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# CAN PRIVATE UNIVERSITIES COMPETE WITH PUBLIC UNIVERSITIES IN SPAIN? UNIVERSITY FINANCING AND POLITICAL ECONOMICS

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## Abstract

This article analyzes various models of university education financing, comparing theoretical aspects and practical applications, and focuses on the competition between public and private universities in Spain. It begins by discussing significant corporate activities and the rapid growth of private university enrollment over the past two decades. It examines the effectiveness and equity of financing methods such as general taxes, graduate taxes, traditional loans, and income-contingent loans (ICL). The article highlights the growing competition between private and public universities, focusing on differences in student demographics, quality, and employability. A survey conducted in Catalonia in 2017 evaluates students' perceptions and knowledge about costs and financial aid. It reveals a significant lack of accurate information among students, affecting their decisions. The findings suggest that adopting ICL or graduate tax systems could improve equity and efficiency in university financing in Spain.

*Keywords:* University education financing, income contingent loans, university results, university fees, scholarships.

*JEL classification:* D06, H23, I22, I23, I26.

## I. INTRODUCTION

In 2018, in an unprecedented transaction in Spain, Permira investment fund acquired *Universidad Europea de Madrid* from the Laureate Group for €770 million. A few months later, private equity manager CVC acquired *Alfonso X el Sabio University* (UAX) for €1.1 billion for its Fund VII. In April 2024, Permira put a minority stake (30%) in *Universidad Europea* up for sale. EQT won the bid, valuing the university at 2.2 billion, competing with funds such as KKR, Mubadala and Partners Group. CVC valued the sale of UAX at €2 billion.<sup>1</sup>

This corporate activity around universities in Spain is an example of the importance of the private tertiary sector, which is evolving at a very different level from the public sector. While enrollment in public universities has decreased by 200,000 students in the last twenty years (from school year 2000-2001 to school year 2020-2021), enrollment in private universities has increased by 230,000 students. Thus, the percentage of students in private universities has increased from less than 10% to 20% over the same period. In the case of master's degrees, the increase in the proportion of official master's degrees in private universities is even more significant, representing 46.1% of the total in the 2020-2021 school year.

Traditionally, public universities in Spain have been considered better than private universities, and therefore little attention has been paid to the impact that the private tertiary sector could have. Student numbers seem to indicate that this perception may be changing. Increased competition from the private tertiary sector requires public universities to be able to adapt to new forms of teaching and to the needs of the productive system and society in order to compete. However, the lack of flexibility, stifling regulation, diminishing autonomy, perverse governance, lack of incentives for staff and the little interest from public authorities, which believe that there is no need to improve funding in the face of declining enrollment, make it difficult for public universities to compete with private institutions.

The public sector's response to the growing private competition has been to modify the regulations in order to make it more difficult for private institutions to compete (Royal Decree 640/2021), instead of increasing the flexibility, governance and autonomy of public universities.

It is interesting to compare this reaction with the actions of the Obama administration which, concerned about the high cost of many private universities of dubious quality, launched a Scoreboard available online that

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<sup>1</sup> For more details on corporate operations in the Spanish tertiary sector, see Aunión (2023).

lists the cost of attending each school,<sup>2</sup> its graduation rate and the average annual income earned after graduation. The Scoreboard provides information on public and private colleges, including the scholarships and grants they offer. The Obama plan to make college more accessible, especially to the middle class, included encouraging states to fund public universities based on their outcomes, providing transparent information about the outcomes of each institution, encouraging innovation, eliminating unnecessary regulations, and holding students accountable for their academic outcomes if they receive public funds. In short, encourage a race to the top among public universities for higher value and lower cost.

A comparison of tuition by family income level shows that even at prestigious private universities, tuition does not cover the cost of education up to very high-income levels. At the Massachusetts Institute of Technology, for example, families with incomes up to \$75,000 pay the same percentage of the actual cost as at a university in Spain, while students from families with incomes below \$48,000 receive aid, including wage subsidies. The price of tuition exceeds the cost of education only for families with incomes above \$110,000. At public universities, the full cost of education is generally paid from a family income of \$75,000. For example, at the University of California at Berkeley or UCLA, the full cost of attendance begins at approximately \$75,000. Families earning above that amount pay a larger share of the cost, which increases with income.

This article analyzes the financing of higher education, comparing the theoretical aspects of different financing options as well as their application in practice and in political economics. Special emphasis is given to the situation in Spain and the comparison between private and public institutions.

## **II. UNIVERSITY FINANCING SYSTEMS**

### **1. University financing models**

University financing models must be interpreted in the context of the high profitability of tertiary education relative to lower levels of education, as we show in one of the sections of this article, and a fundamentally private appropriation of this profitability by the graduate. This situation is quite different from, for example, education before the age of 3, which generates significant externalities and social returns.

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<sup>2</sup> <https://collegescorecard.ed.gov/>

There are two main approaches to financing higher education. The first involves using the tax system (either through general taxes or specific taxes for graduates) to finance transfers both to students (through universal or income/qualification-based scholarships) and to institutions to keep tuition costs down. The second approach involves direct payment of public university fees, either directly from the income of students and their families or through loans. These methods are not mutually exclusive, and in most cases university funding is a mix of public subsidies and private contributions. There are four main funding models for university education:

- GET. The state collects taxes to support higher education institutions. These funds generally come from global taxes paid by all taxpayers, regardless of their use of the higher education system.
- GRT. In this model, taxes come only from those taxpayers who have used the university system.
- LOA. The government can offer loans or facilitate a private loan market. If the amount to be repaid is constant, it is a traditional loan.
- ICL (income contingent loans). The amount to be repaid by the graduate is calculated as percentage of the individual's future income. Students borrow money to finance their college education, and the amount to be repaid is based on their future earnings in the labor market, with a generally low interest rate. If their income is high, they repay more of the loan. Typically, there is an income eligibility threshold and payments are limited to a maximum number of years.

Table 1 summarizes the characteristics of each financing model. Both tax models (GET and GRT), which are mandatory and not limited to a specific amount that could exceed the total individual cost of study, are calculated as percentage of income and are paid over a lifetime. The main difference between them is that the GRT is financed only by individuals who have been in the higher education system, so the risk is shared only among the students. On the other hand, the two loan models (LOA and ICL) differ from the tax system in several ways. They are voluntary, the total amount to be repaid cannot exceed the sum of the loan plus interest (they are capped), they depend on the type of degree and they are used to cover the annual cost of study. LOAs require the loan to be repaid over a fixed period, while ICLs vary the amount to be repaid according to the individual's income, making the repayment period flexible (shorter if future income is high and longer if it is low).

TABLE 1  
FINANCING MODELS. CHARACTERISTICS

Concept	General Tax (GET)	Graduated tax (GRT)	Classic loan (LOA)	Income Contingent Loan (ICL)
Mandatory	Yes	Yes	No	No
Limited	No	No	Yes	Yes
Linked to income	Yes	Yes	No	Yes
Linked to the degree	No	Yes	Yes	Yes
Duration	Lifetime	Lifetime	Fixed	Variable (limited)
Who pays?	All taxpayers	Students	Especially students	Mainly students
Risk of non-payment	Shared	Combined	Shared	Shared

Sources: Diris and Oogue (2018) and Montalbán (2019)

Most countries prefer a university financing model supported by general taxation, known as GET. However, there are significant differences in the way the costs of higher education are shared between taxpayers, students and private institutions, and in the type of financial support offered to students. The financing models used in different countries tend to integrate two main instruments: (i) tuition fees, which may vary in the percentage of the cost that is generally subsidized, depending, inter alia, on the field of study or the institution; (ii) financial support mechanisms for students facing these fees and/or related living costs. These instruments may include university grants –tax-funded subsidies that may be general or targeted at students with certain characteristics (such as those from low-income families or those with high academic performance)– or government loans. In Nordic countries such as Denmark, Finland, Norway and Sweden, university costs are financed almost entirely by taxpayers. In countries such as Spain, France and Belgium, the subsidy is around 80%, while in the United Kingdom and the United States, it is reduced to around 25%.

## 2. Income-contingent lending (ICL) as a theoretically desirable model

Diris and Oogue (2018), among others, argue that it would be beneficial for most countries to adopt an ICL or GRT system instead of the current GET model, taking into account equity and efficiency factors. According to these

researchers, countries with a higher share of private financing, including those that have implemented the ICL, tend to have more progressive systems, while those that rely almost exclusively on general taxation tend to have more regressive systems. In Spain, the system is perceived as regressive from the students' perspective and as progressive from the parents' perspective from the middle of the distribution. The adoption of the or the GRT could result in a system that is less regressive from the student's perspective and more neutral from the parent's perspective. As with all financing systems, the ICL has both advantages and disadvantages. In order to consider its implementation in Spain, it is crucial to analyze the various efficiency and equity implications of switching to the ICL system.

The potential advantages of integrating the ICL into the Spanish university system, compared to the current model, are as follows: i) It would increase the neutrality of the system from the student's point of view, improving its progressiveness. ii) It would increase the progressiveness from the regressive parent's point of view, or make it more neutral if it is already progressive. iii) It would reduce the moral risk during the course of the degree, thanks to the possibility of adjusting the loan payment to the duration of the degree. iv) It would reduce the moral hazard during the course of the study, thanks to the possibility of adjusting the loan payment according to the duration of the study. v) It would protect the student against risk, since the payment is conditional and varies according to future income. vi) It would facilitate the universalization of the ICL. vii) The ICL would facilitate universal access to university, without being subject to the constraints of family loans. viii) It would reduce the problems of hyperbolic discounting in families, since the payment of university fees is postponed to the future, which could increase the participation of students with less rational choices. ix) It would reduce the problems of hyperbolic discounting in families, since the payment of university fees is postponed to the future, which could increase the participation of students with less rational future prospects, while students with rational future prospects would not be affected.

On the other hand, the disadvantages of the ICL compared to the current system include: (i) Although higher education has positive externalities, the ICL may not encourage student participation because the costs are directly allocated to students. However, studies show that these effects are small and variable, so they would not be sufficient per se to rule out the ICL; (ii) It could encourage moral hazard in the labor market because the amount of the payment is gradually adjusted according to future earnings, although there is no clear empirical evidence of this; (iii) There is a risk of non-payment; however, in a theoretical scenario where all students do not pay, the system would simply revert to the current GET model; (iv) The concept of "borrowing" could

discourage debt-averse students. Research suggests that the negative effects of this perception are minimal. A possible solution would be to rename the system to something like *Beca retornable* or Refundable Grant (Cabrales *et al.*, 2019), in addition to carrying out an information campaign to clarify the details of the system and minimize information bias about its features.

### III. THE FINANCING OF UNIVERSITY EDUCATION IN PRACTICE

Decisions on the higher education financing model are crucial given the high cost of each university student and the relationship between private and social profitability in higher education. Expenditure per full-time equivalent student in tertiary education in the OECD average reached \$16,350 in 2020 (OECD, 2023) in constant 2015 prices and adjusted for purchasing parity. In the case of Spain, the expenditure was 22.3% lower (\$12,704). The comparison with the EU is also negative, with expenditure in Spain per full-time student 19.1% lower than the EU25 average. In comparison, expenditure per full-time student in Sweden, Norway and the United Kingdom is \$23,110, \$21,619 and \$25,617 respectively.

