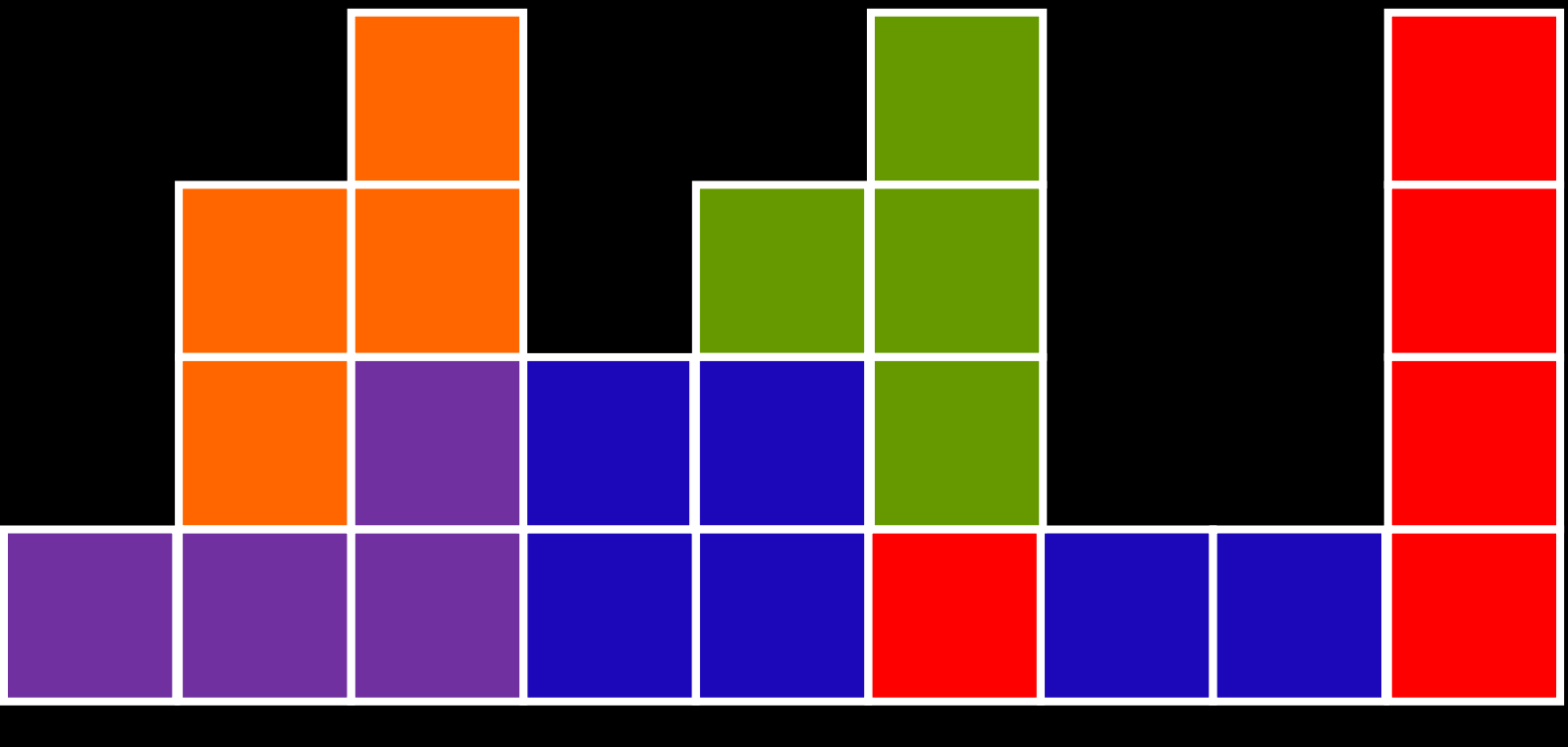
LLAKES
Centre for Research on Learning and Life Chances

UCL
Institute of Education

Models of Lifelong Learning and Their Outcomes. How Distinctive is the 'Nordic Model' Now?

Andy Green

LLAKES Research Paper 70



Centre for Learning and Life Chances (LLAKES)
LLAKES is an ESRC-funded Research Centre - grant reference ES/T001526/1.

To request printed copies of this paper or other LLAKES Research Papers, please contact the LLAKES Centre – k.dhillon@ucl.ac.uk.

To view or download this and other LLAKES Research Papers online, please visit www.llakes.ac.uk

Models of Lifelong Learning and Their Outcomes. How Distinctive is the 'Nordic Model' Now?

Andy Green

Research Paper 70

Centre for Learning and Life Chances (LLAKES)
UCL Institute of Education

Table of Contents

List of Figures

Abstract

The 'Nordic Model of Lifelong Learning', which gained international recognition towards the end of the last Millennium, had three distinguishing characteristics: universalistic provision of pre-school education; a comprehensive and relatively egalitarian secondary school system; and high levels of participation in adult learning. With strong provision for each stage of the life course, Nordic countries came to be regarded as leading exponents of lifelong learning when this concept was gaining international traction. International survey data on education system characteristics and outcomes largely confirmed the narrative about the exceptionalism of the Nordic systems. Participation in Scandinavian countries in pre-school and adult learning was higher than in other countries and skills outcomes in Nordic countries tended to be more equal than in other regions, except possibly East Asia, on most measures: with narrow distributions of skills; low impacts of social origins on achievement, and remarkably little variation between schools in social intakes and performance. During the last two decades much has changed, with the rise of the neo-liberal paradigm in international education policy, and Nordic countries have responded in different ways to the new demands on education. This paper surveys the latest comparative research on education system types and characteristics, and their effects on skills - including from PISA and the OECD Survey of Adult Skills - to assess how the distinctive characteristics of the Nordic model have fared. It finds that basic schooling (until age 15) in Nordic countries is less distinctively egalitarian than it once was but still more egalitarian than in most countries. On the other hand, pre-school and adult education remain exceptionally universalistic.[1]

[1] This paper was first delivered as a key-note lecture in 23.4.2021 for the Conference on '*Nordic Modes of Bildung, Schooling, and Upbringing - The interplay between individualism, collectivism, and institutionalized lives.* The conference was organised by the UiO: Nordic projects 'The Nordic Education Model' and 'Living the Nordic Model'.

Introduction

The 'Nordic Model of Lifelong Learning' - which gained international recognition towards the end of the last Millennium - had three main distinguishing characteristics: universalistic provision of pre-school education; a comprehensive and relatively egalitarian secondary school system; and high levels of participation in adult learning. With strong provision for each stage of the life course, Nordic countries came to be regarded as leading exponents of lifelong learning when this concept was gaining international traction. However, during the last two decades, much has changed with the rise of the 'neo-liberal' paradigm in international education policy, and Nordic countries have responded in different ways to the new demands placed on education. This paper uses the latest international data on skills and education system characteristics to assess how the lifelong learning systems of Nordic countries perform today and how distinctive they remain relative to the systems in other regions and country groups.

Origins of the Nordic Model

It has been widely claimed, both by historians and by comparative political economists, that there is - or was - a distinctively Nordic model of the *welfare state* and that education has formed an essential part of this (Esping-Andersen, 1990, 1999; Frimannsson, 2006; Hall and Soskice, 2001; Thelen, 2004; Wiborg; 2009). The Post-WW2 Nordic developments in lifelong learning are generally seen as part of the social democratic project to create inclusive and egalitarian welfare states which would protect citizens from poverty and insecurity, while promoting social integration, solidarity and social mobility.

The welfare states fashioned in Nordic states were generous, and exceptionally universalistic in their design, embodying - more than elsewhere - principles of solidarism and the 'de-commodification' of people's rights and benefits (Esping-Andersen, 1990). Lifelong learning was deemed essential to the political project because it could serve as a vehicle for enhancing social integration and promoting social mobility (Wiborg, 2009), and because it was key to the active labour market policies which were adopted to reduce unemployment, support adaptation to technological change (Antikainen, 2006) and raise national productivity and living standards. Nordic education systems were all informed by values of social justice, equal opportunities, democratic participation and nation-building (Imsen et al, 2017). They also supported the successful Nordic model of technologically-adaptive, innovative economies with

rising living standards based on high employment rates (Castells and Himanen, 2002; de Mooij and Tan, 2003). By the new Millennium, Nordic states were gaining international recognition as leaders in lifelong learning - informing much of the discourse around Lifelong Education in the era of the 1996 Delors report (UNESCO, 1996).

