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Education and social cohesion

Lessons from a comparative international approach

by

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Abstract - Developments since the end of the last century (rising income inequalities, an increasing proportion of respondents to regular surveys expressing a feeling of 'disaffiliation', rising electoral abstentions and the rise of populist and/or radical 'anti-system' parties) have led to a renewed interest in the concept of social cohesion. Hence the quest to identify the main determinants of social cohesion. Education naturally comes to mind as a possible 'candidate', but work to date has struggled to identify the ways in which education might directly affect social cohesion.

In this article, which adopts an international comparative approach, we show how education directly affects social cohesion: more unequal compulsory education systems result in lower intergenerational social mobility, thereby weakening social cohesion. Intergenerational social mobility emerges as a major determinant of social cohesion, ahead of the other determinants identified so far in the literature.

Our approach also makes it possible to identify "cultural areas" which, because of the structural characteristics of their education systems, present structural weaknesses in terms of social cohesion.

Keywords*: education, social cohesion, intergenerational social mobility, inequalities in education systems, international comparisons*

Introduction

Regular surveys conducted in the European Union and OECD countries (OECD, 2018) have recorded, since the 1990s, the rise of a feeling of 'downgrading' and 'disaffiliation' among a growing proportion of respondents who

- consider their professional situation to be lower in terms of status and social prestige than that enjoyed by their parents;
- express a declining confidence in the virtues of 'meritocracy' and the possibilities of social mobility.

At the same time, surveys on 'values' point to a decline in trust, both in institutions (especially political ones) and in fellow citizens.
And the erosion of this trust is reflected in the ballot box by an increase in abstention and/or the rise of populist and radical 'anti-system' parties.

Fears of widening divides within our societies are giving rise to renewed interest in the concept of social cohesion, which we feel our societies urgently need in order to face collectively the many challenges and crises that await us (climate, biodiversity, migration, pandemics, growing inequalities, etc.). This interest is based on the concern to identify the main 'drivers' of social cohesion and, consequently, the policies to be implemented to strengthen it.

Education immediately comes to mind as a natural candidate for such a role as a 'driver' of social cohesion. However, the available empirical work has so far struggled to identify the ways in which education affects social cohesion.

This article takes up this question by means of an international comparative analysis. We start from a comparative examination of education systems (compulsory education) and show why some education systems are more capable of ensuring social cohesion than others.

Before turning to our analysis, the following section will situate it in the context of work on the concept of social cohesion, attempts to measure it and the few recent studies that have sought to identify the impact of education.

1. Social cohesion: concept, measurement and effects of education

Social cohesion is a concept whose apparent simplicity is deceptive. Judging by the definitions that have been proposed, it is clear that the approach to this concept depends on the intellectual tradition in which the author is involved: the 'liberal' tradition (especially the Anglo-Saxon one) will emphasise the intensity of the ties forged at the level of local communities, while the 'republican' tradition will stress the values shared at the national level and equality (the latter criterion being more particularly emphasised in the 'social democratic' tradition). For an in-depth discussion of this concept, see Jenson (2010) and Schiefer *et al.* (2017), and for a detailed discussion of the different intellectual traditions, see Green *et al.* (2011).

In their extensive review, Schiefer *et al* (2017) point to a very broad consensus on the key properties of social cohesion. It

- refers to the 'quality' of an entire society but is manifested primarily in the attitudes and behaviours of its members;
- is a multidimensional phenomenon involving individuals, groups and institutions;
- can be measured empirically, so that more or less cohesive societies can be identified.

Empirical work to measure social cohesion is mainly based on the results of various regular surveys of citizens in a large number of countries, including many questions on their attitudes

and behaviour[1]: trust in others and institutions, perception of the fairness of income distribution, participation in associative or political life, etc. The social cohesion indices measured in this way for the various countries are then compared with more conventional socio-economic indicators (such as GDP/capita, income distribution equality index, etc.) in order to identify possible determinants (or 'drivers') of social cohesion.
Dragolov *et al.* (2013) for the Bertelsmann Foundation and the European agency EUROFOUND's report (2018), covering 34 and 28 countries respectively, represent two recent, well-documented examples of such work.

Both Green *et al.* (2006a) and Duru-Bellat *et al.* (2013) focus on identifying the impact of education on social cohesion. They show that social cohesion correlates very weakly with average educational attainment but that it (or at least some key sub-indicators of it) correlates more strongly with indicators of inequality in education. According to these contributions, these inequalities in education would, however, only have an indirect effect: it is through their effects on income inequalities (in Green *et al.*) or on induced inequalities on the labour market (in Duru-Bellat *et al*.) that inequalities in education would affect social cohesion.

