

Education at a glance OECD Indicators 2012

Ministerio
de Educación, Cultura
y Deporte

SPANISH REPORT

Instituto Nacional de Evaluación Educativa

EDUCATION AT A GLANCE

OECD INDICATORS 2012

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MINISTRY OF EDUCATION, CULTURE AND SPORTS

STATE SECRETARIAT FOR EDUCATION, VOCATIONAL TRAINING AND UNIVERSITIES

DIRECTORATE GENERAL FOR TERRITORIAL EVALUATION AND COOPERATION

National Institute of Educational Evaluation

Madrid 2012



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PRESENTATION

Every year, the OECD (Organisation for Economic Cooperation and Development) presents an extensive compilation of statistics and indicators of the education system of the 34 Member States of this Organisation which includes the most developed countries in the world, as well as another 8 countries which belong to G20. The publication, entitled *Education at a Glance, OECD Indicators* helps examine the evolution of various education systems, their financing and the impact of education on the labour market and the economy.

The data provided by *Education at a Glance 2012* correspond, in general, to academic year 2009-10, and not to the current situation, but they are valuable to compare the education systems of the OECD countries and analyse evolution of the indicators in each one.

This report reproduces the most significant data of Spain in comparison with the OECD, the EU21 and some of the most relevant countries. This summary aims to be rich in information and useful for readers as it emphasises those comparative data that help grasp a better understanding of the Spanish education system with relation to our environment.

Each indicator provides a comparison with the average of the OECD and of the 21 countries in the European Union belonging to the OECD. Also, in most indicators, information is provided, when available, on a series of countries, selected due to the interest of comparing them to Spain. These countries are the following: France, Greece, Italy and Portugal (Mediterranean), Germany and the Netherlands (Central European), Finland, Norway and Sweden (Nordic), Brazil, Chile and Mexico (Latin American), the United States, Ireland and the United Kingdom (Anglo-Saxon) and Japan (Asian). “Simplification” of the tables and boxes aims to make them easier to read and highlight the most relevant elements from a Spanish perspective.

The writing and analyses of this Spanish report have been carried out by the team at the National Institute for Educational Evaluation of the Ministry of Education, Culture and Sports, coordinated by Ismael Sanz and comprised of Joaquín Martín, Valentín Ramos, Lourdes Hernández, Beatriz Ventureira and Noelia Valle. Researcher Elena Govorova has also participated in the drafting of this Report. Technical support has been provided by Gúdula Pilar García and Paloma González. Finally, we should like to acknowledge the significant collaboration of the Subdirector General for Statistics and Research and the Subdirector General for Educational Promotion Abroad.

1. THE EXPANSION OF EDUCATION AND ITS OUTCOMES

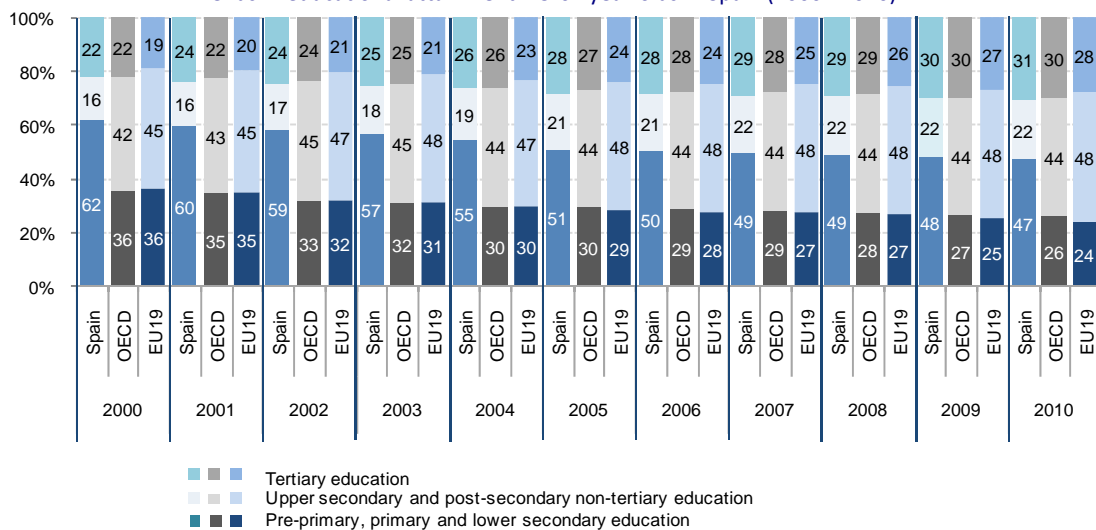
1.1. Adult education

Since 2000, the adult population in Spain which attained an educational level not higher than compulsory education has dropped 15 percentage points. However, it is still far from the OECD and the European Union averages.

According to *Education at a Glance* globalisation, technological advances and the current labour market structure increase the demand for individuals with higher education and specialisation, therefore "individuals are pursuing higher levels of education than in previous generations".

In Spain, from 2000 to 2010 the level of education of adults has improved, with the percentage of Spaniards aged 25 to 64 with higher than compulsory education going from 39% to 53%¹. The percentage of Spaniards who only have lower secondary education or less has decreased in the same percentage, going from 62% to 47%. Differences with relation to the OECD and the European Union averages are notable, as three quarters of their population have attained a level of education higher than lower secondary education, compared to slightly more than half of the Spanish population. The main differences are found in upper secondary education (equivalent in Spain, basically to *Bachillerato* and Intermediate Vocational Training), and although the evolution has been positive, rising from 16% in 2000 to 22% in 2010, we are still far from the OECD (44%) and the European Union (48%) figures. In tertiary education the differences remain minimal, with a similar evolution in the three cases. From all of this we may deduce that in order to continue increasing the level of education of the Spanish population, the percentage of individuals who attain only compulsory education or less must decrease (*Chart 1.1*).

Chart 1.1 (extract from Table A1.4):
Trends in educational attainment: 25-64 year-olds in Spain (2000 - 2010)

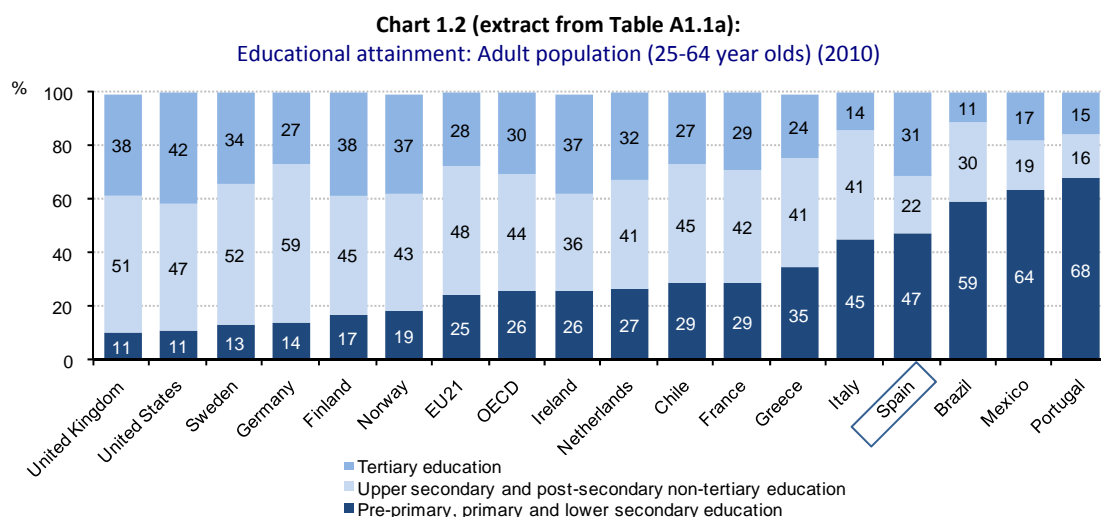


¹ In Spain, lower secondary education corresponds to Educación Secundaria Obligatoria (ESO).

Among the Spanish adult population, 31% are higher education graduates, surpassing the 30% of the OECD and the 28% of the EU. However, 47% have only attained lower secondary education or below, versus 26% of the OECD and 25% of the EU.

Further to the analysis of the educational level of the adult population, below are data comparing various countries in 2010. In higher education, Spain reached 31%, slightly above the OECD (30%) and the EU (28%) average. This figure is also higher than that of the rest of the Mediterranean countries, Germany and the Latin American countries selected for this study. However, only 22% of Spanish citizens have completed upper secondary education, versus 44% of the OECD and 48% of the EU.

As noted above, among the population attaining only lower secondary education there are also major differences between the Spanish adult population (47%) and the average across OECD (26%) and EU (25%) countries despite the progress in Spain in the last decade. Out of the countries included in the chart, Portugal (68%) Mexico (64%) and Brazil (59%) are in a worse situation than Spain with respect to the percentage of the population with lower secondary education or below (*Chart 1.2*).



45% of the Spanish population aged 25 to 34 has attained a higher education level than their parents and only 6% has attained a lower level.

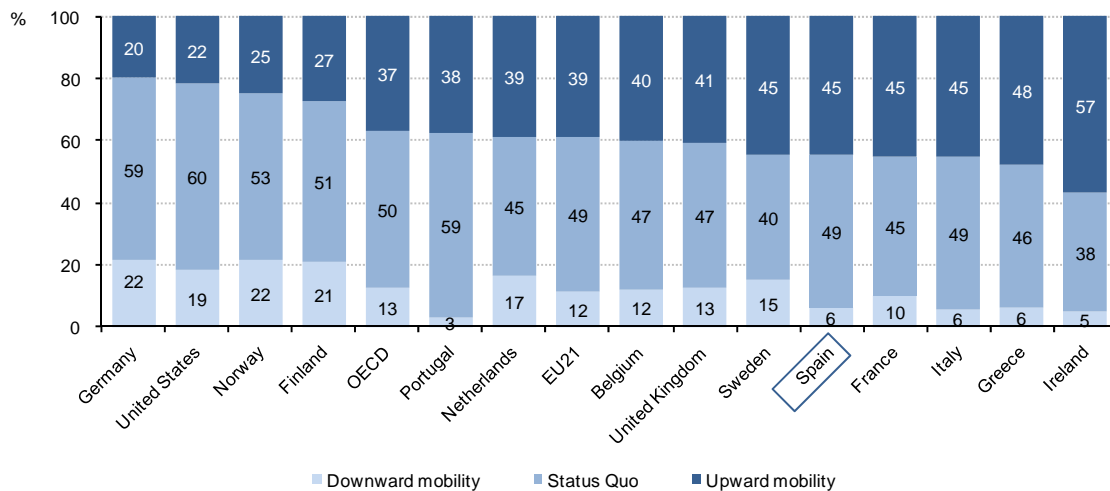
Another way of measuring the evolution of a population’s level of education is through *educational mobility*, that is, the relationship between the level of education of parents and that of their children. As shown in *Chart 1.3*, three categories have been considered for this relationship: descending mobility (level of education attained by children is lower than that of the parents), status quo (same level of education attained by parents and children), and ascending mobility (level of education of children higher than that of parents). The educational level of the general population in each country, and specifically of the population aged 45 to 65, the parents of the population analysed in this chart, can partly explain the existing differences between countries since when the educational level of parents is high, ascending mobility is usually lower.

Spain, where the educational level of its population is not very high, is one of the countries with the highest ascending mobility, as 45% of its population aged 25 to 34 has attained a higher

level of education than their parents (ascending mobility), higher figures than those of the OECD or the EU (37% and 39%) or Finland (27%), Norway (25%) or Germany (20%), (Chart 1.3). The influence of the parents' educational level on that of their children is evident by the high percentage of the population that maintains the status quo (same educational level) as their parents, which in nearly all countries ranges from 45% to 55%; in Spain it is 49%. Reduced descending mobility may also be considered a positive development; Spain has only 6% descending mobility versus 13% of the OECD and 12% of the EU.

Chart 1.3 (extract from Table A6.3):
Educational mobility

Percentage of 25-34 year-old non-students having an educational attainment higher than their parents, (upward mobility), a lower one (downward mobility) or the same (status quo)



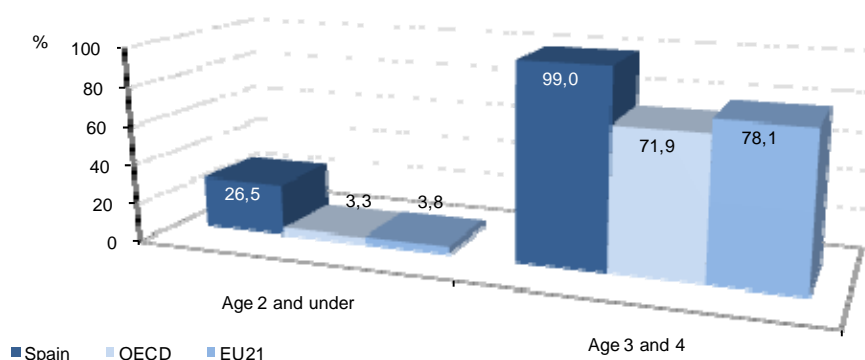
1.2. Enrolment in pre-primary education

The rate of enrolment in pre-primary education in Spain is much higher than that of the OECD and the European Union, especially for 2-year-olds or under.

15-year-old students who began schooling with pre-primary education, obtain better outcomes than those who started with compulsory education, even after taking into account their socio-economic background. Likewise, the relationship between attending pre-primary education and performance tends to be stronger in the education systems where pre-primary education has a longer duration. According to *Education at a Glance 2012*, in most countries pre-primary education is growing as it is increasingly recognised that this educational stage "is essential in building a strong foundation for lifelong learning and in ensuring equitable access to learning opportunities later in school".

Spain is among the countries with the highest rate of enrolment in pre-primary education. Up to the age of two, 26.5% of children are schooled, versus an average 3.3% across OECD countries and 3.8% in the European Union. For 3 to 4-year-olds, Spanish schooling is practically universal, reaching 99%, and it is lower in the OECD (71.9%) and in the EU (78.1%) (Chart 1.4). In the long-term, this fact may help improve outcomes and increase the educational level of the Spanish adult population, as described in point 1.1 of this Report.

Chart 1.4 (extract from Table C1.1a):
Enrolment rates, by age

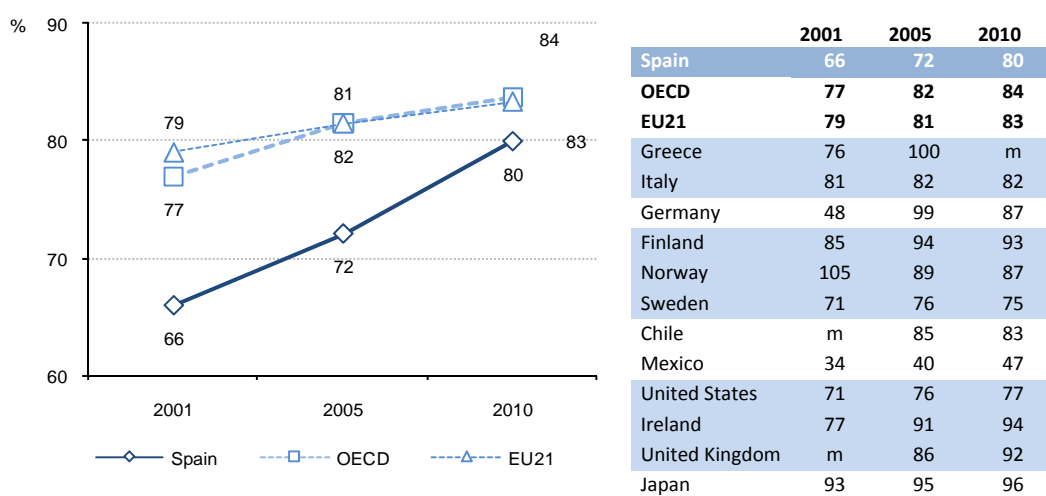


1.3. Graduation from upper secondary education ²

The percentage of graduates from all upper secondary education programmes in Spain has increased 14 points over the last 9 years, narrowing the gap with the OECD, from 11 points in 2001 to 4 in 2010.

Upper secondary education has become, according to the OECD, the minimum qualification to be able to successfully access the labour market and reduce the risk of unemployment. In Spain, there has been a considerable increase in the number of students who have graduated from upper secondary education, as the Spanish rate has risen 14 percentage points since 2001, faster than that of the OECD and the EU, which has allowed a significant reduction in the difference between Spain and the average of both organisations, going from 11 and 13 points in 2001, to 4 and 3 points respectively in 2010 (*Chart and Table 1.5*). In spite of this progress, we still need to improve more, as this is not enough to cover the deficit of graduates in secondary education in Spain.

Chart and table 1.5 (extract from Table A2.3):
Trends in graduation rates at upper secondary level (2001-2010)
Graduates in upper secondary education as a percentage of the population at typical graduation ages.