The distribution between public and private funding of higher education is highly politically charged and is often used as an element of confrontation between political parties. A basic principle is that public funding should be higher the higher the social benefit of the level of education and lower the higher the private profitability. The OECD (2023) notes that the share of public funding decreases as the level of education increases. In 2020, the OECD average share of private funding was 7% at the primary level, 8% at the lower secondary level, 10% and 11% at the vocational and upper secondary levels, and 16% at the tertiary level.<sup>3</sup>

Panel A of Figure 1 shows several groups of countries. The first group, consisting mainly of English-speaking countries, shows a level of private funding above 60% (United States, United Kingdom, South Korea, Australia, Japan and Chile), while in Northern European countries it is below 15% (Finland, Norway, Iceland, Denmark, Austria and Sweden). Panel B of the same figure shows that among the countries with the highest ratio of investment in tertiary education to GDP, there are representatives of both groups. Of the top seven countries, four are dominated by private funding and three by public funding.

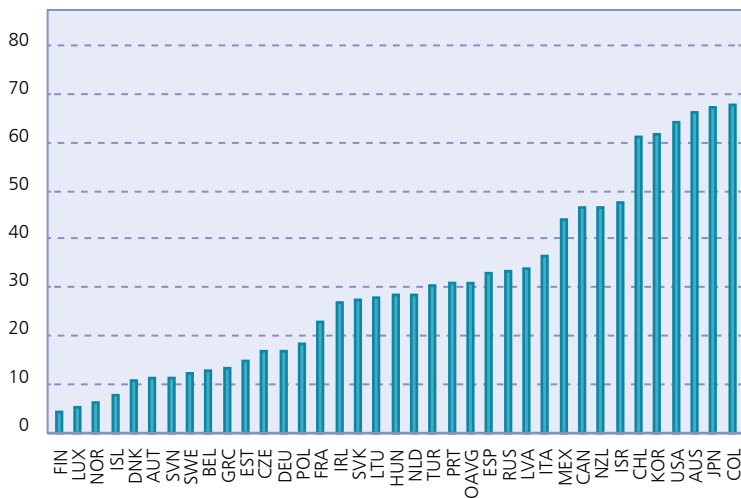
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<sup>3</sup> It is important to note that the discussion in this section does not take into account the distribution of funding between different levels of education. It could be argued, for example, that since the social returns to education from 0 to 3 years of age are much higher than those to university studies, public funds should be directed primarily to this segment of education, to the detriment of the level of education where private returns dominate. This type of argument will not be discussed in this article.

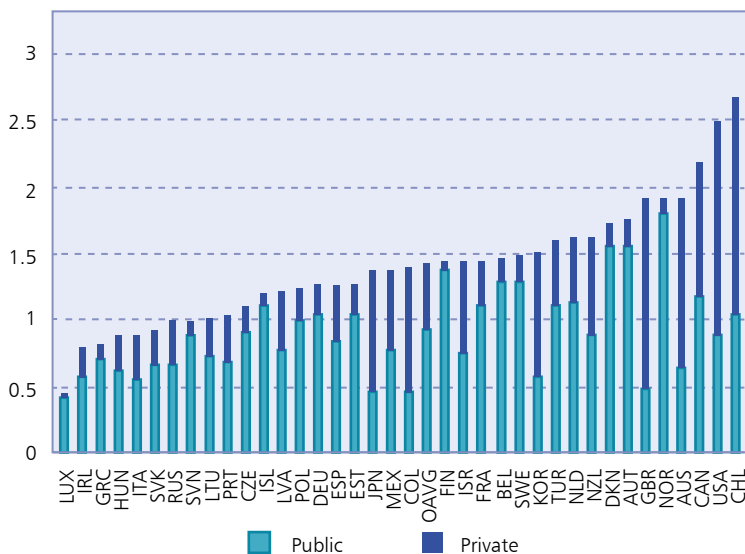
FIGURE 1

**SHARE OF PRIVATE EXPENDITURE OVER THE TOTAL TERTIARY EDUCATION EXPENDITURE AND PUBLIC AND PRIVATE FUNDING OVER GDP 2019**

**Panel A. Private expenditure over tertiary education expenditure**



**Panel B. Public and private financing over GDP 2019**

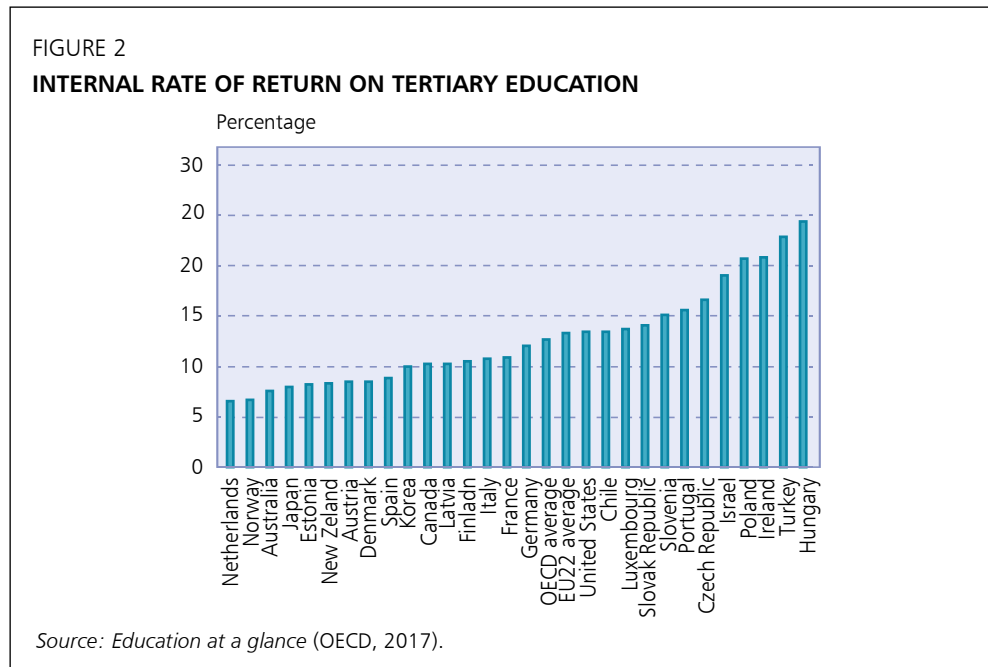


Source: By the authors, based on OECD (2023).



The distribution of funding for tertiary education between public and private should be related to the ability to make the benefits of university education privately profitable. It is well known that in most countries the employment situation of tertiary graduates is significantly better than that of graduates from other lower levels of education. In 2021, OECD tertiary graduates aged 25-64 had an employment rate 10 percentage points higher than those with upper secondary or post-secondary non-tertiary education. The proportion of 25-29-year-old who were neither studying nor working was 12%, well below the proportion of upper secondary or post-secondary non-tertiary graduates. They also have lower long-term unemployment rates than all other education levels. On average, OECD tertiary graduates with continuous full-time employment earn about 55% more than upper secondary graduates.

Figure 2 shows the result of calculating the internal rate of return of higher education in OECD countries (OECD, 2017). The graph compares the private costs and benefits of a male with a tertiary education *versus* a male with a secondary education in equivalent dollars, converted using purchasing power parity for GDP. The calculation shows that in countries where the direct cost of university education is low (Germany, Norway) the total cost of studies is high because of the high opportunity cost. On the other hand, in countries where university graduates receive higher salaries they



also pay more taxes, which reduces the differences between countries when calculating net benefits. The average rate of return in both OECD and EU countries is 13%, while in Spain the return is lower (9%). In the case of female tertiary graduates, the average profitability of OECD and EU countries is lower, at 11%. However, Spanish female graduates have an above-average profitability (13%).<sup>4</sup>

Another way to calculate private returns of tertiary education is to use a Mincerian regression (Card, 2001). The classic benchmark for international cross-country comparisons is the work of Psacharopoulos (1994), who finds a return of 8% for each additional year of tertiary education in developed countries. Psacharopoulos and Patrinos (2018) update these estimates and obtain a return of 9% for all 135 countries analyzed, although the return remains anchored at 8% in developed countries.<sup>5</sup> Bhuller *et al.* (2017) propose to overcome the limitations of Mincerian regressions due to non-compliance with key assumptions of this methodology. Using procedures to mitigate sample selection problems, Bhuller *et al.* (2017) show that the internal rate of return to education is around 11%. These rates of return, which are higher than interest rates, would justify more people pursuing higher education.

Spain belongs to the group of countries with a high level of public subsidy of university tuition. The system provides free tuition to students from families with low income levels relative to family size. All other students pay between 10 and 15% of the cost of university studies. In 2012, the Ministry of Education, Culture and Sports proposed an increase in tuition fees by capping the maximum price paid by students at 25% of the cost of tuition. In addition, it significantly increased the price of second, third and fourth enrollments. Each region or Autonomous Community decided by what percentage the public prices would be increased. While some, such as Galicia and Asturias, increased them very little, Catalonia and Madrid opted for a very substantial increase. In the case of Catalonia, the price increase was progressive and graduated from the so-called equity grants. The full payment of tuition fees only applied to families with income above 67,000 euros. For lower incomes, but higher than those that gave access to free tuition, the equity grants provided greater discounts the lower the income. García-Montalvo (2020) analyzes the impact of this new system of financing university tuition and finds no evidence of a negative impact of the policy change on the dropout rate. He also analyzes the distributional impact of the reform and shows that carefully designed progressive

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<sup>4</sup> Fuente and Jimeno (2011) calculate the return on investment in education in Spain and find that virtually all post-compulsory education cycles generate attractive returns from a private and fiscal perspective.

<sup>5</sup> Florentino Felgueroso also analyzes the returns to higher education in Spain using Mincer equations based on annual LFS data from 2006 to 2017. He finds that university education and higher vocational training have a positive impact on workers' wages, increasing them by 33 to 43%.

public prices can generate additional revenue for universities without having a negative impact on the dropout rates of students from low socioeconomic backgrounds. Thus, in this case, the subsidy reduction for students from families with higher purchasing power had no impact on enrollment rates and reduced the regressiveness of the system from the students' perspective.

Beneito *et al.* (2018) focus on the increase in the cost of second and third enrollments, showing that the increase in the price of tuition increases student effort. Montalbán (2023) shows that need-based scholarships have no effect on academic outcomes when academic performance requirements are standard in most countries. The provision of a small grant has a much larger impact on academic outcomes and the likelihood of graduating from university, when it is combined with demanding minimum academic requirements, although this effect only occurs when the grant is announced at the beginning of the school year. Increasing the amount of aid does not lead to additional improvements in academic outcomes. On the other hand, increasing the academic requirements does not lead to an increase in the dropout rate.

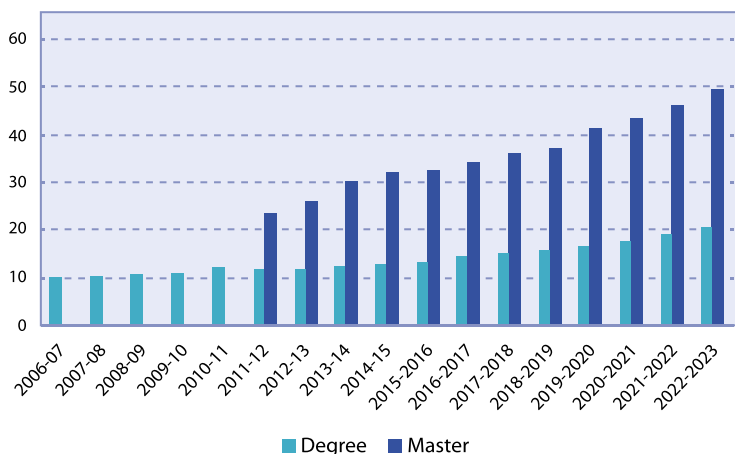
## IV. PUBLIC AND PRIVATE UNIVERSITIES IN SPAIN

In many countries, a relevant share of private financing of tertiary education is concentrated in private institutions and not so much in the share of public university enrollment cost financed by families. In the Spanish case, private universities have traditionally represented a small part of the tertiary education system. This situation is changing rapidly. This section compares the evolution of public and private university institutions and analyzes some of the differentiating elements: students, quality, degrees, employability and salaries.