In this paper, we explore an alternative way in which inequalities in education could affect - directly rather than indirectly - social cohesion. We will show, step by step, how inequalities in compulsory education lead to the breakdown of intergenerational social mobility, which directly affects social cohesion.

Our review will cover 28 countries. Although the data used are for individual countries, for reasons that will be explained in the next section, we will choose to conduct the presentation and discussion with reference to sets of countries that constitute distinct 'cultural areas'. Where we refer to some of our previous work (Lambert, 2019 and 2020), we will limit ourselves, for the sake of brevity, to presenting here the lessons directly useful for our purpose.

2. Starting point: inequalities in compulsory education

In Lambert (2019), we conducted a comparative analysis of the compulsory education systems of 24 European and 4 non-European Anglo-Saxon countries[2] using the results of the OECD PISA survey (OECD 2016a and 2016b). The data provided by this survey includes information on the structural characteristics of education systems.

Among these, we should mention the 'stratification' between pupils or groups of pupils, which can be organised according to two non-exclusive dimensions: the first (horizontal stratification) concerns the segmentation of the school population into distinct tracks. Some (European) countries have such a policy of early tracking, while other countries have a radically different, so-called 'integrated' approach, whereby all pupils continue their schooling within a common core until the age of 16, when compulsory education ends in most countries. The second dimension (vertical stratification) focuses on the pedagogical practice of grade repetition, which has the effect of distributing pupils of the same age into grades of different levels.

An education system is also characterised by a greater or lesser degree of 'school segregation'. We speak of 'strong' school segregation when schools are strongly differentiated in terms of the composition of their student population and 'weak' school segregation in the opposite case. The degree of school segregation can be measured either from the point of view of the

[1] The most commonly used surveys are the World Values Survey (WVS), European Values Study (EVS), European Social Survey (ESS), European Quality of Life Survey (EQLS), International Social Survey Program (ISSP), Gallup World Poll (GWP).
[2] Australia, Canada, New Zealand, USA.

social composition of the school population[3]or from the point of view of the academic performance of the pupils[4].

On the basis of the data provided by the PISA survey, it is possible to identify families of education systems (or 'models') which share common structural characteristics. A clear division of the European area into a number of large 'cultural areas' is emerging, each of which has adopted a specific educational model[5]:

- the Nordic model, which includes the Scandinavian countries, to which one or two Baltic countries may be added;
- the Anglo-Saxon model, which includes the Anglo-Saxon European (United Kingdom, Ireland) and non-European (North America and Asia-Pacific) countries;
- the continental model, which includes the Western European countries not listed above, to which several Central European countries can be added.

Countries sharing the Nordic model have made the political choice of the lowest possible stratification of the school population: no segmentation into distinct tracks and almost no grade repetition. These policy choices result in a 'school landscape' characterised by very little segregation, both social and academic, between schools. In this model, all pupils of the same age are educated in the same grade, within a common stream, in schools - and in classes - with a very high degree of social and academic diversity.

The countries belonging to the continental model are developing an educational strategy that is almost the opposite of that of the Nordic model: segmentation of the school population into distinct tracks, intensive use of repetition and a 'school landscape' marked by strong segregation, both social and academic, between schools. The educational strategy of the continental model seems to be based on the idea that it is by sorting and grouping pupils according to their aptitudes and motivations that more homogeneous groups (classes and even schools) will be formed, and thus more likely to bring each category of pupil to his or her best potential.

The Anglo-Saxon model is closer to the Nordic model than to the continental model. It shares with the Nordic model the absence of separate tracks and the very rare use of repetition. On the other hand, segregation (especially social segregation, particularly in the USA) between schools is higher than in the Nordic model[6] (although still lower than in the continental model).

What about the 'performance of these various models? From the point of view of the 'efficiency' criterion, which measures the average score achieved by students, the three models perform very similarly. But the same cannot be said for the 'equity' criterion, which measures the ability of education systems - and models - to provide the best possible equality of opportunity between advantaged and disadvantaged students. In all countries in the world, the average score of the most advantaged pupils is higher than that of the least advantaged, but some models are more successful than others in reducing this gap.

