<td>0.0924 (0.576)</td>
</tr>
<tr>
<td>H2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INCOME</td>
<td>-0.0188 (0.198)</td>
<td>-0.0237 (0.102)</td>
<td>0.1639 (0.002)</td>
</tr>
<tr>
<td>AGE</td>
<td>-0.0280 (0.067)</td>
<td>-0.0276 (0.078)</td>
<td>-0.1091 (0.053)</td>
</tr>
<tr>
<td>C</td>
<td>0.2392 (0.000)</td>
<td>0.1895 (0.000)</td>
<td>-0.0924 (0.533)</td>
</tr>
</tbody>
</table>

H2 H3 H4 H5

<table>
<thead>
<tr>
<th>No. observations</th>
<th>124</th>
<th>124</th>
<th>124</th>
<th>124</th>
<th>124</th>
<th>124</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prob &gt; chi2</td>
<td>0.0487</td>
<td>0.1250</td>
<td>0.0007</td>
<td>0.0001</td>
<td>0.0007</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

The estimation coefficients of the variables are shown with the levels of significance in parentheses.
Últimos números publicados

159/2000 Participación privada en la construcción y explotación de carreteras de peaje
Ginés de Rus, Manuel Romero y Lourdes Trujillo

160/2000 Errores y posibles soluciones en la aplicación del Value at Risk
Mariano González Sánchez

161/2000 Tax neutrality on saving assets. The spahish case before and after the tax reform
Cristina Ruza y de Paz-Curbera

162/2000 Private rates of return to human capital in Spain: new evidence
F. Barceinas, J. Oliver-Alonso, J.L. Raymond y J.L. Roig-Sabaté

163/2000 El control interno del riesgo. Una propuesta de sistema de límites
riesgo neutral
Mariano González Sánchez

164/2001 La evolución de las políticas de gasto de las Administraciones Públicas en los años 90
Alfonso Utrilla de la Hoz y Carmen Pérez Esparrells

165/2001 Bank cost efficiency and output specification
Emili Tortosa-Ausina

166/2001 Recent trends in Spanish income distribution: A robust picture of falling income inequality
Josep Oliver-Alonso, Xavier Ramos y José Luis Raymond-Bara

167/2001 Efectos redistributivos y sobre el bienestar social del tratamiento de las cargas familiares en
el nuevo IRPF
Nuria Badenes Plá, Julio López Laborda, Jorge Onrubia Fernández

168/2001 The Effects of Bank Debt on Financial Structure of Small and Medium Firms in some Euro-
pean Countries
Mónica Melle-Hernández

169/2001 La política de cohesión de la UE ampliada: la perspectiva de España
Ismael Sanz Labrador

170/2002 Riesgo de liquidez de Mercado
Mariano González Sánchez

171/2002 Los costes de administración para el afiliado en los sistemas de pensiones basados en cuentas
de capitalización individual: medida y comparación internacional.
José Enrique Devesa Carpio, Rosa Rodríguez Barrera, Carlos Vidal Meliá

y propuestas de metodología para la explotación de la información de los ingresos y el gasto.
Llorenc Pou, Joaquín Alegre

173/2002 Modelos paramétricos y no paramétricos en problemas de concesión de tarjetas de credito.
Rosa Puertas, María Bonilla, Ignacio Olmeda
174/2002 Mercado único, comercio intra-industrial y costes de ajuste en las manufacturas españolas.
José Vicente Blanes Cristóbal

175/2003 La Administración tributaria en España. Un análisis de la gestión a través de los ingresos y
de los gastos.
Juan de Dios Jiménez Aguilera, Pedro Enrique Barrilao González

Santiago Carbó Valverde, Rafael López del Paso, David B. Humphrey

177/2003 Effects of ATMs and Electronic Payments on Banking Costs: The Spanish Case.
Santiago Carbó Valverde, Rafael López del Paso, David B. Humphrey

178/2003 Factors explaining the interest margin in the banking sectors of the European Union.
Joaquín Maudos y Juan Fernández Guevara

