



The education pillar of the Europe 2020 strategy: a convergence analysis

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Abstract

In March 2010, the European Commission launched the Europe 2020 strategy ‘for smart, sustainable and inclusive growth’ in the EU. Education is a major pillar of the Europe 2020 strategy due to its long-run impact on economic growth, productivity, and social cohesion. The Europe 2020 strategy established two headline targets on early leavers from education and training and tertiary educational attainment at the EU level. This paper attempts to assess the Europe 2020 strategy for the education pillar in terms of convergence across countries. Despite the fact that every country in the EU has its own national targets in these two headline indicators, progress on the achievement of the Europe 2020 strategy requires convergence. Thus, even if the EU as a whole meets its targets in 2020, the existence of a growing divide between the best and worst performing countries would cast doubt on the prospects of real economic convergence and the sustainability of the process. Our empirical findings reveal the existence of convergence clubs in educational attainment and the early leavers rate, and points towards the idea of multi-speed transitional dynamics in Europe, calling into question the convergence in educational performance in the EU.

Keywords Education · Human capital · Convergence · Europe

JEL classification C22 · F15

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1 Introduction

The European Commission has acknowledged the importance of smart, sustainable and inclusive growth (European Commission 2020) as a key to achieving high employment rates and productivity, while fostering innovation and knowledge. Eight targets or themes have been defined in areas such as employment, research and development, climate change and energy, education and poverty reduction. The underlying idea of this initiative is to deliver social and regional cohesion in the EU, while minimising damage to the natural environment through a 'green economy'. In order to do so, nine indicators are used to monitor the progress made towards achieving the main targets.

Education is a major pillar of the Europe 2020 strategy due to its long-run impact on economic growth, productivity, and socio-economic cohesion, promoting social mobility and the reduction of personal income inequalities. The Europe 2020 strategy established two headline targets on early leavers from education and training and tertiary educational attainment at the EU level: the share of early school leavers should be under 10% and at least 40% of the younger generation should have a tertiary degree. These goals are translated into national targets to tailor the Europe 2020 strategy to the particular circumstances of each Member State. Later, five more headline targets were included in the strategic framework for European cooperation in education and training, or ET 2020.

Economists have proposed many channels through which education may affect economic growth and productivity. The first strand of the literature focuses on the individual who chooses the amount to invest in education so as to maximise her expected discounted value of lifetime utility (Becker 1964; Heckman 1976; Keane and Wolpin 1997). Becker and Tomes (1979, 1986) were the first to suggest that the education investment depends not only on the intertemporal maximisation of profits but also on the socio-economic background of the family. Wealthy families are not credit constrained, meaning they are able to borrow to finance the optimal investment in their children's education (Acemoglu and Pischke 2001; Black and Deveraux 2011). Education is also positively related to growth through a variety of externalities. Education investment fosters technological innovation, making both capital and labour more productive, generating income growth (Mankiw et al. 1992). Early-leavers from education have to endure longer periods before finding a job and, when hired, their jobs often lack long-term security and offer low wages and poor training (Furlong 2006), decreasing their productivity and reducing their prospects of social mobility.

The immediate predecessor of the Europe 2020 strategy was the Lisbon Strategy, established in March 2000, with the goal of transforming the EU into 'the most competitive and dynamic knowledge-based economy in the world' within a decade, capable of achieving sustainable economic growth, providing better jobs and ensuring social cohesion. The sustainability of the EU as an integrated economic area crucially depends on its capacity to promote convergence among countries and regions. Consequently, convergence is an EU objective that is set out in Article 130a of the Single European Act of 1986, and it has long been a

cornerstone of efforts to achieve socio-economic cohesion (Alcidi et al. 2018). Despite this, the previous literature does not find strong evidence of real convergence between EU countries. For example, Monfort et al. (2013) find that in terms of the income per capita of the EU-14, north-western, southern and central eastern European countries have converged to different levels, as clubs. The explanations for these results lie in the concept of conditional convergence, where economies belonging to a group of countries share similar features. Similarly, Ordóñez et al. (2015) also find club convergence in real unit labour costs as a proxy of competitiveness, and in capital accumulation and total factor productivity. Finally, Monfort et al. (2018) claim that there is a lack of real economic convergence in income inequality and unemployment. Furthermore, this failure to converge goes beyond economic terms: Lafuente et al. (2020) concludes that social cohesion indicators also exhibit club convergence and reflect a multi-speed Europe.

The convergence of national educational systems has been subject to analysis in comparative education studies (Carney et al. 2012). Despite the obvious national differences, educational systems tend to become increasingly similar over time (Wiseman et al. 2014). Meyer et al. (1997) suggest that this increasing similarity can be explained by a ‘Common World Educational Culture’, or, in other words, by global factors. According to Dale (2000), the homogenisation of education systems and curricula can be explained by countries’ desire to compete in a global economy. In contrast, Johansson and Strietholt (2019) find little evidence of global convergence, concluding that countries do not converge globally but regionally.