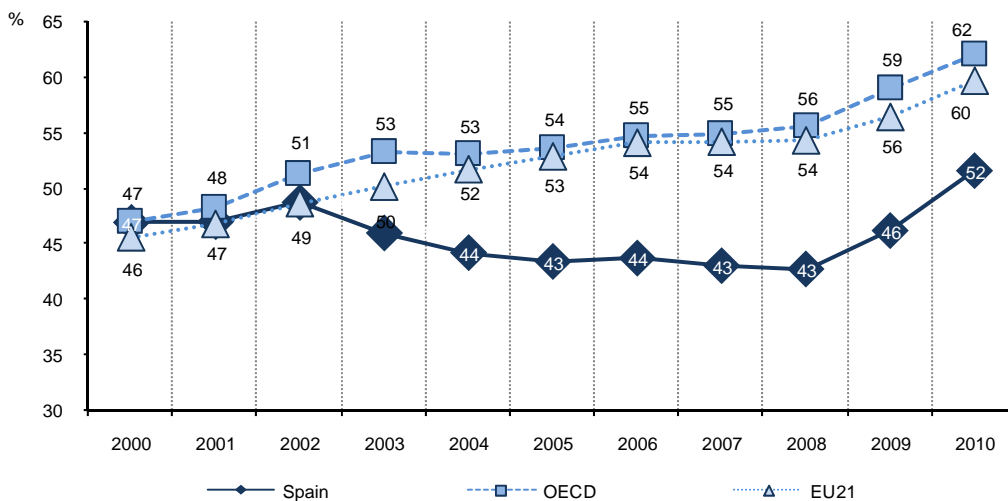
² For the Spanish data, 2001 is the starting year since that is when the series breaks as ISCED 3c short programmes were incorporated as well as graduates in Occupational Training of 540 hours or more; also in 2010 there was a significant growth of PCPI (Pre-Vocational Training). The scope of this indicator covers more programmes than *Bachillerato* and Intermediate Vocational Training. The data from the various countries are not entirely homogeneous and therefore not exactly comparable.

1.4. Entry to tertiary education ³

In 2010, the estimated entry rate to tertiary type-A (university) education in Spain was 52%, while the average in the OECD was 61% and in the European Union 60%.

In Spain, it is estimated that an average 52% of young adults today will access tertiary type-A programmes throughout their lives. Both the OECD and the European Union averages exceed Spain's, reaching 62% and 60% respectively. Evolution in Spain of the rate of entry to tertiary type-A programmes from 2000 to 2010 shows an increase up to 2002, a period of decline up to 2008 and a rise again up to 2010. This latter increase is probably due, among others, to the following factors: financial crisis, which has delayed the entry of youths to the labour market, creation of shorter programmes with implementation of the Bologna process and increase in the population completing upper secondary education. In the OECD and the EU, growth of the rates of entry to tertiary type-A programmes, in the past 10 years, has been continuous, increasing by 15 percentage points. In most countries, these rates have also grown significantly (*Chart 1.6*).

Chart 1.6 (extract from Table C3.3):
Trends in entry rates at the tertiary-type A level (2000-2010)

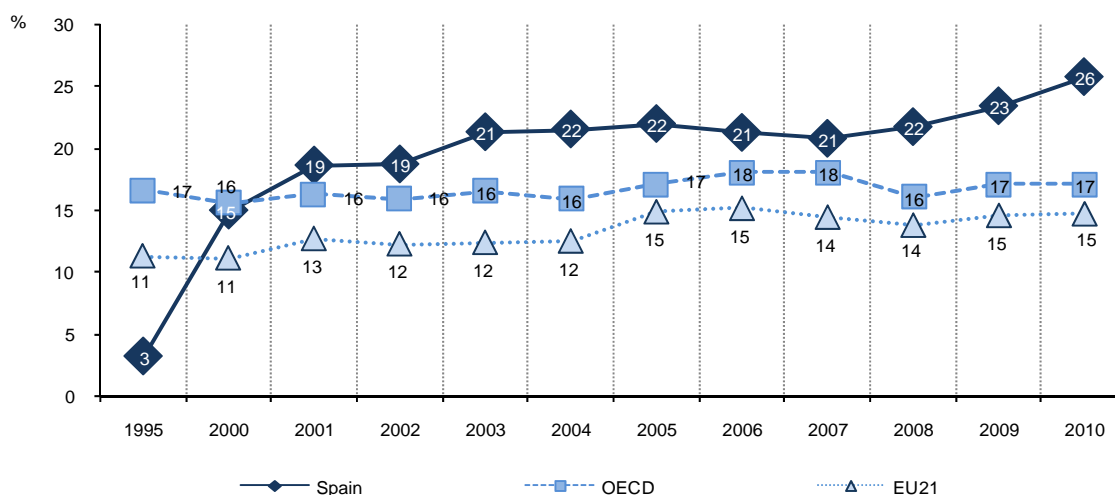


The rate of entry to tertiary type-B education (Advanced Vocational Training in Spain) in 2010 was 26%, higher than the OECD (17%) and the European Union (15%) averages.

In most OECD countries, access to tertiary type-B education programmes is more limited than to type-A ones since these programmes are less developed. However, in Spain, the rate of entry to these programmes has increased 23 points since 1995, especially after the structural changes in the education system following implementation of Advanced Training Cycles. From 2003 to 2007 the entry rate stabilised with figures close to 21%, and after 2008, with the effect of the financial crisis, there was another increase in the entry rate in this kind of higher education, reaching 26% in 2010. In the OECD and in the EU, the entry rates to tertiary type-B programmes have remained more stable with slight fluctuations from 1995 to 2010 (*Chart 1.7*).

³ The entry rates represent the estimated percentage of an age cohort expected to access a tertiary programme throughout their lives. It is based on new entrants in 2010 and their distribution by age.

Chart 1.7 (extract from Table C3.3):
Trends in entry rates at the tertiary-type B level (1995-2010)



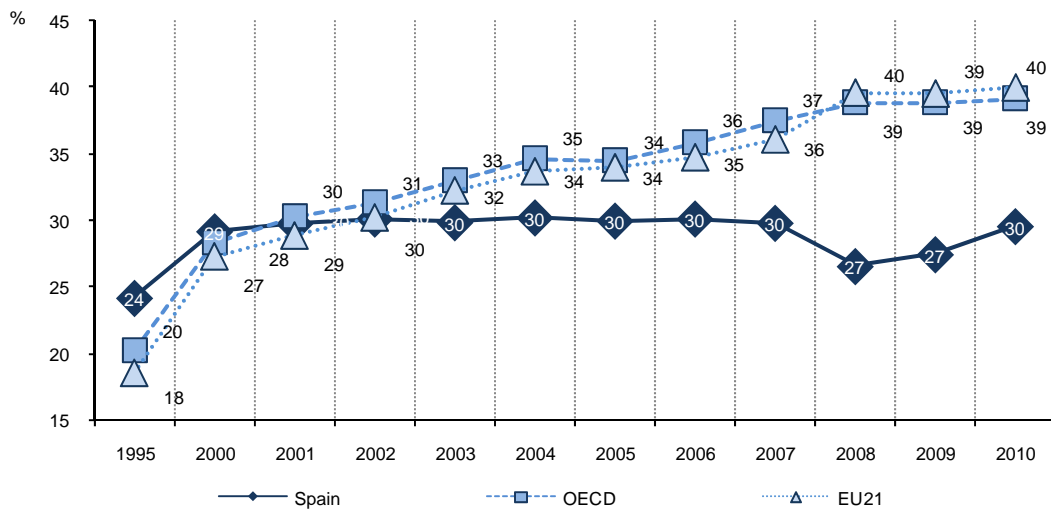
1.5. Graduation from tertiary education

In 2010, the rate of university graduation (ISCED 5A) in Spain was 30%, lower than that of the OECD (39%) and the EU (40%)⁴. OECD data range from 51% in the United Kingdom to 20% in Mexico.

Graduation rates from tertiary type-A programmes in 1995 and in 2010 in Spain rose 6 percentage points, from 24% to 30%. In those 15 years, the average across OECD countries increased 19 percentage points, and in the European Union 22 points. When analysed in greater detail, the increase in Spain was remarkable from 1995 to 2000 and then it stabilised and dropped in 2008, because from 2007 to 2008 there was a break in the series, changing from estimating gross rates to net rates, and finally from 2008 to 2010 there was a recovery due to, among other causes, the effects of the financial crisis and implementation of the new programmes in the Bologna process, going from 27% to 30%. In the OECD and in the EU over the last three years, graduation rates have remained quite steady, at 39% and 40% approximately. The most significant rises since 1995 took place in Finland (28 points) and Portugal (25 points) (Chart and Table 1.8)

⁴ Graduation rates are an estimated percentage of a cohort expected to graduate throughout their lives. This calculation is based on the number of graduates in 2010. In this indicator, 30 is considered the upper limit of the typical age of initial graduation from a tertiary type-A or type-B education programme. The upper limit of the typical age of graduation from an advanced research programme is 35.

Chart and table 1.8 (extract from Table A3.2):
Trends in graduation rates for tertiary-type A education (1995-2010)⁵



Graduation rates for tertiary-type A education (1995-2010) ⁶												
	1995	2000	2001	2002	2003	2004	2005	2006	2007	2009	2010	
Spain	24	29	30	30	30	30	30	30	30	27	27	30
OECD	20	28	30	31	33	35	34	36	37	39	39	39
EU21	18	27	29	30	32	34	34	35	36	40	39	40
Greece	14	15	16	18	20	24	25	20	18	m	m	m
Italy	M	19	21	25	m	36	41	39	35	33	33	32
Portugal	15	23	28	30	33	32	32	33	43	45	40	40
Germany	14	18	18	18	18	19	20	21	23	25	28	30
Netherlands	29	35	35	37	38	40	42	43	43	41	42	42
Finland	21	40	44	47	47	48	47	48	48	63	44	49
Norway	26	37	40	38	39	45	41	43	43	41	41	42
Sweden	24	28	29	32	35	37	38	41	40	40	36	37
Mexico	m	m	m	m	m	m	17	18	19	18	19	20
United States	33	34	33	32	32	33	34	36	37	37	38	38
Ireland	m	30	29	32	37	39	38	39	45	46	47	47
United Kingdom	m	42	43	43	45	47	47	47	46	48	48	51
Japan	25	29	32	33	34	35	37	39	39	39	40	40

In Spain the graduation rate from type 5B programmes (Advanced Vocational Training) in 2010 was 16%, higher than in the OECD (10%) and the EU (8%).

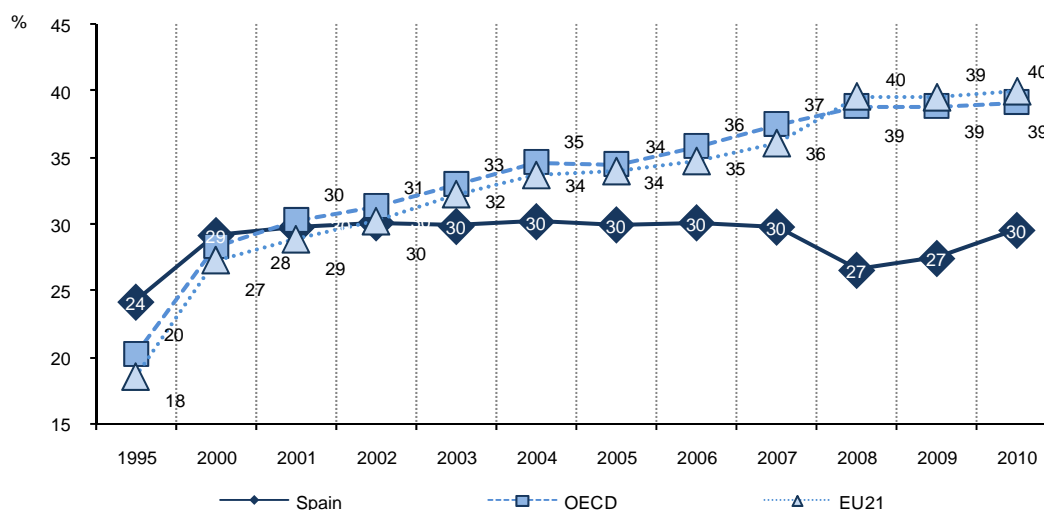
In 2010, graduation rates in tertiary type-B education programmes were an average of 10% in the 26 OECD countries with comparable data. In general, these programmes are defined with more practical approach than those of type-A, they are shorter and lead directly to the labour market. In Spain, the rate of graduates from Advanced Vocational Training has increased from 1995 to 2010 by 14 points, going from 2% to 16%. In the OECD and in the EU graduation rates for Vocational Training have remained stable with figures close to 10%. According to *Education*

⁵ From 2007 to 2008 there is a break in the series in Spain, changing from calculating gross rates to net rates

⁶ The total sum of graduates of the two types of programmes (5A and 5B) may include duplications.

at a Glance 2012, in Spain the significant increase in the entry rate over the last few years, due probably to the development of new advanced level vocational education programmes, has meant, with some delay, a sharp increase in graduation rates during this period. In contrast, in Finland, graduation rates for this type of programmes have undergone a sharp drop since they have gradually been eliminated in favour of tertiary education with a more academic orientation (Type-A) (Chart and Table 1.9).

Chart and table 1.9 (extract from Table A3.2):
Trends in graduation rates for tertiary-type B education (1995-2010)⁷



Graduation rates for tertiary-type B education (1995-2010) ⁸												
	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Spain	2	8	11	13	16	17	15	15	14	14	15	16
OECD	11	9	9	9	10	9	9	10	11	11	11	10
EU21	9	7	8	7	8	7	8	8	8	8	8	8
Greece	5	6	6	7	9	11	11	12	12	m	m	m
Italy	m	n	1	1	m	n	1	1	1	1	1	1
Portugal	6	8	8	7	7	8	9	9	6	2	1	n
Germany	13	11	11	10	10	10	11	11	10	10	14	14
Finland	34	7	4	2	1	n	n	n	n	n	n	n
Norway	6	6	6	5	5	3	2	1	1	1	n	n
Sweden	m	4	4	4	4	4	5	5	5	6	6	6
Mexico	m	m	m	m	m	m	1	1	1	1	1	1
United States	9	8	8	8	9	9	10	10	10	10	11	11
Ireland	m	15	20	13	19	20	24	27	24	26	26	22
United Kingdom	m	7	8	9	10	11	11	10	10	12	12	12
Japan	30	30	29	27	26	27	28	29	28	27	26	25

⁷ Data must be considered with caution as there may be problems when analysing evolutions.

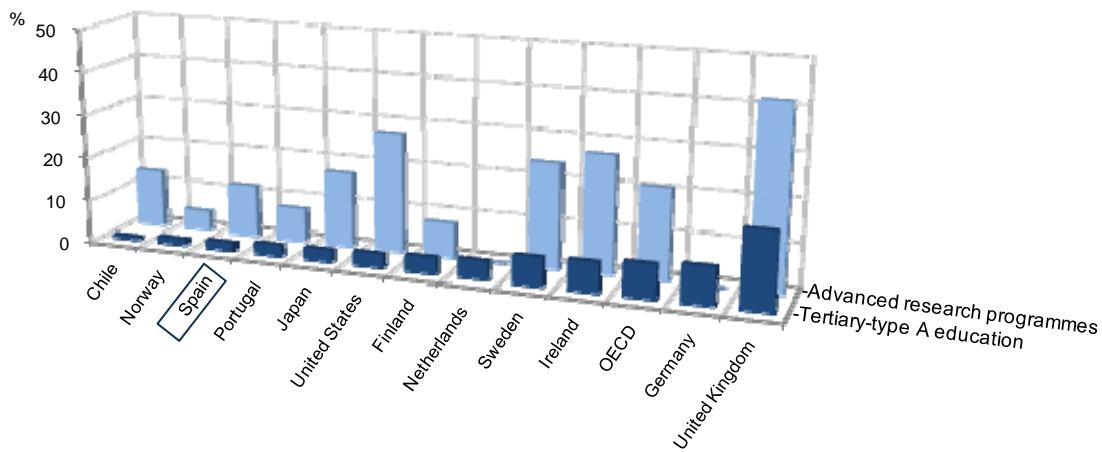
⁸ The total sum of graduates of the two types of programmes (5A and 5B) may include duplications.

1.6. International student mobility⁹

In Spain, the percentages of international students in tertiary education are modest.

An analysis of the percentage of international students in tertiary education (type-A and advanced research programmes) provides an approximation to understanding student mobility. For type-A studies, the OECD average is 7.8%; country by country, the United Kingdom stands out with the highest percentage of international students (17.6%), followed by Germany (8.7%); in Spain only 2% of university students are international students. In advanced research programmes, the United Kingdom leads again, as 41.7% of students enrolled in these programmes are international students. The percentage is also high in the United States (27.8%), Ireland (27.1%) and Sweden (24.2%); the OECD average is 21.1%. In Spain the percentage is more modest, since among those studying these programmes only 12.2% are international students.

Chart and table 1.10 (extract from Table C4.1):
 Student mobility and foreign students in tertiary-type A education and in advanced research programmes
 International students enrolled as a percentage of all students in Tertiary education (2010).



