



The Expenditures on Higher Education in Times of Crisis. Analysis of the Behavior of the Family Investment According to Social Class in the European Union

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Abstract This paper begins with the observation of secondary data on investment and education in the context of the European Union member states and in the period of the years considered part of the economic crisis. The analysis provides evidence of the change in the purchasing power in the countries of the European Union on levels of expenditure in education, both public and private and, more specifically, on the behavior of private expenditure in tertiary education in order to examine if there is an educational class strategy to the economic crisis. This also leads us to point out some considerations on policies in education in terms of social equity.

Keywords: *public expenditure, private expenditure, tertiary education, social class, economic crisis*

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1. Introduction

In 2007, subprime loans fueled a powerful financial crisis, which became clear with the bankruptcy of Lehman Brothers in September 2008. This crisis has had serious economic and social consequences in many of the 28 member states that form the European Union. The economic situation became particularly serious in Greece, Ireland, Portugal and Spain, whose governments had to resort to bailouts sponsored by financial and European institutions like the International Monetary Fund, the European Central Bank and the European Commission. In general, much of the 500 million inhabitants of the European Union felt the effects of the economic crisis, sometimes with great drama, or the shadow of its threat.

This financial crisis is having a significant impact on education systems in Europe, especially in countries where it generally had a greater impact and where the known as austerity policies have been implemented, such as the Portuguese or Spanish cases. Austerity with standardization and digitization are the three political trends that are taking place in the European area of education [9]. The analysis of public and private expenditures on education allows us to know to where the educational system evolves and they are key indicators to explore trends in educational policy.

As known, the educational investment has two components: public education funding, which comes from the state budget and private educational funding, which is provided by the families. Several studies have linked private educational investment with schooling in certain schools from an educational market perspective and where

the criteria associated with social class outweigh the idea of a supposed freedom of choice scenario [1,2,13,14,16,17]. The link between educational investment and the perpetuation of class differences in the sense that the higher social classes have a higher participation in the educational private spending is a fruitful research field from disciplines such as sociology, economics or pedagogy, so, for the Spanish case, authors like Carabaña [6,7], Bonal [3], Fernandez Enguita [8], Calero et al. [5] or Rogero-Garcia & Andrés-Candelas [15] and in the case of Catalonia, Martinez Celorrio & Marin Saldo [6,7], have differently approached and treated the relationship between educational investment and social class strategies, although these are not unambiguously defined. However, it is difficult to make a determination of social classes that goes beyond objective criteria such as income level or ability of income or wealth because it is known that the empirical construction of social class is a long-term matter in sociology. In this sense, the known and used classification of Erikson, Goldthorpe and Portocarero, inspired by Weber's contribution was revised in more recent proposals such as the intergenerational class process. This proposal allows us to observe the evolution of intergenerational mobility and classing trajectories, an option that has been applied in works about crisis and educational trajectories [12].

Investment in certain assets not considered as basic needs (food, housing, etc.) provides us with information on consumption and adoption of strategies of social distinction, in the sense of classic works [4] or more recent research on distinction and reproduction of social inequalities mechanisms [10,18], and even more in times of economic crisis where an intensification of social polarization occurs. Thus, private expenditure on

education can behave as a good social distinction, as we have discussed in previous works referred to the Spanish context [19], since an increase in the percentage of participation of family expenditure occurs as it is increased in the income level structure.

In this work we present an analysis to the context of the European Union countries, since studies that exceed the scope of a state are rare and even fewer the ones that consider the evolution of private investment in the context of the recent crisis. The European Union has an advanced statistical system that can be used to assess the objectives periodically established by the EU institutions: the European Commission, the European Council and the European Parliament. The Statistical Agency (Eurostat) provides lots of data. The data used in our work come from these statistical sources in order to study the behavior of the educational investment made by families according to social classes to determine if there is a class strategy to the economic crisis. This leads us to pose some considerations on policies in education in terms of social equity.

2. Methods

Observing the extent of the economic crisis and its impact on the purchasing power of European households as well as the volume and composition of private expenditure in education leads us to propose an analysis to determine the degree of association between private investment and public investment in education guiding this analysis around the following research question: families with greater purchasing power of European states with a higher impact of the economic crisis, as is the case of Spain, have followed a behavior that could glimpse a class educational strategy?