To the best of our knowledge, this paper constitutes the first attempt to assess the Europe 2020 strategy for the education pillar in terms of convergence across countries. Despite the fact that every country in the EU has its own national targets for both headline indicators (early leavers rate and tertiary educational attainment), progress on the achievement of the Europe 2020 strategy requires convergence. Thus, even if the EU as a whole meets its targets in 2020, the existence of a growing divide between the best and worst performing countries would cast doubt on the prospects of real economic convergence and the sustainability of the process. The existence of convergence clubs may imply that there are asymmetries in Member States’ educational achievement, while also pointing to a multi-speed Europe and casting doubts on the sustainability of the socio-economic cohesion in the EU. In this paper we test for convergence clubs in the educational indicators by using Phillips and Sul’s (2007, 2009) methods, in which different paths of convergence can be identified for the different economies involved in a convergence process. This apparent heterogeneity is accounted for by considering a nonlinear time-varying factor model, which gives us the flexibility to spot idiosyncratic behaviour both over time and in cross-section. Our empirical findings reveal the existence of several clubs of convergence, and underscore the idea of multi-speed transitional dynamics in Europe, calling into question the convergence in educational performance in the EU.

The remainder of the paper is organised as follows. The next section summarises the methodology. Section 3 describes the data and results, and the last section concludes.

2 Methodology

Convergence and the existence of convergence clubs can be tested using time series econometrics. However, as highlighted by Phillips and Sul (2009), differing technologies among countries and the possibility of nonlinear data generation processes in generating the speed of convergence, may bias the estimations, the results and hence the conclusions. To correct these biases, Phillips and Sul (2007, 2009) introduced cross-sectional and time-series heterogeneity in the parameters of a neoclassical growth model, in the following manner:

$$X_{it} = \delta_{it}\mu_t \tag{1}$$

where X_{it} is the dependent variable observed across $i=1,2,\dots,N$ individuals over the period $t=1,2,\dots,T$. δ_{it} is an idiosyncratic or individual time-varying parameter estimating the degree of convergence to a common factor μ_t , which represents the common stochastic trend in the panel. That means that δ_{it} measures the share of the common factor μ_t for each individual in the overall panel. The simple econometric representation in (1) can be used to analyse convergence by testing whether the factor loadings δ_{it} converge. The null hypothesis of convergence can be written as $H_0 : \delta_{it} = \delta$ against the alternative of no convergence. This alternative hypothesis includes the possibility of divergence as well as club convergence.

Phillips and Sul (2007) show that these hypotheses can be statistically tested by means of the following ‘log (t)’ regression model:

$$\log(H_1/H_t) - 2\log(\log(t)) = a + b\log(t) + u_t \tag{2}$$

for $t = [rT], [rT] + 1, \dots, T$ with some $r > 0$, $L(t) = \log(t + 1)$, $\hat{b} = 2\hat{a}$ and H_1/H_t is the cross-sectional variance ratio defined as $H_t = \frac{1}{N} \sum_{i=1}^N (h_{it} - 1)^2$ and $h_{it} = \frac{X_{it}}{\frac{1}{N} \sum_{i=1}^N X_{it}} = \frac{\delta_{it}}{\frac{1}{N} \sum_{i=1}^N \delta_{it}}$ which measures the loading coefficient δ_{it} in relation to the panel. The variable h_{it} is called the relative transition path and traces out an individual trajectory for each i relative to the panel average.

This method has two advantages. The first is that it is a test for relative convergence, as it measures convergence towards a cross-sectional average, as opposed to the ‘level convergence’ in Bernard and Durlauf (1996). The second is that the Phillips and Sul (2007) test does not depend on any particular assumption concerning the deterministic or stochastic trends of the data.

3 Data

The Europe 2020 strategy indicators for the early leavers from education and training and the tertiary educational attainment rates have been taken from the Eurostat database. According to Eurostat, early leaver refers to a person aged 18–24 who has completed at most lower secondary education and is not involved in further education or training, while tertiary educational attainment rates correspond

to International Standard Classification of Education (ISCED) levels 5–8 (i.e., short-cycle tertiary education, bachelor or equivalent level, and master or equivalent level). The Europe 2020 strategy sets the following benchmarks to be reached at European level by 2020: the rate of early leavers from education and training aged 18–24 should be below 10%; and the proportion of 30–34 year-olds in Europe who have completed tertiary education should be at least 40%.

The sample for the early leavers indicator covers the period 2002–2018 and contains Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia, Spain, Sweden, and the United Kingdom. The data for the tertiary educational attainment rate runs from 2000 to 2018, and includes Belgium, Bulgaria, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia, Spain, Sweden, and the United Kingdom.

Figures 1 and 2 plot the data. In the case of both indicators there is a tendency to convergence among countries in terms of a reduction in dispersion across countries when comparing the beginning and the end of the sample. However, this does not imply the existence of overall convergence. As can be seen in Fig. 1, a group of southern EU countries (Italy, Malta, Portugal, Spain, and Romania) present values for the early leavers rate that are above the mean for all countries throughout the whole sample. A group of eastern economies present the lowest values for the rate (Croatia, Czechia, Poland, Slovenia, and Slovakia) whereas a group of northern countries (Austria, Finland, Luxembourg, Netherlands, and Sweden) present a lower value than the panel mean for whole sample, although higher than the aforementioned group of eastern EU countries. Figure 2 shows that the lowest values in tertiary educational attainment correspond to eastern EU countries (Czechia, Estonia, Latvia, Poland, Slovenia, and Slovakia) whereas persistently higher values are recorded in southern countries (Greece, Italy, Malta, Portugal, and Spain). Looking at these graphs, it seems that there is a distinctive north–south and east–west pattern in terms of the evolution of both indicators.

