

## What is the gain from education? A close-up look at the evolution of wages over 20 years at the start of the working life



Arnaud DUPRAY

(Céreq)

Christophe BARRET

(Céreq)\*

Since the 1980s, all OECD countries have seen significant increases in the share of their populations completing their education with a higher education qualification. This drive to raise education levels is intended to help national economies deal with rapid changes. While it is still too early to assess the scale of the effects of these changes over the long term, we can legitimately seek to investigate them over the short term, and particularly their impact on the groups first affected, namely young people embarking on their working lives.



WAGES

EDUCATION-TO-

WORK TRANSITION

LEVEL OF EDUCATION

YOUNG PERSON

GÉNÉRATION SURVEY

92

GÉNÉRATION SURVEY

2010

*\*Baccalauréat: French secondary school diploma/high-school degree.*

*All the studies of young people's education-to-work transition over two decades are to be found in the book.*



*\*Christophe Barret left*

*Céreq to join INSEE-PACA.*

The present study is based on a synthetic indicator: wages observed after 5 years in the labour market for two cohorts of young French people investigated almost 20 years apart, in 1997 in the case of the older cohort and in 2015 in the case of the younger one. While remaining in education still guarantees access to more highly-paid jobs, this tendency towards extending the time spent in education does not benefit all young people in the same way. The most highly qualified in particular seem to be paying the price of this mass access to higher education.

The wage young people receive on entering the labour market for the first time is one of the criteria of job quality and positioning in the labour market. It is strongly correlated with level of education and enables young people to situate themselves relative to their peers. It provides a short-term measure of the return to their investment in education. Céreq's *Génération* surveys offer an opportunity to compare the evolution of wage levels for those leaving the education system in 1992 and 2010 observed over the first five years of their working lives. Taking into account the lengthening of the time spent in education over the period, have wages for the younger cohort increased? Have the wage gaps between the various levels of qualification widened? Has there been a fall in the share of low wage-earners as the proportion of those with lower secondary qualifications only has fallen?

### The wage hierarchy still in step with the qualifications hierarchy

The levels of education achieved on exit from the education system have risen significantly in 20 years. Almost 44% of young people now enter the labour market with a higher education qualification in their pockets, compared with only 27% in 1990. The injunction to raise initial education levels, issued by the Minister of Education in 1985, who declared that "80% of each age group will reach the level of the *baccalauréat*\* between now and the year 2000", has become a reality 30 years on. The target for the share of high school pupils obtaining the *baccalauréat* was attained in 2012, and the expansion of higher education has produced an unprecedentedly high share of graduates. At the same time, higher education courses over the past 15 years have become more vocationally oriented in order to meet the needs of business. The introduction of the vocational bachelor's degree in 1999, the establishment of the bachelor's-master's-doctorate system from 2002 onwards and the expansion of apprenticeships in higher education have both increased the number of tertiary-level qualifications and created new opportunities for otherwise excluded groups to enter higher education [1].

This increase in educational levels had given rise to legitimate expectations among leavers as to their employment prospects and wage levels.





However, those expectations came up against an economic situation that was significantly weaker over the period between 2010 and 2015 than during the years between 1992 and 1997. The 1992 cohort of leavers tended to see an improvement in economic activity over the five-year observation period, despite a brief recession in 1993. GDP rose by 7.5% (in volume terms) over the period as a whole, compared with just 4.4% for the 2010 cohort. This deterioration in the economic situation particularly affected young people in the labour market, as is evidenced by the increase of 2 to 3 points in the unemployment rate (ILO definition) among 15-24 year olds, which fluctuated between 23 and 25% from the first quarter of 2013 onwards.

\*Median wage: the wage that divides the income distribution for the population under consideration into two equal halves, with one half earning less and the other half earning more.

\*Grandes Écoles : establishments of higher education: business and engineering schools. The Grandes Écoles are highly selective, elite, and prestigious mainly public institutions, outside the French university system.

\*CAP (certificat d'aptitude professionnelle) BEP (brevet d'études professionnelles) and MC (mention complémentaire) are lower level vocational qualifications obtained in secondary school (classified in Isced 3).