Nordic systems differed in various ways, of course, but they had some important and quite distinctive common characteristics, justifying the notion of a 'Nordic model' (Arnesen and Lundhahl, 2006, Frimannsson, 2006). They were known for:

- High participation rates in good quality and state-funded nursery provision, enabling high employment rates for women (Esping-Andersen, 2009; Green and Mostafa 2011);
- A radical version of public comprehensive education with all-through, non-selective primary/lower secondary schools, producing relatively egalitarian outcomes (Green and Wiborg, 2004; Imsen et al, 2017);
- Dedicated upper secondary education and training systems, with near universal participation in long-cycle programmes to age 19 and high rates of vocational learning;
- Expansive adult learning provision with high level state and social partner investment, building on the long Grundtvigian tradition of the independent Folk High School (Rubenson, 2006).

However, much has changed since the last decades of the 20th century. The Nordic model of the welfare state was already facing new pressures from the 1980s, due to increasing globalisation, intensified economic competition between states, a series of financial crises in Sweden, Finland and elsewhere, and most recently from the rise of authoritarian populism (Brown et al, 2001; Norris and Inglehart, 2019; Streek, 2016; Streek and Thelen, 2005). The affordability of generous Nordic welfare states was questioned because of the rising costs of provision associated with ageing populations and rising levels of immigration (Green and Janmaat, 2011). Since the new Millennium there have been the triple shocks of the 2007/8 financial crisis, the global refugee crisis and now the coronavirus pandemic. In response Nordic welfare states have been trimmed back, though not fundamentally altered or undermined.

Nordic systems of lifelong learning have also been under pressure to increase their efficiency, reduce costs and improve learning outcomes. Reforms in Scandinavian countries were partly prompted by 'PISA shocks' (in Denmark and Sweden in early 2000s) resulting from perceptions of mediocre performance in international tests of skills. Finland, the European

'champion' in the PISA league, proved more immune to the pressure of the 'Great Education Reform Movement' (Sahlberg, 2015), but each of the Scandinavian countries has adopted some policies from the neo-liberal education policy play-list. These include:

- policies for promoting school diversity and choice, which are adopted to enhance competition between schools and improve performance (Wiborg, 2010, 2015);
- a new focus on management by objectives, as espoused in the New Public Management theory promoted by the OECD;
- measures to increase accountability of teachers and schools, through increased school and teacher monitoring and evaluation and national testing of students (Imsen et al, 2017);
- Greater individualisation of teaching (Carlgren et al, 2006).

The question is how far these reforms have fundamentally changed the Nordic model. Do the exceptional features of Nordic lifelong learning model still persist twenty years after the start of PISA? I will argue that many of the key institutional features of the Nordic Model have indeed survived (despite the adoption of some policies which are at odds with the original vision of the Nordic Model) (Imsen, 2016). As a result, the educational outcomes have changed much less than might be imagined. Reforms have not notably improved average skills levels but nor have they increased inequalities significantly.

My approach here is to compare the trends in key system characteristics and skills outcomes of Nordic countries with those of other groups of countries, to see how far they converge or diverge and whether the distinctiveness of the Nordic Model persists. Using measures of performance in tests of core skills has its limits, of course, since many other aspects of education are not examined. However, the approach has the advantage that we have test data from a large number of countries over two decades, and from tests which have been designed, with the intention at least, to ensure that results are comparable across countries (and which achieve this to a great degree than, for instance, comparative data on qualifications and education levels).

Countries, and their education systems, are grouped using the classifications from comparative political economy and comparative welfare state theory:

- Social Market (Austria, Belgium, Germany, Netherlands, Switzerland)

- Social Democratic (Denmark, Finland, Iceland, Norway and Sweden)
- Liberal (Australia, Canada, Ireland, New Zealand, UK, US)
- Southern Europe (by geography)
- Central and Eastern Europe (CEE) (by geography)
- East Asian (Japan and Korea).

France is classified here as part of the southern European group due to the longstanding historical affinities between the French education system and those in other southern European states influenced by France. Data for system characteristics come from Eurydice, and OECD PISA and Education at a Glance datasets; data on outcomes from PISA (2000-2018); Survey of Adult Skills (SAS) (2012, 2014), International Adult Learning Survey – IALS (1990s).

For each indicator I look at patterns within and across countries and country groups of systems and how these change over time.

The paper proceeds by analysing each phase of lifelong learning in sequence:

- Early years education and care.
- Primary and lower secondary education.
- Upper secondary education and training.
- Adult education and training.

Early Years Education and Care

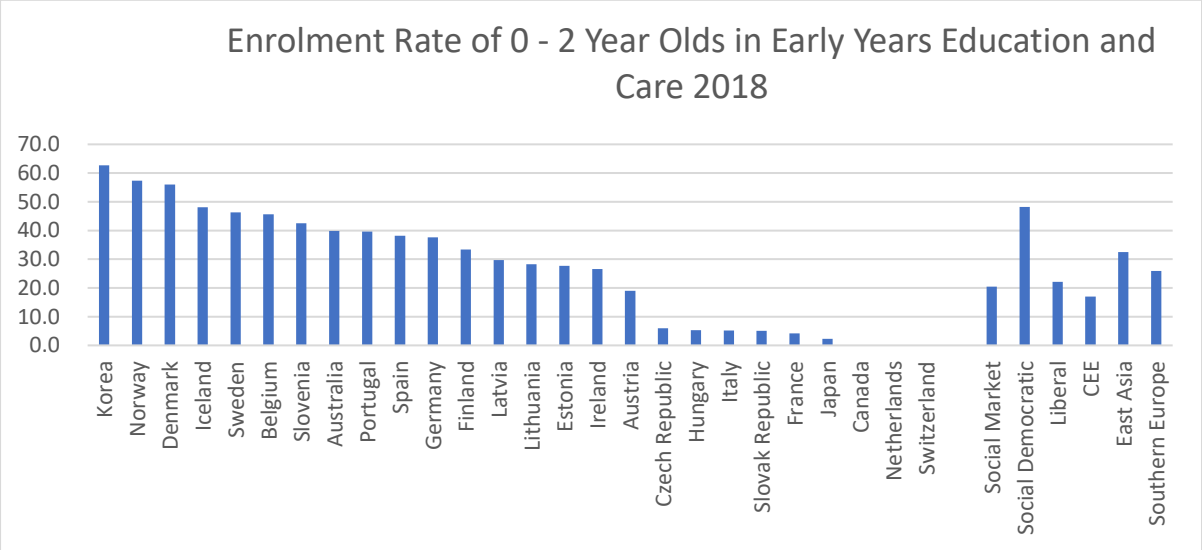
By the new Millennium, Nordic countries were already notable for high rates of participation in good quality, publicly-funded early years education and care (EYEC), widely available at low cost to families. This was seen to bring multiple benefits to the region. Research across countries suggests that high EYEC participation brings substantial individual and societal economic and social benefits (Heckman, 1974; Simonsen, 2010; Esping-Andersen, 2009; and Green and Mostafa, 2011), not least in a) reducing career penalties to maternity, increasing female employment rates, and raising GDP per capita and tax receipts and b) raising the cognitive skills of children (OECD, 2010) and their future skills (and productivity).

EYEC was a key element of the Nordic economic model which sought high living standards based enhanced productivity and employment rates (de Mooig and Tang, 2003). Esping-Andersen (2009) has also claimed that high participation in Nordic countries between the 1960s and 1990s reduced social gaps in achievement and contributed to the relatively equal

educational outcomes amongst older children. The argument was based on the claim that exposure to pre-school education is particularly beneficial to children from disadvantaged backgrounds. The evidence for this across countries is somewhat mixed but it seems that social gaps in achievement are reduced when enrolment rates become near universal (Burger, 2016; Mostafa and Green, 2013).

Nordic countries continue to excel in their provision during this crucial first phase in lifelong learning. While many countries now have widespread participation amongst 3 and 4 year olds, the Nordic countries still stand out for their exceptionally high participation of children aged 0 - 2 years (see Figure One).

Figure One



Source: Education at a Glance 2020 OECD Indicators, OECD, Paris, 2020.

Primary and Lower Secondary Education

Basic schooling in Nordic countries has been seen as exceptional mainly for its comprehensive organisation and relatively egalitarian outcomes.

The dominant position within current cross-country research on school systems is that more unequal outcomes are likely when there is: early tracking; a high proportion of entirely privately-funded schools; a lack of standardisation in curricula and assessment; and a federal

system where funding is devolved to the regional level (e.g. Hanushek and Wößmann 2006, 2010; Salverda et. al. 2014; Schutz et al. 2008; OECD 2010; Wößmann, 2005).

The Nordic countries share a common structure which avoids most of these characteristics, including:

- a predominance of public schools with relatively few entirely privately-funded schools;
- unitary systems of funding local schools;
- strong core curricula;
- a radical version of comprehensive schools with mixed-ability teaching.