179/2003 Los planes de stock options para directivos y consejeros y su valoración por el mercado de
valores en España.
Mónica Melle Hernández

180/2003 Ownership and Performance in Europe and US Banking – A comparison of Commercial, Co-
operative & Savings Banks.
Yener Altunbas, Santiago Carbó y Phil Molyneux

181/2003 The Euro effect on the integration of the European stock markets.
Mónica Melle Hernández

182/2004 In search of complementarity in the innovation strategy: international R&D and external
knowledge acquisition.
Bruno Cassiman, Reinhilde Veugelers

183/2004 Fijación de precios en el sector público: una aplicación para el servicio municipal de sumi-
ño de agua.
Mª Ángeles García Valiñas

184/2004 Estimación de la economía sumergida en España: un modelo estructural de variables latentes.
Ángel Alañón Pardo, Miguel Gómez de Antonio

185/2004 Causas políticas y consecuencias sociales de la corrupción.
Joan Oriol Prats Cabrera

186/2004 Loan bankers’ decisions and sensitivity to the audit report using the belief revision model.
Andrés Guiral Contreras and José A. Gonzalo Angulo

Marta Tolentino García-Abadillo y Antonio Díaz Pérez

188/2004 Does market competition make banks perform well?.
Mónica Melle

189/2004 Efficiency differences among banks: external, technical, internal, and managerial
Santiago Carbó Valverde, David B. Humphrey y Rafael López del Paso
190/2004 Una aproximación al análisis de los costes de la esquizofrenia en España: los modelos jerárquicos bayesianos
F. J. Vázquez-Polo, M. A. Negrín, J. M. Cavasés, E. Sánchez y grupo RIRAG

191/2004 Environmental proactivity and business performance: an empirical analysis
Javier González-Benito y Óscar González-Benito

192/2004 Economic risk to beneficiaries in national defined contribution accounts (NDCs)
Carlos Vidal-Meliá, Inmaculada Domínguez-Fabian y José Enrique Devesa-Carpio

193/2004 Sources of efficiency gains in port reform: non parametric malmquist decomposition tfp index for Mexico
Antonio Estache, Beatriz Tovar de la Fé y Lourdes Trujillo

194/2004 Persistencia de resultados en los fondos de inversión españoles
Alfredo Ciriaco Fernández y Rafael Santamaría Aquilué

195/2005 El modelo de revisión de creencias como aproximación psicológica a la formación del juicio del auditor sobre la gestión continuada
Andrés Guiral Contreras y Francisco Esteso Sánchez

196/2005 La nueva financiación sanitaria en España: descentralización y prospectiva
David Cantarero Prieto

197/2005 A cointegration analysis of the Long-Run supply response of Spanish agriculture to the common agricultural policy
José A. Mendez, Ricardo Mora y Carlos San Juan

198/2005 ¿Refleja la estructura temporal de los tipos de interés del mercado español preferencia por la liquidez?
Magdalena Massot Perelló y Juan M. Nave

199/2005 Análisis de impacto de los Fondos Estructurales Europeos recibidos por una economía regional: Un enfoque a través de Matrices de Contabilidad Social
M. Carmen Lima y M. Alejandro Cardenete

200/2005 Does the development of non-cash payments affect monetary policy transmission?
Santiago Carbó Valverde y Rafael López del Paso

201/2005 Firm and time varying technical and allocative efficiency: an application for port cargo handling firms
Ana Rodríguez-Álvarez, Beatriz Tovar de la Fé y Lourdes Trujillo

202/2005 Contractual complexity in strategic alliances
Jeffrey J. Reuer y Africa Ariño

203/2005 Factores determinantes de la evolución del empleo en las empresas adquiridas por opa
Nuria Alcalde Fradejas y Inés Pérez-Soba Aguilar

Elena Olmedo, Juan M. Valderas, Ricardo Gimeno and Lorenzo Escot
205/2005  Precio de la tierra con presión urbana: un modelo para España
Esther Decimavilla, Carlos San Juan y Stefan Sperlich

206/2005  Interregional migration in Spain: a semiparametric analysis
Adolfo Maza y José Villaverde