To answer this question, we considered the data sources that Eurostat offers us, as the Household Budget Survey, drawn from national surveys mainly focusing on consumption expenditure and other indicators such as the Purchasing Power Standard, Public Expenditure on Education, Private Expenditure on Education and Mean Consumption Expenditure on Education.

The Purchasing Power Standard, abbreviated PPS, is an artificial currency unit. Theoretically, one PPS can buy the same amount of goods and services in each country. However, price differences across borders mean different amounts of national currency units are needed for the same goods and services depending on the country. PPS are derived by dividing any economic aggregate of a country in national currency by its respective purchasing power parities. PPS is the technical term used by Eurostat for the common currency in which national accounts aggregates are expressed when adjusted for price level expats using PPPs. Thus, PPPs can be interpreted as the exchange rate of the PPS against the euro.

The Household Budget Survey usually has a sample of about 4,000 people, on average, although there are important differences in sizes depending on the States. The data used for our work on Structure of Consumption Expenditure by Income Quintile refer to the years 2005 and 2010, since the survey is conducted every 5 years and, therefore, it is the closest period to the period of crisis.

In the other indicators mentioned the scope of the economic crisis has been limited to the period from 2008 (when the financial crisis broke out) to 2011 (the latest year with complete series provided by Eurostat).

3. Results

Since the outbreak of the economic crisis an intensification of inequality has taken place in Europe, especially in southern Europe. This can be seen, among other indicators, through the evolution of the purchasing power of the people. Between 2008 and 2011 (Table 1), there was a decrease in the purchasing power in Ireland, Greece, Spain, Croatia, Italy, Cyprus, Netherlands, Portugal, Slovenia, Finland and the United Kingdom. The decline affected countries both with purchasing power above average as Finland, Italy and the United Kingdom, and countries below average as Greece, Croatia and Portugal. The case is that Spain and Cyprus in 2008 were above the average and in 2011 they were below it.

Table 1. Purchasing Power Standard per inhabitant in percentage of the EU average

	2008	2011
European Union	100	100
Belgium	116	120
Bulgaria	44	47
Czech Republic	81	81
Denmark	125	126
Germany	116	123
Estonia	69	69
Ireland	132	129
Greece	93	80
Spain	104	96
France	107	109
Croatia	63	61
Italy	104	102
Cyprus	100	94
Latvia	59	60
Lithuania	64	68
Luxembourg	264	266
Hungary	64	67
Malta	81	86
Netherlands	134	129
Austria	125	129
Poland	56	65
Portugal	78	77
Romania	47	49
Slovenia	91	84
Slovakia	73	75
Finland	119	116
Sweden	124	125
United Kingdom	114	105

Source: Eurostat.

This overview of inequality between European countries is an inevitable scenario in the study of the behavior of educational investment. As already mentioned, we must distinguish between public educational investment that comes from the state budget and private educational investment that is provided by families. In the case of public education investment compared to the Gross Domestic Product (GDP), the heterogeneous scenario in the EU is shown (Table 2): an average of

5.25% and 3.07% (Romania) as the lowest value and 8.75% (Denmark) as the highest one.

Table 2. Private expenditure on education % of GDP

	2008	2011
European Union (28 countries)	0,73	0,74
Belgium	0,37	0,32
Bulgaria	0,56	0,65
Czech Republic	0,55	0,59
Denmark	0,55	0,43
Germany	0,7	0,69
Estonia	0,3	0,33
Ireland	0,34	0,47
Greece	:	:
Spain	0,66	0,85
France	0,6	0,65
Croatia	0,36	0,4
Italy	0,41	0,49
Cyprus	1,36	1,70
Latvia	0,6	0,62
Lithuania	0,51	0,65
Luxembourg	:	:
Hungary	:	:
Malta	0,3	1,27
Netherlands	0,94	1,09
Austria	0,5	0,51
Poland	0,74	0,70
Portugal	0,49	0,40
Romania	:	0,11
Slovenia	0,63	0,67
Slovakia	0,7	0,62
Finland	0,15	0,15
Sweden	0,17	0,17
United Kingdom	1,7	1,57

Source: Eurostat.