Nordic countries introduced comprehensive schooling for the elementary and lower secondary phase from the 1950s onwards and by the end of the 1980s had more completely non-selective systems than elsewhere in Europe. The most distinctive features were the 10-year all-through structure of elementary/lower secondary education in public comprehensive schools and the virtual absence of ability-grouping within schools.

Despite the proliferation of state-funded 'free-schools', particularly in Sweden, Nordic school systems were able to maintain their distinctiveness on these characteristics, at least through the early years of the new Millennium. OECD data from responses to the head teacher questionnaires in PISA surveys show that the proportion of schools which were fully public (neither 'private' not 'private dependent' on OECD definitions) rose on average in Nordic countries between 2000 and 2009, remaining considerably higher than in other groups of countries, including in the 'liberal', 'social market' and 'East Asian' groups of countries (see Green and Mostafa, 2015, pp 24-27). The share of private spending in total educational expenditure remained lower, on average, than in all other groups of countries. Schools in Nordic countries reporting the use of ability grouping in all subjects had declined since 2000 and the proportion was lower than in all other country groups.

Whilst all Nordic countries have introduced a degree of school choice, the extent to which parents choose schools outside their local area is still relatively limited (except in some large cities) and quite low by comparison with, for instance, most Anglophone countries, such as the UK where over 50 % of parents chose a school other than their local one (Green, 2017). There are a number of reasons for this. Many rural areas have insufficient population density to support a diversity of schools; local authorities use various means to promote socially equal catchment areas (in Denmark boundaries are regularly re-drawn to achieve this – see Green, 2017); schools are very similar in social intakes and learning outcomes; and the all-through

school system discourages parents from changing their child's school at the end of the elementary phase, unless forced to do so by residential moves. The result has been a relatively low variation between schools in the social mix of intakes and in skills outcomes (Stephen et al, 2008). OECD PISA data confirm that this was still the case by 2015. Between-school variation in PISA Science test scores, as a proportion of total variation, was only 11.6% on average in Nordic countries, compared with 49.9% in 'social market' countries, 34.2% in East Asian countries, 31.3% in 'southern European' countries, 23.8% in CEE countries and 19.4 % in 'liberal' countries (OECD PISA dataset).

Comparing Inequalities of Skills Outcomes and Skills Opportunities at 15 years

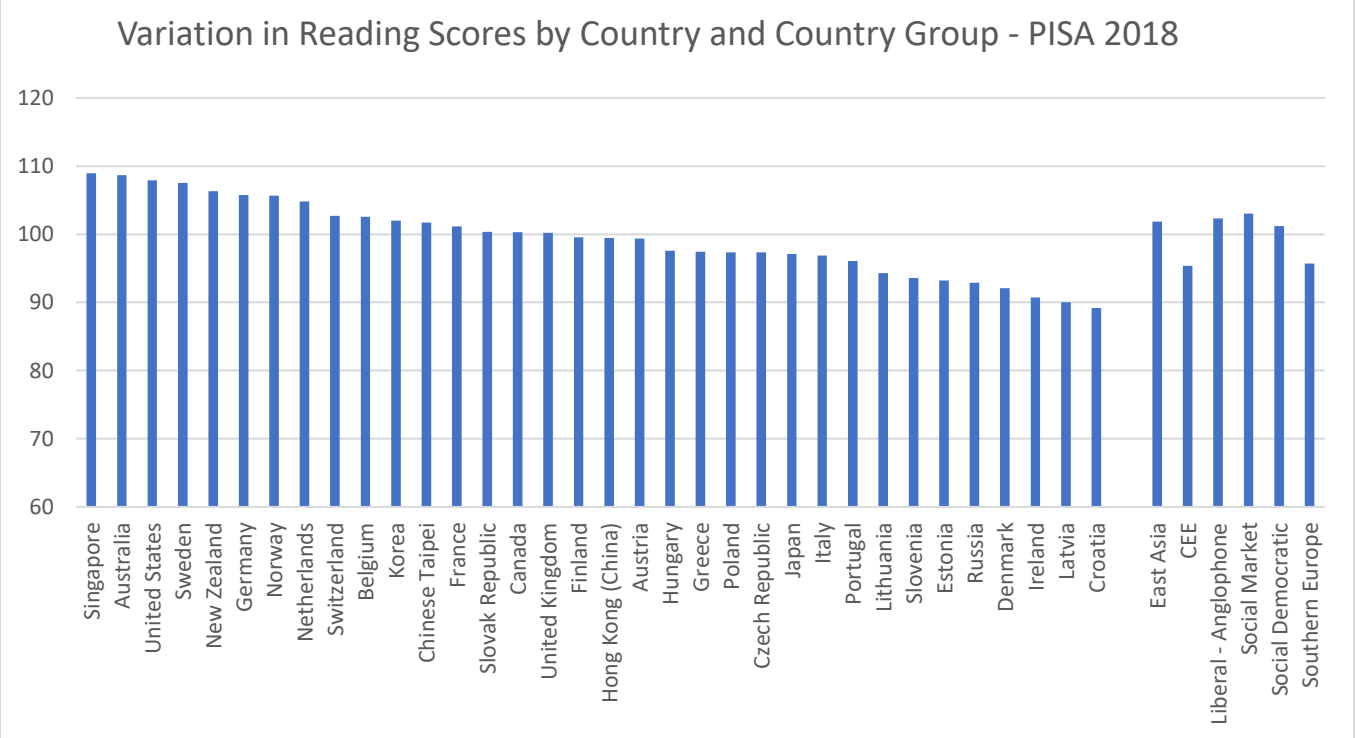
How have changes in the structures of Nordic educations systems impacted on skills inequalities, and how does this compare with what has happened in other countries? The short answer is that inequality of skills outcomes in Nordic countries has changed relatively little since 2000. At the same time, other countries have achieved a reduction in skills inequality so that Nordic countries now seem less exceptional in this respect. On the other hand, inequality of skills opportunities, which has also remained quite stable in Nordic countries, is still substantially lower than in most other groups of countries, even if the gap here has also diminished.

OECD measures inequality of skills outcomes in terms of the dispersion of scores in each country (for each domain), using the 'variance' measure or 'skills Gini coefficients'. Inequality of skills opportunity is measured by the strength of social background effects on children's skills scores and the social gaps in scores, where social background is captured by the OECD's index of economic, social, cultural status (ESCS). There are two indicators for the latter. The 'percentage of the variation explained by ESCS' measures the degree to which social background explains variation in individual scores. 'The social gradient' measures the social gaps in scores by calculating the difference in scores for children from higher or lower ESCS family backgrounds.

We can look first at the trends across countries in inequality of skills outcomes by using the OECD over-time data on the variance of scores in different domains in PISA. Green and Mostafa (2013) report that the total variance for all domains in Nordic countries declined during 2000-2009 - with a significant convergence on this measure across countries - and

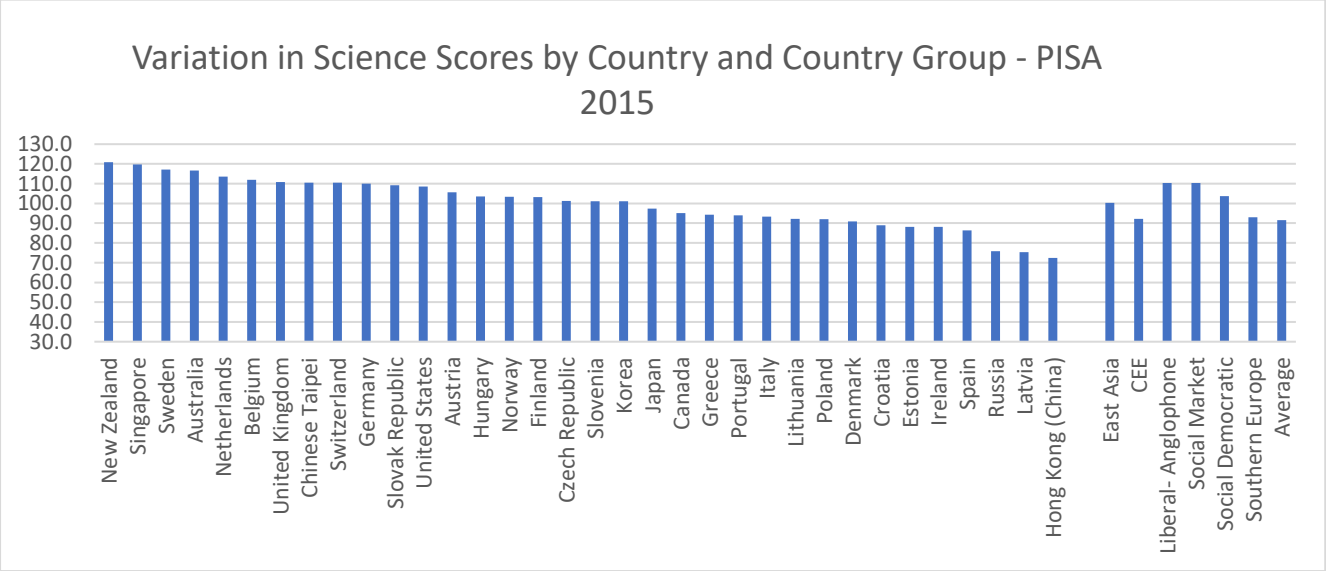
remained low relative to other country groups. However, the position of the Nordic group relative to other groups appears to have become more mixed in later years. In Reading (PISA 2018) the average variation in scores for the Nordics is close to OECD average - slightly lower than in the 'social market' and 'liberal' groups of countries, but higher than in southern European and CEE groups (See Figure Two). Denmark and Finland have lower variation than Norway and Sweden. In Science (PISA 2015) the average variation in scores for the Nordics is above the OECD average (103.6 compared with 91.5) - lower than the average for the 'social market' and 'liberal' groups, but higher than the average for the other groups (See: Figure Three). Sweden has high variation; Denmark and Finland have exceptionally low variation. However, in Maths (PISA 2012), average variation in Nordic countries was substantially below the OECD average, and below all our other country groups (See: Figure Four), although this was for an earlier year. Again, Denmark and Finland have lower variation than Norway and Sweden. The relatively low level of Nordic inequality in Maths skills outcomes is notable but overall inequality of skills outcomes at age 15, while remaining stable, is no longer exceptional.