\*Classes préparatoires: undergraduate courses to prepare nationwide competitive exams in liberal arts, economics or sciences

As for the positive correlation between wage level and level of qualification, it is verified throughout the educational hierarchy. In higher education, it goes hand in hand with a hierarchy between graduates of the elite *grandes écoles*\* and university graduates with the same level of qualification, with the latter earning significantly less than the former. The formers' average wage premium in current euros compared with university graduates has actually increased, which indicates that the *grandes écoles* remain more sheltered from the massive influx of new arrivals in higher education due to the selective admissions system based on the *classes préparatoires*\*, despite the development of parallel admission pathways. Thus over the 18-year period, the number of graduates from the *grandes écoles* increased 1.5 times, whereas the number of post-graduates (with master's degrees and PhDs) doubled.

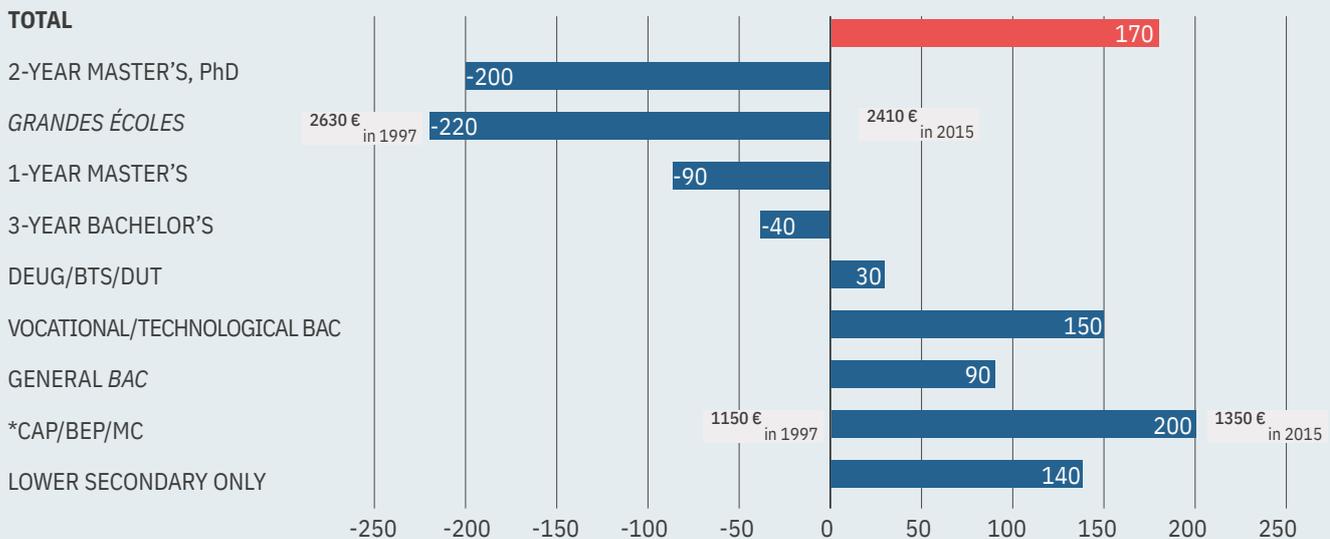
## A scissors effect on wages

Wages in current euros rose considerably in the 18 years between 1997 and 2015 for all levels of qualification. However, in order to assess the real gains or losses in terms of purchasing power, any analysis of this growth has also to take into account the evolution of inflation over the same period. Thus our analysis will henceforth be based on wages in constant euros, on prices in July 2015 and on all individuals in work regardless of their working time.

For all persons leaving education, the median monthly wage\* in constant euros rose by 170 euros to reach 1,480 euros in 2015. The rise in the level of final qualifications between the two cohorts explains 56% of this increase. If the qualifications structure had remained constant, the median wage would have increased by about 75 euros. Overall, the median wage for the 2010 cohort increased by 12.8% compared with the 1992 cohort for all employees and by 8% for full-timers only.

However, the impact of these developments varies depending on the level of qualification. The most highly qualified actually saw a net decline in the monthly purchasing power linked to their professional activity. Assessed on the basis of all employees regardless of working time, the purchasing power of graduates of the *grandes écoles* fell by 220 euros. The same applies to the most highly qualified university graduates. Those with master's and bachelor's degrees, including the one-year master's, the old *maîtrise*, and the

### 1 Difference in median wages (in constant 2015 euros) between the situations measured in 2015 and those in 1997



Source: Céreq, 1992 and 2010 *Génération* surveys, questioning 5 years after exit from education system

master's in science and technology, lost ground to the tune of 90 and 40 euros respectively. On the other hand, for those with qualifications below bachelor's levels, that is up to level III in the French qualifications framework, the median wage rose by between 30 and 200 euros (cf. Figure 1 below). This opposite result between the top of qualifications and the lowest levels have been confirmed by wage equation models in which a number of individual attributes were controlled for.