### 1. Public and private universities: Students

Over the past decade, enrollment in private higher education institutions has grown rapidly, while public universities have lost students. Between the school years of 2011-2012 and 2022-2023, public undergraduate enrollment decreased by 16%, while private enrollment increased by 60% (figures are preliminary). At the master's level, both types of institutions are experiencing growth due to the recent increase in student interest in pursuing postgraduate degrees, but to different extent. While the number of master's students at public universities increased by 57%, the number of private students quadrupled during this period. As Figure 3 shows, the share of undergraduate students at public institutions rose from 10% in 2006-2007 to more than 20% in 2022-2023, while at the master's level, private institutions now account for nearly 50% of the system's students.

FIGURE 3

**PROPORTION OF STUDENTS IN PRIVATE UNIVERSITIES OUT OF THE TOTAL NUMBER OF UNIVERSITY STUDENTS**

Source: Integrated University Information System (SIIU).

## 2. Public and private universities: Quality

What factors explain the evolution of the distribution of students between public and private universities? As mentioned in the introduction, the general perception in Spain, unlike in other countries, is that the quality of Spanish public universities is higher than that of private universities. However, as Table 2 shows,

TABLE 2  
MAIN ACADEMIC INDICATORS OF THE UNIVERSITIES

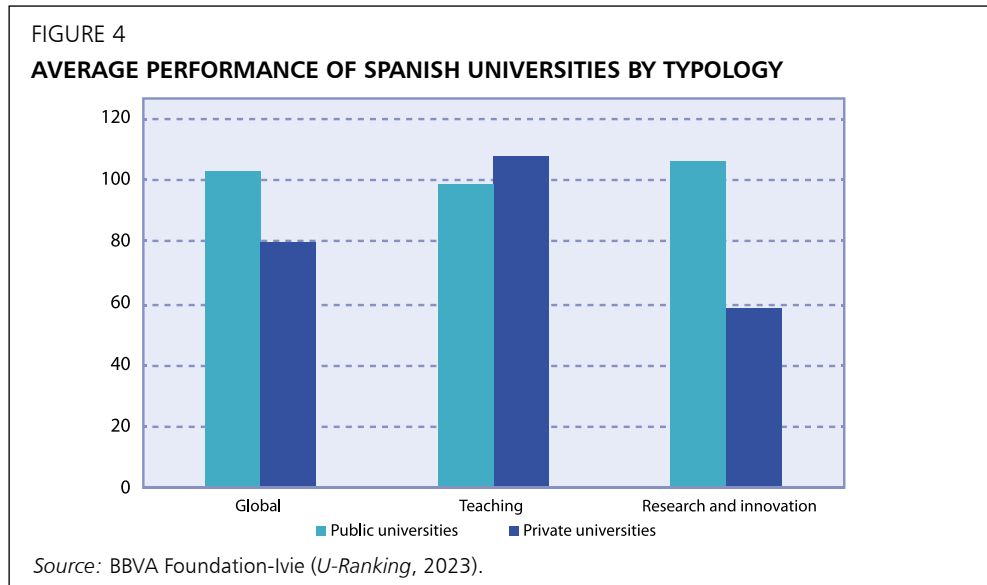
Percentage

	Public	Private
Performance Rate (2019-20)	83,6	89,7
First year dropout (New entry cohort 2017-18).	21,7	19,3
Change of studies in the first year (New entry cohort 2017-18).	8,8	6,2
Suitability rate (2016-17 cohort)	37,0	49,7
Graduation rate (2015-16 cohort)	50,6	63,4
Efficiency rate (Graduates 2019-20)	88,3	93,3
Average length of study: 4-year degrees (Graduates 2019-20)	5,0	4,6
Average grade (Graduates 2019-20)	7,24	7,39

Source: Ministry of Universities (2022). Latest available data.

the main academic indicators are better in private universities than in public ones. Students in private institutions have higher performance, lower dropout and transfer rates, higher aptitude, graduation and efficiency rates. They also take less time to complete their studies and have slightly higher grades than students in public universities.

In any case, comparing the two types of universities is complicated because private universities tend to be younger, smaller and less diversified than public universities. Specialization in degrees with more job opportunities also influences the results of the comparison, especially in the dimension related to subsequent job placement. However, if they are assessed in relation to their size and using a wide range of indicators, a fairly accurate picture of the differences between the two types of university can be drawn. The most comprehensive and rigorous comparison of the quality of Spanish higher education institutions, both in terms of the volume of information handled and the methodology used, as well as the most up-to-date view, is presented by Pérez and Aldas (2023). This information is used to provide society with a ranking of Spanish universities based on a variety of indicators, which, except in two cases, use a six-year rolling average to provide a more stable image of their assessment. The latest edition of the *U-Ranking* (Pérez and Aldas, 2023) shows that, as in previous editions, the overall rating of public universities is higher than that of private universities (see Figure 4).<sup>6</sup> In the latest study, the difference is 23 points. However, there



<sup>6</sup> The figure is constructed using the average of the system, weighted by the weight of each university, as a base of 100. In the teaching ranking, many private universities appear at the top of the ranking.

are clear differences in the various factors that make up the overall performance rating. Private universities outperform public universities in teaching (9 points higher), while public universities outperform private universities in research and innovation (48 points).<sup>7</sup> Public universities show greater heterogeneity in the ranking by volume (not adjusted for size) than by performance (adjusted for size), while private universities show the opposite effect, as they are all small in size but very uneven in quality. With regard to the breakdown of the indicator between teaching and research/innovation in both sectors (public and private universities), the greatest heterogeneity in performance occurs with regard to the research/innovation dimension. The heterogeneity is particularly high for private universities.

### 3. Public and private universities: Employability and salaries

In addition to the quality of universities, students are also interested in the opportunities provided by educational institutions to improve their employability and their prospects in the labor market. Surveys have long shown that most students go to university to improve their employability (García Montalvo, 2001). Therefore, in order to complete the analysis, it is important to analyze the employment prospects of university graduates once they have completed their studies, from the perspective of the public or private ownership of universities.<sup>8</sup>

The latest data from the social security system, referring to graduates from 2017-2018, show that graduates from private universities achieve better integration in the labor market than their counterparts from public universities: there is a higher percentage of affiliates (72.8 *versus* 60.0%), they have a higher average contribution base, which reaches 31,866 euros, exceeding by 2,975 euros the base of graduates from public universities. The percentage of self-employed is almost twice as high in the group of graduates from private universities: 11.7% compared to 6.6% for public university graduates. This difference explains, at least in part, why the share of permanent contracts is

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<sup>7</sup> In the *ranking* of universities by research the first private university is position 15.

<sup>8</sup> In the last 25 years, there has been a clear progress in the availability of information on the labor market insertion of university students beyond general labor market surveys such as the Labor Force Survey. The first specific survey, whose questionnaire is still the standard for most labor market insertion surveys in Spain, is part of the European CHEERS project (1999). The Agency for the Quality of the Catalan Higher Education System adopted a questionnaire almost identical to CHEERS and has been conducting job placement surveys every three years since 2019. In 2014, the first exploitation of social security data was published for university graduates from the 2009-2010 academic year, which continues to this day. Finally, the INE has also conducted two surveys on the insertion of university graduates: the EILU (2014), which refers to graduates of the 2009-2010 school year, and the EILU (2019), which refers to graduates of the 2013-2014 year.

higher among public university graduates (62.8% compared to 59.4%). Finally, private university graduates have a much higher rate of matching between occupation and level of study than public university graduates: 72.8% of the graduate group are employed, compared to 60% of public university graduates. The situation is similar for master's graduates. Graduates from private universities have a higher contribution base, a higher proportion of self-employed, less mismatch between education and employment and, in this case, even a higher proportion of permanent contracts.

The information provided by the social security data shows that graduates and master's degree holders from public universities achieve a much more satisfactory integration into the labor market.<sup>9</sup> However, a proper analysis of the effects of graduating from a private *versus* a public university requires a number of controls that could explain other differences beyond the ownership status of the university. For example, the most important factor in the labor market integration of university graduates is the specific degree they obtained. The employment rate for Electrical Engineering graduates is 97.5%, with 78.8% of graduates earning more than €1,500. In Art History, the employment rate is 65% and only 25.4% of graduates earn more than €1,500. Private universities have a greater specialization in degrees with higher professional opportunities, therefore this specialization may explain why private university graduates are more employable, which would have nothing to do with the type of ownership of the institution.<sup>10</sup> The higher socioeconomic level of the families or their contacts may also favor the employability of graduates from private universities.

Taking into account all the factors that can affect the employability of graduates beyond the type of university ownership, it is fitting to study the value of the type of university ownership in relation to the other factors. Therefore, for a more detailed analysis of the relative employability and job quality of graduates from public and private universities, we should use data from the INE (Spanish Statistics Institute) survey (EILU) in 2019. The population scope of the survey is university graduates and university masters graduates in the school year 2013-2014. The theoretical sample includes 42,321 university graduates and 17,624 master's graduates.

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<sup>9</sup> A great advantage of Social Security information is that it allows us to analyze the population as a whole. However, these data also have important limitations. First of all, it does not take into account graduates working abroad or those working in Spain who are not affiliated to the social security system but to a mutual insurance company.

<sup>10</sup> This explanation is mitigated by the fact that, conditional on having studied the same degree, graduates of many private universities are ranked first, as shown by the analysis of the Social Security data by degree. See the synthetic indices in Pérez and Aldas (2023).

In principle, there are a number of factors that can affect employability and job quality. In this section, we analyze three factors: the probability of having a job at the time of the survey, the probability of having a high salary, and the probability of having a job suitable for a university graduate.<sup>11</sup> Among the factors considered are socioeconomic determinants; characteristics of the university where the graduate studied, the activities undertaken during the years of study, and the degree chosen; the geographical area of residence; and the type of job search<sup>12</sup>. Finally, we developed an analysis focused on the added value that each degree contributes to the employability rate and salary at the time of the survey.

It is important to control all factors that may be correlated with the type of ownership of the higher education institution and whose absence may channel their impact through the coefficient of public or private university ownership. First, there is a perception that students who attend public universities tend to have better academic performance. The survey does not include a specific question on high school grades or university entrance exam grades, but it can be estimated by access to an excellence scholarship. Second, the cost of tuition at a private university is much higher than at a public university, so the socioeconomic level of the family is also very relevant. There is also no indicator for family income, but it is common to estimate this variable with the parents qualification level. In particular, it is traditional to use whether the mother has a university degree.<sup>13</sup> Third, it is important to control the type of degree taken, as this is the most relevant factor for the employability and quality of employment of college graduates. For example, Kirkboen *et al.* (2016) use a very detailed database of the Norwegian higher education system to analyze the effect of degree choice. These authors find that different fields of study have very different labor market returns, even conditional on the institution and the academic level of peers. The bias of private universities toward offering degrees with higher employability could confound the effect of degree with type of ownership. Fourth, the geographic factor is relevant as it is well known that there is a wide dispersion of employment and unemployment rates across regions. Finally, it is also interesting to control the method of job search, since, as noted above, one possible explanation for the better employability of graduates from private schools is their families influence to use their contacts to facilitate the job search.