Figure Two



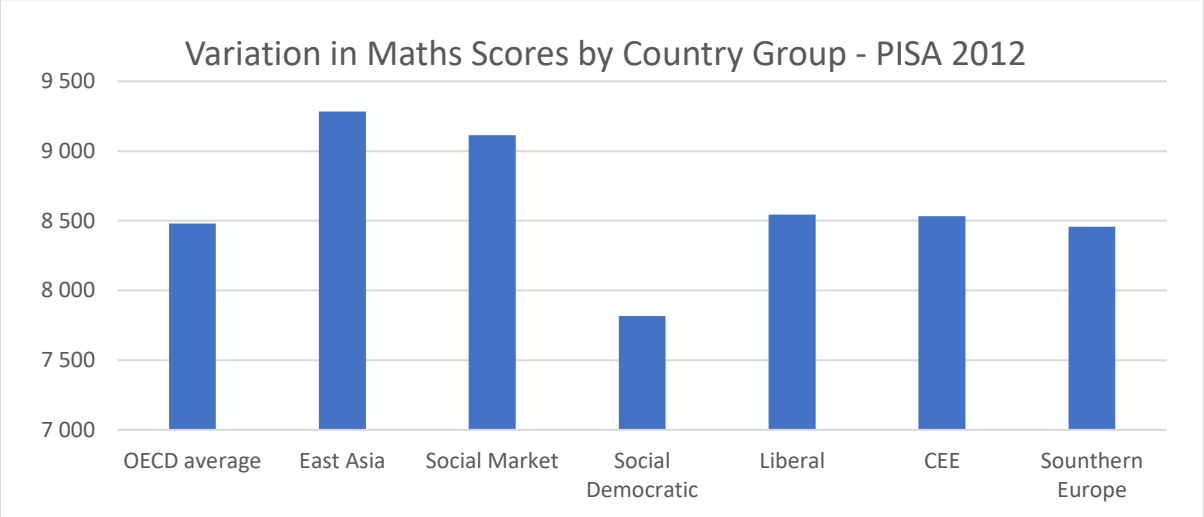
Source: OECD 2018, *Results*, Volume 1, OECD, Paris, 2019. Country Group averages by author.

Figure Three



Source: PISA 2015, Results, Vol. 1, OECD, Paris, 2016. Country Group averages by author.

Figure Four

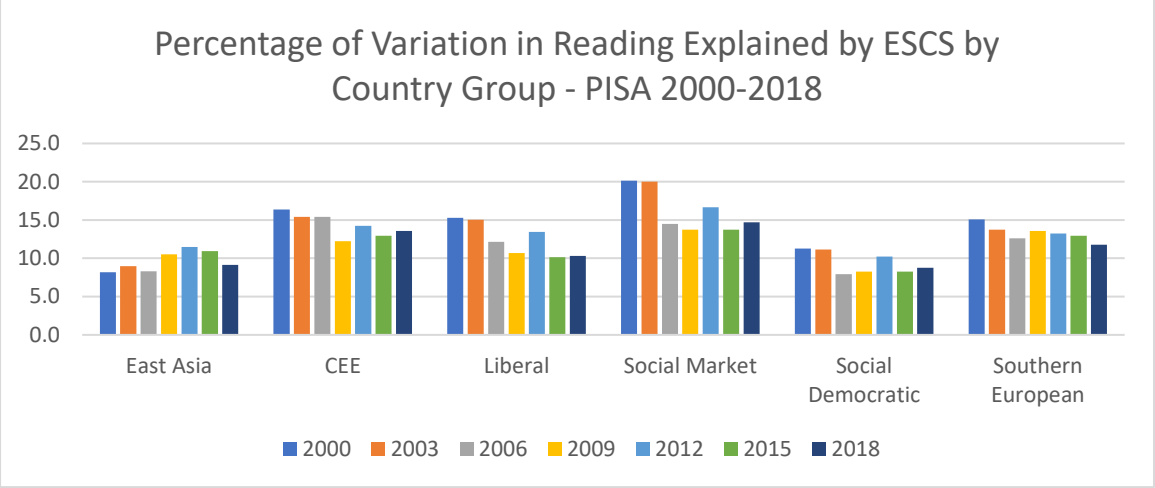


Source: PISA 2012, Results, Vol 1, OECD, Paris, 2014.

When we look at inequality of skills opportunities a more positive picture emerges for the trends in the Nordic countries. Despite elements of neo-liberal reform, inequality of skills opportunities seem to have declined in Nordic countries during the two decades of PISA in each of the skills domains and by similar amounts. Figure Five shows the trends on inequality of skills opportunities in the Nordics and other country groups for Reading skills (using the

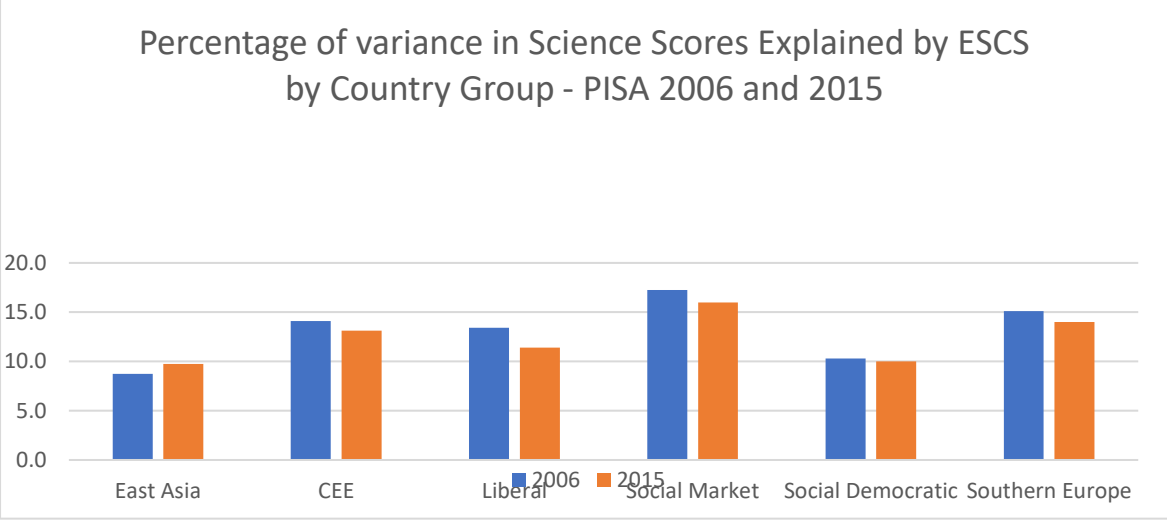
'percentage of variation explained' measure). The trend for the Nordic countries' average was uneven, but clearly downward over the period from 2000 to 2018. Inequality of opportunities was declining in other countries also, particularly in the 'liberal' countries. So by the time of the latest figures, Nordic countries are still relatively egalitarian but perhaps slightly less distinctively so. Inequality of skills opportunities in the Nordic countries is still lower, on average, than in other all other groups of countries in Reading, and in all bar the East Asian group in Science (See: Figure Six). However, in Maths Nordic countries are more in the middle of the range – lower than 'social market', CEE and southern European countries, but higher than high than the 'East Asian' and 'liberal' countries (See Figure Seven).

