After finishing compulsory education, what path do I choose: academic-related or vocational training-related studies?

Marta Escalonilla[1]

University of Oviedo

The professional trajectory of population with vocational education and training (VET) continues to be a central issue. Despite the fact that firms more and more demand workers with medium qualification, a low share of population follows this educational path. This paper shows evidence of possible reasons by analysing the differences in terms of earnings that distinguish these individuals from others with different education within the labour market.

Keywords: vocational education and training, university education, compulsory studies, earnings gap, cohort perspective

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[1] Email: gonzalezemarta@uniovi.es; Telephone: +34 985105794; ORCID: 0000-0003-1624-4774; Postal address: Av. del Cristo, Applied Economics Department, Faculty of Economics and Business, Oviedo, Asturias, Spain, 33006.

1. Introduction

Current policy proposals attempt to promote vocational education and training studies (VET) with the aim to offer students an easier entry into the labour market and higher employability (Cahuc et al., 2013; Hanushek et al., 2017; Brunetti and Corsini, 2019). This is due to more and more sectors recognizing the suitability offered by VET studies, which seek to fulfil the demands of the labour market thanks to a work-related knowledge, applied training and a greater worker-firm match (Brzinsky-Fay, 2007).

However, recent evidence shows that the increase in individuals with vocational training continues to be small in several European countries. In Spain, data from the Labour Force Survey (LFS) indicates that around 10% of people under 30 in 2020 have VET while it drops to 8% for those aged over 30. On the other hand, around 37% of young people in 2020 have university studies. This percentage rises to 44% for those over 30. Only 6.3% of Spanish population enrolled in VET in 2019 while 20.2% did in tertiary education (OECD). Additionally, the share of low-educated people is significant: 35% of young people and 29% of older people have compulsory education in Spain in 2020. Hence, there is a dual profile of population in educational terms in Spain, where the medium qualification has less weight.

Organizational changes of the Spanish educational reform "LOGSE" in 1990 removed vocational studies of first-grade. Thus, all students were forced to study secondary compulsory education and were not given the chance to move towards a more vocational training education. As Felgueroso et al. (2014) state, Spain managed to reach a large share of population with college education after "LOGSE" reform, but failed to change the share of population with medium education. This leads us to question why VET is not a real educational option for the population. One of the possible explanations could be related to the earnings received by workers once they enter the labour market. This paper provides new evidence about the earnings gap between individuals with vocational training, lower and higher education within the Spanish labour market. Previous literature indicates that investment in education leads to higher returns, but not if this premium is equal to all birth cohorts. So, a contribution to the literature is that we include a life-course and cohorts' perspective. Greater understanding of this topic adds to discussions on the role that vocational education and training studies play within the Spanish labour market.

The paper is organized as follows: Section 2 presents the sample and empirical model used. Section 3 discusses the main results and Section 4 concludes.

2. Data and Model

We use the Continuous Sample of Working Histories (CSWH), which includes administrative data about working lives and personal characteristics of each worker. Since 2004, it is possible to follow the labour market trajectories of individuals since their first affiliation to Social Security over time. We analyze cohorts of workers born between 1950 and 1994, covering the 2005-2019 period. Our population of reference are those who have been affiliated to Social Security during the whole month of October for the relevant year. We focus on the private sector and on individuals who work full-time. Our final sample consists of 4,411,255 observations.

The CSWH provides information on the contribution bases that are used as a proxy for earnings. Our dependent variable is the logarithm of monthly earnings, deflated using the 2016 CPI. Regarding explanatory variables, we include gender, country of birth, nationality, region of residence and potential labour market experience. Variables like having a temporary contract, economic activity, contribution group and firm size are also included. The variable educational

attainment refers to the highest completed level of education grouped in three categories: low education (compulsory education), VET and high education (university education).

As empirical strategy, we use the APC-Gap/Oaxaca model (APC-GO, Chauvel et al., 2017), which measures changes across birth cohorts in gaps in outcome variable between two groups after controlling for explanatory variables. The data structure takes the form of a Lexis table, i.e. an age by period table of data with a constant pace in age *a* and in period *p*. Therefore, each cell pertains to cohort c=p-a. This model consists of 2-steps:

First, we apply the Oaxaca-Blinder decomposition method (Blinder, 1973; Oaxaca, 1973) to each cell of the Lexis table, getting the educational gap in earnings explained by control variables. The differences in earnings between university and VET graduates[2] for each birth cohort can be expressed as:

$$\overline{\log(y)}_c^U - \overline{\log(y)}_c^{VET} = b_c^U(\bar{X}_c^U - \bar{X}_c^{VET}) + \bar{X}_c^{VET}(b_c^U - b_c^{VET}) \quad (1)$$

Second, we apply the APCT-lag model (Chauvel and Schröder, 2015) to the previous Oaxaca Lexis table to obtain the trend measure of the birth cohort-specific educational earnings gap. This approach uses the "linear age effect" that allows a robust identification of the cohorts' dynamics. The full model is denoted as:

$$\begin{cases} o^{apc} = \alpha_a + \pi_P + \gamma_c + \beta_0 + \sum_j \beta_j x_j + \varepsilon_i \\ \begin{cases} \sum(\alpha_a) = 0;\ \sum(\pi_p) = 0 \\ Trend(\pi_p) = 0; Trend(\alpha_a) = \alpha = \frac{\sum o_{a+1,p+1,c} - o_{apc}}{(A-1)(P-1)} \end{cases} \end{cases} \quad (2)$$

where α represents the average shift for a cohort *c* when it accumulates one age group more in the next period across the window of observation of *a* age groups and *p* periods. Hence, the cohort effects absorb the long-term time transformations and γ_c shows the variation in the intensity of the earnings gap by cohort for age and period controlled.