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<sup>11</sup> Pérez and Aldás (2023) also analyze the probability of being employed in the same field of study. Other indicators of employability would be the time to find the first job, the probability of having a full-time permanent job, etc.

<sup>12</sup> The variables are basically the same as those used by Pérez and Aldás (2023), with the inclusion of variables that estimate the socioeconomic level of the family.

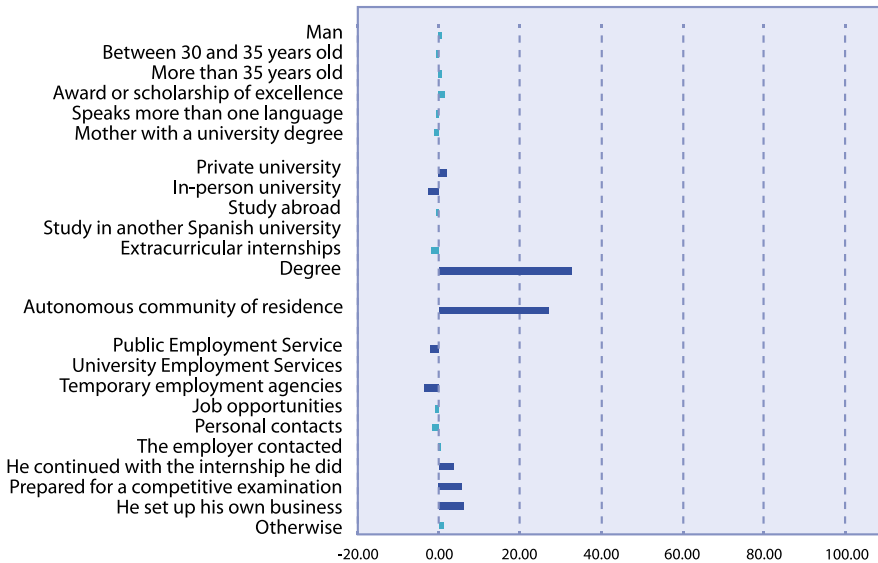
<sup>13</sup> Other definitions, such as the father having a university degree or both parents having a university degree produce the same results qualitatively.



Panels A, B and C of Figure 5 show that, among the demographic variables, only gender has a significant effect on the probability of having a salary equal to or greater than 1,500€. As expected, age also has an increasing effect on wages. Receiving a scholarship linked to academic performance has no effect on employability, but has a positive effect on net income above 1,500€ (7.8 pp) and on job aptitude (4.96 pp). Educational attainment is the most important variable in all three estimates. The range of variation in the employment rate is between 32.6 pp and 76.25 pp in the case of net income of more than 1,500€ and 52.94 pp in the case of educational attainment and occupational aptitude. Another decisive factor is the place of residence. The range of variation of the effect of this variable ranges from 27 pp for the probability of being employed to 42 pp for the probability of earning more than 1,500€ net and 12 pp for the match between educational level and job. Finally, personal contacts do not seem to be a particularly successful procedure for the employment outcome of university graduates. They have no effect on the probability of being employed or adequately trained for the job and have a negative effect (-3.5 pp) on the probability of earning more than 1,500€ net per month.

FIGURE 5

**PANEL A. DETERMINANT FACTORS FOR THE PROBABILITY OF HAVING A JOB**

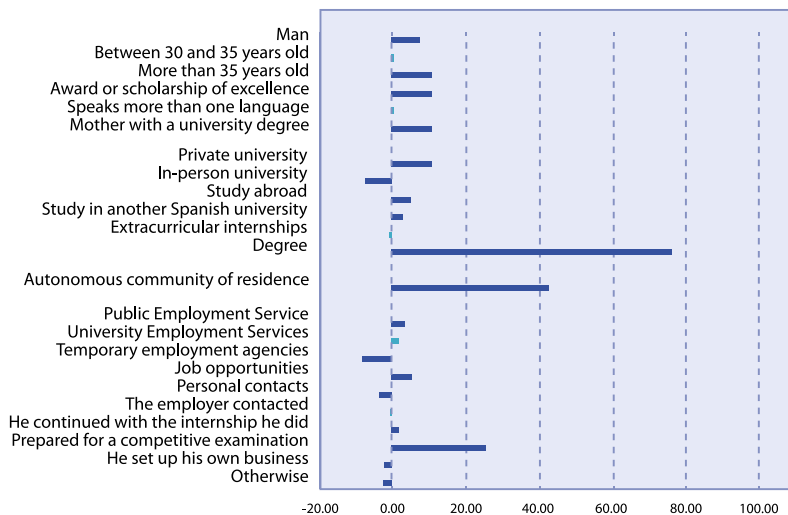


Note: Marginal effect on the probability of finding employment. The effects of variables that are statistically significant at 5 per cent are shown in dark blue.

Source: EILU (2019) and prepared by the authors.

FIGURE 5 (continued)

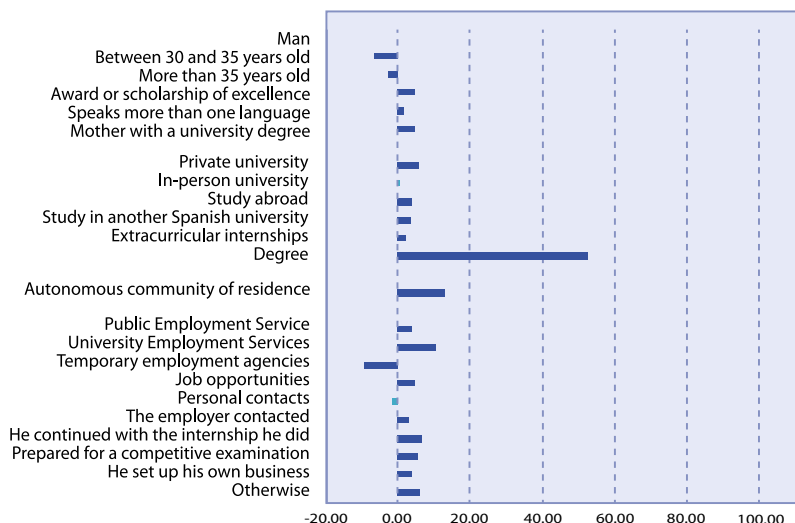
**PANEL B. DETERMINING FACTORS FOR HAVING A SALARY HIGHER THAN 1,500 EUROS**



Note: Marginal effect on the probability of earning more than €1,500 net per month. The effects of variables that are statistically significant at 5 per cent are shown in dark blue.

Source: EILU (2019) and prepared by the authors.

**PANEL C. DETERMINING FACTORS FOR HAVING A LEVEL OF EDUCATION THAT IS IN LINE WITH, OR LOWER THAN, THE POSITION REQUIRES**



Note: Marginal effect on the probability of having a job-matched educational attainment level or below. In dark blue are the effects of variables that are statistically significant at 5 per cent.

Source: EILU (2019) and prepared by the authors.

Taking all the above factors into account, having studied at a private university has a positive added value in all the dimensions analyzed. It increases the probability of being employed by 1.9% age points, the probability of earning more than 1,500€ per month by 8.2% age points, and the probability of having a job-related education by 6.1 pp.<sup>14</sup> Certainly, the effect of pursuing university studies in a public or private institution is small compared to the effect of selecting a particular field of study<sup>15</sup> although it is still relevant given that, for the same degree, private universities provide a plus in employability.

#### 4. Public and private universities: Employability and salaries by type of degree

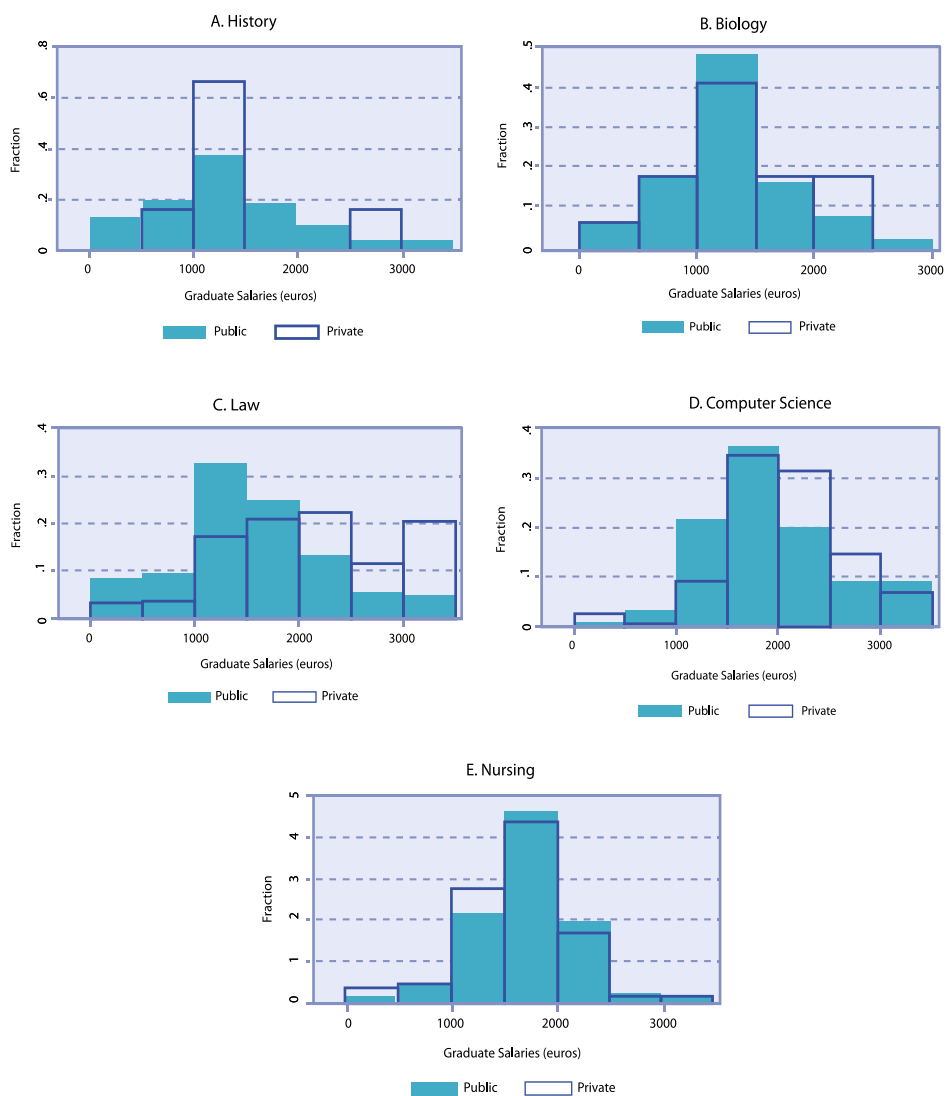
Following the evidence presented, which shows that the degree seems to be the most important factor explaining a larger percentage of the differences in labor market success, the analysis is extended to the degree level. Figure 6 shows the distribution of salaries in the degrees with the highest number of students in various fields of study by type of university ownership. This graph shows, firstly, that not all degrees have the same distribution of salaries, with History having the lowest number of graduates with high salaries and degrees such as Law and Computer Science having the highest. When the distribution is broken down between public and private universities, degrees from private universities tend to appear more at the top of the salary distribution than those from public universities. These differences may be due to several factors that are directly related to the selection of students into public and private universities, such as the income level of parents, the Autonomous Community of residence, or the method used to seek employment. To attenuate such statistical selection, we calculate the value added of each degree by public and private ownership, using the standard methodology in the literature on school or teacher value added (e.g., Chetty *et al.*, 2014). The analysis consists of calculating the fixed effects of the degree-type of ownership on labor market success, measured by employability and wages, controlling for those factors that may be directly correlated with such success, such as academic excellence, socioeconomic factors, nationality, geographic area, or type of job search.