Tables 1 and 2 present the descriptive statistics for the early leavers rate and the tertiary educational attainment indicators, respectively. As can be seen, both the mean value and the last observed value in 2018 present a wide disparity across countries in both ratios. In the case of the early leavers rate, the difference between the best and worst performers in 2018—Croatia and Spain, respectively—is 14.6%. Spain, Malta, Romania, and Italy are a long way off the 10% benchmark level for the EU, whereas Bulgaria, Hungary, and Portugal present values significantly above the target. The worst figures seem to be clustered in southern European countries. In contrast, the best performers are concentrated in both north-eastern (Lithuania and Poland) and south-eastern countries (Croatia and Slovenia), whereas north-western countries are either close to the target or well below. Regarding the tertiary educational attainment rate, only four countries have reached the EU benchmark of 40% in 2018, all of them south-western countries (Italy, Malta, Portugal, and Spain). On the other hand, Greece presents the highest rate among those countries with a tertiary educational attainment rate below 40%. The worst performers in 2018 are all eastern

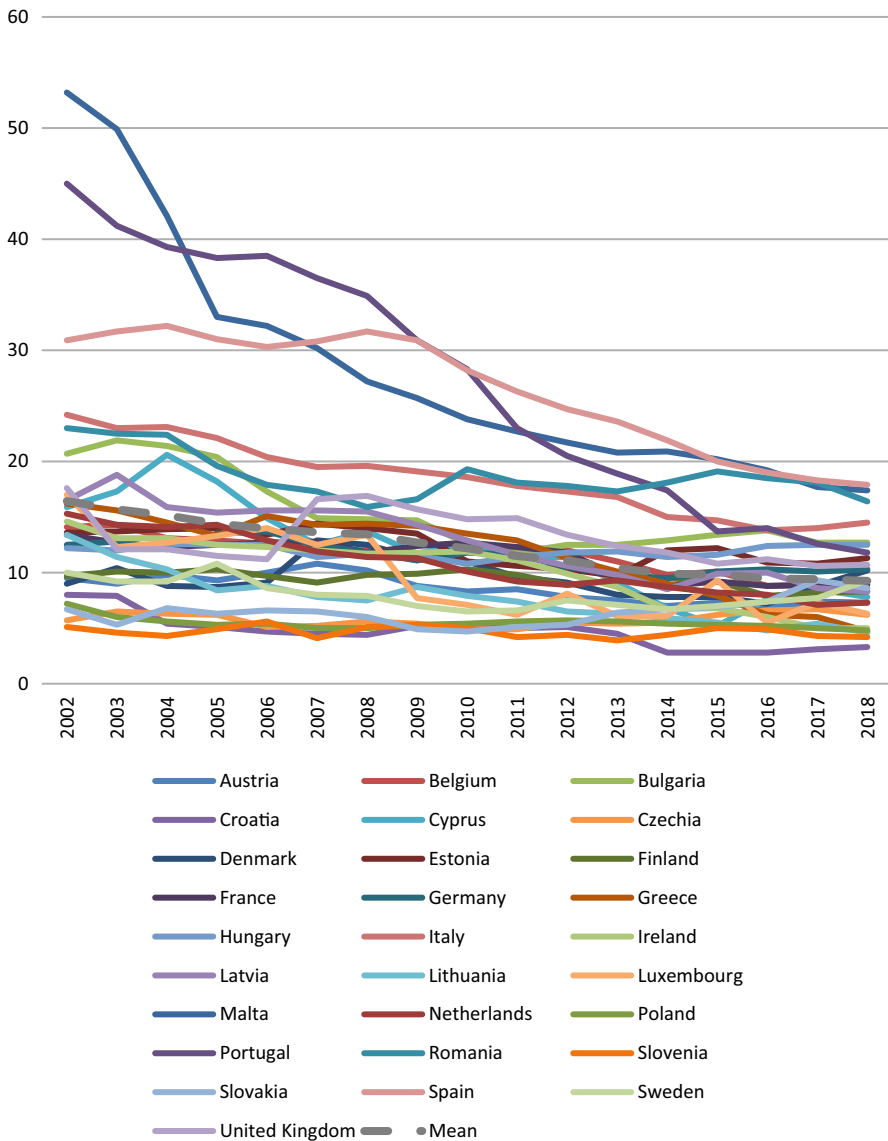


Fig. 1 Early leavers from education and training (2002–2018)

countries (Czechia, Latvia, Lithuania, Poland, Slovenia, and Slovakia). The difference between the best and worst performers in 2018—Portugal and Czechia, respectively—is 37.7%. From the analysis of the descriptive statistics for both indicators, it can be concluded that, despite a certain degree of heterogeneity, there seems to be a north–south and east–west pattern regarding the performance in both educational indicators. Therefore, the potential convergence cluster can be expected to reflect this geographical pattern.