	Tertiary-type A education	Advanced research programmes
Spain	2,0	12,2
OECD	7,8	21,1
Portugal	2,6	7,8
Germany	8,7	m
Netherlands	4,4	m
Finland	3,8	8,0
Norway	1,4	4,7
Sweden	6,5	24,2
Chile	0,7	13,3
United States	3,3	27,8
Ireland	6,9	27,1
United Kingdom	17,6	41,7
Japan	2,9	17,3

⁹ The OECD distinguishes between students who have moved from their country of origin to study (international students) and those residing in the country where they are enrolled, but who are not citizens of that country (foreign students). International students are therefore a subset of foreign students. The Table does not show all the countries considered in this Report since the data for some of them only refer to foreign students and are thus not comparable.

2. SOCIAL AND ECONOMIC BENEFITS OF EDUCATION

2.1. Profitability of education for individuals

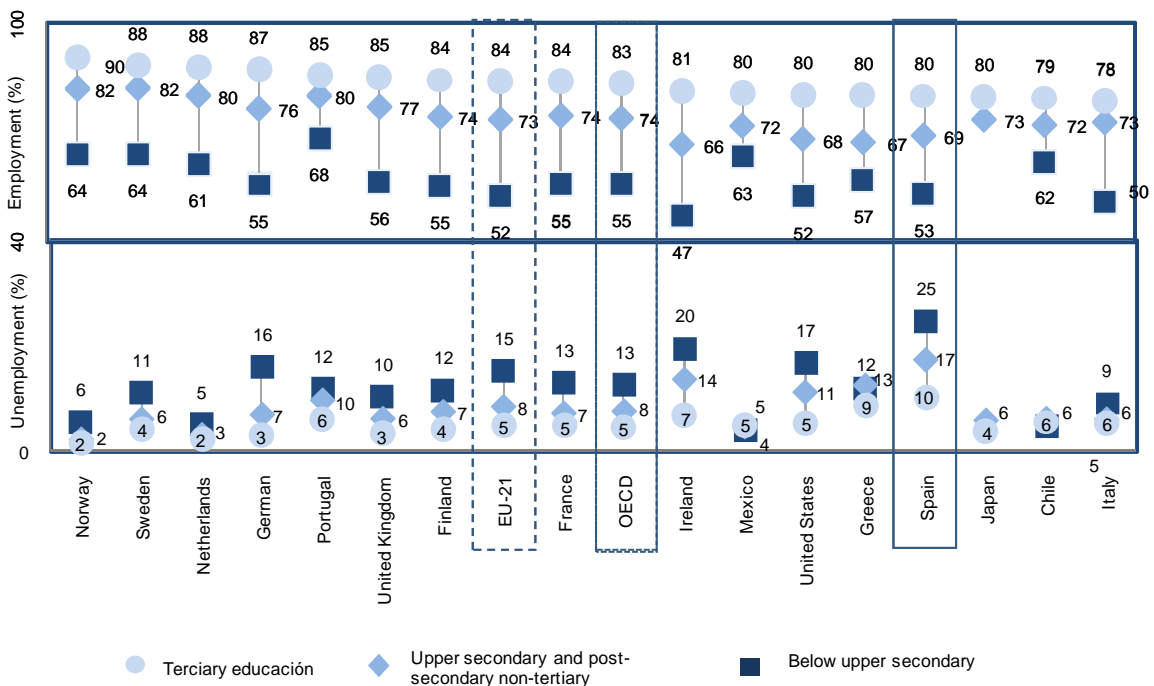
This section analyses to what extent education influences circumstances and labour and earnings expectations of citizens.

2.1.1. Labour market and education

Both in Spain and in the OECD and the European Union, a higher level of education in the population aged 25 to 64 corresponds to a higher rate of occupation and a lower rate of unemployment, as well as higher earnings.

The higher the level of education, the higher the possibilities of getting and holding down a job. In Spain, in 2010, 80% of the people who had completed tertiary education joined the labour market, while for the population which had completed lower secondary education or below, the percentage was reduced by 27%, reaching an occupation rate of 53%.

Chart 2.1 (extract of Tables A7.3a and A7.4a):
Employment and unemployment rates and educational attainment (2010)
 25-64 year-olds in employment and unemployment as a percentage of the population aged 25-64, by educational attainment.



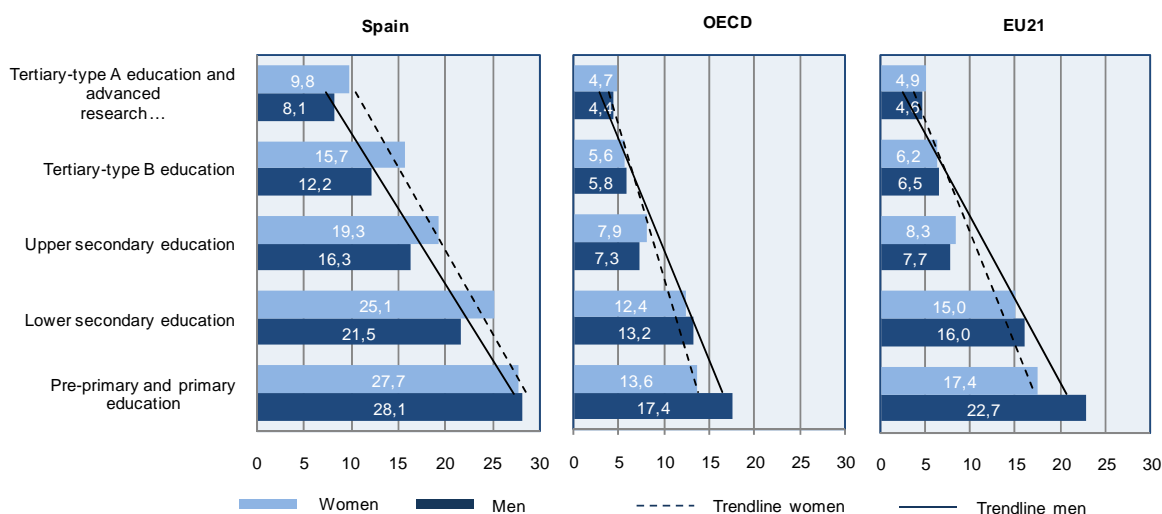
In contrast, the rate of unemployment decreases as the level of education increases. The difference between the level of unemployment for those that have completed tertiary education and those that have finished upper secondary education in Spain is 15 percentage points (*Chart 2.1*).

As for sex, the unemployment rate among females in Spain tends to be higher than for males, although contrary to previous years, in 2010 the percentage of males with primary education or below who were unemployed was higher than that of females. Also, from that year on, the relationship between unemployment rate and level of education is greater in the case of males, and there is a difference of 20% between the unemployed with primary education and those who completed tertiary type-A education. This difference is 17.9% for females and it is mainly due to the fact that, in comparison with the previous year, the unemployment rate among males with primary education or below increased more than among females (Chart 2.2).

Chart 2.2 (extract from Table A7.2a):

Unemployment rates, by educational attainment and gender (2010)

Unemployment rates for 25-64 year-olds as a percentage of the labour force from the same age group, by educational attainment and gender.



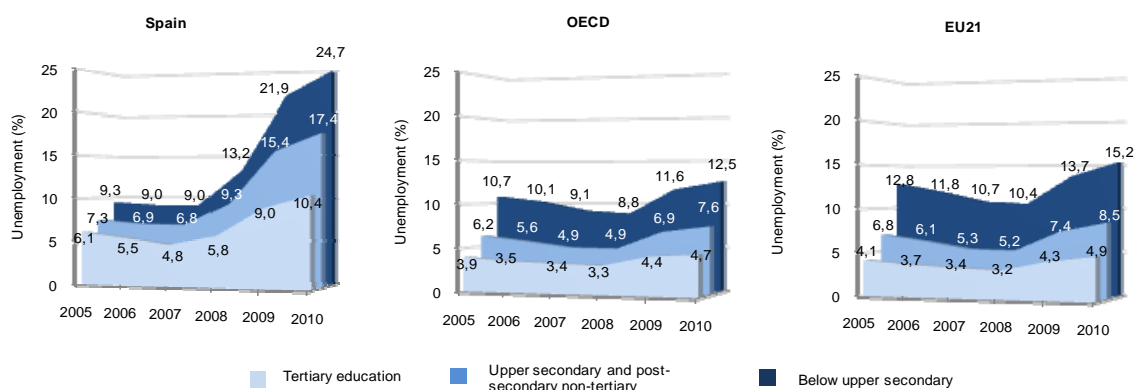
Individuals completing a higher level of education increase their possibilities of holding down a job, even in times of economic downturn.

The financial crisis which began in 2008 has dramatically affected the international labour market leading to a continuous increase in unemployment rates in the OECD countries and the member states of the European Union. In Spain the labour consequences have been even more marked. In 2010, the unemployment rates in Spain practically doubled the average levels in the OECD and the EU (Chart 2.3).

Chart 2.3 (extract from Table A7.4a):

Trends in unemployment rates by educational attainment (2005-2010)

Trends in the number of unemployed 25-64 year-olds as a percentage of the labour force from the same age group, by educational attainment



The increase in the percentage of people unemployed is felt to a greater extent by those who have not attained at least upper secondary education, both in Spain and the OECD and EU-21 (Table 2.4).

The unemployment rate of individuals with higher education in Spain has increased 4.6 percentage points compared to 2008, while the rise in the unemployment rate of individuals with intermediate education levels (upper secondary education and post-secondary non-tertiary) is 8.1 points. This increase is even more marked among unemployed individuals with an education level lower than upper secondary education: in two years (2008-2010) the levels of unemployment in this segment have increased by 11.4 percentage points.

The growth of the unemployment rate is even greater among the young population. The difficulty for the young to access the labour market has become a constant concern of the education authorities, which has become even more marked under the challenging financial situation. Some of the measures implemented to facilitate transition to work in this segment of the population in most European countries have been to promote a stronger link between training and work through vocational education or in-company training programmes. By developing the specific skills required by a certain sector or occupation, workers acquire the knowledge necessary and join the labour market sooner.

Table 2.4 (extract from Table A7.4a):

Increases in unemployment rates by educational attainment between 2008 and 2010

Increase in the number 25-64 year-olds unemployed as a percentage of the labour force from the same age group, by educational attainment

	Spain	OECD	EU21
Below upper secondary	+ 11,4	+ 3,8	+ 4,8
Upper secondary and post-secondary non-tertiary	+ 8,1	+ 2,7	+ 3,3
Tertiary education	+ 4,6	+ 1,4	+ 1,7

2.1.2 Earnings premium from education

In the OECD countries, earnings tend to increase as the individual's level of education increases. In Spain, people with tertiary education earn 41% more than those who have completed upper secondary education and 63% more than those who have completed lower secondary education or below.

An individual's level of education not only conditions his/her possibilities of getting a job, but also the earnings he/she can aspire to. As the level of education increases there is a rise in earnings.

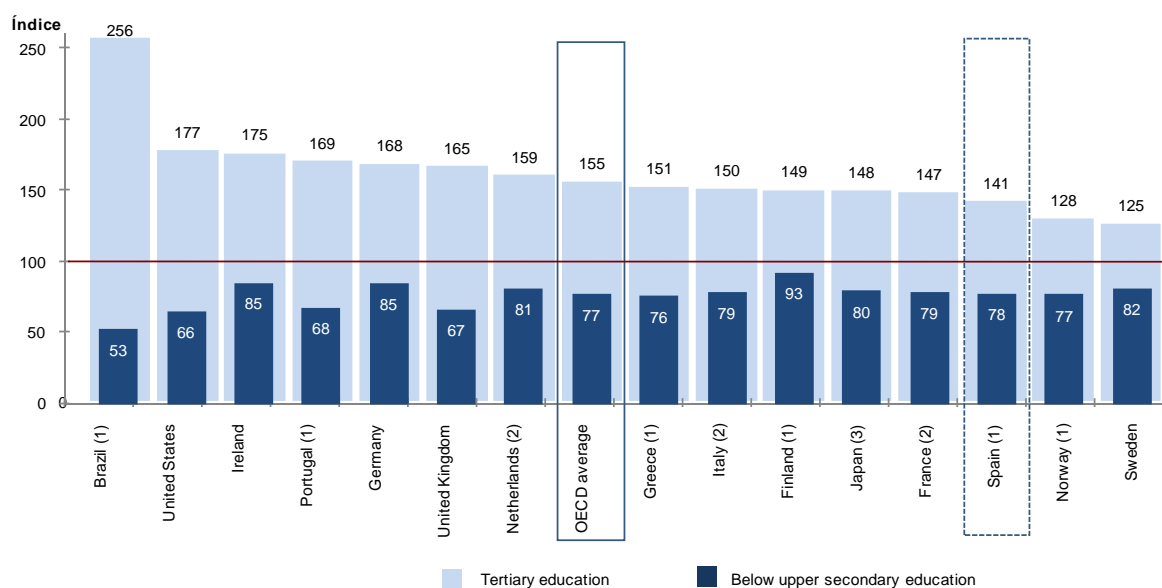
In the OECD, people with tertiary education earn 55% more than graduates from upper secondary education and 78% more than individuals with educational levels below this.

In Spain, earnings also increase in connection with higher levels of education. Earnings of an individual with tertiary education are 41% higher than those of a graduate of upper secondary education. Workers with an educational level below upper secondary education earn about 78% of the earnings of workers who have completed that educational level, and they earn an average 22% less than graduates of upper secondary education. This means that earnings for

graduates of lower secondary education or below are 63% less than of graduates of tertiary education.

The data in *Education at a Glance 2012* evidence that in Spain, the distribution of earnings by education level attainment is less marked than across the OECD countries. Therefore, a smaller difference between earnings of workers with higher education and those of workers with lower levels of education reduces the incentive to continue studying and, consequently, may have a negative influence on the decision to complete tertiary education (*Chart 2.5*).

Chart 2.5 (extract from Table A8.1):
Relative earnings of the population with income from employment (2010 or latest available year)
By level of educational attainment for the population aged 25 to 64 (upper secondary = 100)



(1) Data from 2009 (2) Data from 2008 (3) Data from 2007

The highest earnings premium for higher educational levels is found in the United States and Ireland, where a graduate of tertiary education can aspire to 70% higher earnings than those with upper secondary education. In Brazil, this difference is even greater. The smallest differences between earnings and level of education are found in the Nordic countries.

Education determines to a great extent an individual's work history. On the one hand, it has an impact on the ease of getting and holding down a job and on the other, it influences the conditions and characteristics of the job. The higher the level of education, the greater the possibilities of being hired. Individuals with higher education may aspire to higher earnings. Furthermore, workers with higher education in general are less vulnerable in an economic slowdown or crisis. In short, higher educational levels increase an individual's chances of obtaining a stable job and of that job better meeting his or her expectations.

Having demonstrated the benefits generated by education for individuals, the following section analyses its influence on a country's macroeconomic situation.

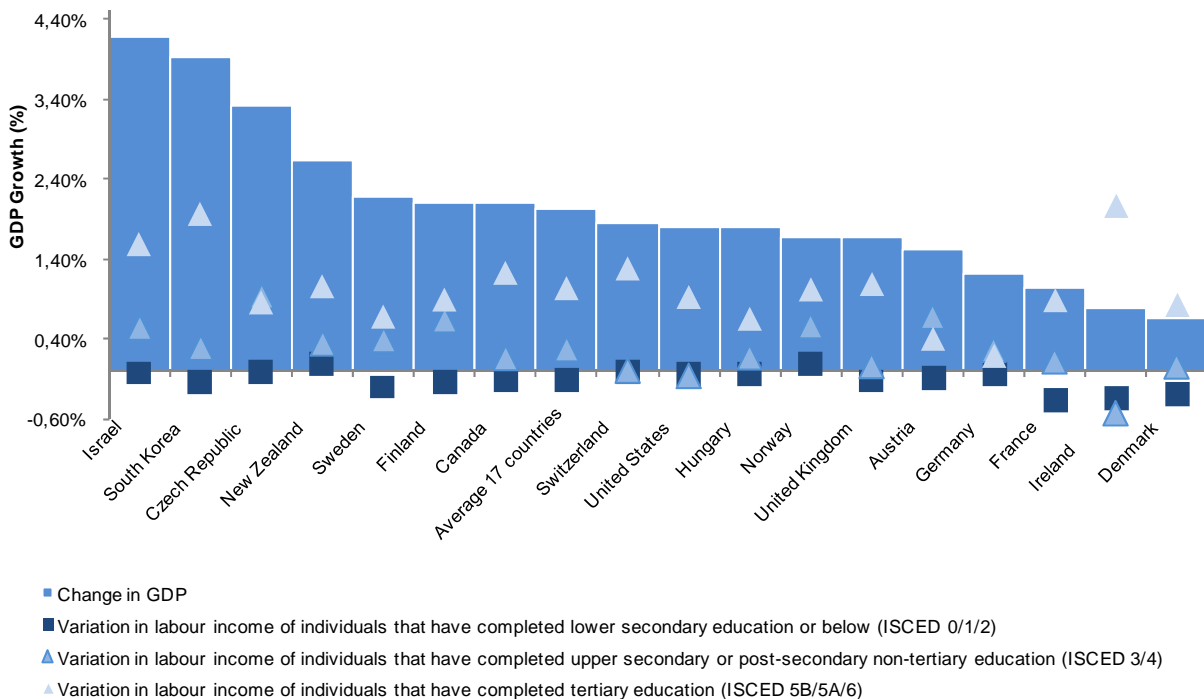
2.2. Contribution of education to GDP variations

Over the last decade across OECD countries, more than half the growth in GDP can be attributed to the rise in earnings of individuals with tertiary education.