Figure 7 shows the distribution of the value added of all degrees by field of study. The graph shows that Engineering and Architecture and Health Sciences have the highest value added in terms of employability in the labor

<sup>14</sup> It also has an additional positive effect on having a job matched to the field of study. Pérez and Aldás (2023) show that a similar model leads to improved employability, salary, and adjustment of master's graduates in private versus public universities.

<sup>15</sup> Kirkboen *et al.* (2016) shows the same result.

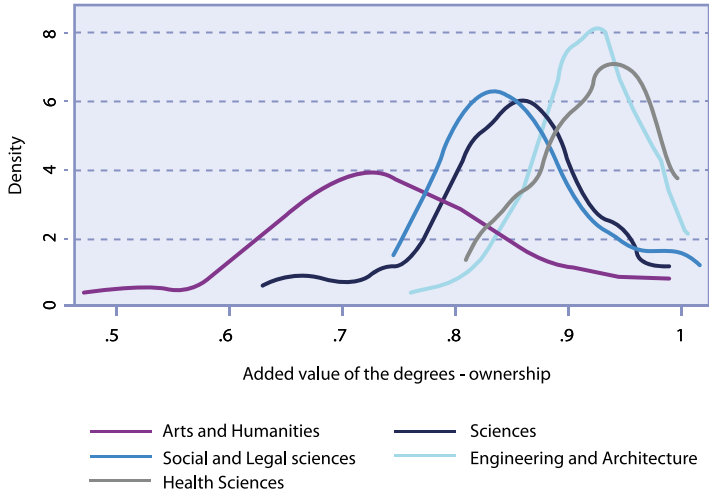
**FIGURE 6**  
**DISTRIBUTION OF SALARIES IN THE FIVE DEGREES WITH THE HIGHEST NUMBER OF STUDENTS BY FIELD OF KNOWLEDGE AND BY PUBLIC/PRIVATE UNIVERSITY**



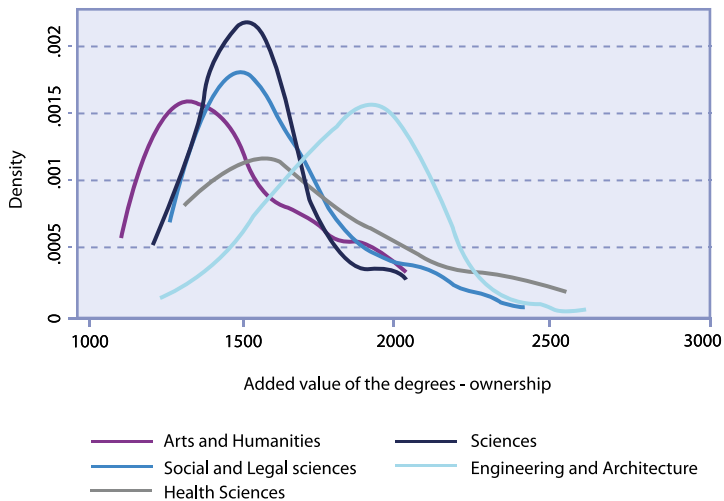
Source: EILU (2019) and prepared by the authors.

**FIGURE 7**  
**DISTRIBUTION OF THE ADDED VALUE OF THE DEGREES IN EMPLOYABILITY AND SALARIES DIVIDED BY SPECIALTY**

**PANEL A. EMPLOYABILITY**



**PANEL B. WAGES**



Source: EILU (2019) and prepared by the authors.

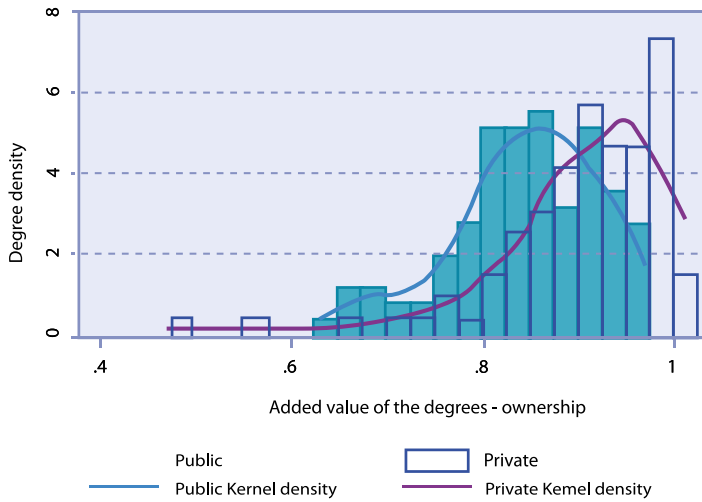
market, while Arts and Humanities are at the bottom of the distribution and also have the highest dispersion. In terms of salaries in the labor market, Engineering and Architecture are the fields with the highest added value, while Arts and Humanities are at the bottom of the distribution. The differences between fields of education are very large. For example, the difference between the median degree in Engineering and Architecture and that in Arts and Humanities is 18 percentage points in terms of employability and about 500€ net per month (6,000€ per year).

Figure 8 shows the distribution of the value added of degrees in terms of employability (panel A) and wages (panel B), broken down by public and private universities. The figure shows suggestive evidence that the distributions of degree value-added of degrees in private universities are centered around higher values of employability and wages compared to public universities. This suggestive evidence is statistically supported calculating the Kolmogorov-Smirnov test of equality of distributions, whose null hypothesis of equality of value-added distributions between public and private universities is rejected with high statistical significance. Although the value added is higher in private universities than in public universities, the mean and median differences are relatively small. On average, a degree from a private university has a higher value added than a degree from a public university by 5 points of employability and by 184€ per month (2,208€ per year). Moreover, the dispersion in the distribution of private degrees is 20% higher than that of public degrees, showing that there is greater heterogeneity in private universities. This evidence confirms the results presented in the previous paragraphs: degrees from private universities tend to provide a plus in employability and salaries compared to public ones.

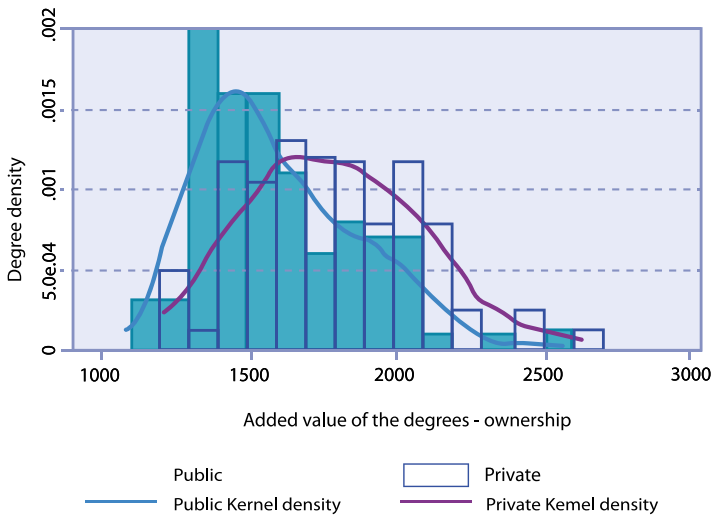
This can be explored in more detail by analyzing the heterogeneity by degree of this aggregate statistic. The first analysis to be developed is by field of specialization. In terms of employability, the Kolmogorov-Smirnov test for equality of distributions does not allow us to reject the null hypothesis of equality of distributions of value added between public and private universities for the fields of Arts and Humanities and Health Sciences. Therefore, the differences in employability between public and private universities are concentrated in the fields of Science, Social and Legal Sciences as well as Engineering and Architecture. The picture is different for salary levels. The distribution of value added between public and private universities is equal for degrees in Engineering and Architecture and Health Sciences. Therefore, the differences in salaries between public and private universities are concentrated in degrees related to the fields of Science, Social and Legal Sciences, and Arts and Humanities.

**FIGURE 8**  
**DISTRIBUTION OF THE ADDED VALUE OF THE DEGREES IN EMPLOYABILITY AND WAGES DIVIDED BY PUBLIC/PRIVATE UNIVERSITY**

**PANEL A. EMPLOYABILITY**



**PANEL B. WAGES**



Source: EILU (2019) and prepared by the authors.

The second analysis is by type of ownership at the top of the value-added distribution. In terms of employability, of the seventeen degrees in the top 10% of the distribution, all are taught in private universities. The degrees with the highest value-added in terms of employability are "Finance and Accounting", "Industrial, Chemical, and Environmental Engineering" or "Finance and Actuarial Science". In terms of salaries, of the eighteen degrees in the top 10% of the distribution, twelve are taught in private universities and six in public universities. For private universities, the degrees that add the most value to salaries are "Materials and Textile Engineering" and "Financial and Actuarial Science". For public universities, the degrees that add the most value to salaries are "Medicine," "Nautical and Maritime Transport," and "Dentistry".

The third analysis is by type of ownership at the bottom of the value-added distribution. In terms of employability, of the 17 degrees in the bottom 10% of the distribution, eleven are taught in public universities and six in private universities. The degrees that provide the least value added in terms of employability are taught in private universities and are "Philosophy" and "History". The degrees with the lowest added value for employability in public universities are "Communication" and "Conservation and Restoration". In terms of wages, of the seventeen degrees in the top 10% of the distribution, twelve are taught in public universities and five in private universities. For private universities, the degrees with the lowest added value to salaries are "Marine Sciences" and "Philosophy". For public universities, the degrees with the lowest value added to salaries are "Archaeology" and "Fine Arts".

The differences between low and high value-added degrees are very significant. The difference in salaries between the degree with the highest added value ("Materials and Textile Engineering" in private universities) and the lowest ("Archaeology" in public universities) is 1,529€ net per month (18,348€ per year). In terms of employability, the difference in employability between the degree with the highest added value ("Finance and Accounting" in private universities) and the one with the lowest ("Philosophy", also in private universities) is 53.3 pp.

## 5. Public and private universities: Discussion

What happens in other countries when private and public universities are compared? United States is the most studied country. Dale and Krueger (2002) analyze the profitability of attending more selective universities in contrast to other comparable but less selective universities. Using a regression with control variables observed by the researchers, they find that the profitability of more selective universities is higher. However, when Dale and Krueger (2002,



2014) correct admission decisions based on students' latent skills and other factors, the results show that attending a more selective college in the United States has little effect on graduates' future earnings. Chetty *et al.* (2023) use a similar methodology and find results consistent with Dale and Krueger (2002): graduates of extended Ivy League universities do not have higher earnings than those who attended a good public university. However, they are more likely to be in the top 1% of the income distribution. Chetty *et al.* (2023) find that there is no heterogeneity in the causal effect of attending an extended Ivy League college *versus* a good college in terms of parental income, SAT scores, or other characteristics of applicants for admission. In contrast, Dale and Krueger (2002, 2014) find that students from low-income families achieve higher returns at highly selective colleges, even after controlling for unobservable student characteristics. In the Spanish case, as shown in the previous figures, the internal rate of return of university education is below the OECD and EU average, but still quite high. Thus, in Spain, as in most countries, there are high private incentives for students to invest in higher education.