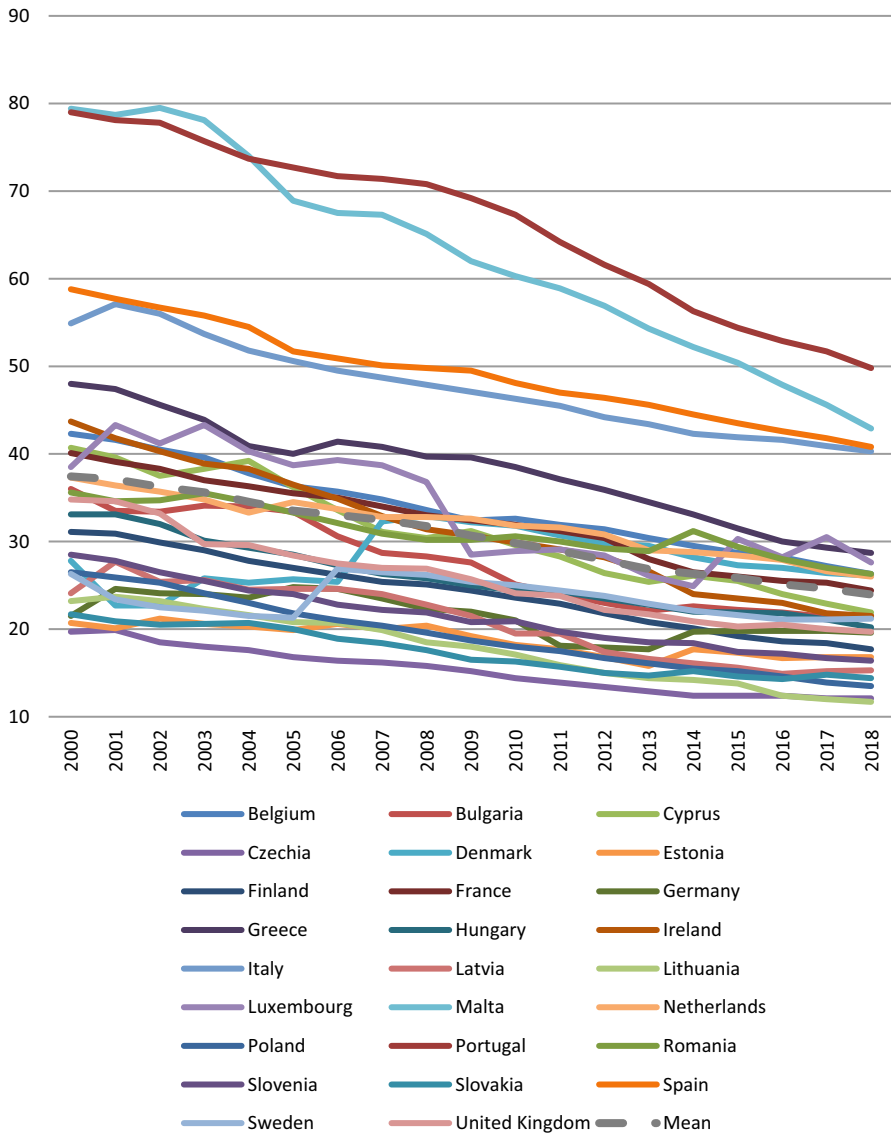


Fig. 2 Tertiary educational attainment (2000–2018)

4 Empirical results

As proposed by Phillips and Sul (2007, 2009) we have eliminated the cyclical components by means of the HP filter (Hodrick and Prescott 1997). The test for overall panel convergence is rejected for both indicators with a log t-stat of -35.28 and -46.82 for the early leavers rate and the tertiary educational

Table 1 Descriptive statistics: early leavers from education and training (2002–2018)

Country	Mean	Std. Dev	Min	Max	2018
Austria	8.55	1.23	6.9	10.8	7.3
Belgium	11.50	1.76	8.6	14.3	8.6
Bulgaria	15.35	3.54	11.8	21.9	12.7
Croatia	4.69	1.54	2.8	8	3.3
Cyprus	12.07	4.32	5.2	20.6	7.8
Czechia	5.75	0.59	4.9	6.7	6.2
Denmark	9.54	1.63	7.2	12.9	10.2
Estonia	12.31	1.57	9.7	14.4	11.3
Finland	9.41	0.72	7.9	10.3	8.3
France	11.27	1.74	8.8	13.4	8.9
Germany	11.41	1.31	9.5	13.7	10.3
Greece	11.71	3.69	4.7	16.2	4.7
Hungary	11.92	0.53	10.8	12.6	12.5
Italy	18.44	3.38	13.8	24.2	14.5
Ireland	10.12	3.11	5	14.6	5
Latvia	12.81	3.34	8.3	18.8	8.3
Lithuania	7.68	2.37	4.6	13.4	4.6
Luxembourg	9.7	3.61	5.5	17	6.3
Malta	28.11	10.92	17.4	53.2	17.4
Netherlands	10.73	2.68	7.1	15.3	7.3
Poland	5.45	0.53	4.8	7.2	4.8
Portugal	27.34	11.46	11.8	45	11.8
Romania	18.7	2.12	15.9	23	16.4
Slovenia	4.66	0.48	3.9	5.6	4.2
Slovakia	6.44	1.23	4.7	9.3	8.6
Spain	26.43	5.32	17.9	32.2	17.9
Sweden	8.02	1.27	6.5	10.8	9.3
United Kingdom	13.19	2.38	10.6	17.6	10.7

attainment rate, respectively. The absence of convergence for the panel leads us to consider the possible existence of club convergence.