Figure Five



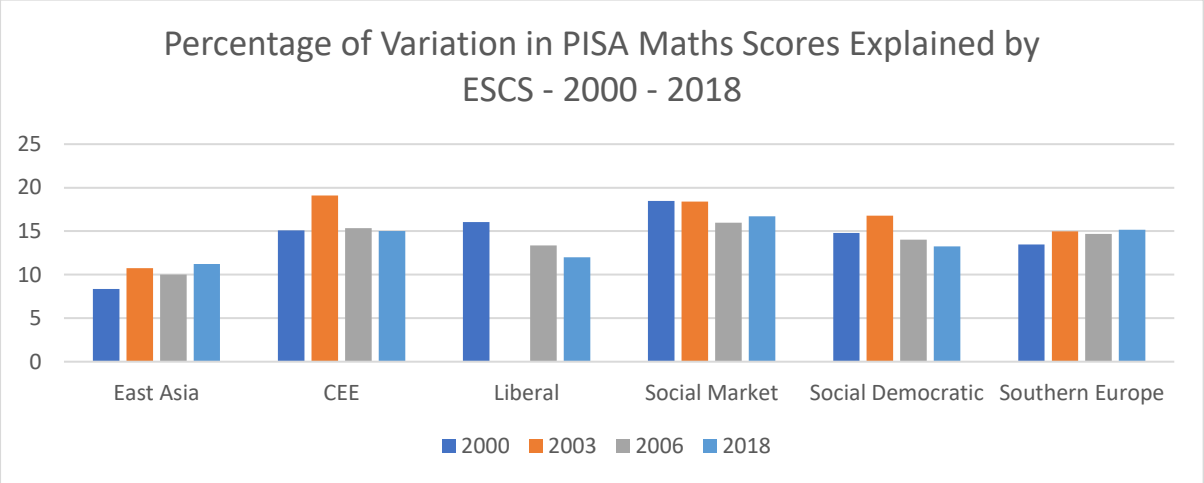
Sources: author-derived from data in PISA surveys reported in respective years by OECD, Paris.

Figure Six



Sources: author-derived from data in PISA surveys reported in respective years by OECD, Paris.

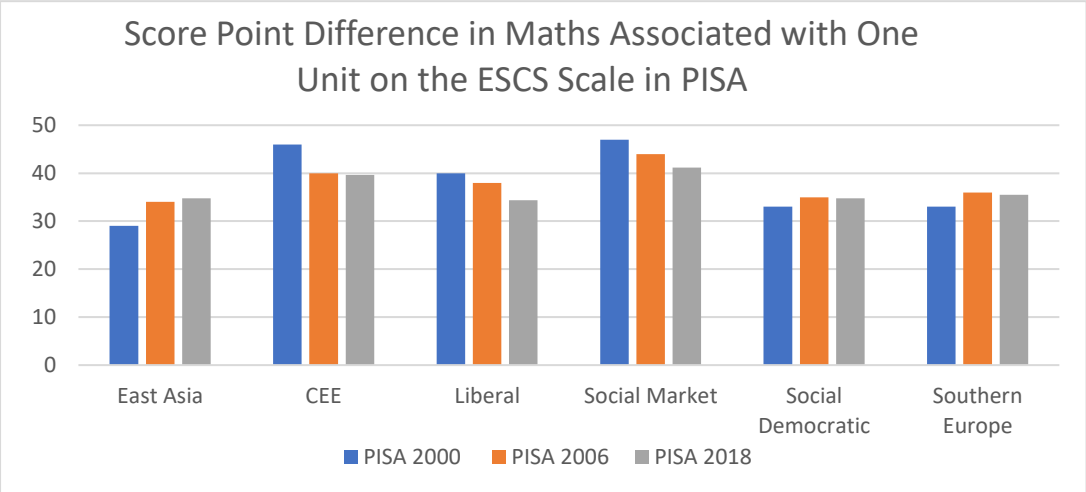
Figure Seven



Sources: as above.

The alternative 'social gradient' measure of the social gaps in achievement captures the gross effects of both social background influences on achievement and the width of the skills distribution. Figure Eight provides the trend data from PISA for Maths. It shows inequality of skills opportunities in Maths in Nordic countries rising very marginally between 2000 and 2006 and plateauing thereafter, finishing at the lower end of the range along with the East Asian and 'Liberal' groups, but below the 'social market', CEE and southern European country groups.

Figure Eight



Source: Source: Author-derived from data in PISA surveys.

Is there a Nordic Model of Upper Secondary Education and Training?

The institutional organisation of upper secondary education and training clearly varies across the Nordic countries. Sweden and Norway have dedicated systems of 16-19 comprehensive high schools, with substantial provision of apprenticeships in Norway running alongside. Denmark and Finland also have dedicated high schools but with differentiated 'academic' and 'vocational' types of school. Not only do the systems vary across the Nordic countries but they also display substantial affinities with some countries in other regions, most obviously with the German-speaking countries. Recent research has noted the similarities in some aspects of vocational provision between some Nordic countries - particularly Denmark - and German-speaking countries with their expanded apprenticeship systems (Lassnigg, 2020). Arguably there has been a more general hybridization of systems in European countries in recent years, resulting from widespread policy borrowing (Verdier, 2013), not least from the German-speaking countries. For instance, school-based or school-linked apprenticeships in Denmark, Norway and (on a small scale) Finland have similarities with those in the Netherlands, as well as with the core social market countries, like Germany and Switzerland, which have been forced to add these to their dominant employer-based apprenticeships due to lack of traditional apprenticeship places (Méhault, 2013). These additions can be considered hybridised in the sense that they combine elements of school-based and work-based models of vocational provision in order achieve some of the benefits of each.

Typologies of education and training systems seek to capture the common and distinctive characteristics of systems in different groups of countries. They are essentially 'ideal types' designed to highlight the distinctive functional interdependencies between key institutional characteristics pertaining to a given type of system and their contexts. They can operate as useful heuristic devices in comparative studies, whilst not always being able to capture the subtleties of intra-group variation and cross-group cultural diffusion.

Using a traditional typology of systems dating back to the OECD report of 1985, Green and Pensiero (2016) classified Sweden and Norway as 'Type 2' systems, along with the US and Canada, on account of their comprehensive forms of high school organisation. Denmark and Finland were classified as 'Type 1' systems, characterised by their differentiated, dedicated upper secondary schools, some offering mainly 'academic' provision and others 'applied science' or 'vocational' provision. A later version of this typology (Green et al, 2021) attributed Denmark and Finland to a sub-set of the Type 1 systems, including also Netherlands and

Singapore, which shared most characteristics of the other Type 1 systems, but which could be distinguished by also having a significant proportion of work-based learning associated with the vocational tracks. The revised typology attempts to capture the recent trends towards the hybridisation of systems, but does resolve the question of whether there is a distinctive form of Nordic upper secondary education. This paper groups Nordic countries together in the analysis of the data to try to answer this question.

The analysis suggests that, despite the structural differences emphasised in the typologies above, Nordic countries do share some important characteristics in their upper secondary systems of education and training and that these have important effects on outcomes.

- All have long cycle programmes (3 years) which are typically completed at age 19.

- Programmes are differentiated by academic field and vocational orientation in both the differentiated and comprehensive types of system, but retain common core subjects and mandatory Maths and national language - which research suggests reduces inequalities and raises skills levels (Green and Pensiero, 2016; Pensiero and Green, 2018; Green et al, 2021).

- Nordic countries all have high participation in vocational programmes including, in the cases of Denmark and Norway, in work-based learning – again said to be beneficial for raising skills levels and reducing inequalities (Raffe et al, 1998; 2001; Busemeyer and Iverson, 2011). Funding per student in academic and vocational programmes is also relatively equal (Green et al, 2021).