Indicator A10 of *Education at a Glance 2012* shows how increasingly skilled and qualified labour with higher education contributes to the economic growth of OECD countries. Accordingly, GDP growth indicators and earnings of the population have been analysed based on three different education categories over the last decade. On average, in 17 countries with at least five observations available, more than half the growth in GDP is related to growth in earnings of tertiary education graduates. In France, Norway, Switzerland and the United Kingdom they are attributed over 60% of economic growth (Chart 2.6).

Chart 2.6 (extract from Table A10.1):
Average GDP growth (real percentage change from previous year) and labour income growth in GDP, by educational category from 2000 to 2010
Countries reporting at least 5 years of labour income growth by educational category.

	Israel	South Korea	Czech Republic	New Zealand	Sweden	Finland	Canada	Average 17 countries	Switzerland	United States	Hungary	Norway	United Kingdom	Austria	Germany	France	Ireland	Denmark
▲	1,6%	2,0%	0,9%	1,1%	0,7%	0,9%	1,2%	1,0%	1,3%	0,9%	0,6%	1,0%	1,1%	0,4%	0,2%	0,9%	2,1%	0,8%
▲	0,5%	0,3%	0,9%	0,3%	0,4%	0,6%	0,2%	0,3%	0,0%	-0,1%	0,2%	0,6%	0,1%	0,7%	0,3%	0,1%	-0,5%	0,1%
■	0,0%	-0,1%	0,0%	0,1%	-0,2%	-0,1%	-0,1%	-0,1%	0,0%	0,0%	0,0%	0,1%	-0,1%	-0,1%	0,0%	-0,4%	-0,3%	-0,3%
■	4,2%	3,9%	3,3%	2,6%	2,2%	2,1%	2,1%	2,0%	1,9%	1,8%	1,8%	1,7%	1,7%	1,5%	1,2%	1,1%	0,8%	0,7%



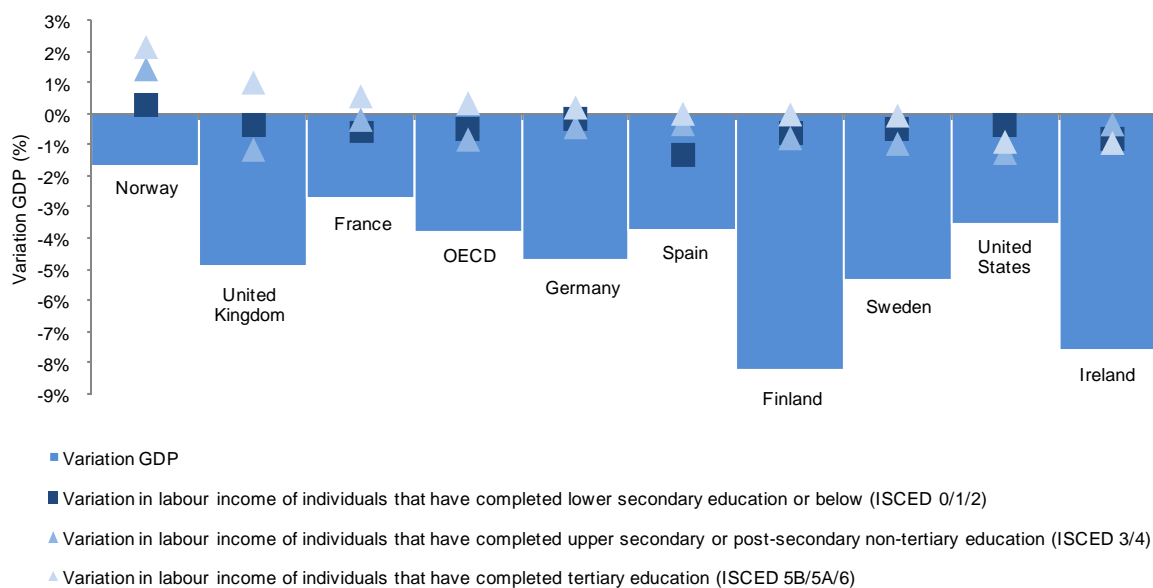
Even in times of recession, earnings of individuals with tertiary education have a positive impact on the economy, contributing 0.4% to the average Gross Domestic Product of OECD countries.

The generalised slowdown of the economy has had a severe impact on the labour market structure, affecting hiring conditions and earnings. Practically all OECD countries have suffered the economic recession. In 2009, the GDP of these countries dropped 3.8% as a whole (Chart 2.7).

However, despite the critical economic situation, earnings of individuals with tertiary education have risen in most OECD countries, contributing an average 0.4% to GDP. The impact of earnings of people with lower secondary education or below has not been so positive. The most negative contribution is related to the fall in earnings of graduates from upper secondary education or post-secondary non-tertiary education.

Chart 2.7 (extract from Table A10.1):
Variation in GDP and labour income in GDP by levels of education (2009)

	Norway	R. Unido	France	OECD	Germany	Spain	Finland	Sweden	United	Ireland
▲	2,2%	1,0%	0,6%	0,4%	0,2%	0,0%	0,0%	0,0%	-0,9%	-0,9%
▲	1,4%	-1,1%	-0,2%	-0,8%	-0,4%	-0,3%	-0,8%	-0,9%	-1,2%	-0,3%
■	0,3%	-0,3%	-0,6%	-0,5%	-0,1%	-1,3%	-0,6%	-0,5%	-0,3%	-0,8%
■	-1,7%	-4,9%	-2,7%	-3,8%	-4,7%	-3,7%	-8,2%	-5,3%	-3,5%	-7,6%



As noted in the sections above, the benefits of education are innumerable. Education generates wealth for the microeconomy and macroeconomy of a country; it is the driver of development, aside from contributing enormously to its stability and social well-being.

Nonetheless, an analysis of the benefits of education would be incomplete without considering the resulting expenses. The following chapter examines the component which has the highest impact on the generation of these expenses: the cost of teachers' salaries. This analysis helps assess the level of optimisation of resources invested in education in Spain and in the rest of the OECD countries.

2.3. Return on investment in education

Public and private investments in education produce high returns. Moreover, as the level of education rises, the absolute benefits generated by the investment in education are greater.

The financial concept of return on investment allows estimating the absolute benefits generated by education calculating the Net Present Value (NPV) of earnings to be obtained by an individual with a certain level of education in the future and in comparison to the initial investment made. In all OECD countries, expected earnings for individuals considerably exceed the investment made by them, so investing in education is highly profitable. In the public sector, the costs of education are also rewarded by the expected benefits.

Across all OECD countries, absolute earnings, both public and private, for a male with upper secondary education or post-secondary non-tertiary education amount to \$125,600 and rise to \$260,900 if tertiary education is attained. From these, the earnings transferred to society equal \$35,500 and \$99,500 respectively.

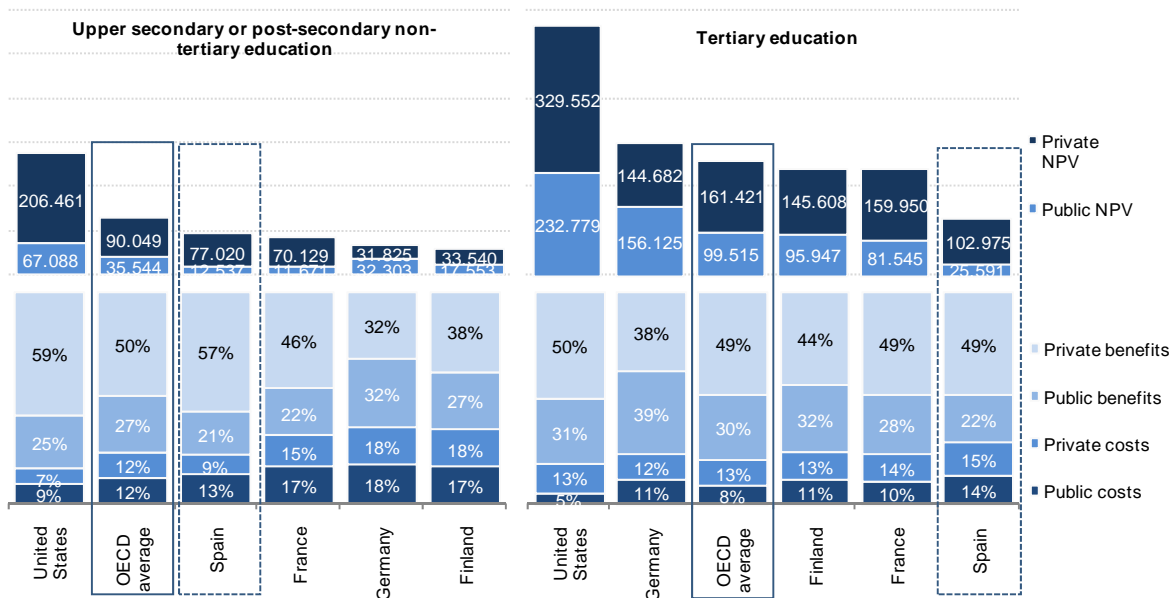
In Spain, absolute earnings, both public and private, for a male with tertiary education amount to \$128,500. A graduate from upper secondary education or post-secondary non-tertiary education earns \$89,600.

In Spain, the absolute value of the public benefits generated by a male with upper secondary education or post-secondary non-tertiary exceeds \$12,500. In turn, a graduate of tertiary education doubles his contribution to society, generating public benefits exceeding \$25,500. Private earnings for a male with higher education amount to \$103,000, \$26,000 more than if he had completed upper secondary education or post-secondary non-tertiary education.

Chart 2.8 (extract of Tables A9.1, A9.2, A9.3 and A9.4):

Return on investment in education and percentage distribution of private and public economic benefits and costs for a man obtaining upper secondary or post-secondary non-tertiary education and for a man obtaining tertiary education (2008)

The net present value (NPV) is shown in USD

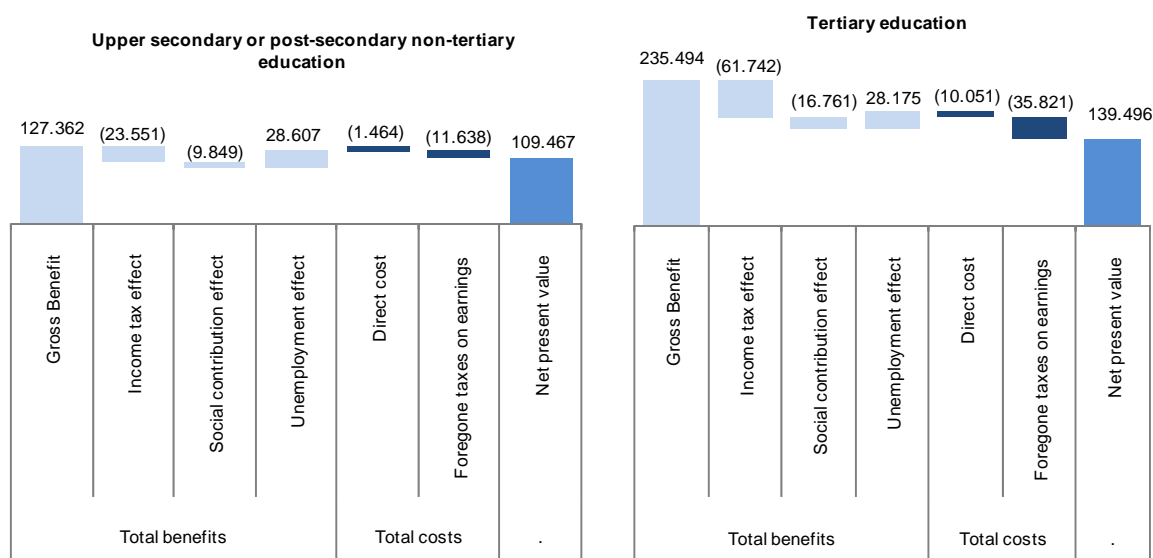


In Spain, gross benefits, both public and private, for a male attaining tertiary education are 71% of the total of costs and benefits. In the OECD this percentage is 79%.

Chart 2.9 shows the private investment made for a female in education, by level of education (upper secondary education or post-secondary non-tertiary and tertiary education). The main cost generated by an investment in the lower educational level is the opportunity cost, that is, the income that could have been earned during the education cycle if the choice had been to enter the labour market, estimated at \$11,638. Direct costs during this educational stage are very limited, \$1,464. When investing to obtain a degree in tertiary education, direct costs rise considerably, up to \$10,051. Foregone earnings are also higher, \$35,821.

Total benefits are comprised, on the one hand, of gross earnings and the tax and social contributions they generate, and, on the other, of a lower risk of being unemployed. Gross earnings for a female with higher education in Spain reach \$235,494, practically \$110,000 more than the earnings of a female who has attained upper secondary education or post-secondary non-tertiary education.

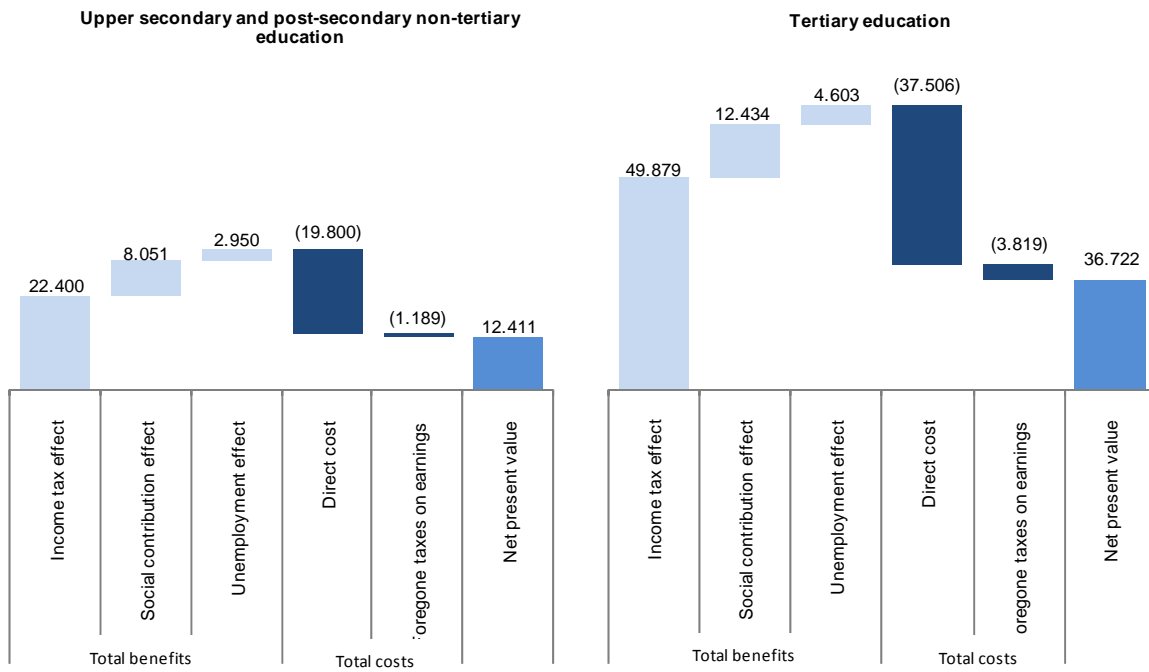
Chart 2.9 (extract of Tables A9.1 and A9.3):
 Structure of public cost and benefits for a woman obtaining upper secondary or post-secondary non-tertiary education and for a woman obtaining tertiary education in Spain (2008)
 In USD



In most OECD countries, including Spain, the public sector assumes most direct costs originated by investments in education. In the public sector in Spain the total benefits of education exceed costs by 60%.

Chart 2.10 shows the distribution of costs and public benefits for a female according to the level of education attained. In most OECD countries, including Spain, the public sector assumes most direct costs originated by investments in education. During upper secondary education or post-secondary non-tertiary education these costs amount to \$19,800, in tertiary education \$37,506. Adding costs generated by taxes on foregone earnings during the years in education, total public costs exceed \$20,000 and \$41,000 respectively.