Table 3 shows the results for the club convergence. According to these results, overall convergence is rejected in favour of club convergence, with four and six clubs for the early leavers and the tertiary educational attainment rates, respectively. For the early leavers rate, all the clubs except the first one are fairly heterogeneous in geographic terms. In contrast, the east-south pattern appears in the indicator for tertiary educational attainment: the fourth, fifth and sixth clubs are composed of eastern countries, whereas the first contains south-western economies. Since it is known that this clustering procedure may overestimate the number of clubs, we have tested the hypothesis that the closest clubs can be merged into larger groups. The results displayed in Table 4 indicate that no club can be merged for the tertiary educational attainment rate, however, for the early leavers rate, the third and the fourth clubs can

Table 2 Tertiary educational attainment (2000–2018)

Country	Mean	Std. Dev	Min	Max	2018
Belgium	33.72	4.93	26.3	42.3	26.3
Bulgaria	27.54	5.26	21.4	36	21.5
Cyprus	30.94	6.13	21.9	40.7	21.9
Czechia	15.26	2.64	12.1	19.9	12.1
Denmark	27.87	3.11	22.7	32.9	26.1
Estonia	18.77	1.75	15.8	21.2	16.8
Finland	24.20	4.36	17.7	31.1	17.7
France	32.1	5.03	24.4	40.1	24.4
Germany	21.49	2.43	17.7	24.8	19.6
Greece	38.20	5.90	28.7	48	28.7
Hungary	25.92	4.10	20.2	33.1	20.2
Ireland	31.42	7.07	21.5	43.7	21.5
Italy	47.56	5.33	40.3	57.1	40.3
Latvia	20.78	4.33	14.9	27.2	15.3
Lithuania	17.81	4.10	11.7	23.7	11.7
Luxembourg	33.82	6.33	24.9	43.3	27.6
Malta	62.62	11.92	42.9	79.5	42.9
Netherlands	31.83	3.30	26	37.3	26
Poland	19.33	4.19	13.5	26.5	13.5
Portugal	66.19	9.66	49.8	79	49.8
Romania	31.16	2.84	26.3	35.6	26.3
Slovenia	21.50	3.80	16.4	28.5	16.4
Slovakia	17.41	2.66	14.3	21.7	14.4
Spain	49.25	5.54	40.8	58.8	40.8
Sweden	23.43	2.06	21.2	26.9	21.2
United Kingdom	25.82	4.97	19.7	43.8	19.7

be merged, leaving three clubs in total. The final composition of clubs is shown in Table 5.

To offer some insight into the logic behind the formation of the most heterogeneous clubs, Figs. 3, 4, 5, 6, and 7 present the radial graphs for each of these clubs. The graphs display three values for each country belonging to the club: the initial value, in 2000 or 2002 depending on the indicator; the value in the year the Europe 2020 strategy was adopted, 2010; and the last available value, in 2018. Figure 3 shows the first convergence club for the early leavers rate indicator. This club is characterized by having values for this rate in 2018 ranging between 12 and 18%. The club is entirely composed of eastern EU countries. The values registered by Hungary for this indicator are very similar at the beginning and at the end of the sample; basically, it is Spain, and to a greater extent Malta, which have converged towards the levels of the rest of the countries. Figure 4 depicts the second club, with values for the early leavers rate of between 13 and 8% for the last year of the sample. This second club is more geographically heterogeneous, containing countries from the south,

Table 3 Club analysis

Log t	t statistic	Clubs
Early leavers from education and training (2002 – 2008)		
0.178	1.297	First club: Hungary, Italy, Malta, Romania, and Spain
0.205	1.214	Second club: Belgium, Bulgaria, Czechia, Denmark, Estonia, Finland, France, Germany, Latvia, Portugal, Slovakia, Sweden, and the United Kingdom
0.196	1.058	Third club: Austria, Cyprus, Greece, Luxembourg, the Netherlands, Poland
0.851	2.352	Fourth club: Ireland, Lithuania, and Slovenia
–	–	No club convergence: Croatia
Tertiary educational attainment (2000–2018)		
0.154	0.821	First club: Italy, Malta, and Spain
–0.090	–1.482	Second club: Belgium, Cyprus, Denmark, France, Greece, Luxembourg, the Netherlands, and Romania
0.049	0.387	Third club: Bulgaria, Finland, Germany, Hungary, Ireland, Sweden, and the United Kingdom
0.074	0.478	Fourth club: Estonia, Latvia, and Slovenia
1.839	1.709	Fifth club: Poland and Slovakia
1.211	2.522	Sixth club: Czechia and Lithuania
–	–	No club convergence: Portugal