These contrary changes in purchasing power between the top and bottom of the qualifications hierarchy led to a narrowing of the wage spread between the 1992 and 2010 cohorts. Several phenomena contributed to this situation. For the most highly qualified, the stagnant economic situation in which the younger cohort entered the labour market was hardly conducive to surges in wage levels, while the gap between the very large numbers of graduates and the volume of high-skill jobs available widened, which weakened the "signalling" effect of a higher education qualification. For many higher education graduates, this resulted in an initial professional downgrading – i.e. the fact of being employed in a job whose skill level is below that which their qualification might lead them to expect – which had an adverse effect on their remuneration. The least highly qualified, conversely, benefited from the regular uprating of the national minimum wage which, except for the years 2010 and 2011, has exceeded inflation since the 1990s [2]. All these factors conspired to produce a "scissors effect" on wages.

The decline in the purchasing power of the most highly qualified graduates could also be linked to the increase in the relative share of women among them [6]. Their levels of qualification increased to a greater extent over the period than those of men and their employment rate five years after leaving education was virtually the same as that of their male counterparts, while in the earlier cohort it lagged behind by some 13 percentage points. Furthermore, the share of women working part-time remained higher than that for men. They were also more likely to be employed in the public services where, as is well known, skilled and managerial jobs are on average less well remunerated than in the private sector. However, supplementary analyses that serve to neutralise these composition effects (gender, sector, part-time work, etc.) confirm the preceding observations.

### Higher education still financially worthwhile, but less so than before

The ratio of the median wage for graduates of the *grandes écoles*, who enjoy the highest levels of remuneration, to that of holders of a lower secondary certificate only or the lowest level of vocational qualification, fell from 2.4 to 1.9 in 18

## 2 Evolution of wage differentials for a given level of qualification

Cohort that left in	Inter-decile ratio (d9 / d1)	
	1992	2010
<b>Highest initial qualification obtained</b>		
Lower secondary certificate only	2,9	2,3
CAP-BEP-MC	2,7	2,2
Général bac	2,6	2,2
Vocational/technological bac	2,6	1,9
DEUG-BTS-DUT	2,0	1,7
3-year bachelor's	2,1	1,8
1-year master's	2,1	2,0
Elite engineering and business schools	2,2	2,0
DEA-DESS, 2-year master's, PhD	2,3	2,1
<b>Total</b>	<b>3,1</b>	<b>2,3</b>

Source: Céreq, 1992 and 2010 *Génération* surveys, questioning 5 years after exit from education system.

Example: The inter-decile ratio for those in the 1992 cohort with lower secondary qualifications only was 2.9. In other words, the lowest wage for the most highly paid 10% (d9) was 2.9 times greater than the highest wage for the least well paid 10% (d1).

years (for economically active individuals 5 years after leaving education), indicating a flattening of the wage hierarchy depending on qualification level. If we confine ourselves to university qualifications, the multiplication factor between the median wage of holders of a post-graduate degree (1 or 2-year master's and PhD) and that of holders of a general *baccalauréat* fell from 1.7 to 1.45. This fall reflects a relative decline in the return to higher education, which was further accentuated by a less favourable economic situation for the 2010 cohort. It also reveals an indirect effect of the development of mass higher education, which appears to give the lie to the hopes and expectations for a career and professional development associated with the acquisition of a higher education qualification. However, this is a short-term effect that is likely to be counteracted over the longer term by the increase in inequalities in the general population since the end of the 1990s [3] and by the spectacular increases in the highest salaries during the first decade of the 21st century [4]. Thus five years after leaving education, wage inequalities remained moderate since the careers of the most highly qualified had not yet reached their full potential.

The compressing of the wage hierarchy between the various qualifications is echoed in the declining wage dispersion within a given level and type of education. Between the two cohorts, there was a systematic reduction in the differentials between the lowest wage of the most highly paid 10% and the highest wage of the least well paid 10% (cf. Table 2). These observations show that wages have become more homogeneous than they were 20 years ago, both between levels of qualification but also for a given level of qualification.



## → Fewer low-wage workers

\*INSEE = The National Institute of Statistics and Economic Studies collects, analyses and disseminates information on the French economy and society.

\*35 heures : Working time in France has been reduced to 35 hours per week since 1998-2000.