207/2005  Productivity growth in European banking
Carmen Murillo-Melchor, José Manuel Pastor y Emili Tortosa-Ausina

Santiago Carbó Valverde, David B. Humphrey y Rafael López del Paso

209/2005  La elasticidad de sustitución intertemporal con preferencias no separables intratemporalmente: los casos de Alemania, España y Francia.
Elena Márquez de la Cruz, Ana R. Martinez Cañete y Inés Pérez-Soba Aguilar

210/2005  Contribución de los efectos tamaño, book-to-market y momentum a la valoración de activos: el caso español.
Begoña Font-Belaire y Alfredo Juan Grau-Grau

211/2005  Permanent income, convergence and inequality among countries
José M. Pastor and Lorenzo Serrano

212/2005  The Latin Model of Welfare: Do ’Insertion Contracts’ Reduce Long-Term Dependence?
Luis Ayala and Magdalena Rodríguez

213/2005  The effect of geographic expansion on the productivity of Spanish savings banks
Manuel Illueca, José M. Pastor and Emili Tortosa-Ausina

214/2005  Dynamic network interconnection under consumer switching costs
Ángel Luis López Rodríguez

215/2005  La influencia del entorno socioeconómico en la realización de estudios universitarios: una aproximación al caso español en la década de los noventa
Marta Rahona López

216/2005  The valuation of spanish ipos: efficiency analysis
Susana Álvarez Otero

217/2005  On the generation of a regular multi-input multi-output technology using parametric output distance functions
Sergio Perelman and Daniel Santín

218/2005  La gobernanza de los procesos parlamentarios: la organización industrial del congreso de los diputados en España
Gonzalo Caballero Miguez

219/2005  Determinants of bank market structure: Efficiency and political economy variables
Francisco González

220/2005  Agresividad de las órdenes introducidas en el mercado español: estrategias, determinantes y medidas de performance
David Abad Diaz
221/2005  Tendencia post-anuncio de resultados contables: evidencia para el mercado español
Carlos Forner Rodríguez, Joaquín Marhuenda Fructuoso y Sonia Sanabria García

222/2005  Human capital accumulation and geography: empirical evidence in the European Union
Jesús López-Rodríguez, J. Andrés Faíña y Jose Lopez Rodriguez

223/2005  Auditors' Forecasting in Going Concern Decisions: Framing, Confidence and Information Processing
Waymond Rodgers and Andrés Guiral

José Ramón Cancelo de la Torre, J. Andrés Faíña and Jesús López-Rodríguez

225/2005  The effects of ownership structure and board composition on the audit committee activity: Spanish evidence
Carlos Fernández Méndez and Rubén Arrondo García

226/2005  Cross-country determinants of bank income smoothing by managing loan loss provisions
Ana Rosa Fonseca and Francisco González

Alejandro Estellér Moré

228/2005  Region versus Industry effects: volatility transmission
Pilar Soriano Felipe and Francisco J. Climent Diranzo

Daniel Vázquez-Bustelo and Sandra Valle

Alfonso Palacio-Vera

231/2005  Reconciling Sustainability and Discounting in Cost Benefit Analysis: a methodological proposal
M. Carmen Almansa Sáez and Javier Calatrava Requena

232/2005  Can The Excess Of Liquidity Affect The Effectiveness Of The European Monetary Policy?
Santiago Carbó Valverde and Rafael López del Paso

Miguel Angel Barberán Lahuerta

Víctor M. González

Waymond Rodgers, Paul Pavlou and Andres Guiral.

Francisco J. André, M. Alejandro Cardenete y Carlos Romero.
Santiago Carbó-Valverde, Francisco Rodríguez-Fernández y Gregory F. Udell.

238/2006 Trade Effects Of Monetary Agreements: Evidence For Oecd Countries.
Salvador Gil-Pareja, Rafael Llorca-Vivero y José Antonio Martínez-Serrano.

Marcos Álvarez-Díaz y Gonzalo Caballero Miguez.

240/2006 La interacción entre el éxito competitivo y las condiciones del mercado doméstico como determinantes de la decisión de exportación en las Pymes.
Francisco García Pérez.