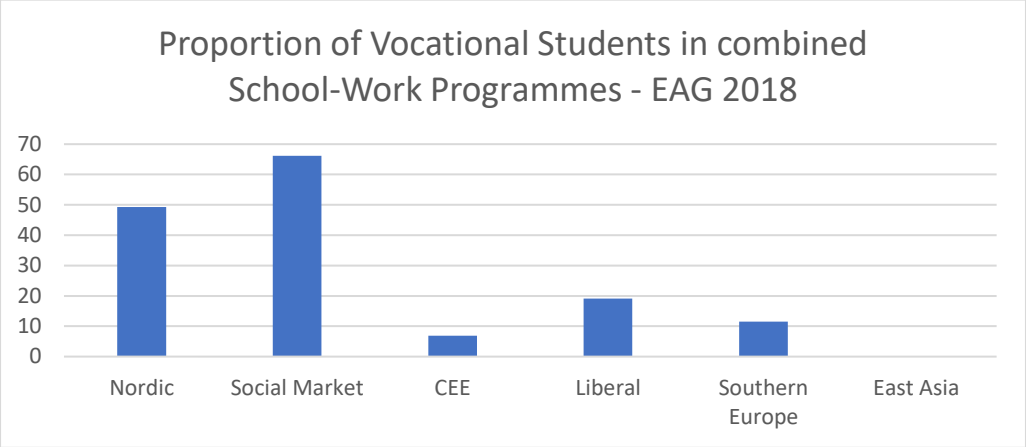
Nordic countries have normatively three-year upper secondary programmes with students typically completing at nineteen years of age. The majority of OECD countries now have mostly three-year programmes (although programmes in systems in Australia and the UK are still typically two-year); but the Nordic countries are exceptional in the later age at which students are expected to complete (due to the later starting age of upper secondary provision). Using the OECD indicator for the 'theoretical age of completion of upper secondary education' - which estimates the age students will be if they complete their programmes without grade repitition - Green et al (2021) conclude that students typically complete at 18 or younger in

most countries and country Groups, with only 12 of the 32 (in their sample of OECD countries and regions in SAS) having the older age of completion (Green et al, ibid, Figure 6, p.45). The older age of completion in Nordic countries may have beneficial effects on skills outcomes. The cross-country difference-in-difference analysis of the effects of system characteristics on skills levels during the upper secondary phase conducted by Green et al (2021) finds a significant positive effect from completion at 19 on numeracy skills.

Upper secondary systems in Nordic countries are also notable for maintaining a common core curriculum across all types of programme. Maths and the national language, for instance, are a mandatory part of the curriculum across all programmes, which is not the case in most countries. Eight other countries (out of the 34 countries for which data are available in the EURYDICE database and in: Hodgen et al, 2010) share this characteristic but the majority do not. Cross-country research suggests that this system characteristic contributes significantly to raising skills levels in literacy and numeracy and reducing inequalities of skills outcomes and opportunities during the upper secondary phase (Green and Pensiero, 2016; Pensiero and Green, 2018).

The third common characteristic of Nordic systems of upper secondary education is their strong emphasis on vocational education. UNESCO (2020) data show that all of the Nordic countries have a relatively high proportion of upper secondary students in vocational programmes. The average proportion for all countries is 45.87 %, whereas the proportions in our Nordic countries are all over 51% (Denmark – 51.5%; Finland – 56.21%; Norway – 53.86%; Sweden – 59.57%). Of these students in vocational programmes in Nordic countries, a relatively high proportion are in programmes that combine school-based and work-based provision. The average proportion for the Nordic countries (including Iceland this time) (49.27%) is second only to that for the German-speaking 'social market' countries (66.16%) and substantially higher than that for the 'liberal' group (19.09%); the southern European group (11.54%); the CEE group (6.83%) and the East Asian group (0%) (OECD, EAG, Figure B7.6, 2020) (see Figure 9). However there is substantial variation on this indicator within the Nordic group with over 70% in Norway and Denmark and only 5% in Sweden.

Figure Nine



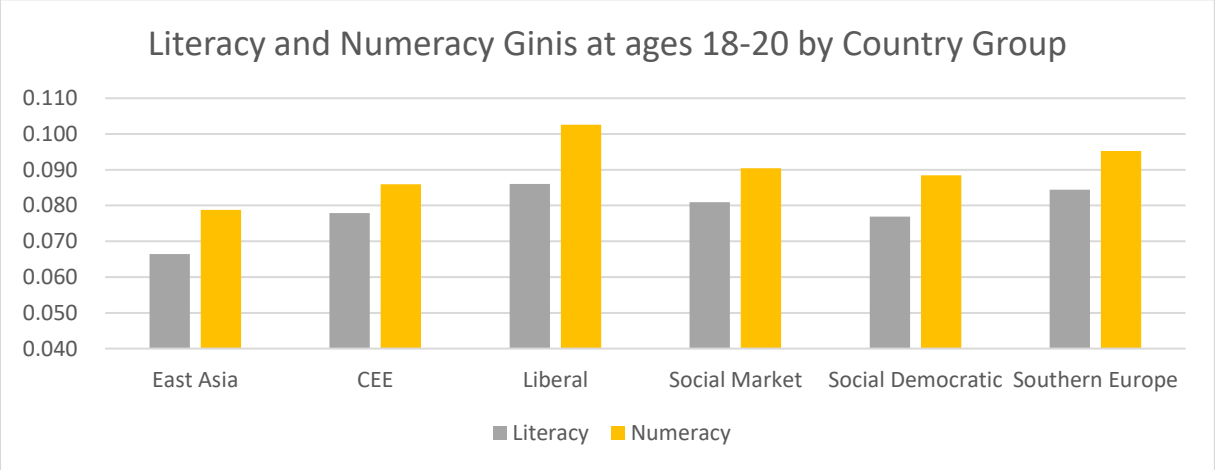
Source: OECD, Education at a Glance (2020), Table B7.3.

Despite the variations in institutional structures across the Nordic countries, there are some important common characteristics which broadly relate to an overall property of 'system integration' which is arguably more marked Nordic systems than in other types of systems, except possibly those in East Asian countries. Comparative research on education systems has frequently noted the importance of establishing common norms and expectations and how a degree of standardisation in institutional structures, curricula and assessment, can facilitate this. For Raymond Boudon (1974), it was the prevalence of multiple 'branching points' in schools systems which contributed most towards reproducing social inequalities through education. For comparative specialists in upper secondary education and training the problem is due less to the existence of different tracks but the lack of 'parity of esteem' between them since this is taken to enhance inequality (Lasonen and Young, 1998; Raffe et al., 1998; and Raffe et al., 2001). Raffe et al (2001) argued that more integrated systems could be effective in raising 'parity of esteem' and overall outcomes through greater standardisation of curricula in core areas and through generating higher normative expectations, through the provision of flexible progression routes and a common assessment frameworks. Some more tracked systems, as in countries combining academic high schools with the Dual Systems of apprenticeship, could also raise mean skills levels skills through establishing high normative standards in their vocational tracks by virtue of the prestige associated with high quality apprenticeships and the peer effects generated by the wider ability mix amongst students recruited to these apprenticeships.

Nordic upper secondary systems, in varying degrees, may be benefitting from both these processes. The systems are relatively well integrated, particularly in Norway and Sweden; they all, whatever their institutional structures, place a strong emphasis on vocational education; and two of them (Denmark and Norway) have a high proportion of vocational students undertaking forms of work-based learning which research suggests is conducive to raising skills levels and reducing skills inequalities (Busemeyer and Iverson, 2011; Lave and Wenger, 1991; Raffe et al, 1998, 2001).

How far do the different country group outcomes bear out these theories? At the end of upper secondary education inequality of skills outcomes in Nordic countries is still on average lower than in most other country groups. Using the skills Gini Coefficient measure for 18-20 year olds in SAS, skills inequality in Nordic countries is lower on average than in all country groups except East Asia in literacy, and in all groups bar East Asia and the CEE countries in numeracy.

Figure Ten



Source: author-derived from data in SAS.

However, there is considerable variation in outcomes within the Nordic group. In literacy, all Nordic countries are in the bottom half of the country ranking for inequality of outcomes, with Denmark and Finland the least unequal (4th and 5th from bottom respectively) and Sweden and Norway closer to the middle of the country range (9th and 15th) (See Green et al, 2021). In numeracy, all of the Nordic countries are close to the middle of the range of countries for inequality, with Denmark and Finland the least unequal (9th and 10th from the bottom of the ranking respectively) and Sweden and Norway somewhat more unequal (12th and 18th from the bottom respectively). Given that Denmark and Finland - the Nordic countries with the lowest

inequality of skills outcomes - are also the countries with the most tracked systems in upper secondary education, this may seem to put in question the predictive value of the theories relating to institutional standardisation (Boudon, 1974) and, to a lesser extent, system 'integration' (Raffe et al, 1998). However, there are several possible explanations for this disjuncture. Firstly, the ranking of Nordic countries on inequality of skills outcomes at 18-20 may be mostly reflecting the legacy of the levels of inequality at the end of lower secondary education. As noted earlier, Denmark and Finland were the least unequal (in that order) of the Nordic countries in each of the three domains in PISA. Sweden was the most unequal followed by Norway (again in each of the domains). Upper secondary education and training may be simply maintaining the relative levels of inequality from the end of lower secondary education. A second explanation might be that the inequality reduction associated with relative 'parity of esteem' between academic and vocational tracks is more effectively achieved through work-based learning than through the 'system integration' features of comprehensive systems (thus qualifying somewhat the argument of Raffe et al (1998, 2001). This might explain the lower levels of skills inequality in Denmark, which offers work-based learning in all tracks of upper secondary education and has the highest rate of combined school- and work-based learning amongst vocational students (See Figure Nine). But it would not explain why Finland (with a much lower rate of work-based learning) has lower skills inequality at 18-20 than Norway (with a higher rate). Clearly other factors must be in play in the Finnish case.