As an index of inequality in education systems, we use the difference in average score (in the PISA tests) between the extreme quartiles of the distribution of the socio-economic and cultural[7] index, i.e. between the 25% most advantaged and the 25% least advantaged students. A lower value of this indicator therefore reflects a more egalitarian system (or model).

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[3] More or less strong segregation between schools for 'advantaged' and 'disadvantaged' pupils.

[4] More or less strong segregation between schools with 'strong' and 'weak' pupils.

[5] This ignores the Southern European model (Spain, Portugal, Italy, Greece), which is less homogeneous than the others and which is essentially an attenuated version of the continental model.

[6] This greater social segregation between schools in the Anglo-Saxon model is partly due to the greater role given to the 'market' (private schools).

[7] The PISA survey calculates an index of socio-economic and cultural status for each student, which is strongly influenced by the parents' level of education.

The values of this index, for the different models, are presented in the first column of Table 1. The other columns will be commented on later. Annex 1 presents the same Table, with detailed statistics for individual countries[8].

	Index[9] of inequality of compulsory education	Index[10] of democratisation of higher education	Index[11] of inter-generational mobility in education	Index[12] of social cohesion
Models				
Nordic (Denmark, Finland, Norway, Sweden)	80,0	1,92	6,6	1,15
Anglo-Saxon (UK, Ireland, Canada, Australia, USA)	83,4	1,92	16,8	0,67
Continental (Belgium, France, Netherlands, Austria, Germany)	104,6	2,38	21,9	0,24
Southern Europe (Italy, Spain)	79,0	2,45	46,5	-0,30
Eastern Europe (Estonia, Poland, Czech Republic, Slovakia)	90,8	2,90	92,5	-0,44

Table 1: Values of the indices of inequality in compulsory education, democratisation of higher education, intergenerational social mobility and social cohesion

(sources: see notes for each column)

Of the three 'big' models, the most egalitarian compulsory education model is undoubtedly the Nordic model, closely followed by the Anglo-Saxon model (with the USA performing poorly), with the continental model lagging far behind, with much larger performance gaps between advantaged and disadvantaged young people. The educational strategy of the continental cultural area, based on sorting and grouping pupils into homogeneous groups, seems to have the effect of exacerbating - rather than reducing - inequalities at the outset.

As regards the other two models, Southern Europe shows egalitarian performance (but with a low average score), while Eastern Europe is divided between countries (Estonia, Poland) similar to the Nordic model and others (Czech Republic, Slovakia) similar to the continental model.

This is the situation at the end of compulsory education. But what about the rest of the educational pathway, up to the higher education qualification? We examine this question in the next section.

[8] Table 1, as well as Annex 1, only includes countries for which all four indices are available.

[9] Measured by the difference in PISA 2015 scores between the extreme quartiles of the socio-economic and cultural index distribution (cf. Lambert, 2019).

[10] Source: Lambert (2020), based on survey results published in the various editions of *Education at a glance* (OECD). Index measured on the cohort of young people aged 25-34 in 2012.

[11] Source: OECD (2018).

[12] Source: Dragolov *et al.* (2013), for the Bertelsmann Foundation.

3. From inequalities in compulsory education to those in higher education

Are the education systems that provide the most equitable access to a higher education qualification those where compulsory education is more equitable? There is no way to say *a priori*, because there are still many stages between lower secondary education and obtaining a higher education qualification, not to mention the barriers to entry to higher education (financial conditions, selection), which vary in severity from one country and model to another, and which could change the starting point.

In Lambert (2020), we conduct this investigation in a step-by-step manner, i.e. by measuring, at each stage of the pathway (upper secondary success, access to higher education, success in higher education), the more or less (socially) egalitarian or democratic character of the different countries and models. For this purpose, we rely on the results of surveys published, at irregular intervals, in *Education at a glance* (OECD). These surveys provide the outcomes of young people in a given age group, disaggregated by the educational qualifications of their parents[13]. In the remainder of this section, a young person will be referred to as 'advantaged' if at least one parent has a tertiary qualification and 'disadvantaged' if not.

From these data, it is possible to construct an OR indicator - for *odds ratio* in the literature - which measures the respective probabilities of an 'advantaged' and a 'disadvantaged' young person to graduate from higher education.

This *odds ratio* $OR^{\text{HE degree}}$ is calculated as follows:

$$OR^{\text{HE degree}} = \frac{\%\text{ of 'advantaged' young people who are higher education graduates}}{\%\text{ of 'disadvantaged' young people who are higher education graduates}}$$

To put it in perhaps a more 'telling' way, an 'advantaged' young person is $OR^{\text{HE degree}}$ times more likely to be a higher education graduate than a 'disadvantaged' young person.