241/2006 Una estimación de la depreciación del capital humano por sectores, por ocupación y en el tiempo.
Inés P. Murillo.

Manuel A. Gómez.

Jose Manuel Cordero-Ferrera, Francisco Pedraja-Chaparro y Javier Salinas-Jiménez

244/2006 Did The European Exchange-Rate Mechanism Contribute To The Integration Of Peripheral Countries?.
Salvador Gil-Pareja, Rafael Llorca-Vivero y José Antonio Martínez-Serrano

Marta Pascual and David Cantarero

Salvador Rojí Ferrari and Ana Gonzalez Marcos

247/2006 Testing For Structural Breaks In Variance Withadditive Outliers And Measurement Errors.
Paulo M.M. Rodrigues and Antonio Rubia

Joaquín Maudos and Juan Fernández de Guevara

Desiderio Romero Jordán, José Félix Sanz Sanz y César Pérez López

250/2006 Regional Income Disparities in Europe: What role for location?.
Jesús López-Rodríguez and J. Andrés Faíña

251/2006 Funciones abreviadas de bienestar social: Una forma sencilla de simultanear la medición de la eficiencia y la equidad de las políticas de gasto público.
Nuria Badenes Plá y Daniel Santín González

252/2006 “The momentum effect in the Spanish stock market: Omitted risk factors or investor behaviour?”.
Luis Muga and Rafael Santamaria

253/2006 Dinámica de precios en el mercado español de gasolina: un equilibrio de colusión tácita.
Jordi Perdiguero García
José M. Pastor, Empar Pons y Lorenzo Serrano

255/2006 Environmental implications of organic food preferences: an application of the impure public goods model. 
Ana María Aldanondo-Ochoa y Carmen Almansa-Sáez

José Félix Sanz-Sanz, Desiderio Romero-Jordán y Santiago Álvarez-Garcia

257/2006 La internacionalización de la empresa manufacturera española: efectos del capital humano genérico y específico. 
José López Rodríguez

María Martínez Torres

259/2006 Efficiency and market power in Spanish banking. 
Rolf Färe, Shawna Grosskopf y Emili Tortosa-Ausina.

Helena Chuliá y Hipòlit Torró.

José Antonio Ortega.

262/2006 Accidentes de tráfico, víctimas mortales y consumo de alcohol. 
José Mª Arranz y Ana I. Gil.

263/2006 Análisis de la Presencia de la Mujer en los Consejos de Administración de las Mil Mayores Empresas Españolas. 
Ruth Mateos de Cabo, Lorenzo Escot Mangas y Ricardo Gimeno Nogués.

Ignacio Álvarez Peralta.

Jaime Vallés-Giménez y Anabel Zárate-Marco.

266/2006 Health Human Capital And The Shift From Foraging To Farming. 
Paolo Rungo.

Juan Luis Jiménez y Jordi Perdigueró.

Desiderio Romero-Jordán y José Félix Sanz-Sanz.

269/2006 Banking competition, financial dependence and economic growth 
Joaquín Maudos y Juan Fernández de Guevara

270/2006 Efficiency, subsidies and environmental adaptation of animal farming under CAP 
Werner Kleinhans, Carmen Murillo, Carlos San Juan y Stefan Sperlich
Interest Groups, Incentives to Cooperation and Decision-Making Process in the European Union
A. Garcia-Lorenzo y Jesús López-Rodríguez

Riesgo asimétrico y estrategias de momentum en el mercado de valores español
Luis Muga y Rafael Santamaría

Valoración de capital-riesgo en proyectos de base tecnológica e innovadora a través de la teoría de opciones reales
Gracia Rubio Martín

Capital stock and unemployment: searching for the missing link
Ana Rosa Martínez-Cañete, Elena Márquez de la Cruz, Alfonso Palacio-Vera and Inés Pérez-Soba Aguilar

Study of the influence of the voters’ political culture on vote decision through the simulation of a political competition problem in Spain
Sagrario Lantarón, Isabel Lillo, Mª Dolores López and Javier Rodrigo