A paradigmatic case of very high return of education is the United States. But, are there differences between good private and public universities? Chetty *et al.* (2023) analyze the effect of admission to the best US private universities: Ivy League (Harvard, Princeton, Yale, Cornell, Columbia, Pennsylvania, Brown and Dartmouth College) plus MIT, Stanford, Duke and Chicago. These universities are attended by 0.5% of U.S. students, but their graduates occupy 11.6% of Fortune 500 CEO positions, 41% of presidents (since 1960), 71.4% of Supreme Court justices (since 1963), and 26.1% of *New York Times* and *Wall Street Journal* journalists. The authors of the study (Chetty *et al.*, 2023) compiled five large databases, including income tax returns of parents and children, scholarships and loans received, SAT/ACT scores as well as application and admissions records. The study confirms a well-known finding: attending a highly selective private college has little effect on average future earnings compared to attending a selective public college. However, students who choose and are admitted to a highly selective private college rather than a good public college are much more likely to be in the top 1% of the income distribution and to work for a prestigious company.

The most concerning part of the study is that for the same admission grade, the probability of admission for a high-income family is more than double (triple if in the top 1% of income) that of a middle- or low-income family. At the most selective public universities, the probability of admission is independent of family income. What explains this higher probability of admission for students from high-income families? 20% is due to the fact that, given the same admission grades, a higher proportion of students from high-

income families apply to these universities. Twelve percentage is explained by the higher probability of enrollment, once admitted, of students from high-income families. But the remaining 68% is explained by a higher admission rate of students from high-income families due to the use of criteria other than admission grade (being a descendant of a student, being an athlete, or having non-academic credentials such as extracurricular activities, etc.). The authors argue that eliminating these three criteria would produce socioeconomic diversity similar to the effect of racial preferences, recently challenged by the Supreme Court, on racial diversity. Moreover, since admission grades are the most important determinant of average future earnings, this change in admissions policy would have an obvious social benefit.

In a recent study, Barrios-Fernandez *et al.* (2021) combine five decades of data on parents and children in Chile with a discontinuous regression design to show that, in the long run, elite universities help talented students from modest backgrounds join the social elite and help current members of the elite maintain their positions. When low-status individuals gain admission to elite colleges, they transform the social environment of their children. Their children are 21% more likely to attend high-status private schools and 8% more likely to attend elite universities. They live near high-status peers and are more likely to befriend them. However, parental admission to an elite college does not improve children's academic performance in high school or on university entrance exams. Parental exposure to high-status peers in the social and marriage market, rather than to high-achieving peers, is a key mediator of the offspring effects. This paper shows that elite universities simultaneously strengthen the link between social capital and human capital and increase the persistence of elite social capital across generations.

## V. THE POLITICAL ECONOMICS OF UNIVERSITY PRICES

The level of tuition fees or even whether university education should be completely free is a matter of considerable political debate. Any attempt to raise tuition fees, even if it is aimed at higher-income families or at graduates with higher salaries at the end of their studies, meets with considerable public opposition in most countries. How can this opposition be explained if excessive public subsidies can have regressive effects? The aim of this section is to comment on the political economics aspects of university pricing.

The first section discussed how a shift in financing to systems of loans contingent on future earnings or taxes paid only by graduates would lead to improvements. For example, in the case of the Nordic countries, whose high level of tax-financed subsidies to the population as a whole makes it a very

regressive system, a shift to loans contingent on future wages or taxes on graduates would reduce regressiveness (it prevents graduates who do not benefit from university education from financing those who do) and provide insurance by reducing moral hazard during studies. At the opposite extreme, in countries with very high private contributions, loan restrictions may exclude good students from low-income families from higher education. Again, a system of conditional loans or graduate taxes would have clear advantages (e.g., insurance against ignorance of the impact of higher education on future earnings), although in some cases these advantages need to be balanced against the potential regressive impact of the change.

Given the evidence of efficiency and equity gains from increasing the weight of conditional loans and graduate taxes over traditional approaches (subsidies and private funding), it is difficult to understand why so few countries have moved in this direction. The exceptions are the Netherlands, Hungary, New Zealand, the United Kingdom and Australia. The latter two have introduced a system of loans linked to future earnings, along with an increase in tuition fees. Azmat and Simion (2020) show that in the case of the United Kingdom, the gradual shift from a system of tax-paid free tuition to a system of high tuition fees supplemented by income-related grants and contingent loans had no negative impact on the participation of students from disadvantaged families, with a very limited effect on degree attainment and university choice.

Murphy *et al.* (2019) shows for the case of England that the transition from a system of nearly free public universities to one with the highest prices in the world led to an increase in funding per student and an increase in enrollment, with no effect on the participation of disadvantaged students. The authors argue that, unlike in other countries, because price increases are delayed<sup>16</sup> based on the future earnings of graduates, the observed results are those expected from an ICL system. In the case of Australia, Chapman and Ryan (2005) show that the shift to the ICL system did not reduce participation in the tertiary education system in general, even among students from lower-income families.

Although empirical evidence shows that the shift to ICL systems does not lead to a decline in enrollment among the most economically disadvantaged groups of students, the political economics of university funding limits the expansion of these systems. Indeed, many political parties in some countries that have raised tuition fees in the wake of the financial crisis, with its subsequent impact on public budgets, are proposing a return to almost fully subsidized tuition. The seminal work of Fernandez and Rogerson (1995) shows

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<sup>16</sup> Students pay no tuition when they enroll and receive generous tuition assistance during their studies.

how a coalition of the middle and upper classes may prefer to keep subsidies high so that the less advantaged classes cannot access university (because of loan constraints or the opportunity cost of time devoted to studying), but pay through taxes the subsidies from which university students benefit.

Empirical evidence on the determinant factors of voters' preferences on university funding is scarce. An important element of preferences is the information available and its degree of truth. Recently Lergetporer and Woessmann (2023) show the results of representative experiments in which information on university salaries, public tuition subsidy and unequal access to university as a function of family socioeconomic status is provided to a sample of individuals in Germany. The German case is particularly interesting since the Federal Constitutional Court ruled in 2005 that the ban on tuition fees at public universities was unconstitutional. Thereafter, seven states introduced fees at their universities<sup>17</sup>. However, subsequent student protests and public opposition from some political parties ended tuition fees in these states between 2010 and 2014. Lergetporer and Woessmann (2023) show that voters are divided on the use of tuition fees, with a majority opposed. However, there is ample evidence that the public has misconceptions about many policies and providing factual information can change policy preferences. After Lergetporer and Woessmann (2023) provided respondents with information on the wages earned by college graduates *versus* vocational graduates, support for the use of tuition fees increased by 7% percentage points, enough for a majority to shift to favoring fees. However, providing information on the fiscal cost of subsidizing university education or on inequality of access to university had no effect on public preferences.

Lergetporer and Woessmann (2022), using an experimental methodology like the previous study, show that replacing tuition fees with a payment contingent on the graduate's future earnings increases support for tuition fees by 18 percentage points, to a clear majority (62%) against those opposed.

## **VI. INFORMATION, PREFERENCES AND SATISFACTION WITH UNIVERSITY FINANCING IN SPAIN**

The previous section described several surveys that attempt to describe how the information available to voters affects their preferences regarding the price of university tuition. In this section, we analyze a survey available for the Spanish case that attempts to answer the same questions, although the approach is not experimental.

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<sup>17</sup> Approximately 500 euros per semester.

The literature on access to higher education suggests that differences in tuition fees between high- and low-income families may be due to decisions that deviate from the classical economic decision-making model. There are several frictions in the university application process that distort students' choices. Factors such as lack of information about university costs, present bias, debt aversion, and the influence of default routines and options on decision making are particularly critical for low-income students, especially in complex and uncertain contexts such as the admission process and the grant and scholarship system. In such circumstances, even small changes in the way the information is presented or the options are structured can have a significant impact on the decisions these students make. These dynamics highlight the importance of designing educational interventions and policies that take into account these psychological and behavioral factors to improve equity in access to higher education.

It is therefore necessary to determine the level of information that students have about university financing and, given this, their preferences regarding the cost of tuition or the level of grant subsidy. In order to shed some light on these issues, we used a survey on perceptions of university costs conducted among students in Catalonia in February 2017. The survey consisted of 1,607 students, 57% of whom were female, with an average age of 21.4 years, and 51% of whom had a parent with some type of higher education qualification.

## 1. Information

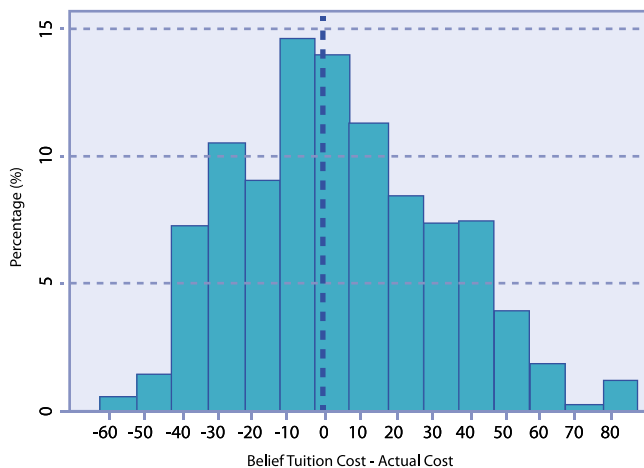
First, we analyze the discrepancy between students' beliefs about the cost of university that they finance and the reality. To do this, we use question 14 of the survey, which asks: *What percentage of the total cost of your program (the sum of what you pay as a student and what the administration pays) do you think the tuition you pay covers?* To determine the actual cost paid by the student, we use individual student data on the program in which they are enrolled and the cost they paid per credit enrolled. To this information we add the actual cost per credit for each degree, depending on the number of times they were enrolled in a subject, using the Catalan public prices for 2016-2017.<sup>18</sup> With this information, we created a variable consisting of the difference between the belief about the cost of enrollment and the actual cost we estimated. Panel A of Figure 9 shows the distribution of responses relative

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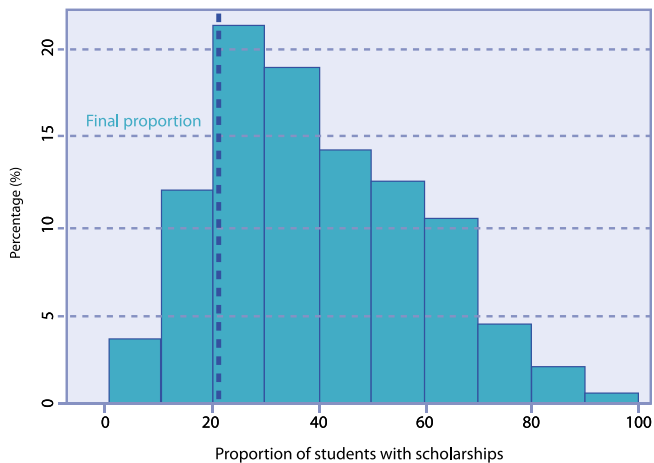
<sup>18</sup> The source is the statistics of public university prices of the Spanish Ministry for Education, Culture and Sports. Public prices in Catalonia vary according to the number of enrolments per subject (common throughout Spain), and three specialties. Specialty 1 is Engineering, Architecture and Health Sciences. Specialty 2 is Science degrees. Specialty 3 is Arts and Humanities, Social and Legal Sciences. The actual cost per credit depending on the specialty and the number of enrolments is regulated by Law 4/2012.

**FIGURE 9**  
**BELIEF OF UNIVERSITY COST FINANCED BY STUDENTS AND PROPORTION OF STUDENTS RECEIVING SOME KIND OF SCHOLARSHIP VS. ACTUAL DATA**

**PANEL A.**



**PANEL B.**



Source: Own elaboration.

to reality. The results show that only 14%, 31%, and 50% of students predict the cost of college with an error interval of 5 pp, 10 pp, and 20 pp, respectively. Thus, this graph indicates that their understanding of the actual cost of college tuition is not very accurate. This provides suggestive evidence of a significant lack of information about the cost of university.