In all countries of the world, the probability of an 'advantaged' young person accessing - and successfully completing - higher education is higher than that of a 'disadvantaged' young person (and this is also true for the earlier stages of the journey). But the more an education system succeeds in giving the 'most equal possible' opportunities to all young people, the lower the $OR^{\text{HE degree}}$ index for the system. This index therefore provides us with a measure of how 'democratic' a higher education system is (from the point of view of graduation).

The values of this index are reported in the second column of Table 1[14].

Let us first comment briefly on the case of the two models that we might call more 'peripheral', those of Southern and Eastern Europe, which have higher $OR^{\text{HE degree}}$ values - and therefore less democratic scores - than those of our 'big' three models (the interested reader may refer to Lambert, 2020). Southern Europe suffers from an 'educational backwardness' compared to other cultural areas, with a still low percentage of young people with upper secondary education and therefore a smaller pool of possible candidates for higher education. Yet we know that the democratisation of higher education progresses, all other things being equal, with the increase in the total proportion of young graduates. As for Eastern Europe, it is still marked by the effects of the policies in force under the communist regime, which aimed at a high rate of upper secondary graduates but were more restrictive as regards access to higher education.

If we come to our three 'big' models, it is the more egalitarian compulsory education models, the Nordic and Anglo-Saxon models (with the exception of the USA, see Annex 1) that

[13] In three categories: low level (neither parent has more than lower secondary education), medium level (at least one parent has an upper secondary education) and high level (at least one parent has a higher education).

[14] The $OR^{\text{HE degree}}$ statistics presented in Table 1 (and in Appendix 1) refer to the population aged 25-34 in 2012.

emerge as more democratic - or more equitable - in terms of obtaining a higher education qualification. It is in the continental model, with its particularly unequal compulsory education, that the respective probabilities - for an advantaged and a disadvantaged young person - of obtaining a higher education qualification are the most unequal.

The correlation between the $OR^{\text{HE degree}}$ index and the compulsory education inequality index, which we have just highlighted at model level, can also be calculated at the level of individual countries. The correlation coefficient between these indices, calculated at the level of the 20 countries listed in Annex 1, is 0.53.

It can be shown that this is not a simple correlation but that it actually reflects a causal link between (social) inequality in compulsory education and (social) inequality in access to a higher education qualification. This exercise is carried out in Lambert (2020) where, on the basis of the results of surveys published in *Education at a glance* (OECD), we calculate ORs for each stage of the pathway (success in upper secondary education, access to higher education, success in higher education) and thus verify, step by step, the prevalence of social inequalities at the outset. The most decisive stage is the successful completion of higher education. In the Nordic and Anglo-Saxon models (with the exception of the USA), higher education takes in students whose prior skills are not too dissimilar, depending on whether they come from advantaged or disadvantaged backgrounds (or, to put it another way, the distribution - in terms of prior skills - of disadvantaged students is only slightly shifted 'downwards' in comparison with that of privileged students). This results in relatively similar failure or drop-out rates (during higher education) between advantaged and disadvantaged students. In the continental model, inequalities in prior skills are much more important (distribution - in terms of prior skills - of disadvantaged students strongly shifted 'downwards' with respect to that of advantaged students), hence the more massive 'social creaming' exerted via failure or drop-out during studies.

4. From inequalities in higher education to intergenerational social mobility

The $OR^{\text{HE degree}}$ of the previous section measured the respective probabilities of 'advantaged' young people (those with at least one parent with a higher education degree) and 'disadvantaged' young people (those with no parent with a higher education degree) to obtain a higher education degree. The former maintain their parents' level of education while the latter manage to reach a higher level of education than their parents. The latter is referred to as upward intergenerational social mobility (in education).

The literature on social mobility (see OECD, 2018) highlights the 'sticky floor' and 'sticky ceiling' phenomena at both ends of the social scale. The terms 'floor' and 'ceiling' refer to individuals at the bottom and top of the social ladder respectively, while the term 'sticky' means that the social mobility of these individuals is lower than that of individuals in the middle of the social ladder. The most disadvantaged find it difficult to mobilise the resources (of all kinds) needed to escape their condition, while the most advantaged can mobilise abundant resources (of all kinds) to maintain their privileged position. These phenomena are verified in empirical work on the various possible dimensions of social mobility (level of education, income, professional occupation).