Chart 2.10 (extract of Tables A9.2 and A9.4):
Structure of public cost and benefits for a woman obtaining upper secondary or post-secondary non-tertiary education and for a woman obtaining tertiary education in Spain (2008)
In USD



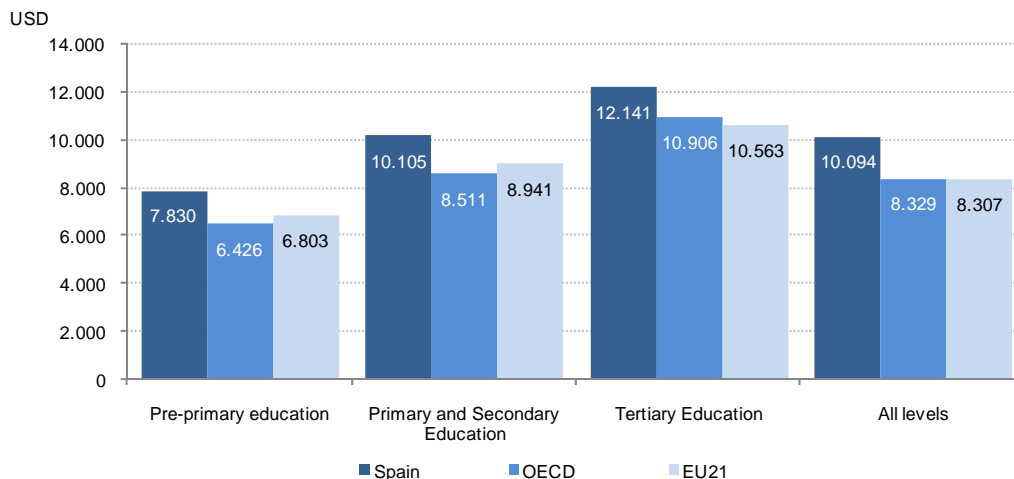
3. FINANCING OF EDUCATION

3.1. Expenditure on education per student

Spain devotes USD 10,094 of public expenditure a year on each student in public education, 21% more than the OECD and the EU. This expenditure is higher at all educational levels: pre-primary, primary, secondary and tertiary.

Public expenditure per public student is higher in Spain than in the OECD and in the EU at all educational levels, including tertiary, among other reasons due to salary costs, as examined below. In total public expenditure per student, the difference is quite significant, as in Spain it is \$10,094, in the OECD it is \$8,329 and in the EU it is \$8,307. In Spain as well as in the OECD and in the EU, expenditure increases with higher educational levels. Thus, public expenditure per student is higher in tertiary education than in primary and secondary education, and it is higher in these than in pre-primary education (*Chart 3.1*).

Chart 3.1 (extract from Table B3.4):
Annual public expenditure on public education institutions per student
In equivalent US dollars converted using PPPs for GDP, by level of education.

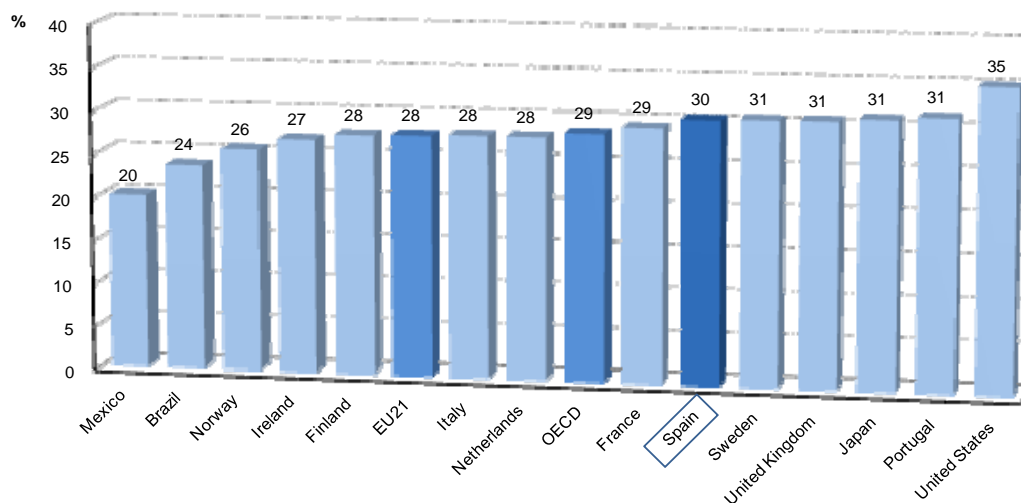


In 2009, Spanish expenditure per student in educational institutions as a percentage of GDP per capita was 1 point higher than the OECD average and 2 points higher than the EU average.

Chart 3.2 shows expenditure per student related to GDP per capita, expressing the effort made by each country with relation to their means. Public and private expenditure per student in educational institutions (public and private) in Spain is 30% of GDP per person, which is 1 percentage point above the OECD average and 2 points higher than the EU (*Chart 3.2*). The country with the highest percentage of annual expenditure in educational institutions per student for all services with relation to GDP per capita is the United States (35%). At the opposite end are Brazil (24%) and Mexico (20%).

Chart 3.2 (extract from Table B1.4):

Annual expenditure per student in education institutions for all services relative to GDP per capita. From Primary to Tertiary Education (2009)



3.2. Variation of expenditure per student

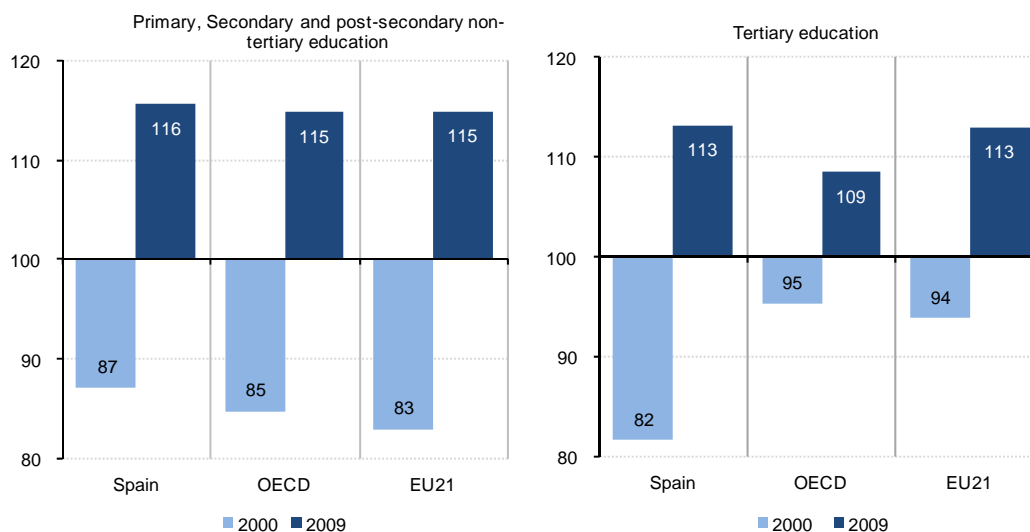
The increase in expenditure per student in pre-primary, primary and secondary education over the past 10 years in Spain has been similar to that recorded in the OECD and the EU; but expenditure per student in tertiary education has grown much more than in the OECD and the EU.

Until 2009, the financial crisis had not yet affected investment in education in most OECD countries. In pre-primary, primary and secondary education as well as in tertiary education, there was a significant increase in investment in education between 2000 and 2009. In that period, and taking the year 2005 as GDP deflator as index 100, there was a significant rise in expenditure per student in primary and secondary education, both in the Spanish average (29 points) and in the OECD (30 points) and the EU (32 points) (Chart 3.3).

Chart 3.3 (extract from Table B1.5):

Variation in expenditure per student in education institutions for all services relative to different factors, by level of education (2000-2009)

Index of change between 2000 and 2009 (GDP deflator 2005 = 100, constant prices).



At the same time, enrolment of students in these educational levels has undergone a drop of 3 percentage points in these years in Spain, which explains the growth in expenditure per student; in the OECD and in the EU there has also been a decrease in the enrolment of students entering these stages until 2000 (-3% and -6% respectively) (Table 3.4).

In tertiary education, Spain shows a more favourable evolution in this indicator. Expenditure per student, from 2000 to 2009, increased (31 points) at a notably higher rate than the OECD and the EU average which was 14 and 19 points respectively (Chart 3.8). The increase in expenditure in Spain is due to the notable rise in total expenditure (35 points) in a context in which the number of students has grown by only 2 percentage points (Table 3.4).

Table 3.4 (extract from Table B1.5):
Variation in number of students, by level of education (2000-2009)
Index of change between 2000 and 2009 (2005 = 100).

		Primary, Secondary and post-secondary non-tertiary education			Tertiary education		
		2000	2005	2009	2000	2005	2009
Spain	Expenditure per student	87	100	116	82	100	113
	Number of students	107	100	104	107	100	109
OECD	Expenditure per student	85	100	115	95	100	109
	Number of students	101	100	98	86	100	110
EU21	Expenditure per student	83	100	115	94	100	113
	Number of students	103	100	97	86	100	107

3.3. Financing models of university education

With relation to other OECD countries, the tuition fees university students must pay in Spain are generally low. In spite of these low tuition fees, the percentage of youths in university is limited compared to the OECD and the EU.

Since 1995, over half of the countries providing data have conducted reforms in their university financing systems. In some cases, enrolment fees have been introduced in countries that did not have them (in some German states, for example), and in others such as the United Kingdom, the Netherlands or Portugal, tuition fees have risen, and in countries such as Ireland or Denmark these fees have been increased only for international students. Table 3.5 shows the various countries in which there has been a change in university tuition fees policy.

Table 3.5 (Box B5.1):
Changes in tuition-fees policies and public support to students since 1995

Reforms have been implemented since 1995											
Reforms have been combined with a change in the level of public subsidies available to students											
Tertiary educational institutions differentiate tuition fees between national and international students											
Tertiary educational institutions differentiate tuition fees by field of education											
	Spain	Finland	France	Ireland	Italy	Japan	Mexico	Norway	Netherlands	U. Kingdom	Sweden

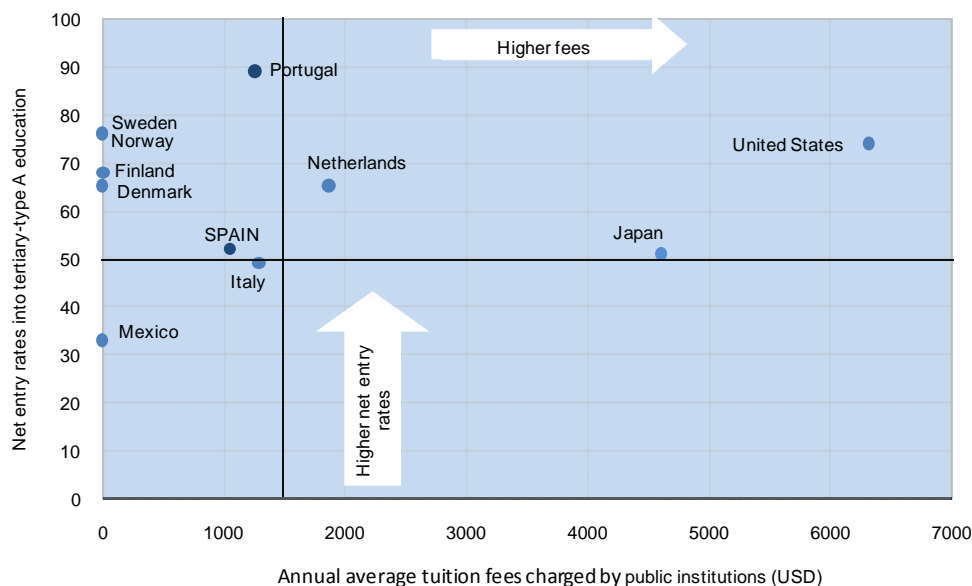
Spain is, together with countries such as Italy or Portugal, among the countries which pay reduced tuition fees for tertiary type-A education. Across the OECD, there are different patterns of university financing which in some cases involve paying high tuition fees, often offset by a system of scholarships and different types of financial assistance, and in other cases very low fees. *Chart 3.6* shows the relationship between university fees and entry rates of tertiary type-A students in countries with available data.

In many cases, such as in the Nordic countries, access to this stage of the education system is guaranteed by very reduced tuition fees and financed with public funds, complemented as well by very high percentages of students receiving scholarships or public loans, which means a high percentage of entry to tertiary type-A education (around 70% across Nordic countries); however, a direct relationship cannot be established across these two parameters, given that other countries such as the United States, where students assume to a great extent financing of their education with high tuition fees, there are also very high entry rates (74%), perhaps due to the fact that a high percentage of students have scholarships or receive public loans (76%). In other cases, such as in Japan, financing of university education is covered almost exclusively by students, with high tuition fees; this, together with the fact that the proportion of students receiving scholarships or public loans is not very high (33%), means the entry rate is not as high (51%).

In Spain, as in other Mediterranean countries such as Italy, university tuition fees are certainly moderate, the average being around \$1,052 for the academic year 2009-10, and the percentage of students receiving scholarships or public loans is 34%; public financing of tuition fees tend to guarantee the universal nature of entry to this stage of the education system. However, the entry rate into tertiary type-A education (52%) is lower than in countries such as Finland, Norway, the Netherlands or the United States and similar to that of Italy or Japan (*Chart 3.6*).

Chart 3.6 (Tables B5.1 and C3.1):

Relationship between annual average tuition fees charged by public institutions and the net entry rates into tertiary-type A studies (2008-2009)



4. THE ENVIRONMENT OF SCHOOLS AND LEARNING

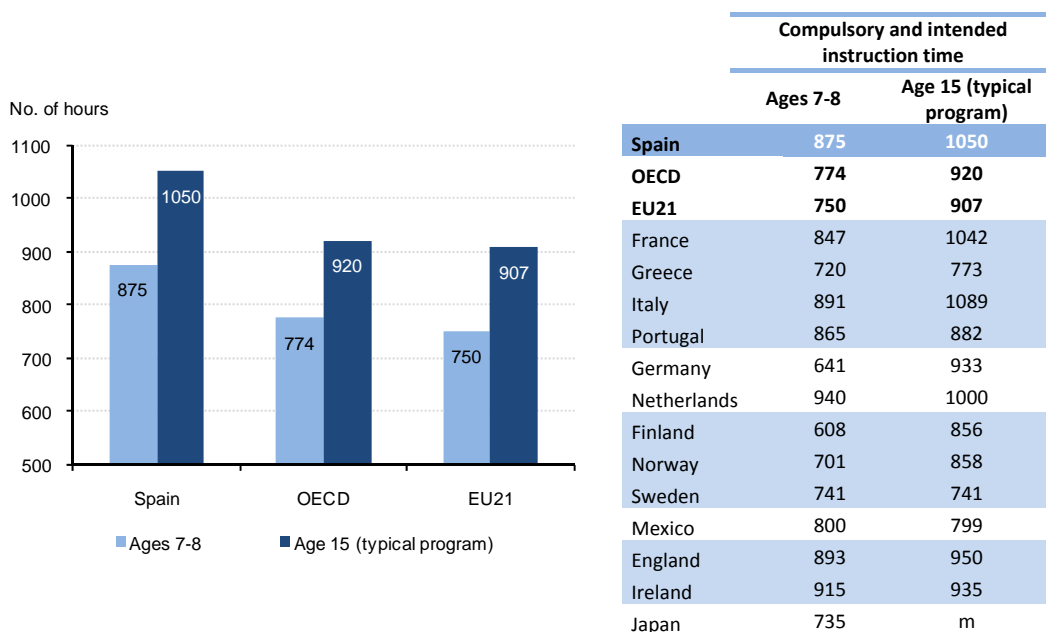
4.1. Teaching hours

The total number of compulsory hours of instruction for students in primary and secondary education, in almost all ages, in Spain is higher than the OECD and the EU average.

Most teaching hours between the ages of 7 to 14 are devoted to compulsory education, although the total number of hours of instruction per year, the compulsory and flexible curriculum and how these hours are distributed among the various subjects is organised very differently across OECD countries. These decisions show national priorities and preferences regarding the relative importance of subjects and the age at which they must start learning them. As in most OECD countries, total teaching hours in Spain are compulsory for all age groups from 7 to 15; Spain is, also, one of the countries, together with England, Ireland, Italy or the Netherlands, where teaching hours are higher than the OECD average.

The total number of compulsory hours of instruction for students in primary and secondary education in public schools varies remarkably among the countries in our surroundings: from 608 hours for 7 to 8-year-olds in Finland to 915 in Ireland or 940 in the Netherlands. These differences are even wider for 15-year-olds: 741 in Sweden and 1,089 in Italy. In Spain, the total number of hours is 875 in primary education and 1,050 in secondary education, above the OECD (774 and 920) and the European Union (750 and 907) averages (*Chart and Table 4.1*).

Chart and table 4.1 (extract from Table D1.1):
Compulsory and intended instruction time in public institutions (2010)
Average number of hours per year of total compulsory instruction time in the curriculum for 7-8 and 15-year-olds



4.2 Student-teacher ratio

The student-teacher ratio in Spain is below the OECD and the EU averages in all educational levels.