Figure Eleven: Changes in Literacy Ginis between Age 15 (PISA) and Age 18-20 (SAS)

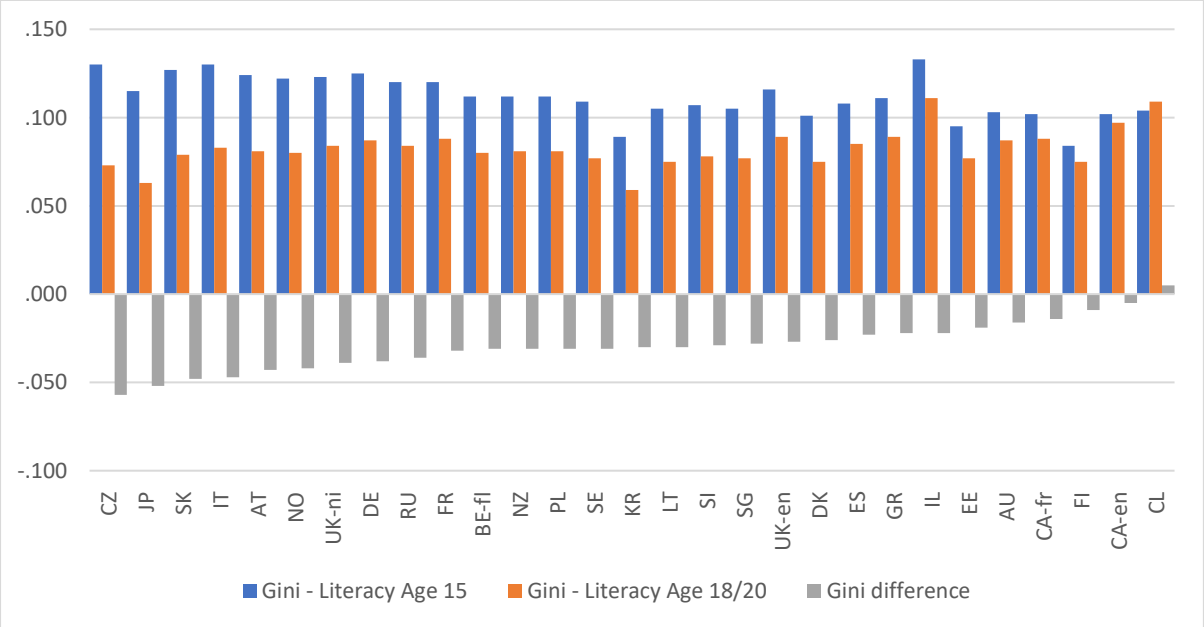
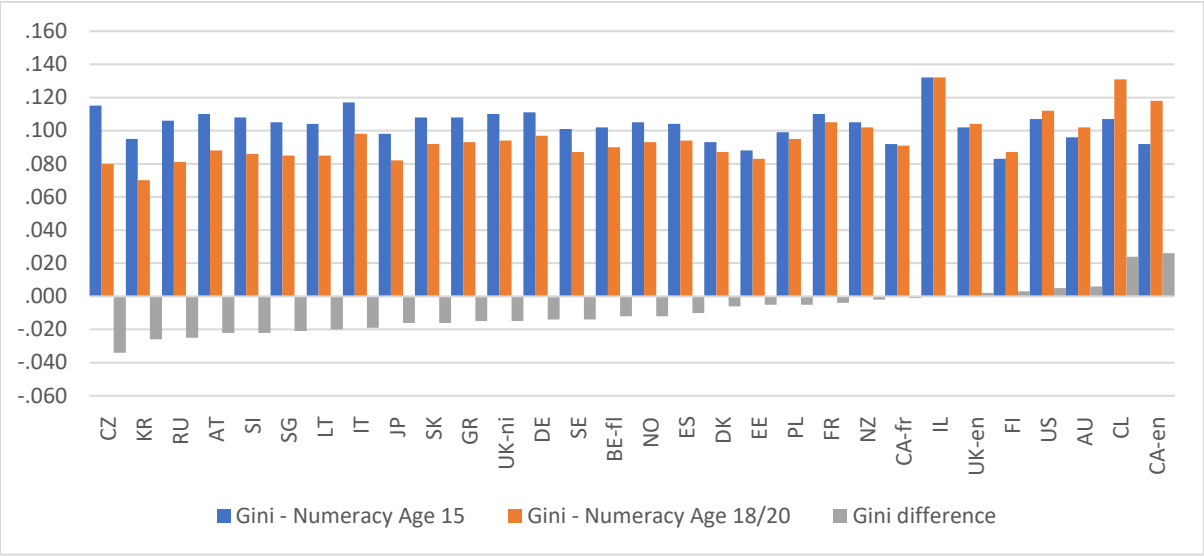


Figure Twelve: Changes in NumeracyGinis between Age 15 (PISA) and Age 18-20 (SAS)



Source – derived from data in SAS, OECD, Paris, 2014.

Another way to unscramble this is to estimate more precisely the contribution of upper secondary education to skills inequality reduction as some recent research has sought to do through the combined use of PISA and SAS data (Borgonovi, 2017; Green et al 2021; OECD 2013). One statistical study, based on a difference-in-difference analysis of standardised skills data from quasi cohorts in PISA and SAS (Green et al, 2021), finds that the contribution of Nordic upper secondary education towards the reduction of skills inequality is quite modest. It is not significantly different in the cases of the comprehensive systems from that of the reference (Type 1) differentiated, dedicated upper secondary systems, which includes the largest the largest number of systems. Figures Eleven and Twelve show the skills Gini coefficients for the standardised scores in Reading/literacy and Maths/numeracy at 15 years (from PISA) and at 18-20 (from SAS) for a range of countries in both surveys. The third bar in each cluster shows the changes between the two. In literacy, Norway performs quite well (6th out of 29 countries in inequality reduction) whereas Sweden, Denmark and Finland are all in the bottom half of the country ranking (respectively 14th, 20th and 27th). In numeracy, Sweden and Norway do better than Denmark and Finland (respectively 14th, 16th, 18th and 26th in inequality reduction) but all are in the lower half of the country range. In this case it is the Nordic countries with comprehensive systems (Norway and Sweden) which fare better in reducing skills inequality than those with institutionally differentiated systems (Denmark and Finland) but none are performing exceptionally well, possibly because of the high bar set in

lower secondary education. This adds weight to the hypothesis that the inequality results at the end of upper secondary are mostly a reflection of the situation of students on entry.

In summary, Nordic systems of upper secondary education and training do have some important features in common that research suggests are beneficial to raising skills levels and reducing inequalities. But they also differ in key respects according to their forms of institutional organisation. In terms of their effects on skills inequalities, they also vary considerably, and, overall, do not stand out from those of other country groups in the mitigation of skills inequality. However, skills inequalities do reduce during the upper secondary phase in Nordic countries, as in most others. Since inequality of skills at the end of lower secondary education is relatively low in Nordic countries relative to most other countries, it remains so for those leaving upper secondary education.

Adult Learning

To complete the survey we now turn to adult education and to the heart of what makes the Nordics distinctive. To many observers of Nordic education systems it is pre-school education and adult education which form the essence of the Nordic model of lifelong learning. As the European Commission and OECD came to champion the idea of lifelong learning in the late 20th century, it was with a novel notion of learning 'from cradle to grave', serving all stages of the life course in a single holistic educational framework (the 'life-wide' conception was added later). The influential 1996 'Delors' report – *Learning – The Treasure Within* (UNESCO, 1996) notably captured both dimensions of the new encompassing vision. Scandinavian education systems naturally became the ambassadors for this, since they had already gone furthest in extending education in the early and later phases of the life course, with what were indisputably the most encompassing pre-school and adult education systems in the world.