However, societies are characterised by varying degrees of social mobility, with more (socially) mobile societies having less 'sticky' floors and ceilings than more (socially) rigid societies.

The OECD (2018) publication provides the data[15] for calculating an index of intergenerational social mobility (in terms of educational attainment). The 'floor' is for people (here referred to as the 'very disadvantaged') with both parents having a low level of education (below upper secondary) and the 'ceiling' is for people (here referred to as the 'advantaged') with at least one parent having a high level of education (tertiary education).

[15] Obtained from surveys conducted in 2012 and 2015 among people born between 1950 and 1985.

We can calculate the intensity of adherence to the 'sticky ceiling' as the ratio of the probabilities (*odds ratio*), for an 'advantaged' person, of remaining at the educational level of his or her parents or of being 'relegated' to the bottom of the educational ladder.

$$OR_{\text{advantaged}} = \frac{\%\text{ of the 'advantaged' who are graduates of higher education}}{\%\text{ of 'advantaged' who have not gone beyond lower secondary education}}$$

The same applies to the intensity of the 'sticky floor', such as the ratio of the probability of a 'very disadvantaged' person keeping up with his or her parents' level of education or being promoted to the top of the educational ladder.

$$OR_{\text{very disadvantaged}} = \frac{\%\text{ of 'very disadvantaged' who have not gone beyond lower secondary education}}{\%\text{ of the 'very disadvantaged' who are higher education graduates}}$$

The two ORs are higher the more 'sticky' the ceilings and floors are. The product of these ORs thus provides us with an index of the intergenerational social mobility of the society under consideration, a lower value revealing a more socially 'mobile' (as opposed to 'rigid') society.

The values of this social mobility index are reported in the third column of Table 1.

The traditional "hierarchy" between the models can be seen again: the Nordic model has the highest intergenerational social mobility, followed by the Anglo-Saxon model and only then by the continental model.

The Nordic model is the only one that combines a low 'sticky' ceiling (i.e. significant probability of downward mobility even for the 'advantaged'[16]) and a low 'sticky' floor (i.e. high probability of upward mobility for the 'very disadvantaged').
Both the Anglo-Saxon and continental models have a much more 'sticky' ceiling than the Nordic model but differ in the floor, which is not very 'sticky' in the Anglo-Saxon model but much more 'sticky' in the continental model. This peculiarity ('sticky' floor) of the continental model most likely refers to the difference in the distribution of prior skills of the 'advantaged' and 'disadvantaged' mentioned in the previous section.

Both Southern and Eastern Europe[17] show very low intergenerational social mobility with, for both, an extremely 'sticky' floor and, for Eastern Europe, an equally extremely 'sticky' ceiling. As far as the floor is concerned, this probably reflects the singularities of these models mentioned in the previous section ('educational backwardness' for Southern Europe and policies in force under the communist regime for Eastern Europe). Perhaps the particularly 'sticky' ceiling in Eastern Europe also reflects the privileges of the 'elites' of the communist regimes?

The correlation between the intergenerational social mobility index and the $OR^{\text{HE degree}}$ index from the previous section, which we have just highlighted at model level, can also be calculated at individual country level. The correlation coefficient between these indices, calculated at the level of the 20 countries listed in Annex 1, is 0.83[18].

The OECD publication (2018) provides another important piece of information[19]: analysing, for all countries, the evolution of intergenerational social mobility (considering separately the generations born in 1950, 1955, 1960, ... up to 1985), it finds that this intergenerational social mobility initially progressed over the past century before running out of steam, then deteriorating from the end of the 1990s (i.e. for the generations born after 1975), the gap

[16] This could be explained by the fact that the Nordic model countries are characterised by a particularly severe selection for access to higher education (cf. Lambert, 2020).
[17] Estonia, which is related to the Nordic model, is an exception.
[18] This result is very robust: the correlation coefficient between the social mobility index (calculated over several generations) and the average of the $OR^{\text{HE degree}}$ indices for the 25-34 year-old populations in 1992, 2007 and 2012 (rather than just the 2012 $OR^{\text{HE degree}}$ index) is 0.85.
[19] See OECD (2018), Chapter 5, pp. 251-252.

widening again between the prospects of the 'advantaged' (at the ceiling) and the 'very disadvantaged' (at the floor).