### → Further reading

[1] « Offre éducative, valorisation des diplômés et effets de composition : deux Générations de sortants de l'université au tournant des années 2000 », A. Dupray, S. Moullet, *Revue d'Economie Politique*, vol.120, 5, p. 845-880, 2010.

[2] Insee – Statistiques séries longues, 2019 : <https://www.insee.fr/fr/statistiques/1375188>.

[3] « Les hauts revenus en France (1998-2006) : une explosion des inégalités ? », C. Landais, *PSE Working Paper*, juin 2007.

[4] « Les très hauts salaires du secteur privé », M. Amar, *Insee Premières*, n°1288, avril 2010.

[5] « Les bas salaires en France entre 1995 et 2011 », D. Demailly, *Dares Analyses* n°068, 2012.

[6] « Accès des femmes et des hommes aux positions de cadre en début de vie active : une convergence en marche ? », V. Di Paola, A. Dupray, D. Epiphane, S. Moullet, *Insee Références*, 2017.

This point of entry at the top of the wage hierarchy through the relative positioning of the most highly qualified graduates tells us nothing of the developments affecting those at the other end of the hierarchy who are the least well remunerated: low-wage workers. In accordance with the *INSEE*\* definition, low-wage workers are those whose net wage, including bonuses, is less than two thirds of the median net wage for the cohort in question as a whole.

In the light of the compression of the wage hierarchy and the increase in remuneration levels among the least well-qualified young people, we might expect the share of low-wage workers to have declined. And indeed, whereas the share of such workers in 1997 was 13.3% of all those in employment, in the younger cohort that share had fallen to 9.4%. This finding echoes the decline in the share of low-wage workers observed in the economically active population as a whole between the second half of the 1990s and 2010-11 [5]. It also arises from the decline in part-time workers between the two cohorts, with their share falling from almost 33% in 1997 to 26% in 2015. The decline mainly affected women. The legislation on the *35 heures*\* also helps to explain this tendency, since some long-hours part-time jobs were converted into full-time positions. However, in the general population and considering those under 30 years old, slightly less than a quarter of them (economically active individuals in employment) are low-wage workers, due to their particular situation of being only at the beginning of their working lives.

In each cohort, the majority of low-wage workers are concentrated in the lowest qualificational levels: those with only lower secondary certificates and level V qualifications accounted for 68% of young people on low wages in 1997 and still almost 54% in 2015. Nevertheless, the mass expansion of access to the *baccalauréat* and the rise to prominence of the vocational *baccalauréats* between the two cohorts led to an increase in the share of holders of that qualification among low-wage workers. In 2015, holders of the general bac and the vocational or technological bac accounted for 11% and 22% of low-wage workers respectively, compared with only 7% and 16% respectively in 1997.

These low-wage workers' profile has changed little in two decades. The vast majority of them work part-time and on precarious employment contracts. The most notable development is the decline of 10 percentage points in the share of women compared with the situation that prevailed in 1997, when women accounted for almost 77% of the category. On the other hand, the share of workers of foreign origin – through at least one of their parents - increased from one cohort to the other, since they accounted for 20% of the category in 2015.

Overall, wage differentials by level of qualification five years into the working lives of the 2010 cohort were less pronounced than they had been almost two decades previously. The poor economic outlook for business had a negative impact on the evolution of wages, while minimum wage legislation ensured that the lowest wages increased to some extent. Moreover, the arrival in the labour market of a supply of increasingly well-qualified labour had a more direct effect on the wages of young people leaving higher education. Thus the expected short-term gain from higher education no longer seems as great as a young person might have expected at the beginning of the 1990s. However, that gain is to be found in access to employment. The sensitivity of the employment rate to level of qualification (even measured 5 years after leaving education) does indeed seem to have increased considerably: more than half of those with only lower-secondary certificates were without a job in 2015, compared with just 5% of *grandes écoles* graduates, a gap of 45 percentage points compared with just 28 percentage points almost two decades previously. Thus an increasingly significant aspect of the process of extracting value from educational qualifications lies in first accessing and then retaining a job, with the pay aspect coming into play only on that condition. Consequently, the disparities depending on level of initial education that mark the early years of the working life have to be examined in the light of the observed tightening of the wages of those who are in a job and the growing inequalities of the chances of obtaining one. —●

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T&E N°138 | 2019 | Newsletter on employment and training research from Céreq

Publications manager:  
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Translation:  
Andrew Wilson

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