In the case of private educational investment the European average (Table 3) was around 0.74%, although the percentages ranged from a minimum of 0.11% (Romania) and a maximum of 1.70% (Cyprus). This significant heterogeneity glimpse different models of educational funding.

As we have shown in another study referred to the Spanish case [19], the distribution of household budgets in response to its various sections follows a familiar pattern. Those sections such as buying food, paying for housing, food or home maintenance costs follow a decreasing pattern: a higher income level represents a smaller percentage in the family budget. On the other hand, consumer goods linked to social distinction like, for example, spending on hotels, restaurants or home furnishings, have a growing pattern: their percentage of the family budget is higher as income levels rise. Educational expenses are aligned with the second pattern.

With the above data, we can establish the relationship between public and private investment. The public expenditure on education and private expenditure on education ratio was about 7:1 in the whole European Union (2011 data), although large differences were present in the observation by countries. For example, the proportion in Finland was 45:1 and in Sweden it was 40:1, while in the United Kingdom it was about 4:1, in Cyprus it approached 5:1 and in Bulgaria, Spain and Netherlands it was nearly 6:1.

Considering the data of the period 2008-2011 and discarding those countries whose data were incomplete, as well as Malta and the United Kingdom because they disagreed with the general trend, the remaining 22 States had a correlation coefficient of -0.53 in the case of the correlation between purchasing power and private investment in education and of -0.21 in the case of purchasing power and public investment in education. So, in those countries where there was a decline in the purchasing power a higher private expenditure on education was noted and vice versa, which could be explained by two reasons: a) the need of the families to supply an eventual decline in public expenditure on education and b) the eventual strategy to counter the effects of the crisis through an increased investment in education.

Table 3. Public expenditure on education % of GDP

	2008	2011
European Union	5,04	5,25
Belgium	6,43	6,55
Bulgaria	4,44	3,82
Czech Republic	3,92	4,51
Denmark	7,68	8,75
Germany	4,57	4,98
Estonia	5,61	5,16
Ireland	5,67	6,15
Greece	:	:
Spain	4,62	4,82
France	5,62	5,68
Croatia	4,32	4,21
Italy	4,56	4,29
Cyprus	7,45	7,87
Latvia	5,71	4,96
Lithuania	4,88	5,17
Luxembourg	:	:
Hungary	5,1	4,71
Malta	5,72	7,96
Netherlands	5,5	5,93
Austria	5,47	5,8
Poland	5,08	4,94
Portugal	4,89	5,27
Romania	:	3,07
Slovenia	5,2	5,68
Slovakia	3,61	4,06
Finland	6,1	6,76
Sweden	6,76	6,82
United Kingdom	5,28	5,98

Source: Eurostat.

But the first reason, namely the need of the families to supply an eventual decline in public expenditure on education, would have to reflect on a high degree of association and of opposite sign between a variable and the other, which was not the case. Using the same number of countries the correlation coefficient between the two series, considering the latest data, was very low and positive, with a value of 0.10. Therefore, one could argue that the data point to a possible class strategy to counter the effects of the crisis.

On the observation of the data of private investment in education according to education levels (Table 4) it was noted that the 10 states with the lowest mean consumption expenditure on education, below 118 PPS, were Scandinavian countries and former socialist republics. Other countries with these characteristics in addition to France, Belgium, Luxembourg and Denmark were in the range 143-205 PPS. With figures close to the European average countries of Central Europe (Germany, Austria) and with larger amounts (more than 500 PPS) the countries of southern Europe and those most affected by the economic crisis.