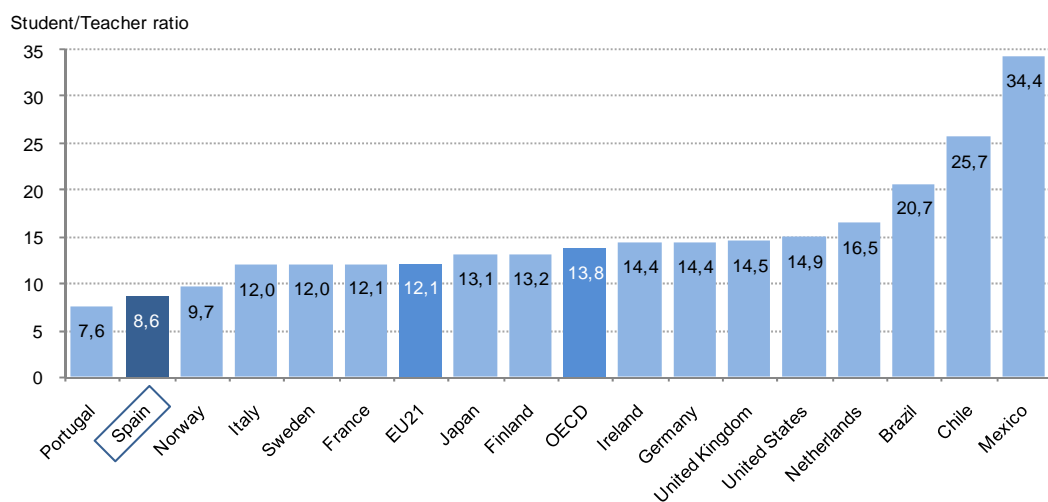
The student-teacher ratio in Spain is lower in all educational levels than the OECD and the European Union averages. Although there are significant variations among the ratios of the reference countries in all stages, in general, the lowest ratios stand out in Italy, Norway, Sweden and Portugal; in contrast, the highest ratios are found in France, the United Kingdom, Mexico, Brazil and Chile. As in most countries and across the OECD and the EU, student-teacher ratios are usually higher in initial educational levels, pre-primary and primary education, than in secondary education (except in some countries such as Italy or the Netherlands) (*Table 4.2*).

Table 4.2 (extract from Table D2.2):
Ratio of students to teaching staff by level of education (2010)
Calculations based on full-time equivalents.

	Pre-primary education	Primary education	Lower secondary education	Upper secondary education	Tertiary-type A education
Spain	13,0	13,2	10,1	9,6	11,7
OECD	14,4	15,9	13,7	13,8	15,5
EU21	13,4	14,3	11,7	12,5	15,2
France	21,5	18,7	15,0	9,7	15,7
Italy	11,8	11,3	11,9	12,1	18,8
Portugal	15,7	10,9	7,9	7,2	14,4
Germany	12,6	16,7	14,9	13,2	11,1
Netherlands	15,7	15,7	16,5	16,5	14,7
Finland	11,0	14,0	9,8	17,1	14,4
Norway	m	10,5	9,9	9,4	9,2
Sweden	6,3	11,7	11,4	13,1	12,5
Brazil	17,7	23,4	20,4	17,3	m
Chile	9,7	24,6	25,1	26,1	m
Mexico	25,4	28,1	32,7	26,9	14,5
United States	14,6	14,5	14,0	15,0	16,2
Ireland	19,8	15,9	14,4	14,4	15,6
United Kingdom	15,9	19,8	17,1	15,2	18,5
Japan	15,9	18,4	14,4	12,2	m

Chart 4.3 shows student-teacher ratio for all secondary education only in public schools. Spain (8.6) and Portugal (7.6) are the two countries with the lowest ratios, significantly lower than the OECD (13.8) and the EU (12.1) averages.

Chart 4.3 (Table D2.3):
Ratio students/teacher in secondary education in public institutions (2010)



4.3 Average class size

In Spain the actual average of students per class, calculated by dividing the number of students by the number of groups, is similar to that in the OECD and the EU in public schools; however the estimated average, which takes into account the student-teacher ratio and the instruction time of teachers and students, is significantly lower than in the OECD and the EU.

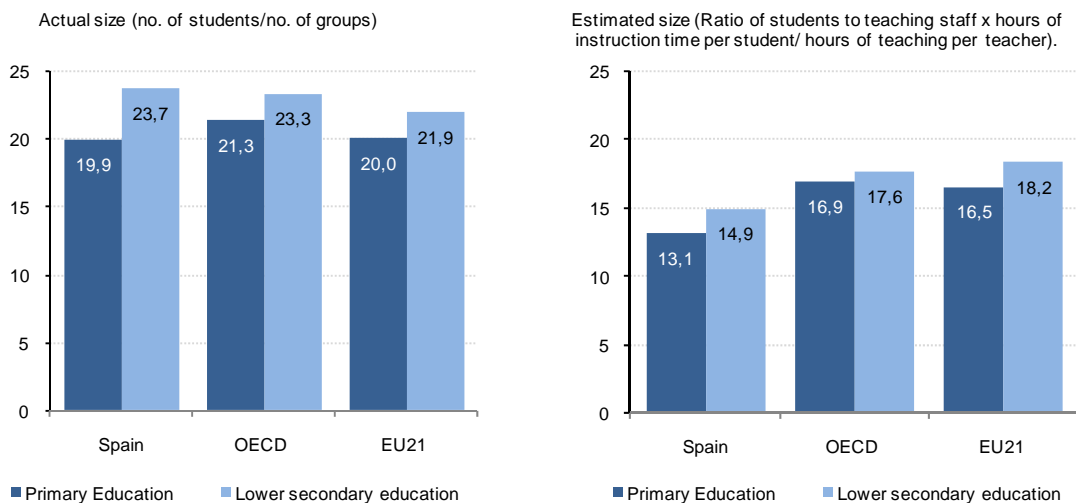
This indicator shows the relationship there is between total students enrolled in each educational stage and the classes they are in. Therefore, it does not refer to legal requirements on the number of students per class or frequent figures in certain schools.

Education at a Glance 2012 distinguishes, primarily for certain calculations such as the salary cost per student, between the actual class size and the estimated size. The actual class size shows the relationship between the number of students and the number of groups, thus it shows the class size in common subjects which are generally compulsory, but it does not take into account the subdivisions of these groups into optional subjects, divisions or for special educational needs, for example. The estimated size relates the student-teacher ratio, the number of hours of instruction for students and the number of teaching hours for teachers and it is more limited depending on the subgroups created (lower ratios).

In Spain, the actual average of students per class in public primary education schools (19.9) is lower than in the OECD (21.2) and equal to the EU (20.0). The differences between the estimated average in Spain (13.1) and the OECD (16.9) or the EU (16.5) are more significant (*Chart 4.4*).

During lower secondary education, the average in Spanish public schools (23.7), is similar to that of the OECD (23.2) and higher than that of the EU (21.9). As for the estimated average, in lower secondary education there are also major differences between Spain (14.9), the OECD (17.6) and the EU (18.2) (*Chart 4.4*).

Chart 4.4 (extract from Table D2.1, B7.1a and B7.1b):
Actual and estimated class size in public institutions



* In "Estimated size" data for the EU correspond to 17 countries with data available for Primary education and 16 countries for lower Secondary education.

4.4 Teachers' compensation

Teachers' compensation is higher in Spain at all stages. The greatest difference is found with the starting salary. After 15 years or at the maximum salary attainable the gap with the OECD and the EU is narrower.

Teachers' salaries is the largest item in the education budget, therefore it constitutes a key element for educational policy. This indicator presents a comparison between the compensation levels at three different points of teachers' careers as well as a comparison of teachers' compensation with the average salary of workers with tertiary education.

As already mentioned above, the starting salary for Spanish teachers, both in primary education and in secondary education, is higher than the OECD and the EU averages, but after 15 years of working (Chart and Table 4.5), the difference between the average salaries is smaller. At the end of a teaching career, salaries in Spain are also above the OECD and the EU averages, although in our country more years of work are needed to reach the maximum salary.

Maximum salary in primary and secondary education is 58% and 61% respectively higher than starting salaries across OECD countries and the difference tends to be greater when it takes many years to reach the maximum level. In countries where it takes longer to reach the salary cap the average increase in the OECD is 78%. In Spain, although the highest salary level is reached at the end of the working life (estimated at 35 years) this increase is 40%.

Chart and table 4.5 (extract from Table D3.1):
Teacher's salaries (2010) (in USD)

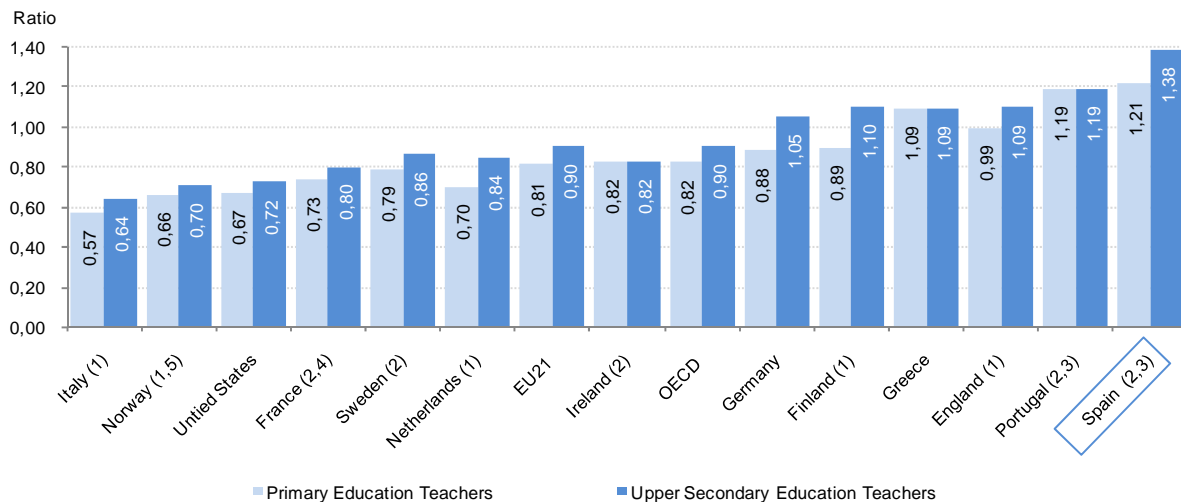
Annual teachers' salaries in public institutions: Starting salary, Salary after 15 years of experience and salary at top of scale, by level of education, in thousands of equivalent USD converted using PPPs (Purchasing Power Parity).



	Primary Education			Upper Secondary Education		
	Starting salary	Salary after 15 years of experience	Salary at top of scale	Starting salary	Salary after 15 years of experience	Salary at top of scale
Spain	37 137	42 846	51 822	42 325	48 818	59 269
OECD	28 523	37 603	45 100	30 899	41 182	49 721
EU21	28 948	38 280	44 907	31 346	42 470	50 139
France	24 334	32 733	48 296	27 420	35 819	51 560
Greece	26 583	32 387	38 934	26 583	32 387	38 934
Italy	27 015	32 658	39 762	29 122	36 582	45 653
Portugal	30 825	37 542	54 158	30 825	37 542	54 158
Germany	46 456	55 771	61 209	53 963	66 895	76 433
Netherlands	36 861	50 621	53 654	38 001	61 704	66 403
Finland	29 029	37 455	39 702	32 276	42 809	45 377
Norway	32 629	35 991	40 405	35 991	38 817	42 766
Sweden	28 937	33 374	38 696	30 650	36 429	41 675
United States	36 858	45 226	52 137	37 267	48 446	55 199
England	30 204	44 145	44 145	30 204	44 145	44 145
Ireland	32 601	53 677	60 758	32 601	53 677	60 758
Japan	25 454	44 788	56 543	25 454	44 788	58 075

Primary education and upper secondary education teachers in Spain earn 21% and 38% respectively more than the average workers with tertiary education. These percentages are much higher than the OECD and the EU averages in all educational levels (*Chart 4.6*).

Chart 4.6 (extract from Table D3.1 continuation):
Ratio of salary to earnings for full-time, full-year workers with tertiary education aged 25 to 64 (2010)



Note: Data from the countries are sorted from minor to major according to the ratio of teachers of upper secondary education

- (1) Actual salary for teachers aged 25-64 to earnings for full-time full-year workers with tertiary education aged 25 to 64 Year 2009
- (2) Statutory salary after 15 years of experience (minimum training) to earnings for full-time full-year workers with tertiary education aged 25 to 64. Year 2007
- (3) Year 2009
- (4) Year 2008
- (5) Year 2007

4.5 Decision-making

In Spain, public schools have less autonomy for decision-making than across OECD and European Union countries. While in the OECD and in the EU21 schools make 41% and 46% of decisions respectively, in Spain this percentage barely reaches 25%.

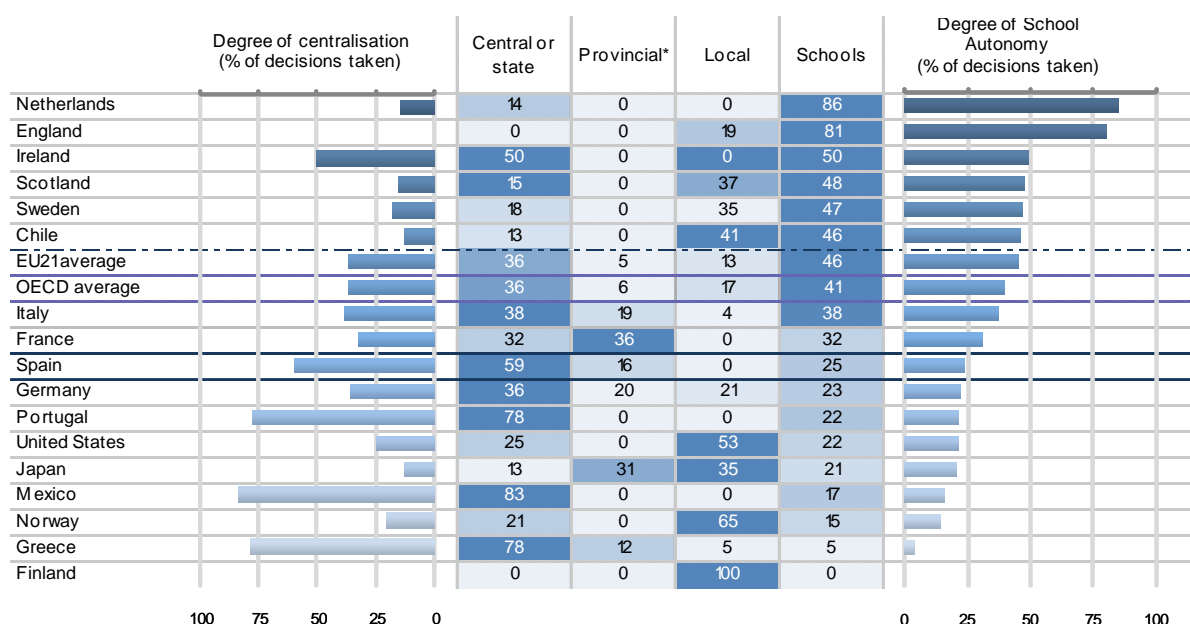
The responsibility of central or state, provincial, local authorities or schools for designing and implementing education systems is a key issue of educational policy. In general, there has been a trend since the 1980's to give more autonomy to the lower levels of the education system, while the role of central and state authorities was strengthened to establish standards, curricula and national assessments. Indicator D6 of *Education at a Glance 2012* shows where decisions are taken in public institutions in lower secondary education.

Chart 4.7 shows the percentage of decisions taken at the school, local, provincial, or central and state levels. The most decentralised countries are the Netherlands, England and Finland, where decision-taking at a central level is almost non-existent. In these countries, especially in the Netherlands and in England, schools are given significant autonomy, and they make 86% and 81% of the education decisions respectively.

Across OECD countries, responsibility for making around 80% of education decisions is distributed primarily among the central bodies of the education administrations and the schools. Schools make 41% of the decisions, while the central administrations are responsible for 36%. In the member countries of the European Union, the trend is very similar, although the autonomy of the schools, in terms of decisions made, is 5% higher than in the OECD.

Chart 4.7 (Table D6.1):

Percentage of decisions taken at each level of government in public lower secondary education, by domain (2011)



*In some countries, Regional or subregional

Spain is, together with Greece, Mexico and Portugal, in the group of countries with a very high percentage of decisions made at a national or state level (59%). Only 25% of decisions are made at the school level and 16% by provincial or territorial area administrations. The level of involvement of each education institution in decision-making varies significantly according to their nature and characteristics.

Schools have greater autonomy for decision-making related to the organisation of instruction and less freedom for planning and structures, personnel management and resource management.

In Spain, as well as in the OECD and in the 21 EU countries, schools tend to have more authority over decision-making regarding the organisation of instruction. This autonomy diminishes with regard to managing personnel or resources, something which is even more marked in Spain. In comparison with other countries in the OECD and the European Union, the role of Spanish central and state authorities in planning and structures, as well as in the management of material, financial and human resources, is broader. Decisions regarding general planning and structures tend to have the highest level of centralisation.