Investment and growth in Europe during the Golden Age
Antonio Cubel and Mª Teresa Sanchis

Efectos de vincular la pensión pública a la inversión en cantidad y calidad de hijos en un modelo de equilibrio general
Robert Meneu Gaya

El consumo y la valoración de activos
Elena Márquez y Belén Nieto

Economic growth and currency crisis: A real exchange rate entropic approach
David Matesanz Gómez y Guillermo J. Ortega

Three measures of returns to education: An illustration for the case of Spain
María Arrazola y José de Hevia

Composition of Firms versus Composition of Jobs
Antoni Cunyat

La vocación internacional de un holding tranviario belga: la Compagnie Mutuelle de Tramways, 1895-1918
Alberte Martínez López

Una visión panorámica de las entidades de crédito en España en la última década.
Constantino García Ramos

Foreign Capital and Business Strategies: a comparative analysis of urban transport in Madrid and Barcelona, 1871-1925
Alberte Martínez López

Los intereses belgas en la red ferroviaria catalana, 1890-1936
Alberte Martínez López

The Governance of Quality: The Case of the Agrifood Brand Names
Marta Fernández Barcala, Manuel González-Díaz y Emmanuel Raynaud

Modelling the role of health status in the transition out of malthusian equilibrium
Paolo Rungo, Luis Currais and Berta Rivera

Industrial Effects of Climate Change Policies through the EU Emissions Trading Scheme
Xavier Labandeira and Miguel Rodríguez
289/2006 Globalisation and the Composition of Government Spending: An analysis for OECD countries
Norman Gemmell, Richard Kneller and Ismael Sanz

290/2006 La producción de energía eléctrica en España: Análisis económico de la actividad tras la liberalización del Sector Eléctrico
Fernando Hernández Martínez

291/2006 Further considerations on the link between adjustment costs and the productivity of R&D investment: evidence for Spain
Desiderio Romero-Jordán, José Félix Sanz-Sanz and Inmaculada Álvarez-Ayuso

292/2006 Una teoría sobre la contribución de la función de compras al rendimiento empresarial
Javier González Benito

293/2006 Agility drivers, enablers and outcomes: empirical test of an integrated agile manufacturing model
Daniel Vázquez-Bustelo, Lucía Avella and Esteban Fernández

294/2006 Testing the parametric vs the semiparametric generalized mixed effects models
Maria José Lombardía and Stefan Sperlich

295/2006 Nonlinear dynamics in energy futures
Mariano Matilla-García

Esteban Fernández Vázquez, Matías Mayor Fernández and Jorge Rodríguez-Valez

297/2006 Optimización fiscal en las transmisiones lucrativas: análisis metodológico
Félix Domínguez Barrero

298/2006 La situación actual de la banca online en España
Francisco José Climent Diranzo y Alexandre Momparler Pechuán

299/2006 Estrategia competitiva y rendimiento del negocio: el papel mediador de la estrategia y las capacidades productivas
Javier González Benito y Isabel Suárez González

300/2006 A Parametric Model to Estimate Risk in a Fixed Income Portfolio
Pilar Abad and Sonia Benito

301/2007 Análisis Empírico de las Preferencias Sociales Respecto del Gasto en Obra Social de las Cajas de Ahorros
Alejandro Esteller-Moré, Jonathan Jorba Jiménez y Albert Solé-Ollé

302/2007 Assessing the enlargement and deepening of regional trading blocs: The European Union case
Salvador Gil-Pareja, Rafael Llorca-Vivero y José Antonio Martínez-Serrano

303/2007 ¿Es la Franquicia un Medio de Financiación?: Evidencia para el Caso Español
Vanesa Solís Rodríguez y Manuel González Díaz

304/2007 On the Finite-Sample Biases in Nonparametric Testing for Variance Constancy
Paulo M.M. Rodrigues and Antonio Rubia

305/2007 Spain is Different: Relative Wages 1989-98
José Antonio Carrasco Gallego
Poverty reduction and SAM multipliers: An evaluation of public policies in a regional framework
Francisco Javier De Miguel-Vélez y Jesús Pérez-Mayo