Table 4. Mean Consumption Expenditure on Education (in PPS) and educational levels (%)

	M	P	S	PS	T	ND
European Union	267	16	18	3	41	22
Belgium	147	0	0	0	0	100
Bulgaria	31	6	3	3	59	28
Czech Republic	94	15	11	1	34	39
Denmark	169	0	76	0	1	24
Germany	236	0	0	0	0	100
Estonia	116	1	2	3	61	34
Ireland	660	8	20	2	54	16
Greece	847	26	49	6	6	12
Spain	321	27	16	0	37	21
France	143	8	24	0	49	19
Croatia	118	21	8	0	56	15
Italy	218	0	0	0	92	8
Cyprus	1.522	19	32	1	45	3
Latvia	191	28	2	0	65	5
Lithuania	68	35	6	0	37	22
Luxembourg	158	20	16	5	36	23
Hungary	99	20	14	4	43	19
Malta	461	24	27	12	17	21
Netherlands	340	0	0	0	0	100
Austria	318	14	5	11	8	62
Poland	180	37	8	1	36	17
Portugal	505	39	10	0	41	11
Romania	54	19	0	9	63	9
Slovenia	205	53	3	33	0	11
Slovakia	55	25	15	0	27	33
Finland	45	0	13	0	13	74
Sweden	6	0	0	100	0	0
United Kingdom	564	13	24	7	49	7

Source: Eurostat.

Thus, most of the families educational investment headed for college (41% of the total). Primary and secondary education accounted for approximately one third of the investment, not definable levels of education 22% and post-secondary non-tertiary education 3%. However, we found a lot of variability in the European Union. Some states, such as Belgium, Denmark, Germany, Netherlands, Finland and Sweden had very low levels in regulated family investments.

In order to know the educational private investment in tertiary education its distribution by income quintiles (Table 5.1 and Table 5.2) was taken into account. Thus, we can make comparisons between the 28 EU states, since it is a set of countries where there is a high heterogeneity in the income and wealth of its inhabitants.

Table 5.1. Structure of consumption expenditure by income quintile. Tertiary education (1 000). Q1-Q3

	1Q	1Q	2Q	2Q	3Q	3Q
	2005	2010	2005	2010	2005	2010
European Union (28)	:	6	:	6	:	8
European Union (27)	7	6	7	6	8	8
Belgium	3	0	4	2	7	3
Bulgaria	1	1	1	0	3	2
Czech Republic	8	1	5	3	4	4
Denmark	5	4	5	3	4	3
Germany	9	5	9	6	9	7
Estonia	9	1	11	5	6	10
Ireland	20	15	12	14	18	16
Greece	19	15	22	14	23	22
Spain	5	4	9	6	9	7
France	6	9	5	2	6	3
Croatia	4	1	4	4	5	4
Italy	2	:	4	:	6	:
Cyprus	16	6	31	20	38	33
Latvia	9	5	11	8	11	12
Lithuania	5	4	5	3	11	3
Luxembourg	2	:	3	:	3	:
Hungary	6	4	6	4	9	6
Malta	2	5	7	10	13	16
Netherlands	16	14	8	6	9	5
Austria	9	6	10	9	9	8
Poland	3	3	4	5	8	7
Portugal	3	7	6	12	9	15
Romania	2	1	5	1	6	4
Slovenia	2	2	5	3	7	6
Slovakia	6	1	7	2	7	3
Finland	3	2	1	2	2	2
Sweden	1	1	1	0	0	0
United Kingdom	12	12	9	13	8	18

Source: Eurostat.

Table 5.2. Structure of consumption expenditure by income quintile. Tertiary education (1 000). Q4-Q5

	4Q	4Q	5Q	5Q
	2005	2010	2005	2010
European Union (28)	:	10	:	17
European Union (27)	10	10	12	17
Belgium	5	5	4	8
Bulgaria	4	3	9	6
Czech Republic	5	7	5	12
Denmark	5	7	3	9
Germany	8	9	7	10
Estonia	16	11	17	16
Ireland	20	18	21	27
Greece	27	29	24	39
Spain	13	9	15	17
France	6	4	6	7
Croatia	7	7	8	11
Italy	8	:	9	:
Cyprus	40	43	50	40
Latvia	18	15	15	26
Lithuania	11	7	15	4
Luxembourg	3	:	7	:
Hungary	9	7	10	10
Malta	15	21	16	23
Netherlands	11	11	9	16
Austria	6	9	7	13
Poland	12	13	22	19
Portugal	15	20	29	33
Romania	7	5	14	9
Slovenia	10	11	12	12
Slovakia	7	5	11	5
Finland	2	1	2	2
Sweden	0	0	0	0
United Kingdom	12	17	22	39

Source: Eurostat.