Table 4 Testing for club merging

Log t	t statistic	Clubs
Early leavers from education and training (2002–2008)		
–0.307	–3.054	Club 1 + 2
–0.265	–2.254	Club 2 + 3
–0.061	–0.427	Club 3 + 4
–0.589	–6.844	Club 4 + 5
Tertiary educational attainment (2000–2018)		
–0.838	–27.549	Club 1 + 2
–0.872	–38.395	Club 2 + 3
–0.657	–24.344	Club 3 + 4
–0.729	–15.479	Club 4 + 5
–0.795	–11.523	Club 5 + 6
–1.301	–38.193	Club 6 + 7

Table 5 Final club analysis

Log t	t statistic	Clubs
Early leavers from education and training (2002–2008)		
0.178	1.297	<u>First club</u> : Hungary, Italy, Malta, Romania, and Spain
0.205	1.214	<u>Second club</u> : Belgium, Bulgaria, Czechia, Denmark, Estonia, Finland, France, Germany, Latvia, Portugal, Slovakia, Sweden, and the United Kingdom
–0.061	–0.427	<u>Third club</u> : Austria, Cyprus, Greece, Ireland, Lithuania, Luxembourg, the Netherlands, Poland, and Slovenia
–	–	<u>No club convergence</u> : Croatia

north and east of the EU. As with the case of the previous club, it is the countries of southern Europe—Portugal and Bulgaria—that register the greatest reduction. The Nordic countries (Denmark, Finland and Sweden) have the lowest and most stable indicator values during the analysed period. In the third club, Fig. 5, the 2018 indicator values lie between 8 and 4%. Austria, Slovenia and, to a lesser extent, Poland, present the most stable values throughout the sample period, levels to which the rest of the countries converge. Convergence occurs in western, eastern and southern EU countries; as such, there is no clear geographical pattern of convergence.

Figures 6 and 7 show, respectively, the radial graphs for the second and third club of the tertiary educational attainment indicator. While a significant number of countries (just under half) had a rate of about 40% or over in the year 2000, with a mean value for the whole sample of countries of 37.4%, only four countries reach this level in 2018, with a mean rate of about 24%. Thus, Figs. 6 and 7 reveal poor performance: with few exceptions, there has been a decline in the tertiary educational attainment rate. The second club, shown in Fig. 6, presents values for 2018

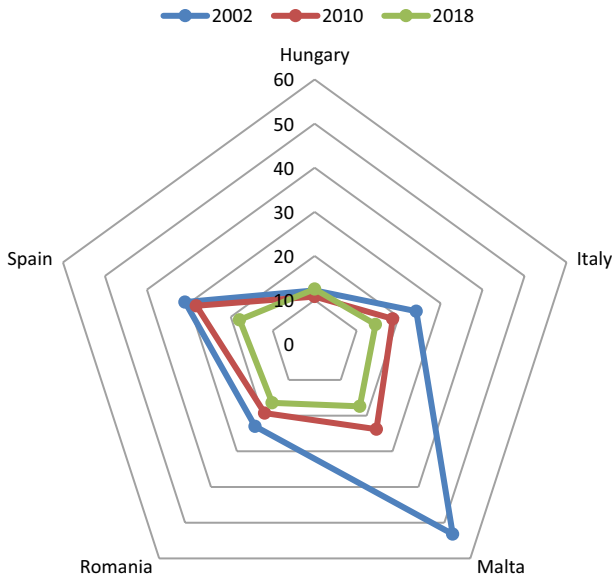


Fig. 3 Radial graph early leavers from education and training: first club

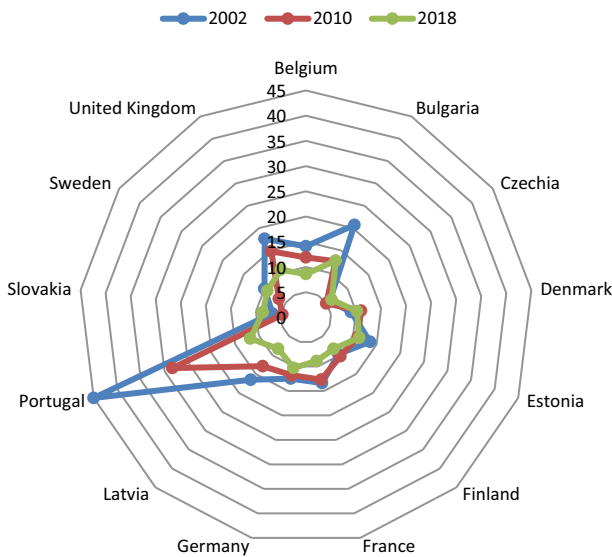


Fig. 4 Radial graph early leavers from education and training: second club

of between 22 and 29%, while the third club shows values of between 18 and 24%. Both clubs include countries from the south, north and east of Europe. In the second club, two countries in the south (Cyprus and Greece) and two in the north (Belgium and France) are the worst performing countries in terms of the tertiary educational