Chart 4.8 (Tables D6.2a and D6.2b):

Percentage of decisions taken at the central or state level and at the school level in Spain, in OECD countries and in the EU21 in public lower secondary education, by domain (2011)

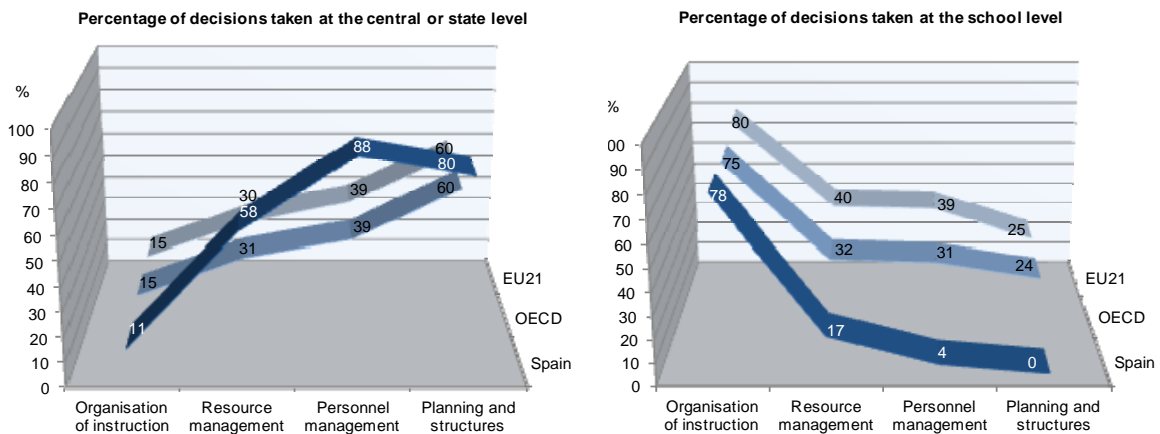


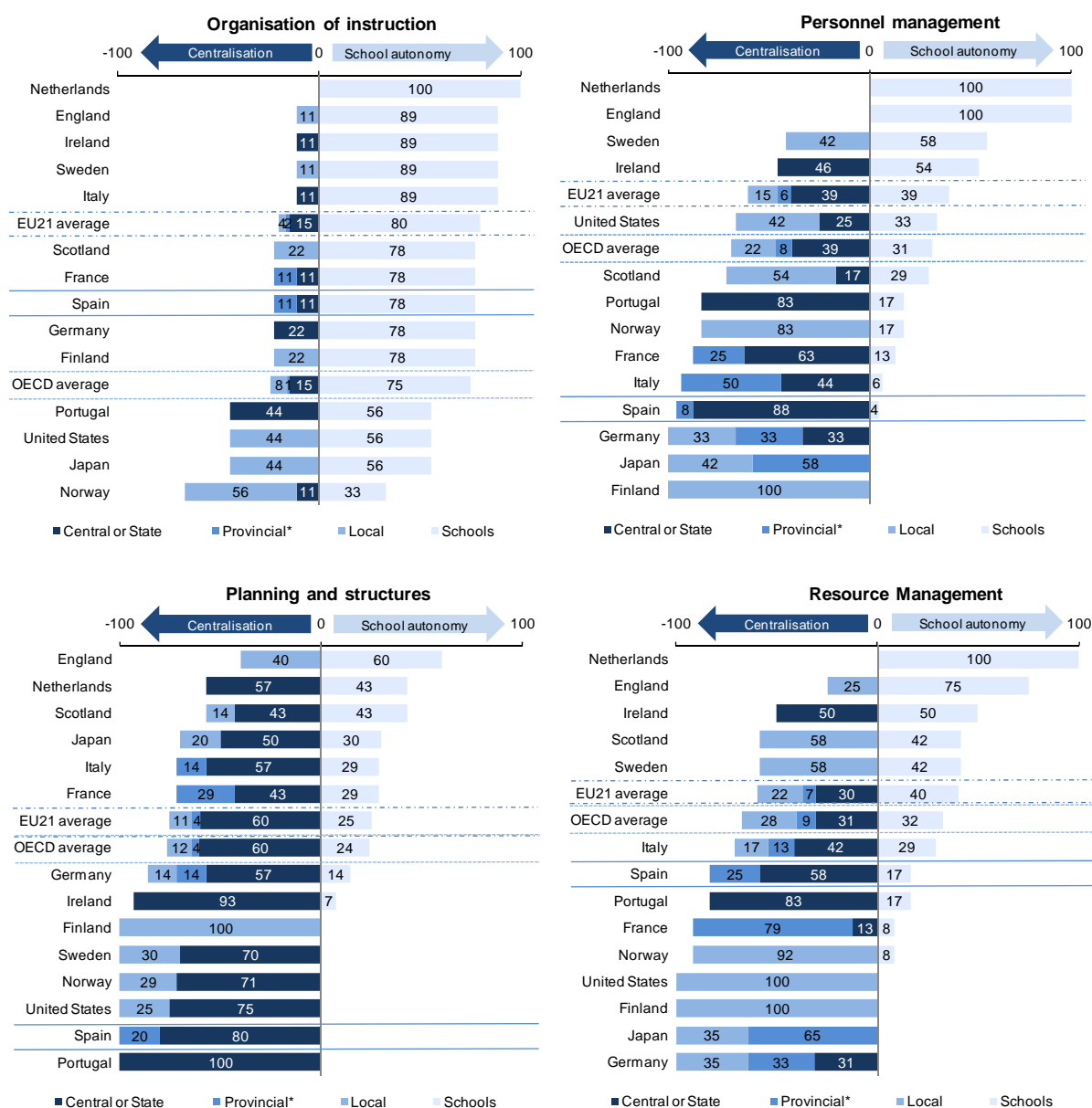
Chart 4.9 details distribution of authority among the education bodies for making different types of decisions by country.

In most countries, decisions about organisation of instruction, that is, optimisation of the teaching and learning process, the selection of methods and educational instruments, follow-up of students’ academic progress, their grouping, etc., are made at the schools. In the Netherlands, schools are the only ones responsible for the organisation of instruction, while in Norway the central or local bodies are more involved. In Spain, the percentage of decisions of this kind made by schools is 78%.

In Spain central and state bodies make 88% of the decisions related to personnel management, while in the OECD countries, more than half are made by local authorities or schools.

Across OECD countries, 39% of decisions on personnel management, hiring and dismissals, salary policy and conditions of service, etc. are made by central or state government bodies, 22% by local authorities and 31% by schools. In the Netherlands and England schools are completely autonomous in this regard, whereas in Mexico all decisions related to personnel management are consolidated in central or state bodies. In Spain, practically all decisions (88%) are made by the central or state government.

Chart 4.9 (Tables D6.2a and D6.2b):
Percentage of decisions taken at each level of government in public lower secondary education, by domain (2011)



* In some countries Regional or subregional

Involvement of schools in decision-making related to planning and structures is limited across OECD countries and non-existent in Spain.

In most countries, even those with a high level of decentralisation, the power to make decisions regarding planning and structures resides primarily in central, state or local government bodies. In the OECD and in the European Union, two thirds of decisions are made by state or central bodies. Likewise, schools have a limited level of involvement regarding the design of programmes and course contents, accreditation, opening and closing of educational institutions, etc., except in England where 60% of structural and planning decisions are made by them.

Across OECD and EU21 countries this percentage is 24% and 25% respectively. In Spain, schools do not participate in decision-making related to planning and structures.

In comparison with the OECD countries, the autonomy of schools in Spain is practically halved with regard to resource management.

Three out of every ten decisions on the distribution and use of resources made in the OECD and in the 21 member countries of the European Union, are made by the central or state government. In the EU21, 40% of them correspond to schools. In the OECD this percentage is 8% lower. In Spain, the autonomy of schools for managing resources is even more limited. Schools make 17% of decisions in this regard, while 58% of them are made by central or state authorities.

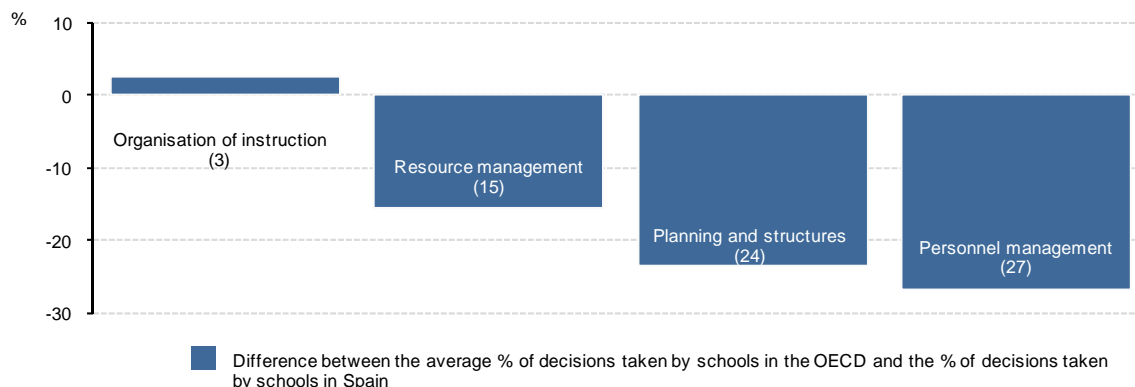
In comparison with the OECD average, the lowest degree of autonomy in Spain in decision-making is found in personnel management.

Schools' ability to make decisions regarding personnel management in Spain is considerably lower than in the OECD (*Chart 4.10*). While across OECD countries, schools make a third of decisions in this regard, in Spain their involvement decreases by 27%, assuming barely 4% of the control regarding management of human resources.

Decentralisation of decision-making related to resource management is also limited. In the OECD, the level of autonomy of schools is double that of Spain, involving them in 32% of decisions. In Spain, this percentage is 15% lower.

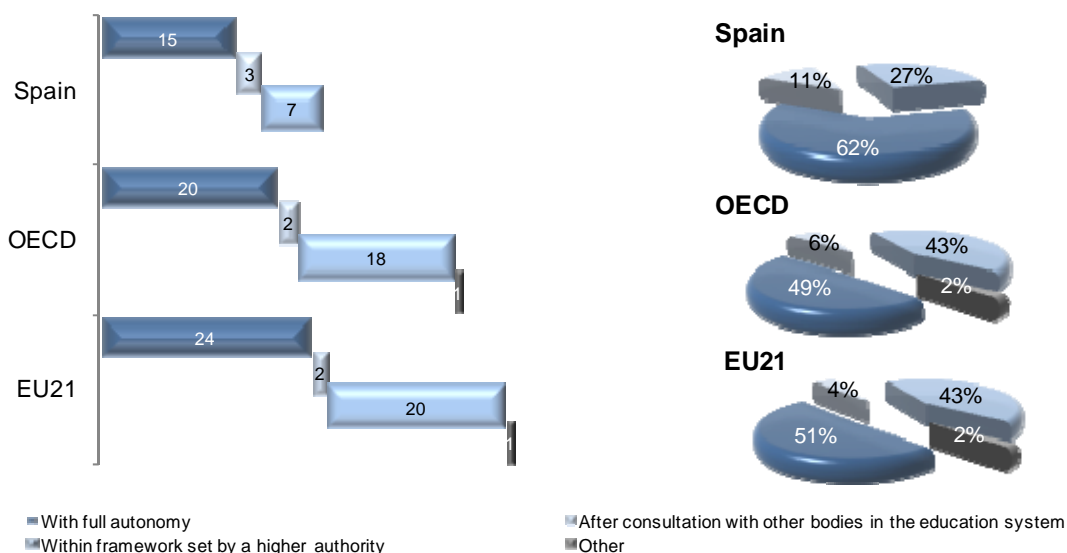
With regard to organisation and instruction, the autonomy of Spanish schools is similar to that of the OECD. Spanish schools do not participate in decision-making regarding planning and structures.

Chart 4.10 (Tables D6.2a and D6.2b):
Differences in school autonomy between the OECD and Spain, by domain



The autonomy of schools may be subject to a series of determining factors, such as the existence of a framework of action established by higher authorities, or the need to consult other bodies in the system. Thus, decision-making autonomy of schools is slightly diminished in practice. In Spain, of the 25% of decisions made by schools, 15% are made with total autonomy and 7% are subject to conditions established under a common framework. Around 3% of matters are decided after consultation with another education body. Across OECD and EU countries, autonomy of schools in absolute terms is higher: over 20% of decisions are made with absolute autonomy.

Chart 4.11 (Tables D6.3, D6.4a and D6.4b):
Mode of decision making at the school level (2011)



After seeing the general trend in the distribution of decision-making in the area of education in OECD countries, it is important to analyse the advantages and disadvantages of decentralisation policy. The main element in favour of higher autonomy in schools is greater efficacy and efficiency of education management. A better understanding of the needs and capabilities of the school community by the education authorities enhances optimisation of resource distribution and control, boosting school productivity and accountability. Greater

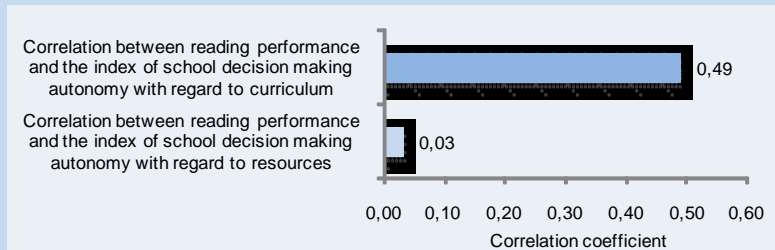
autonomy is associated to less bureaucracy, enhanced innovation and, consequently, a general improvement of education quality.

Relationship between curricular autonomy at schools and student performance

The PISA 2009 results suggest that **greater autonomy at schools to define and prepare the curriculum and the assessment policy has a positive impact on student performance.**

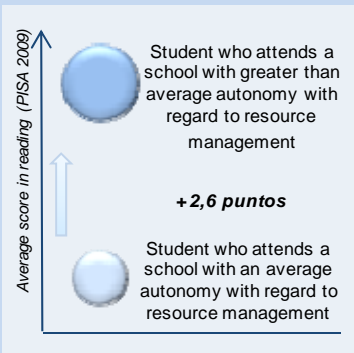
Education systems with more decentralisation in decision-making about the courses offered, their content, assessment of students and selection of text books, achieve higher student performance in reading, even when other determining factors are not considered.

Chart 4.12 (PISA 2009, Table IV.2.1):
Correlation between curricular autonomy at schools and reading performance, accounting for the GDP per capita effect



Relationship between school autonomy for resource management and student performance

By itself, school autonomy for resource management does not appear to have any relationship with student performance. However, this relationship does become positive when combined with standards-based external examination policy.



PISA 2009 results confirm that, **when a regulating accountability system is incorporated, greater school autonomy for decision-making regarding resources has a positive impact on student performance.**

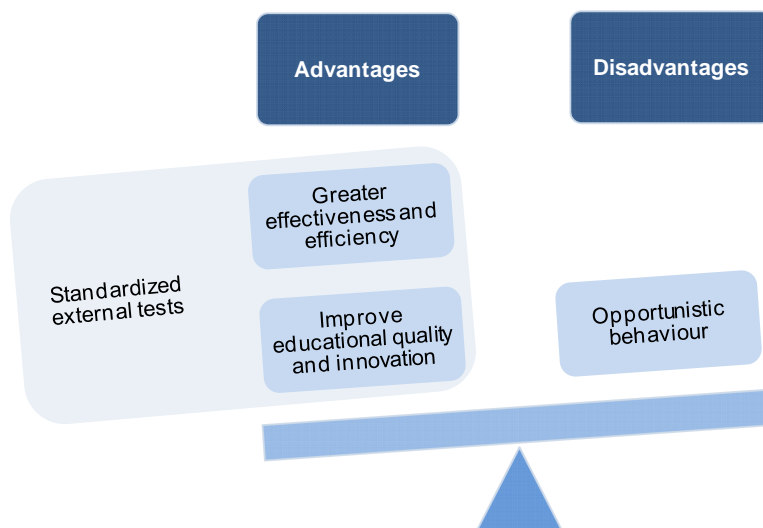
In countries where schools publicly report academic performance, students attending schools with greater autonomy than average, achieve 2.6 score points more on the reading scale.

An analysis of the existing relationship between student performance and the level of autonomy at schools in decision-making, conducted by Hanushek, Link and Woessmann (2011)¹⁰, provides conclusive evidence on the positive effect of decentralisation in education outcomes. However, the study evidences the heterogeneity of this impact among countries. According to these authors, the effect of autonomy is positive in developed countries, such as Spain, but it is negative in developing countries. At low levels of economic development, greater decentralisation (especially of matters related to academic contents) can even be detrimental to student performance. In contrast, in developed countries, a greater autonomy in the management of personnel, budgets or curricula improves school outcomes.

The effect of decentralisation is more positive in countries with standardised examinations.

Against the policy of decentralisation, Hanushek, Link and Woessmann (2011) counter the opportunistic behaviour that may arise from greater decision-making freedom. Autonomy does not only allow using knowledge on the context to improve the situation of education, but it also widens the possibilities of using the freedom gained for one's own benefit, especially in systems with asymmetric information. An external, standardised and centralised accountability system allows monitoring the behaviour of schools and, thus, prevents possible opportunistic conduct. Hanushek, Link and Woessmann (2011) corroborate that the effect of decentralisation is more positive in countries with central standardised examinations.