Question 18 asks about students' understanding of the proportion of students who receive financial aid to attend university: *What proportion of university students do you think receive some kind of grant or public aid to pay for their university studies in Catalonia?* Panel B in Figure 9 shows the distribution of answers. On average, students think that 36% of university students receive some type of aid or grant, while the proportion in Catalonia provided by the Ministry of Education for 2016-2017 is 21%.<sup>19</sup> The results show that only 27%, 49%, and 69% of students predict the proportion of students with scholarships with an error interval of 5 pp, 10 pp, and 20 pp. Although these results are not directly comparable to those in Panel A, these results seem to indicate that the information students have about the proportion of students with scholarships is not very accurate, but is slightly higher than their understanding of tuition fees.

## 2. Preferences

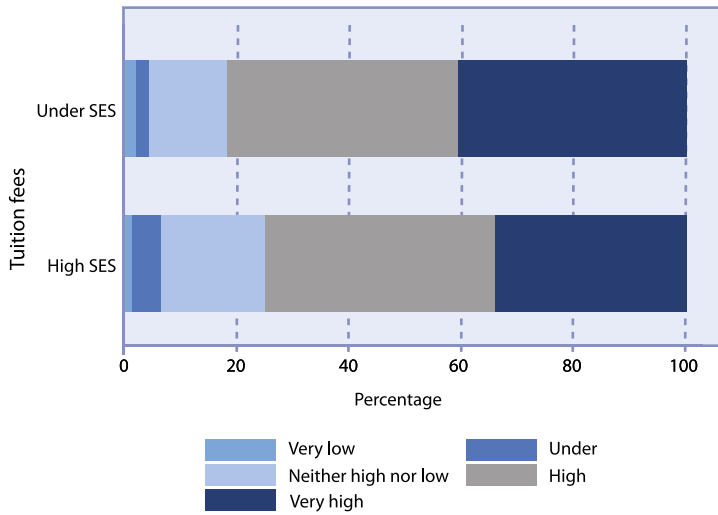
The first question on preferences analyzed is the subjective assessment of the price of tuition. Question 13 provides information about how expensive is the cost of tuition by asking students: *What do you think about the price you have to pay to study at this university?* Students can answer on a scale of 1 to 5, where 1 is "very high" and 5 is "very low". Panels A and B of Figure 10 show the distribution of responses by the socioeconomic level of the student (High SES refers to when at least one of the student's parents has some type of higher education, and Low SES represents the rest) and whether or not they applied for a scholarship in the school year.<sup>20</sup> The graph shows that the vast majority, 77% of students, find the price of tuition "High" or "Very High." A minority of 5.5% of students find the price of tuition "Low" or "Very Low". Students of lower socioeconomic status seem to have a slightly greater tendency to have high scores, although no major differences are observed even when the sample is divided into students who applied for a scholarship and those who did not.

<sup>19</sup> Ministry of Universities (2019). Facts and figures of the Spanish university system 2018/19 ([https://www.universidades.gob.es/wp-content/uploads/2022/10/Datos\\_y\\_Cifras\\_2018-2019.pdf](https://www.universidades.gob.es/wp-content/uploads/2022/10/Datos_y_Cifras_2018-2019.pdf)).

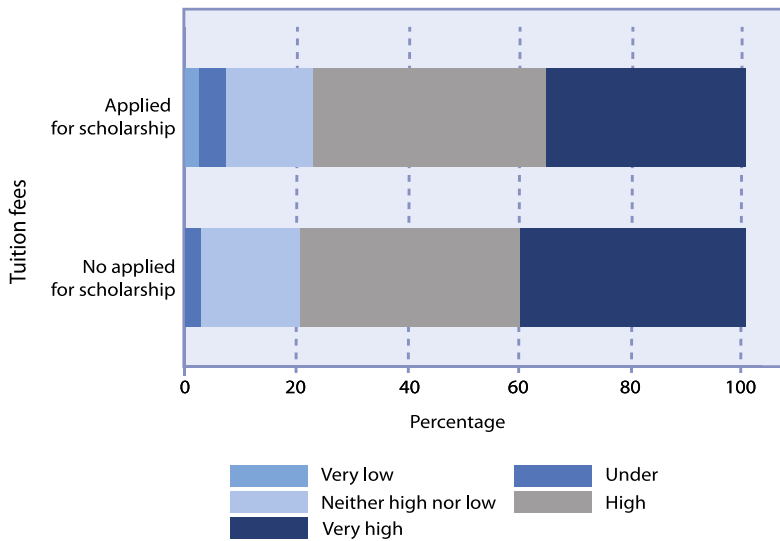
<sup>20</sup> This variable is calculated using Question 11 which reads *Have you received/applied for any scholarship or aid this school year.* If the answer is "yes", the student is in the category of *Applied for Scholarship*, and if the answer is "no" in *Did not Apply for Scholarship*.

**FIGURE 10**  
**OPINION ON THE PRICE OF UNIVERSITY TUITION FEES**

**PANEL A**



**PANEL B**



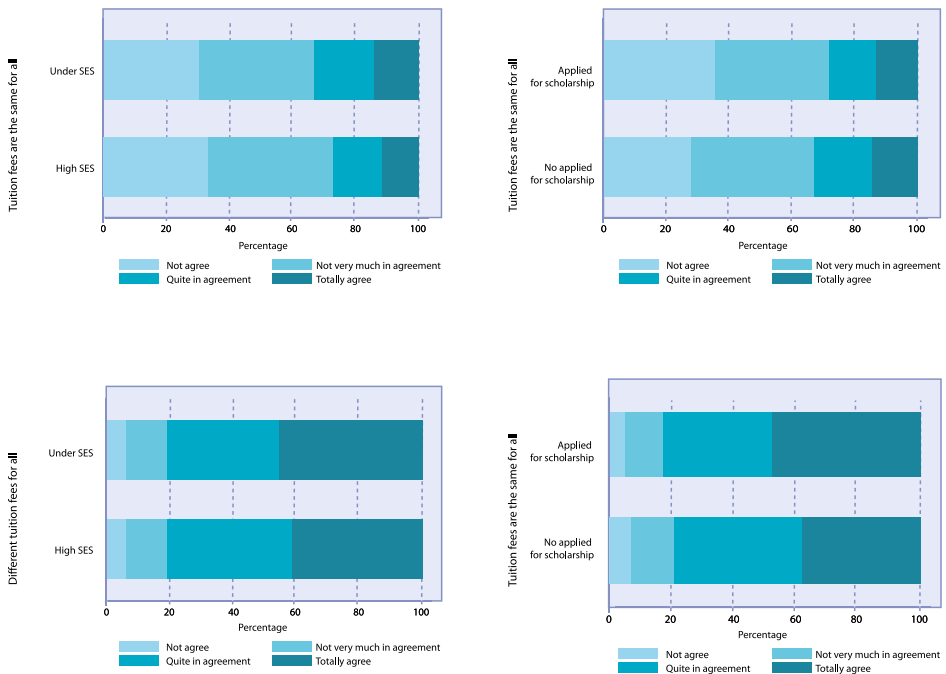
Source: Own elaboration.



The second question on preferences analyzed is the preference for the design of public university prices. Question 15, which is divided into two parts, provides information on students' preferences regarding how university costs should be distributed among students. Question 15, "The price of university tuition should be", where students must answer two questions: A) the same for all students; B) different according to the income of each family or student. Students can answer from 1 to 4, where 1 represents the subjective value "strongly agree" and 5 "strongly disagree". Panels A, B, C, and D of Figure 11 show the distribution of responses by student socioeconomic level and whether or not they applied for a scholarship this school year. The results show strong support for a system of public prices in which an important distinction is made by income and not all students bear the same costs. Seventy percentage of students "strongly disagree" or

FIGURE 11

**PREFERENCES REGARDING THE PRICE OF UNIVERSITY TUITION: EQUAL OR DIFFERENT ACCORDING TO STUDENT'S INCOME**

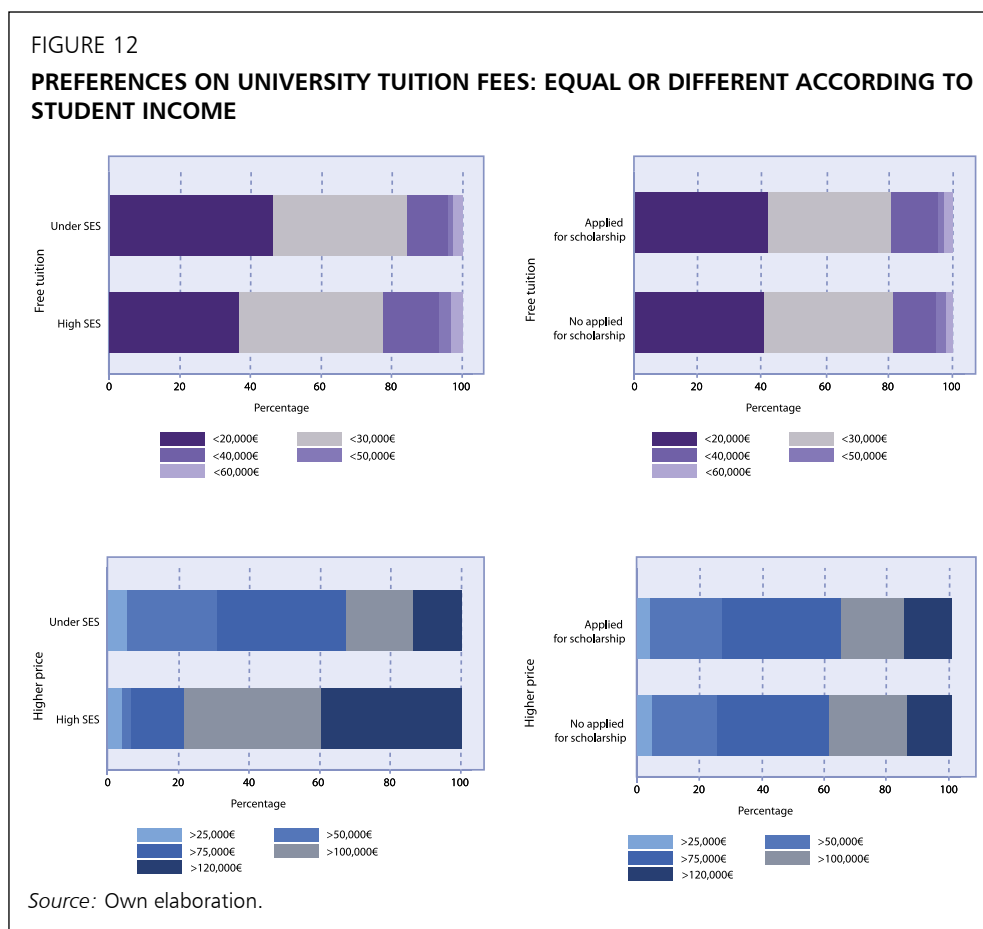


Source: Own elaboration.

“somewhat disagree” with a pricing system that is equal for all, with slightly higher values for students of high socioeconomic status and those who apply for scholarships. Eighty % of students “strongly agree” or “agree” with a system of public prices that varies according to the income of each family or student. These results indicate clear student support for a more progressive system of financing tuition.

The third question on preferences that was analyzed is the preference on which level of family income should be considered as the threshold to be eligible for full tuition subsidy and above what income the family should pay the higher tuition fees.