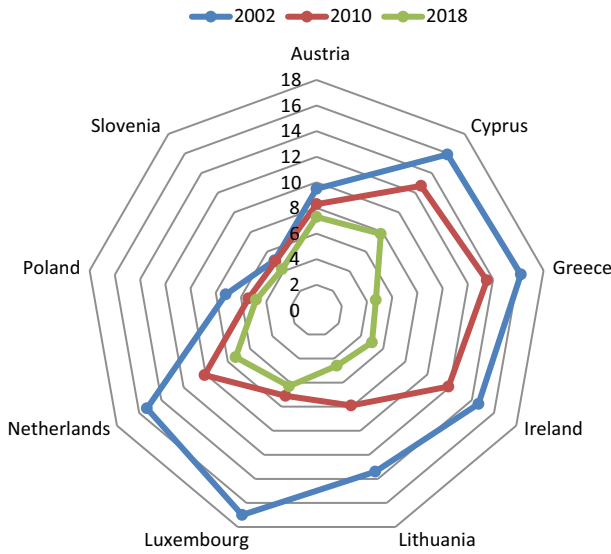


Fig. 5 Radial graph early leavers from education and training: third club

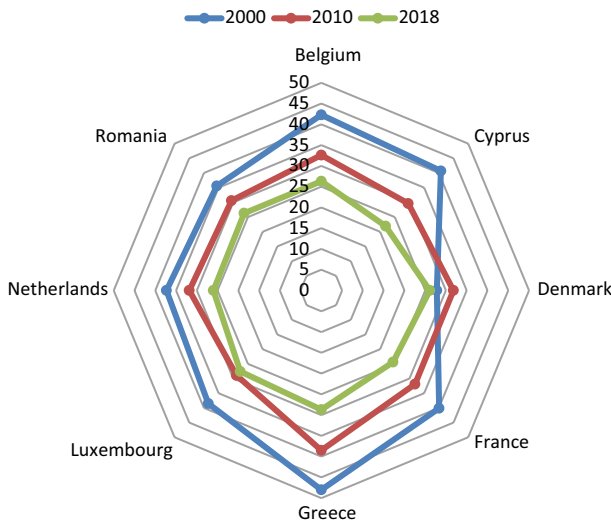


Fig. 6 Radial graph tertiary educational attainment: second club

attainment rate. For the majority of the countries in this club, most of the convergence occurs between 2000 and 2010. Regarding the third club, Ireland, which started out with a tertiary educational attainment rate of 43.7% in 2000, suffers the most drastic decline. The United Kingdom, Hungary and Bulgaria register a similar fall in this rate, while the drop is less pronounced in Sweden. In any case, regardless

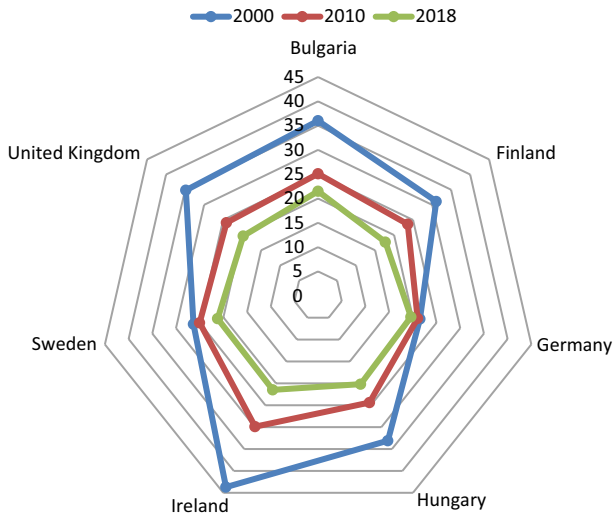


Fig. 7 Radial graph tertiary educational attainment: third club

of the initial level, all the countries in this club tend to converge to a level similar to that of Germany, a country that has displayed remarkable stability in its performance in relation to this rate.

Figures 8 and 9 plot the transition paths for the two education indicators of the Europe 2020 strategy. These graphs show the position of each club with respect to the panel average. A declining transition path of the corresponding indicator for a given club should be understood as a decrease in the indicator relative to the average behaviour of the whole panel, with a normalised value of 1. Therefore, these graphs show the degree of relative divergence among clubs and help us to determine when, and for how long, this divergence takes place. In our case, we observe clear divergence among clubs in the three indicators. Thus, not only is there club convergence, but there is also a path indicating that the clubs will converge. Early leaver and tertiary educational attainment rates can be interpreted as evidence of a multi-speed Europe, casting doubt on the sustainability of the overall convergence process in the EU.