Figure 4.13:
Advantages and disadvantages of school autonomy



¹⁰ Eric A. Hanushek, Susanne Link, Ludger Woessmann (2011). Does School Autonomy Make Sense Everywhere? Panel Estimates from PISA. CESifo Working Paper No. 3648. Category 5: Economics of education

4.6. Standardised examinations in primary, secondary and tertiary education


















In recent decades, national examinations and assessments have become increasingly important, and not only as a means of controlling student performance and academic certification, but also as instruments for accountability and measuring and monitoring the quality of the education system.

In *Education at a Glance 2012*, the OECD has included a specific section with a review of the various standardised examination and assessment systems, as significant factors for understanding the differences between the education systems in the countries and explaining variations in student performance.

National or state examinations are standardised examinations that determine whether students can be promoted to a higher educational level or obtain an official certification. That is, these examinations have formal consequences for students. In the United States, national examinations are compulsory at the three educational levels (in primary education and in lower and upper secondary education) although they are not standardised nationwide (*Table 4.14*). In France, Italy, Portugal, Germany, the Netherlands and Norway 100% of students must sit national examinations in secondary education. In the United Kingdom and Finland compulsory and standardised examinations are implemented only in upper secondary education.

Table 4.14 (Tables D7.1a, D7.1b and D7.1c):

Existence of compulsory national or state standardised examinations and the percentage of students examined (2011)

	Existence of compulsory national or state standardised examinations (Yes/No)			Standardised examinations at the country level (Yes/No)			% of students examined
	Primary	Lower secondary	Upper secondary	Primary	Lower secondary	Upper secondary	
 United States	●	●	●	○	○	○	75%-99%
 France	○	●	●	○	●	●	100%
 Italy	○	●	●	○	○	○	100%
 Portugal ^{1,2}	○	●	●	○	●	●	100%
 Germany ^{1,2}	○	●	●	○	○	○	100%
 Netherlands ¹	○	●	●	○	●	●	100%
 Ireland	○	●	●	○	●	●	75%-99%
 Norway	○	●	●	○	●	●	100%
 United Kingdom (England)	○	○	●	○	○	●	75%-99%
 Finland ¹	○	○	●	○	○	●	75%-99%
 Spain ¹	○	○	○	○	○	○	-
 Greece	○	○	○	○	○	○	-
 Sweden	○	○	○	○	○	○	-
 Brazil	○	○	○	○	○	○	-
 Chile	○	○	○	○	○	○	-
 Mexico	○	○	○	○	○	○	-
 Japan	○	○	○	○	○	○	-

1. Upper secondary education includes only general programmes

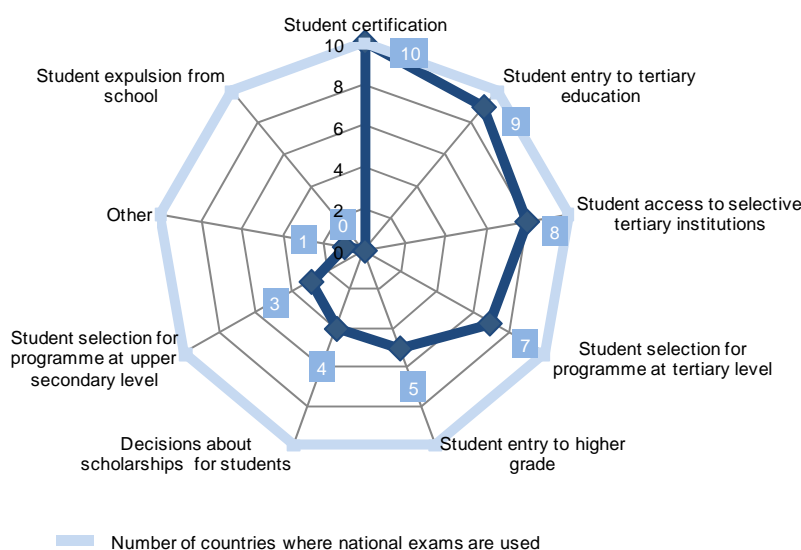
2. Lower secondary education includes only general programmes

In Spain, Greece, Sweden, Brazil, Chile, Mexico and Japan there are no compulsory national or state examinations at any educational stage. However, in the case of the Netherlands, Finland and Spain, when considering implementation of standardised examinations in upper secondary education, only general education programmes have been taken into account. In fact, in Spain there are state standardised entry examinations for some Vocational Training programmes that students over 17 without a secondary education certificate must take (less than 10% of students).

The purposes of standardised national examinations are diverse (*Chart 4.15*). In the ten countries analysed, it is essential to pass an examination in upper secondary education in order to obtain the graduation certificate. In 9 of the 10 countries these examinations determine whether students may access general tertiary education, in 8 they determine access to selective tertiary institutions. In 7 countries, the results of the examinations allow selecting certain tertiary education programmes and in 5, promotion to a higher level. In 4 countries, these examinations are decisive for obtaining scholarships or specific financing. In 3 countries, selection of a certain programme in upper secondary education is based on the results of the examinations. In none of the 10 countries analysed do the results of the examinations entail student expulsion from school.

Chart 4.15 (Table D7.1a):

Distribution of main purposes of national and other standardised examinations at the upper secondary level in general programmes (2011)

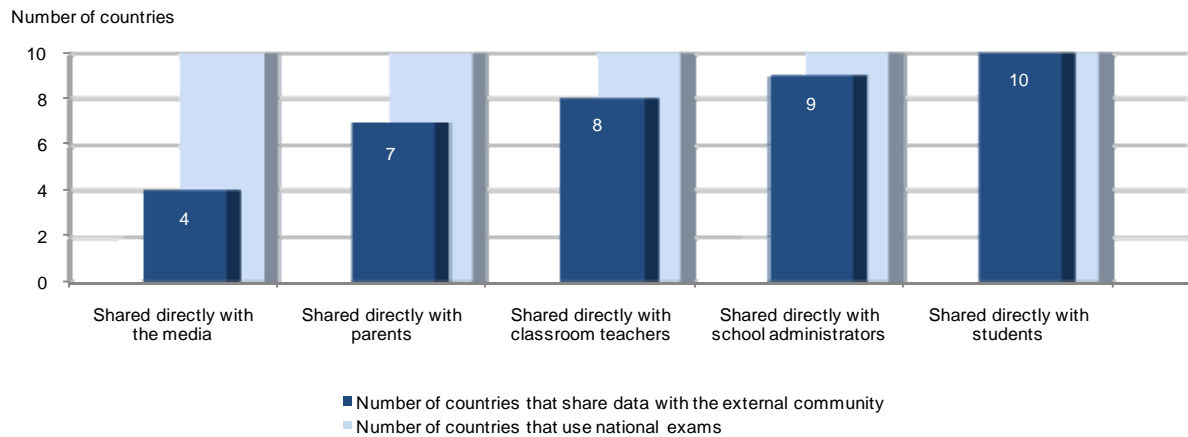


In some countries, such as the United States, the Netherlands, Norway or Japan, there are other types of standardised examinations that are not centralised at a national or state level, but they are at lower education authority levels. The purposes of this type of examinations are similar to those of central or state standardised examinations.

In the ten countries implementing national examinations, their results are reported to the external community as well as the education authorities (*Chart 4.16*). That is, designated groups receive the information without having to expressly request it. In all countries the results are shared with the students and in 7 of them also with their families. In 9 countries school administrators are informed of the results obtained and in 8 countries teachers receive them as well. In 4 countries the results are shared with the news media.

Chart 4.16 (Table D7.1a):

Communication of standardized exam results in the second level of Secondary Education in general programs (2011)



In most OECD countries there are examinations to gain access to tertiary education. However, few students take them since, initially, access to higher education is regulated by the national examinations taken in secondary education (*Table 4.17*).

Table 4.17 (Table D7.3a):

Existence of mandatory and standardized entrance examinations to tertiary education and percentage of students tested (2011)

	Do entrance examinations exist to gain Access to tertiary studies?				Standardised	Compulsory	% of students examined
	Yes, for all fields	Yes, for most fields	Yes, for some fields	No			
Greece	●	○	○	○	●	●	75%-99%
Sweden	●	○	○	○	●	○	N/d
Brazil	●	○	○	○	●	○	75%-99%
Chile	●	○	○	○	●	●	75%-99%
Mexico	●	○	○	○	○	●	N/d
Japan	●	○	○	○	○	●	51%-71%
United States	○	●	○	○	●	○	26%-50%
Italy	○	●	○	○	○	●	75%-99%
Finland	○	●	○	○	○	○	75%-99%
Spain	○	●	○	○	●	● ¹	51%-71%
Germany	○	○	●	○	○	○	N/d
France	○	○	●	○	○	○	<10%
Ireland	○	○	●	○	●	○	<10%
Norway	○	○	●	○	○	○	<10%
United Kingdom (England)	○	○	●	○	○	○	<10%
Portugal	○	○	○	●	-	-	-
Netherlands	○	○	○	●	-	-	-

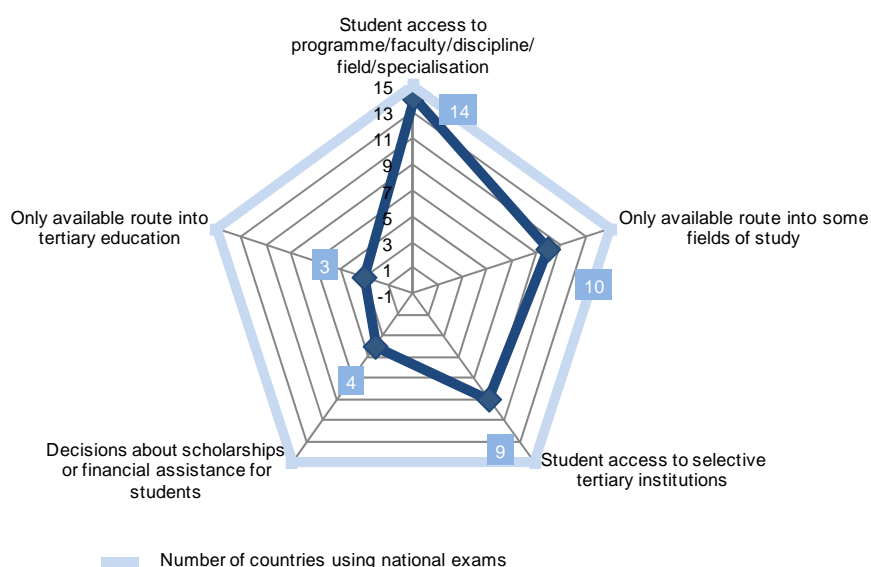
1. Excepto in tertiary education Tipo B, tras completar el programa general de la segunda etapa de secondary education

In Greece, Sweden, Brazil, Chile, Mexico and Japan entry examinations are implemented in all fields of tertiary education; in the United States, Italy, Finland and Spain they are implemented in most of them. In Germany, France, Ireland, Norway and England only some tertiary programmes require passing entry examinations. In the Netherlands and Portugal no specific entry examinations are implemented.

In some countries, such as Spain or Sweden, examinations are standardised, while in many of them entry examinations are managed by individual tertiary institutes or a consortium of tertiary institutes, and are therefore not comparable (Chart 4.17).

The purpose of entry examinations is very similar to that of national examinations in secondary education. In 10 of the 15 countries with entry examinations, passing them is the only way to access certain fields of study, and in 3 of them, to access tertiary education in general. In 14 countries these examinations determine access to certain programmes, faculties or disciplines, and in 9 to selective institutions. In 4 countries, the examinations are used to grant scholarships or financing.

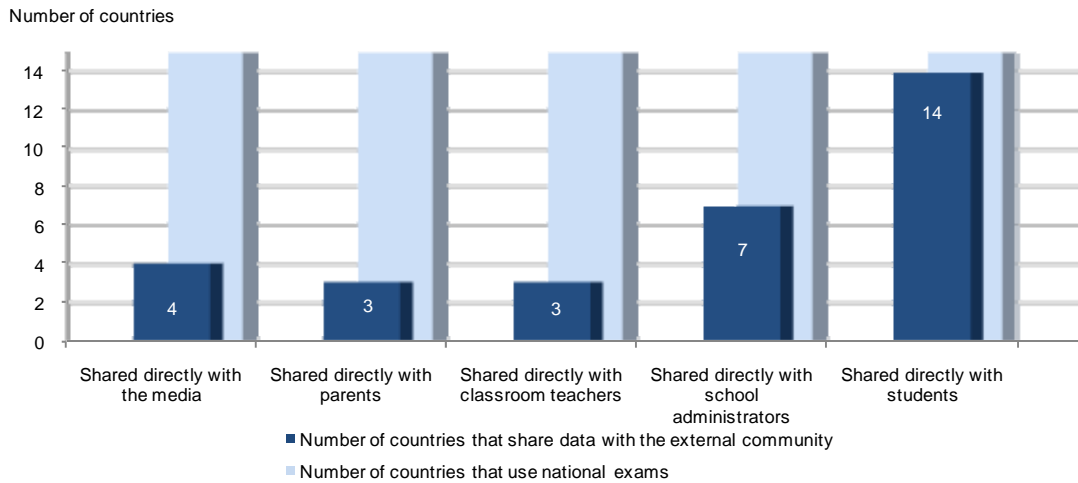
Chart 4.18 (Table D7.3a):
Distribution of main purposes or uses of entrance examinations to gain access to tertiary education (2011)



In 14 countries out of a group of 15, the examinations results are sent to groups not linked to the managing authorities, primarily students. In comparison with the practice of sharing results observed in secondary education, access to the results of the examinations to gain entry into tertiary education is more limited. Only 3 countries share the information with families and teachers, and 7 report it to schools. In 4 of the countries results are shared with the news media.

In Spain, the information on entrance examinations results is shared with the five groups mentioned above.

Chart 4.19 (Table D7.3a):
Communication of the results of the tests of access (2011)



How standards-based external examinations are related to student performance

Findings from the PISA 2009 survey evidence that **in countries that use standards-based external examinations, student performance is better**, even when accounting for the effect of other factors that may condition performance. Specifically, in countries whose evaluation systems include standards-based external examinations, the reading score is 16 points higher on average than in those where examinations of this kind are not used.

This conclusion is based on the results of the bivariate regression model relating the reading score achieved by 15-year-olds with the existence of standards-based external examinations.

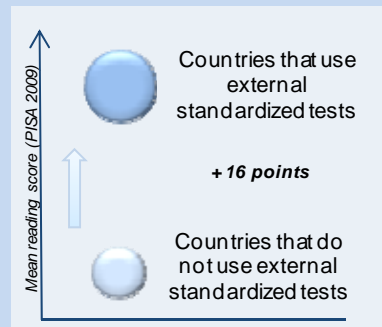
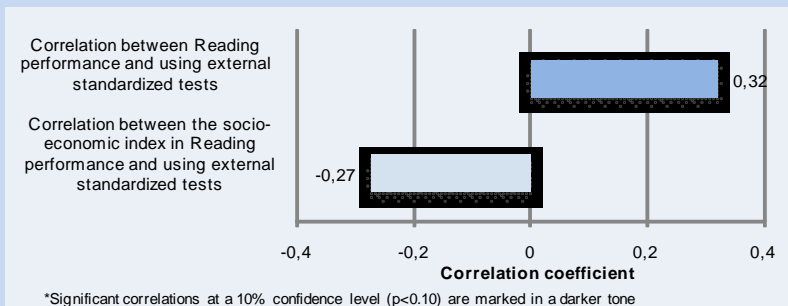


Chart 4.20 (PISA 2009, Table IV.2.1):
Correlación entre la existencia de pruebas externas estandarizadas and los resultados educativos, descontando el efecto del GDP per cápita (2009)



In contrast, no statistically significant relationship was found between the policy of standards-based external examinations and equity in the education system, that is, the existence of standards-based examinations does not appear to have any impact on the effect students' socio-economic background has on

student performance.

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SOURCES AND EXPLANATORY NOTES

The sources for each box and table presented in this report, as well as all corresponding notes, are the same featured in the original OECD publication, *Education at a Glance*, which the reader is referred to.

The tables and boxes presented are in all cases an extract of the originals in *Education at a Glance*, of which we have kept the titles, and added numbers and letters of origin in order to facilitate their identification.

The terminology used in *Education at a Glance* for the various education levels, based on the International Standard Classification of Education (ISCED 1997), does not always coincide with those familiar in Spain. Their equivalence is the following:

- *Pre-primary education* equals Educación Infantil in Spain (ISCED 0)
- *Lower secondary education* equals Educación Secundaria Obligatoria (ESO) (ISCED 2).
- *Upper secondary education* equals either Bachillerato, Ciclos Formativos de Grado Medio, Programas de Cualificación Profesional Inicial and other Arts and Foreign Language programmes (ISCED 3A, 3B and 3C).
- *Tertiary education or Higher education* equals University education (ISCED 5A, 6) and the Spanish Advanced Training Cycles (ISCED 5B).

The data presented from the European Union correspond to the average data of the 21 member countries of the OECD, for which there are data available or they can be estimated. These countries are Germany, Austria, Belgium, Czech Republic, Denmark, Spain, Slovak Republic, Slovenia, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, the United Kingdom and Sweden.

The following letters are used in the tables and charts to indicate lack of data:

m: data is not available.

n: magnitude is either negligible or zero.