Question 16 asks students, “At what annual family income, for example, do you think tuition should be free for a family of 4? Students can answer from



1 to 5, where 1 means “< €20,000” and 5 means “< €60,000”. In 2016/17, the threshold for obtaining free tuition by applying to the National General Scholarship Program was €38,831 for a family of 4 members. Panels A and B of Figure 12 show that this threshold is supported by 95% of the students surveyed, who set free tuition at €40,000. However, the majority of students are stricter when it comes to a general subsidy. 80% of the students surveyed are in favor of a full tuition subsidy if the family income is less than 30,000 euros per year for a family of four, and 42% if the family income is less than 20,000 euros per year. These figures are higher for students of low socioeconomic status, and virtually identical for students who apply for a scholarship and those who do not. This 40,000 euros corresponds approximately to the average income distribution in four-member households (from Spain, 2017).

Question 17 asks students: *For the same family of 4 members, from what annual income do you think full tuition fees should be paid?* Students can answer from 1 to 5, where 1 is “> €25,000” and 5 is “< €125,000”. Panels C and D of Figure 12 show that 73% of the students think that the highest fees should be paid starting at €75,000 per year. This value is slightly lower for students of low socioeconomic status and identical for students who apply for scholarships and those who do not. This €75,000 corresponds to about 10% of the income distribution of the highest income households in Spain (from Spain, 2017).

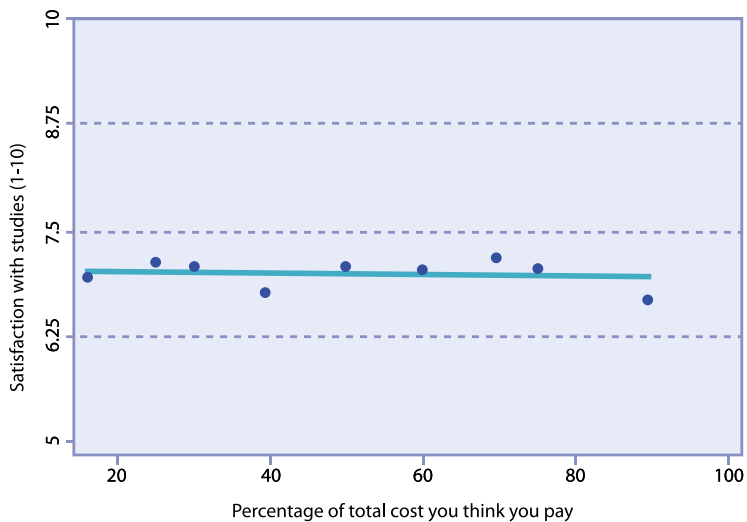
### 3. Satisfaction

Question 8 allows us to inquire about students’ satisfaction with their studies. This question asks students *How satisfied are you with your studies? On a scale of 0 to 10, where 0 is completely dissatisfied and 10 is completely satisfied.* The majority of students show a relatively high level of satisfaction with their studies, scoring 7 out of 10. There are no significant differences between students of different socio-economic levels or between students who apply for scholarships. In addition, Panels A and B of Figure 13 show that there is no direct relationship between what students believe is subsidized tuition and satisfaction, and a positive correlation between student satisfaction and their beliefs about scholarship coverage. However, both what students believe is subsidized tuition and their beliefs about scholarship coverage appear to be directly related to their subjective assessment of the price of tuition. Panels C and D of Figure 13 show that the larger the percentage of the total cost that students believe is subsidized, the more likely they are to rate the price of tuition as higher (see Panel C). However, the more scholarship coverage students believe they have, the less likely they are to rate the price of tuition as high (see Panel D).

FIGURE 13

**SATISFACTION WITH UNIVERSITY STUDIES VS. BELIEFS ABOUT UNIVERSITY COST AND SCHOLARSHIP COVERAGE**

**PANEL A. SATISFACTION AND BELIEFS ABOUT COST**



**PANEL B. SATISFACTION AND SCHOLARSHIP COVERAGE**

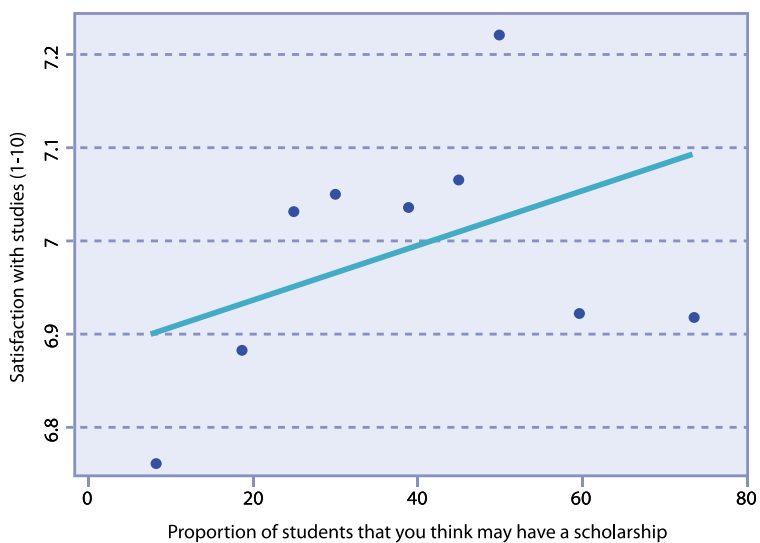
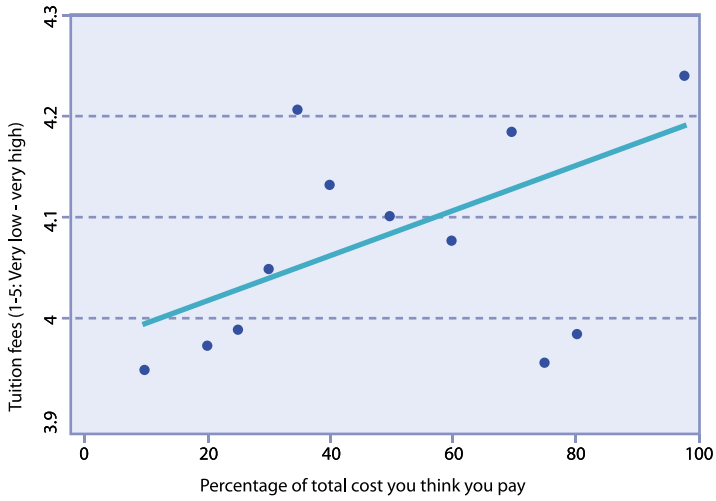


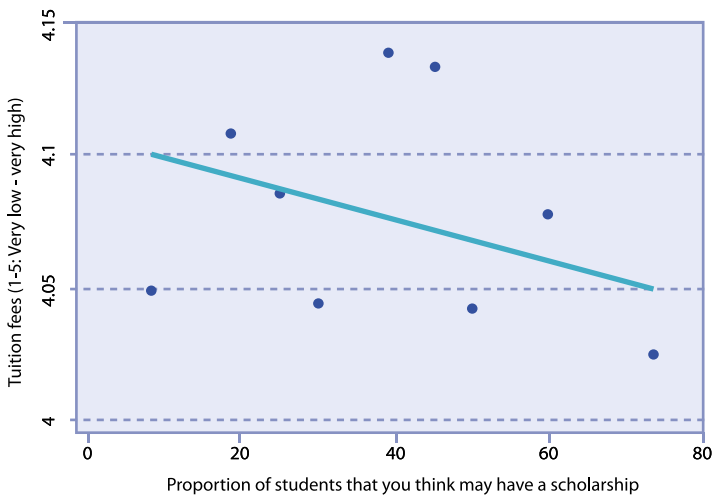
FIGURE 13 (continued)

**SATISFACTION WITH UNIVERSITY STUDIES VS. BELIEFS ABOUT UNIVERSITY COST AND SCHOLARSHIP COVERAGE**

**PANEL C. TUITION PRICE AND BELIEFS ABOUT COST**



**PANEL D. TUITION PRICE AND SCHOLARSHIP COVERAGE**



Source: Own elaboration.

## VII. CONCLUSIONS

The participation of private funding in university prices is a subject of great political debate. The financing of public universities can take four forms: financing through taxes on the population as a whole; through taxes only on taxpayers who have obtained a university degree; through public or private loans; or through loans conditional on the income of graduates. From a theoretical perspective, loans based on graduates' income are generally the most efficient and equitable mechanism.

However, the political economics of university financing in many countries continues to favor regressive systems that use taxes collected from the middle and lower middle classes to finance the studies of young people from families with higher socioeconomic levels, who are the ones who make the most use of public university services. In other countries, the widespread use of unconditional loans for access to higher education hinders equal opportunities in access to university education.

In the case of Spain, real funding for public universities has decreased significantly in recent years. Between 2010 and 2020 (the last year for which homogeneous data are available), the implementation of the expenditure budget has fallen by 8.8% in real terms. In fact, revenues from current and capital transfers have been virtually identical, despite inflation of 13% between the two periods. Faced with the lack of funds, instead of reducing the huge subsidies received by students from high-income families attending public universities (about 7,000 euros per student per year), it was decided in 2020 that public university prices would be reduced by 30% as of 2022. This limitation of budgets affects, but not only, the capacity of public universities to face the new competitors that are appearing in the Spanish university system: private universities.

It is true that in Spain, unlike other countries, there has always been a perception that public universities are generally better than private universities. However, this perception seems to be changing. Private universities have higher performance rates than public universities and the integration of their graduates in the labor market is more successful, both in terms of employability and in terms of salaries and suitability for the job obtained. In some fields, such as business administration or finance, private universities are highly recognized.

To provide public universities with the necessary tools to compete with private universities, it is necessary to: i) increase funding in an efficient and

equitable manner; ii) implement a package of measures that provide greater flexibility, better incentives and accountability.

Regarding financing, the public university students in the survey described in this paper show a low level of awareness about the cost of university studies and about which part is privately financed. However, they show a clear preference for tuition fees to increase with the income level, as opposed to the current situation. Therefore, increasing private financing by making public university prices rise as income levels increase and covering the full cost for students from high-income families would potentially be politically feasible. In a context where the tax system is criticized of being unprogressive, this policy would increase the overall progressiveness of the system. In addition, this mechanism would make it possible to directly fund more salary scholarships for students from low-income families, whose main barrier to attending university is not the price of tuition, but the opportunity cost of the time they devote to their studies.

As for the package of measures, the ideal solution would be something inspired in the Obama plan mentioned in the introduction. That is, funding public universities based on their results, providing transparent information about the results of each school, encouraging innovation, eliminating unnecessary bureaucracy and regulation, and holding students accountable for their academic results if they receive public funds. In short, encourage a race to the top among public universities by promoting greater autonomy for them.

In a context where most students go to university to improve their employability and future salaries, the progress made by private institutions in terms of the employability of their graduates will give them an increasing capacity to attract students. Under these circumstances, it will be difficult for private institutions not to have sufficient incentives to adapt to more restrictive regulatory conditions. In fact, there is already a trend toward hiring faculty with research potential. In addition, many companies are also becoming competitors of universities by organizing degrees adapted to the needs of the productive system. Therefore, if Spanish public universities do not receive sufficient funding to attract the best teachers and researchers, and if the prevailing lack of flexibility, bureaucratization and uniformity continue, the future could be very different from the past. The best students will want to go to the best universities, which will generally be the private ones, resulting in a growing segregation between private universities, where students from families with more resources or better grades (scholarship holders) will go, and students from families with few resources will go to public universities, which are free and of lower quality.

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