5. From intergenerational social mobility to social cohesion

The survey results mentioned at the beginning of this article take on a particular resonance in the light of the findings just reported: the growing 'disaffiliation' of a section of the population - generally less educated - appears to be concomitant with the loss of momentum, followed by a decline, in the progress of intergenerational social mobility (in terms of education).

That social cohesion may be affected by the degree of social mobility seems highly likely because

- In a 'rigid' society where the floor and ceiling are very 'sticky', people at the bottom of the social ladder (at the floor), perceiving that they and their children have very little prospect of social advancement (and therefore of improving their living conditions and status), will feel 'on the margins' of this society which, in a way, 'puts them under house arrest';
- Conversely, in a more "fluid" society where the floor and ceiling are not very "sticky", people at the bottom of the social ladder, perceiving that despite their initial disability they and their children still have real prospects for social advancement, will feel little or no rejection by society, in which they maintain their confidence.

Let us test this hypothesis by comparing an index of social cohesion with our index of intergenerational social mobility. We will use the social cohesion index calculated by Dragolov *et al.* (2013) on behalf of the Bertelsmann Foundation, which has the double advantage of being based on a sound methodological approach and covering a large number of countries (including the 20 countries in our Annex 1).
To calculate their index, the authors use the results of regular international surveys that ask citizens about their perceptions, attitudes and behaviours on a variety of dimensions deemed to constitute social cohesion. Among the dimensions retained, the three main ones, considered "central", are trust in others, trust in institutions and the perception of society as being fair. But the authors also include participation in associative or political life, the intensity of social relations, the degree of acceptance of diversity, respect for laws and regulations and attachment to the country. A sub-index is calculated for each of these 9 dimensions and the overall social cohesion index is the arithmetic average of these sub-indices.

The values of this overall social cohesion index are reported in the fourth column of Table 1[20]. A higher value of this index reflects stronger social cohesion.

The comparison of the values reported in the third and fourth columns of Table 1 is enlightening: the higher the intergenerational social mobility, the higher the social cohesion[21]. The correlation between the intergenerational social mobility index and the social cohesion index, which we have just highlighted at model level, can also be calculated at the level of individual countries. The correlation coefficient between these indices, calculated at the level of the 20 countries listed in Annex 1, is -0.69.

Let us also test the robustness of this finding by conducting a multiple regression analysis aimed at assessing the possible impact on social cohesion of variables other than intergenerational social mobility alone. As other potential explanatory variables, we retain the various possible 'drivers' (or determinants) of social cohesion proposed in the empirical literature cited in section 1: GDP/capita, 'social' public spending[22] as a % of GDP, the

[20] The values per country are available in Annex 1.
[21] The direction of causality is clear, as social cohesion is measured by surveys of representative samples of the adult population in the early 2010s, while our index of intergenerational social mobility reflects the mobilities experienced by many generations in the preceding decades.
[22] The sum of public expenditure on health, education and social benefits is considered here as 'social' public expenditure.

unemployment rate, the Gini coefficient of the distribution of income after taxes and transfers, the extent of income redistribution[23], the average level of education of the population (measured by the proportion of the population aged 25-64 with higher education qualifications), etc.

Several of these variables do not appear to have a significant impact. Table 2 presents the best performing models, estimated respectively on all 20 countries (see list in Annex 1) and on the subset of 14 countries belonging to the Nordic, Anglo-Saxon and Continental models (i.e. excluding Southern and Eastern European countries).

	Model estimated on all countries (20 countries)		Model estimated on all countries except Southern and Eastern Europe (14 countries)	
Dependent variable: Overall social cohesion index				
	Coefficients (standardised)	Student t value	Coefficients (standardised)	Student t value
Driving variables				
• Inter-generational Social Mobility	-0,45 ***	-2,71	-0,51***	-2,46
• GDP/capita	0,53 ***	3,31	0,39 **	1,86
• Gini (after tax)	-0,22 *	-1,59	/	/
R^2 value = 0,73			R^2 value = 0,51	

***, **, *: coefficients significantly ≠ of 0 with probabilities of 95%, 90% and 85% respectively.

Table 2: 'Driving' variables for social cohesion

The two main 'drivers' of social cohesion turn out to be intergenerational social mobility (in education) and the average level of wealth of the country (GDP/capita), since the equality of the distribution of net incomes (Gini after taxes and transfers) only appears to be significant (and even then, weakly) for all countries[24].

Intergenerational social mobility emerges as the more 'robust' of these two 'drivers', since it is the only one to remain highly significant in both models (with an even greater weight, to the detriment of GDP/capita, in the model estimated for the 14 'richer' countries).