Thus, investment in tertiary education shows a clear pattern of behavior: in those countries where between 2008 and 2011 there was a decrease in the purchasing power (Table 1), i.e. the cases of Ireland, Greece, Spain, Croatia, Italy, Cyprus, Netherlands, Portugal, Slovenia, Finland and United Kingdom, it was observed that the inner classes (income levels corresponding to quintiles 1 and 2) reduced their investment, while the upper class (income level corresponding to top quintile) increased it. This standard (decrease in lower classes, increase in upper class) was met and exceeded in Ireland, Greece, Spain, Croatia and the Netherlands. In the cases of Portugal and the United Kingdom an increased investment in the highest quintile was also recorded. In the case of Cyprus and Slovenia, the general rule stated in most quintiles was fulfilled. In the case of Italy there was not sufficient data (as can be seen in Table 5.1 and 5.2) and in Finland these results occur because the family investment is minimal (see Table 4).

4. Discussion

Our work faces several limitations to the data sources used. On the one hand, the statistics for the European Union area do not allow a characterization of social classes beyond income quintiles and, besides, the data on investment in tertiary education do not allow to distinguish between degree, master or doctorate levels, nor the type of tertiary schools.

Moreover, the known work of Piketty on capitalism in this century would pose two limitations to our method. On the one hand, the study of social differences can refer to income differences or wealth differences, which are maximized by the income ones. However, no Eurostat data are available to disaggregate private educational investment according to equity levels, so we have to settle with income levels. Second, Piketty has convincingly drawn attention to the phenomenon of mega-rich people, i.e. those who in the decile or higher percentile, even in lower percentiles, accumulate a huge amount of income or assets, many times higher than that of large portions of society. In this case, Eurostat does not provide disaggregated private educational investment data beyond the income quintiles. It would be desirable to provide data by deciles or percentiles, but this has not occurred, nor does it seem that sampling procedures can allow it at the moment.

5. Conclusions

The Study Of The Educational Investment Behavior Has To Be Analyzed Considering The Changes In The Purchasing Power Of The People, In This Case The Europeans, And It Is Of Great Interest Precisely In Times Of Economic Crisis. During These Years Of Economic Crisis The Expenditure Or The Investment In Tertiary Education Is Following A Pattern In Which There Has Been A Decline In Those Social Classes With Lower Income And An Increase In Those With Higher Incomes. This Behavior, As Already Indicated, Took Place In Countries Like Ireland, Greece Or Spain, Among Others, And Was Also Observed In The Data Relating To The

European Union Of The 27. This Result Is Significant Because It Implies That The Investment Or The Expenditure On Tertiary Education Would Behave As A Good Social Distinction For The Upper Classes And We Could Even Claim That They Would Benefit From A Period Of Crisis In Terms Of Educational Investment.

Thus, The Upper Classes Have Reacted To The Economic Crisis By Increasing Their Investment In Higher Education, Which May Lead To An Increase In Social Inequalities, As The Proportion Of The Public Expenditure On Education Relative To Private Expenditure On Education Is Approximately 7 To 1. A Determined Political Action In Education Investment Could Minimize This Inequitable Effect. Public Policies Within The European Union Have Statistical Analysis Tools To Calibrate The Increase Of Social Differences In The Terms Discussed In This Article. Therefore, They Can Eventually Rebalance The Possible Inequities Arising From The Strategies Of The Higher Social Groups In The Income Structure And In Relation To Educational Investments.

Statement of Competing Interests

The Authors Have No Competing Interests.

List of Abbreviations

EU: European Union
 GDP: Gross Domestic Product
 M: Mean Consumption Expenditure On Education
 P: Pre-Primary And Primary Education
 S: Secondary Education
 PS: Post-Secondary Non-Tertiary Education
 T: Tertiary Education
 ND: Education Not Definable By Level
 PPS: Purchasing Power Standard
 Q (1, 2, 3, 4, 5): Quintil First, Second, Etc.

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