3. Results and implications

Figure 1 shows the earnings gap between workers with different educational attainment by birth cohort, including controls. [3] According to our results, those who finish tertiary education have better economic returns than those who study VET and the difference increases for young generations up to 30%. Similarly, the earnings gap between workers with high education and those with the lowest educational attainment increases over cohorts. It seems that the earnings gap (40% approximately) between these two groups remains constant for those born between the 60's and 70's. The trend changes for younger cohorts. We observe that earnings gap widens reaching by 48%. Therefore, highly qualified workers have a clear advantage in terms of earnings, especially, young people.

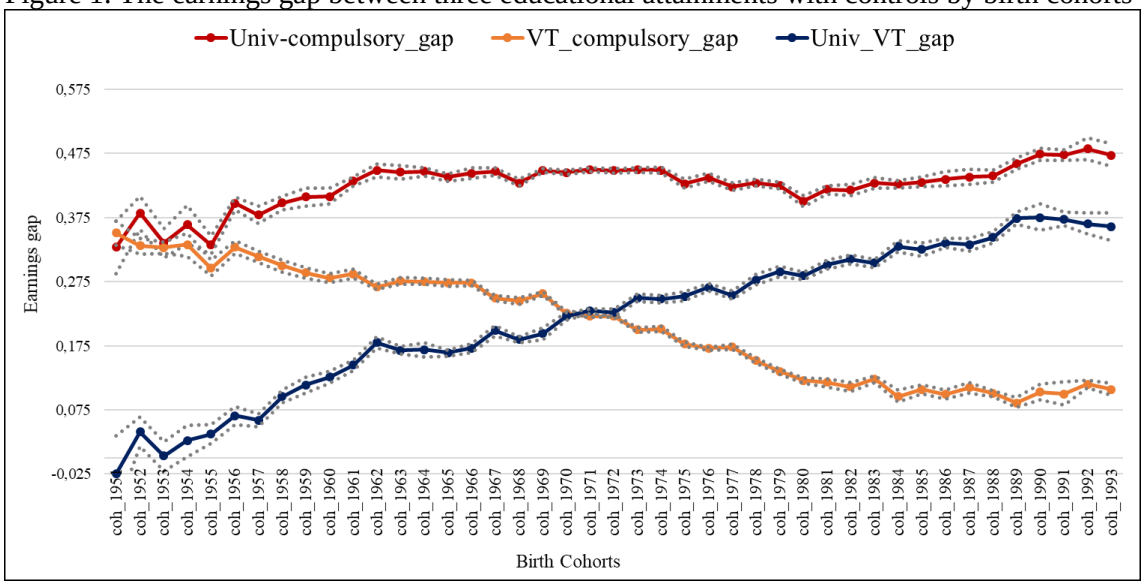
Focusing on the earnings gap between workers with VET and those with compulsory studies, however, we find that there is a premium in favor of vocational training workers, but this advantage tends to vanish over birth cohorts. In other words, there is less and less difference between having VET studies or compulsory education in terms of earnings for the youngest

[2] Earnings gap between university and high-school graduates, and between VET and high-school graduates is also analysed.

[3] In Supplementary Annex, Table 1A displays the corresponding coefficients.

cohorts. Those born between the 50's and 60's present an earnings gap of 30%, that reduces up to 8% in the case of the youngest generation.

Figure 1: The earnings gap between three educational attainments with controls by birth cohorts



Note: this figure graphics the controlled earnings gap between college and low-educated workers, college workers and those with VET, and workers with VET and those with compulsory studies. The Y-axis represents the earnings gap between both educational groups.

Therefore, we observe that the higher the education of workers, the higher the earnings premium, except in the case of young people with VET, who receive similar returns as lower educated workers. Consequently, Spain faces a situation in which firms are increasingly demanding more skills learned in VET, but they cannot find workforce with that qualification because people do not enroll in VET programs. As suggested by our results, it seems that young people are not compensated to follow the VET path because once they enter the labour market, there is practically no earnings difference between having that educational level or lower. Hence, this could be a possible explanation why the share of people with VET is still low. Conversely, the increase in university graduates as a result of educational expansion has been greater than the increase in demand for highly qualified jobs. Thus, the percentage of overeducated workers in Spain is quite high: around 35% between 2008-2020 (Eurostat).

From a policy viewpoint, this suggests that the Spanish educational system and more specifically, vocational training system, is not well-functioning and it may be necessary to increase its attractiveness and to improve its quality. In most countries, included Spain, VET generally lacks social standing due to poor educational orientation and social status maintenance considerations (Abrassart and Wolter, 2020). This educational path is perceived as suitable only for the worst performing students. Thus, there is an invisible wall between young people and VET. Furthermore, it is necessary to prevent vocational skills from becoming obsolete over time which may lead to worse labour market prospects (Hanushek, 2011).

In sum, VET education can boost enterprise performance and competitiveness, so it is key for the success of employment and social policy. The Spanish vocational education has ample spaces for improvement, mainly in its structure and its diffusion with the aim to use it as a tool in fighting unemployment.

4. Conclusions

Promotion of VET studies is carried out with the aim to offer students an easier entry into the labour market. However, the share of young population that follow nowadays this educational

path is low in Spain. Our results point that this may be explained because there is practically no difference between having compulsory studies or VET in terms of earnings for the youngest people. The school-based vocational education and its image deficit in Spain may also play an important role at the time to explain this result.

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