As a further test of the robustness of our results, we also tested the same models (same explanatory variables), this time taking as the dependent variable the 'core' index of social cohesion made up of the three sub-indices considered as 'central' in the report by Dragolov *et al.* (2013) on behalf of the Bertelsmann Foundation. The results of this exercise are presented in Annex 2. The weight of intergenerational social mobility is further increased, to the point where it clearly outweighs that of GDP/capita.

It should be remembered that the research carried out so far (see section 1) has had some difficulty in detecting a direct effect of education on social cohesion, the only effects highlighted being indirect, via the distribution of income or induced inequalities on the

[23] The extent of income redistribution is measured as [(Gini coefficient before taxes and transfers) - (Gini coefficient after taxes and transfers)] / (Gini coefficient before taxes and transfers).

[24] All the coefficients in Table 2 have the expected sign: recall that, by construction, our index of intergenerational social mobility has a higher value the lower it is and the Gini index is lower the higher the income equality.

labour market. In this case, it is indeed a direct effect because, as we have shown in the previous sections, intergenerational social mobility (in education) is directly affected by inequalities in compulsory education. The causal link between more unequal compulsory education => weaker intergenerational social mobility => weaker social cohesion is thus clearly established.

Summary and concluding remarks

There are worrying developments in many countries since the end of the last century: (re)rising income inequality, an increasing proportion of people who, in regular surveys, express a feeling of "disaffiliation" and declining trust in institutions, and - against the backdrop of elections - rising abstentions and the rise of populist and/or radical "anti-system" parties.

Given the scale of the crises and challenges (financial crises, migration, climate change, pandemics, etc.) that our societies have faced - and will continue to face - and the urgent need to strengthen the capacity for collective response, the concept of social cohesion is naturally the subject of renewed interest.

Hence the quest to try to identify the main determinants (or 'drivers') of social cohesion. Education naturally comes to mind as a possible 'candidate', but the work carried out so far has struggled to identify the ways in which education might affect social cohesion. Thus, for example, a higher level of education in the population (reflected in a higher proportion of people with tertiary education) does not appear to affect social cohesion positively. The only effects of education highlighted so far in econometric studies are indirect effects that are exerted via the functioning of the labour market (wage and/or employment rate differentials, depending on the level of qualification).

In this article, we show how education directly affects social cohesion, taking care to establish causal links at each stage. In short, more unequal compulsory education systems *ultimately* generate lower intergenerational social mobility, thereby weakening social cohesion[25]. Intergenerational social mobility is emerging as a major determinant of social cohesion.

Once this diagnosis has been more widely disseminated, can we expect to see countries with particularly unequal compulsory education - in other words, those belonging to the continental model - immediately set about dismantling the structural features of their education systems that underlie these inequalities? Probably not, as there will be fierce resistance. Educational models are deeply rooted in the culture of the different countries in that they reflect - albeit unconsciously - a value considered central by the societies concerned.

An illuminating perspective on this cultural rootedness comes from work on social protection systems. This work[26] identifies a number of major social protection 'regimes' that divide Europe into distinct cultural areas in which the weight of history, combined with the dominant social and political forces (of the social democratic, liberal or Christian democratic tradition), has produced social protection systems that share common features. They then show that the structural features of each of these welfare regimes reflect the core value of the societies concerned[27]: equality for the first regime (described as 'social democratic'), freedom for the second (described as 'liberal'), and concern for maintaining social order – "everyone in their rightful place" - for the third (described as 'conservative').

The interest of this work for our subject lies in the following observation: the division of Europe according to welfare regimes turns out to be identical to the one made (cf. section 2)

[25] France and Belgium provide a good illustration: these two countries have both the most unequal compulsory education and the lowest social cohesion indices among the 'rich' countries (i.e. excluding Southern and Eastern Europe) in our sample.
[26] See Esping-Andersen (1990) and its successors.
[27] See Lambert (2019) for a more detailed discussion.

according to compulsory education models[28]: the 'social democratic' welfare regime corresponds to the Nordic educational model, the 'liberal' regime corresponds to the Anglo-Saxon educational model and the 'conservative' regime corresponds to the continental educational model. It is also verified that the educational strategies of the different compulsory education models, as described above, correspond to the same core values of the cultural areas concerned. Thus, the educational strategy of the continental model, based on the sorting and grouping of pupils into homogeneous groups, corresponds to the "everyone in their rightful place" dictated by the concern to maintain social order.