La Eficiencia en la Gestión del Riesgo de Crédito en las Cajas de Ahorro
Marcelino Martínez Cabrera

Optimal environmental policy in transport: unintended effects on consumers' generalized price
M. Pilar Socorro and Ofelia Betancor

Agricultural Productivity in the European Regions: Trends and Explanatory Factors
Roberto Ezcurra, Belen Iráizoz, Pedro Pascual and Manuel Rapún

Long-run Regional Population Divergence and Modern Economic Growth in Europe: a Case Study of Spain
Maria Isabel Ayuda, Fernando Collantes and Vicente Pinilla

Financial Information effects on the measurement of Commercial Banks’ Efficiency
Borja Amor, María T. Tascón and José L. Fanjul

Neutralidad e incentivos de las inversiones financieras en el nuevo IRPF
Félix Domínguez Barrero

The Effects of Corporate Social Responsibility Perceptions on The Valuation of Common Stock
Waymond Rodgers, Helen Choy and Andres Guiral-Contreras

Country Creditor Rights, Information Sharing and Commercial Banks’ Profitability Persistence across the world
Borja Amor, María T. Tascón and José L. Fanjul

¿Es Relevante el Déficit Corriente en una Unión Monetaria? El Caso Español
Javier Blanco González y Ignacio del Rosal Fernández

The Impact of Credit Rating Announcements on Spanish Corporate Fixed Income Performance: Returns, Yields and Liquidity
Pilar Abad, Antonio Díaz and M. Dolores Robles

Indicadores de Lealtad al Establecimiento y Formato Comercial Basados en la Distribución del Presupuesto
Cesar Augusto Bustos Reyes y Óscar González Benito

Migrants and Market Potential in Spain over The XXth Century: A Test Of The New Economic Geography
Daniel A. Tirado, Jordi Pons, Elisenda Paluzie and Javier Silvestre

El Impacto del Coste de Oportunidad de la Actividad Emprendedora en la Intención de los Ciudadanos Europeos de Crear Empresas
Luis Miguel Zapico Aldeano

Los belgas y los ferrocarriles de via estrecha en España, 1887-1936
Alberte Martínez López

Competición política bipartidista. Estudio geométrico del equilibrio en un caso ponderado
Isabel Lillo, Mª Dolores López y Javier Rodrigo

Human resource management and environment management systems: an empirical study
Mª Concepción López Fernández, Ana Mª Serrano Bedía and Gema García Piqueres
323/2007 Wood and industrialization: evidence and hypotheses from the case of Spain, 1860-1935. Iñaki Iriarte-Goñi and María Isabel Ayuda Bosque


325/2007 Monetary policy and structural changes in the volatility of US interest rates. Juncal Cuñado, Javier Gomez Biscarri and Fernando Perez de Gracia

326/2007 The productivity effects of intrafirm diffusion. Lucio Fuentelsaz, Jaime Gómez and Sergio Palomas


328/2007 El grado de cobertura del gasto público en España respecto a la UE-15 Nuria Rueda, Begoña Barruso, Carmen Calderón y Mª del Mar Herrador

329/2007 The Impact of Direct Subsidies in Spain before and after the CAP92 Reform. Carmen Murillo, Carlos San Juan and Stefan Sperlich

330/2007 Determinants of post-privatisation performance of Spanish divested firms. Laura Cabeza García and Silvia Gómez Ansón

331/2007 ¿Por qué deciden diversificar las empresas españolas? Razones oportunísticas versus razones económicas. Almudena Martínez Campillo

332/2007 Dynamical Hierarchical Tree in Currency Markets. Juan Gabriel Brida, David Matesanz Gómez and Wiston Adrián Risso


334/2007 Why do companies go private? The Spanish case. Inés Pérez-Soba Aguilar

335/2007 The use of GIS to study transport for disabled people. Verónica Cañal Fernández


337/2007 Las clasificaciones de materias en economía: principios para el desarrollo de una nueva clasificación. Valentín Edo Hernández