5 Conclusions

Convergence has long been a declared objective of the EU and considered the fundamental mechanism for achieving socio-economic cohesion. In March 2010, the European Commission launched the Europe 2020 strategy ‘for smart, sustainable and inclusive growth’. The education pillar of the strategy was established to ensure the development of a skilled workforce, which is considered one of the main assets of the European social and economic model. Education is a key determinant of economic growth, increasing productivity and wages. The Europe 2020 strategy

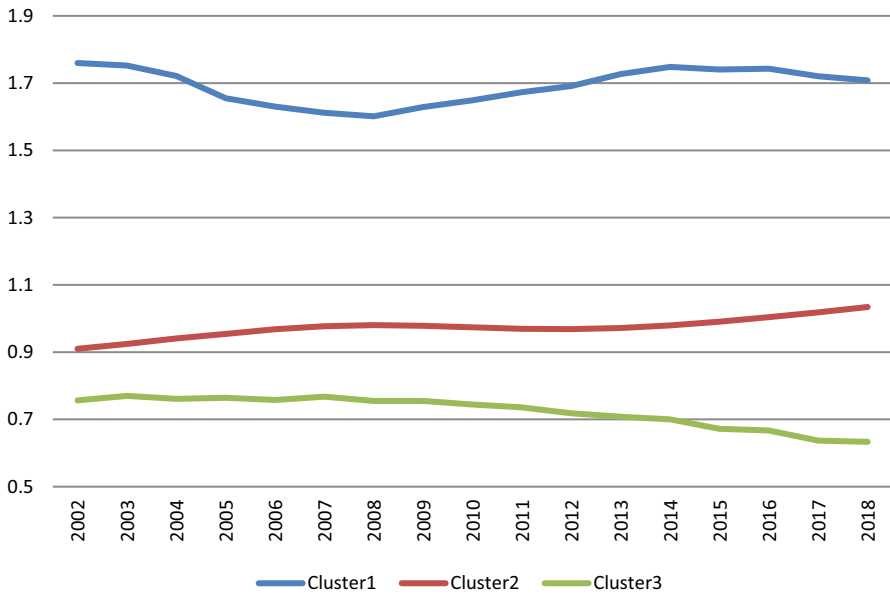


Fig. 8 Clubs' transition functions: early leavers from education and training (2002–2018)

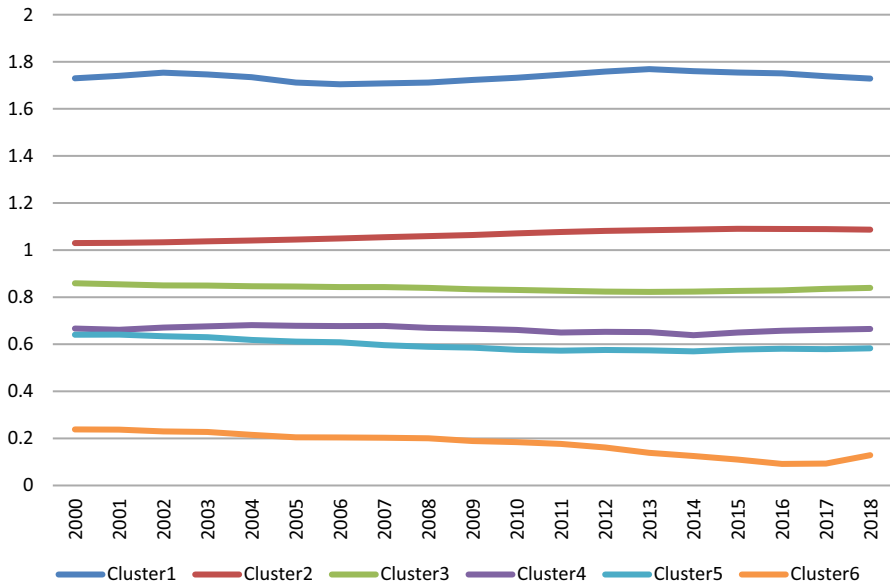


Fig. 9 Clubs' transition functions: tertiary educational attainment (2000–2018)

established two headline targets on early leavers from education and training and tertiary educational attainment at the EU level.

This paper attempts to assess the Europe 2020 strategy for the education pillar in terms of convergence across countries. Convergence is a necessary condition for the success of the Europe 2020 strategy. Although each country has its own national target for the headline indicators, the dispersion in the early leavers from education and training and the tertiary educational attainment rates should be reduced as times goes on. Instead of overall convergence, convergence can take place in clubs, where economies belonging to the same club share similar features in terms of the education indicators and tend to a common steady state. The existence of convergence clubs indicates asymmetries in Member States' educational performance, pointing towards the idea of a multi-speed Europe and casting doubt on the sustainability of the socio-economic cohesion in the EU. We test for the existence of clubs in the educational indicators by applying the methodology proposed by Phillips and Sul (2007, 2009) in which different paths of convergence can be distinguished among the various heterogeneous economies involved in a convergence process.

According to our results, overall convergence is rejected in favour of club convergence for both indicators, with three and six clubs found for the early leavers and the tertiary educational attainment rates respectively. Overall, for the early leavers rate, the clubs are fairly heterogeneous in geographic terms. In contrast, an east-south pattern appears in the indicator for tertiary educational attainment, with the fourth, fifth and sixth clubs being composed of eastern EU countries, whereas the first contains south-western economies. The transition paths for the various clubs in both indicators do not show any tendency to converge. Our results allow us to conclude that there is a clear difference in educational performance among the group of countries in the EU and, furthermore, this difference does not tend to decrease with time. The educational pillar of the Europe 2020 strategy has failed to promote convergence and to reduce disparities in educational performance across EU countries.

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