A comparative analysis of educational policies thus leads to a cruelly ironic observation: it is those societies whose compulsory education most clearly integrates the objective of maintaining social order that *ultimately* prove to be the most vulnerable to the risk of social cohesion crumbling.

We will therefore have to overcome "cultural" reticence, but the stakes - our ability to respond collectively to future changes and crises - are high.

[28] This should not be surprising, given that the welfare and compulsory education systems were established during the same period, from the late 19th to the mid-20th century.

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Annex 1

	Index[29] of inequality of compulsory education	Index[30] of democratisation of higher education	Index[31] of inter-generational mobility in education	Overall Index[32] of social cohesion
Models				
Nordic				
Denmark	76	2,08	7,79	1,32
Finland	78	1,71	4,53	1,05
Norway	72	1,91	6,35	1,26
Sweden	94	2,00	7,62	0,95
"Nordic" average	***80,0***	***1,92***	***6,57***	***1,15***
Anglo-Saxon				
United Kingdom	84	1,88	19,80	0,24
Ireland	80	1,91	19,94	0,54
Canada	71	1,69	6,97	0,83
Australia	92	1,75	7,1	0,88
United States	90	2,36	32,3	0,82
"Anglo-Saxon" average	***83,4***	***1,92***	***17,22***	***0,67***
Continental				
Belgium	110	2,16	19,32	-0,20
France	118	2,30	24,7	-0,07
The Netherlands	95	2,07	10,22	0,58
Austria	97	2,93	24,38	0,52
Germany	103	2,43	30,84	0,39
"Continental" average	***104,6***	***2,38***	***21,91***	***0,24***
Southern Europe				
Italy	76	2,58	81,33	-0,49
Spain	82	2,31	11,71	-0,11
"Southern Europe" average	***79,0***	***2,45***	***46,52***	***-0,30***
Eastern Europe				
Estonia	69	1,65	6,69	-0,32
Poland	86	2,31	80,05	-0,33
Czech Republic	107	4,31	125,7	-0,47
Slovakia	101	3,32	157,1	-0,65
"Eastern Europe" average	***90,8***	***2,90***	***92,5***	***-0,44***

[29] Measured by the difference in PISA 2015 scores between the extreme quartiles of the socio-economic and cultural index distribution (cf. Lambert, 2019).

[30] Source: Lambert (2020), based on survey results published in the various editions of *Education at a glance* (OECD). Index measured on the cohort of young people aged 25-34 in 2012.

[31] Source: OECD (2018).

[32] Source: Dragolov *et al.* (2013), for the Bertelsmann Foundation.

Annex 2: Models estimated on the **core**[33] index of social cohesion

	Model estimated on all countries (20 countries)		Model estimated on all countries except Southern and Eastern Europe (14 countries)	
Dependent variable: **Core** index of social cohesion				
	Coefficients (standardised)	Student t value	Coefficients (standardised)	Student t value
Driving variables				
• Intergenerational Social Mobility	-0,69 ***	-4,84	-0,70***	-3,87
• GDP/capita	0,33 ***	2,42	0,30 *	1,63
• Gini (after tax)	-0,39 ***	-3,32	/	/
	R^2 value = 0,81		R^2 value = 0,65	

***, **, *: coefficients significantly ≠ of 0 with probabilities of 95%, 90% and 85% respectively.

Table 3: 'Driving' variables for social cohesion

(with Y = **Core** index of social cohesion)

Core index of social cohesion

Nordic model		**Southern Europe**	
Denmark	5,70	Italy	-1,96
Finland	3,44	Spain	-0,38
Norway	5,08		
Sweden	4,08	***Southern Europe average***	***-1,17***
Nordic average	***4,58***		
Anglo-Saxon model		**Eastern Europe**	
United Kingdom	0,97	Estonia	0,59
Ireland	0,19	Poland	-1,91
Canada	2,61	Czech Republic	-1,72
Australia	2,07	Slovakia	-2,93
United States	1,17		
Anglo-Saxon average	***1,40***	***Eastern Europe" average***	***-1,99***
Continental model			
Belgium	1,06		
France	-0,07		
The Netherlands	3,31		
Austria	0,92		
Germany	1,32		
Continental average	***1,31***		

[33] The **core** index of social cohesion consists of the three sub-indices (trust in others, trust in institutions and perception of society as fair) considered as 'central' in Dragolov *et al.* (2013).