338/2007 Reforming Taxes and Improving Health: A Revenue-Neutral Tax Reform to Eliminate Medical and Pharmaceutical VAT. Santiago Álvarez-García, Carlos Pestana Barros y Juan Prieto-Rodríguez

339/2007 Impacts of an iron and steel plant on residential property values. Celia Bilbao-Terol

¿Cómo organizar una cadena hotelera? La elección de la forma de gobierno
Marta Fernández Barcala y Manuel González Díaz

Análisis de los efectos de la decisión de diversificar: un contraste del marco teórico “Agencia-Stewardship”
Almudena Martínez Campillo y Roberto Fernández Gago

Selecting portfolios given multiple eurostoxx-based uncertainty scenarios: a stochastic goal programming approach from fuzzy betas
Enrique Ballestero, Blanca Pérez-Gladish, Mar Arenas-Parra and Amelia Bilbao-Terol

“El bienestar de los inmigrantes y los factores implicados en la decisión de emigrar”
Anastasia Hernández Alemán y Carmelo J. León

Andrea Martínez-Noya and Esteban García-Canal

Diferencias salariales entre empresas públicas y privadas. El caso español
Begoña Cueto y Nuria Sánchez- Sánchez

Effects of Fiscal Treatments of Second Home Ownership on Renting Supply
Celia Bilbao Terol and Juan Prieto Rodríguez

Auditors’ ethical dilemmas in the going concern evaluation
Andres Guiral, Waymond Rodgers, Emiliano Ruiz and Jose A. Gonzalo

Convergencia en capital humano en España. Un análisis regional para el periodo 1970-2004
Susana Morales Sequera y Carmen Pérez Esparrells

Socially responsible investment: mutual funds portfolio selection using fuzzy multiobjective programming
Blanca Mª Pérez-Gladish, Mar Arenas-Parra, Amelia Bilbao-Terol and Mª Victoria Rodríguez-Uría

Persistencia del resultado contable y sus componentes: implicaciones de la medida de ajustes por devengo
Raúl Iñiguez Sánchez y Francisco Poveda Fuentes

Wage Inequality and Globalisation: What can we Learn from the Past? A General Equilibrium Approach
Concha Betrán, Javier Ferri and Maria A. Pons

Eficacia de los incentivos fiscales a la inversión en I+D en España en los años noventa
Desiderio Romero Jordán y José Félix Sanz Sanz

Convergencia regional en renta y bienestar en España
Robert Meneu Gaya

Tributación ambiental: Estado de la Cuestión y Experiencia en España
Ana Carrera Poncela

Salient features of dependence in daily us stock market indices
Luis A. Gil-Alana, Juncal Cuñado and Fernando Pérez de Gracia

La educación superior: ¿un gasto o una inversión rentable para el sector público?
Inés P. Murillo y Francisco Pedraja
358/2007 Effects of a reduction of working hours on a model with job creation and job destruction
Emilio Domínguez, Miren Ullibarri y Idoya Zabaleta

359/2007 Stock split size, signaling and earnings management: Evidence from the Spanish market
José Yagüe, J. Carlos Gómez-Sala and Francisco Poveda-Fuentes

360/2007 Modelización de las expectativas y estrategias de inversión en mercados de derivados
Begoña Font-Belaire

361/2008 Trade in capital goods during the golden age, 1953-1973
Mª Teresa Sanchis and Antonio Cubel

362/2008 El capital económico por riesgo operacional: una aplicación del modelo de distribución de pérdidas
Enrique José Jiménez Rodríguez y José Manuel Feria Domínguez

363/2008 The drivers of effectiveness in competition policy
Joan-Ramon Borrell and Juan-Luis Jiménez

364/2008 Corporate governance structure and board of directors remuneration policies: evidence from Spain
Carlos Fernández Méndez, Rubén Arrondo García and Enrique Fernández Rodríguez

365/2008 Beyond the disciplinary role of governance: how boards and donors add value to Spanish foundations
Pablo De Andrés Alonso, Valentín Azofra Palenzuela y M. Elena Romero Merino