The Nordic countries had a long history of high participation in adult learning. Kjell Rubenson (2006) associated this with the universalistic and solidaristic nature of the Nordic Welfare state regime. There was a longstanding historical tradition of adult education linked to social movements (exemplified by the Folk High Schools, as well as the pervasive study associations and study circles). Adult education was strongly supported by strong corporatist traditions of social partnership between the central and local state and civil society organisations. The states had prioritised lifelong learning as a vehicle for the Active Labour Market policies deemed essential to re-skill workers displaced by new technologies and to assist adaptation to

technological change. Generous funding by employers and state support for adult general and vocational learning was especially targeted at disadvantaged adults as a means for reducing inequality and enhancing social solidarity.

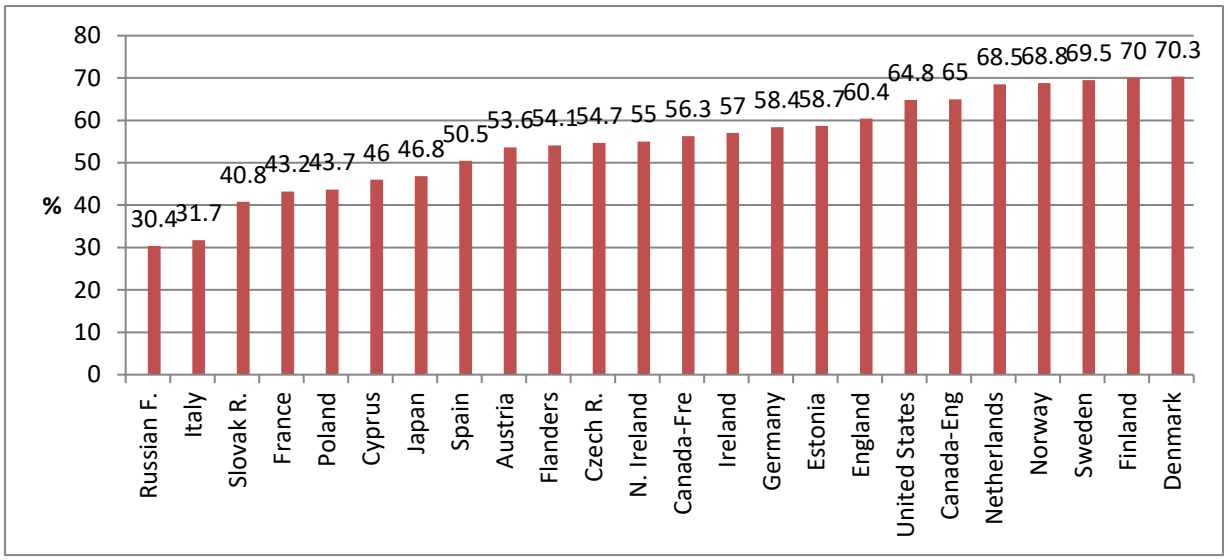
Rubenson (2006) was one of the first to draw attention to the exceptionally universalistic nature of adult learning in Nordic countries. Using cross-country data for the 1990s from International Adult Literacy Survey (IALS) (the precursor to SAS) he was able to show that Nordic countries had exceptionally high participation rates in adult learning (53% compared with 32% for all IALS countries). Combined with the wider access to adult learning for those with low levels of qualifications in Scandinavian countries compared with other IALS countries, this contributed to reducing adult literacy inequality to a point below that in all other countries surveyed except Germany.

More recent data suggests Nordic adult education remains relatively universalistic. According to the 2011/2012 Survey of Adult Skills, the proportion of adults who participated in formal education or training over the past 12 months was around 68 - 70% in Denmark, Finland, Sweden and Norway; a higher proportion than in any of the other countries in the survey (see Figure 13). The proportion of employees reporting 'learning at work' was also relatively high, according to one analysis of the OECD data which creates an index from three items in the survey relating to learning tasks. All four of the Nordic countries were in the top half of the country rank order for learning in their job (See Green et al, 2014, Figure 33, p. 36).

However, inequality in adult skills has risen in Nordic countries since the mid 1990s. A comparison of literacy scores for adults in IALS, conducted in the mid 1990s, and SAS in 2011/12, shows an increase in the skills Gini coefficients in three of the Nordic countries (Denmark, Norway and Finland) over the eleven-year period between the surveys, with only Sweden showing a slight decline (See Green et al, 2014, Figure 16, p. 21). The rise is particularly marked amongst the 16-24 year-olds in the sample (Ibid, Figure 15, p. 20), suggesting that the rise in inequality in adults overall is due to higher inequality amongst the younger cohorts entering the adult population. As noted in respect of inequalities in skills outcomes amongst 15 year olds, there has been some convergence between countries in levels of inequality in skills outcomes, with countries with high levels of inequality in the mid 1990s (all the anglophone countries) managing to reduce inequalities by 2011/12, and countries with relatively low levels in the mid - 1990s experiencing increases (Germany, Netherland and three Nordics).

By 2011/12 inequalities in adult skills outcomes in Nordic countries were in the middle of the range for the 25 countries and country regions in SAS. In numeracy, Finland and Denmark, again, were the least unequal (with 10th and 11th lowest skills Ginis) with Norway and Sweden more unequal (15th and 16th places). In literacy, they all came in the middle of the rank ordering (9th to 16th places of 25). However, inequalities of skills opportunities for Nordic adults were still somewhat lower than in most country groups. The average for the social gap in achievement in literacy was substantially below the averages for the social market and liberal groups of countries, similar to that in the CEE group, but marginally higher than those for East Asian and southern European groups. For numeracy, the average for Nordic countries was lower than in the liberal, social market, southern European and CEE groups of counties and similar to the East Asian group (Green et al, 2014, figures 19 and 20, p. 23)

Figure Thirteen: Adult Participation in Formal Education



Definition: Whether student, or whether participated in formal education or training course over previous 12 months.

Source: derived from data in Survey of Adult Skills (OECD, 2013)

In sum, adult education and training in Nordic countries remains exceptionally universalistic, allowing the continuous improvements of skills throughout the life course. This will partially account for the high average skills levels of older Nordic adults in SAS, with, for instance, Sweden, Norway and Denmark in 1st and 3= positions in mean numeracy skills of 55-64 year olds in 2011/12 (see Green et al, 2014, Figure 28, p. 30). The skills of older adults contribute to the overall skills of the Nordic workforces, helping to promote innovation, change and

productivity. Levels of inequality in literacy and numeracy outcomes have increased somewhat amongst Nordic adults since the 1990s and by 2011 Nordic countries were in the middle of the range of countries in SAS in terms of the width of their skills distributions. However, the social gaps in adult skills still remain lower than in most other countries.

Conclusions

This paper aimed to assess the durability of the 'Nordic Model' of lifelong learning through an analysis of the relevant cross-country data on education system characteristics and their skills outcomes.

The notion of a distinctive 'Nordic Model' of education came to prominence in the last two decades of the 20th century, based on claims about the radically comprehensive and egalitarian nature of Nordic public school systems and the exceptionally universalistic provision of pre-school and adult education found in Nordic countries. The inclusiveness of educational provision at each phase of the life course resonated with the globally-emergent vision of lifelong learning and the proliferating international, survey-based data on education system characteristics and outcomes tended to support the claims for a Nordic Model. But how far has this survived during the succeeding thirty or forty years?

The analysis presented here suggests that, despite substantial policy changes across Nordic countries, and the significant differences between their systems, the common and distinctive characteristics of the Nordic Model have largely survived. Pre-school and adult education remain more universalistic than in most other countries for which we have comparable data; basic schooling (in primary and lower secondary schools) has continued to be more 'comprehensive' than in other regions, excepting perhaps East Asia; and Nordic upper secondary education and training systems, while far from identical, still share a number a common and distinctive system characteristics which research suggests have positive effects on outcomes. Nordic education systems remain relatively egalitarian. Inequalities in skills outcomes for adults are now closer to the average for OECD countries, but they remain lower at 18-20 years than in most other countries. Inequality of skills opportunities at 15 years have declined or remained stable (depending on the measure used), remaining, on average, lower than in other groups of countries, except East Asia. The same applies for the social gap in numeracy skills amongst adults (Ibid, Figure 19, p. 26).

Nordic systems are perhaps somewhat less distinctive than before due to the policy changes prompted by the global rise of neo-liberal educational policies and widespread policy borrowing between countries. European systems are becoming more hybridised than before. Nevertheless, Nordic education systems retain much in common that distinguishes them from those in other regions. The 'Nordic Model' is quite resilient and is likely to continue in a recognisable form so long as the Nordic welfare state – of which it is an integral part – survives.

References

Antikainen, A. (2006) 'In Search of the Nordic Model in Education', *Scandinavian Journal of Educational Research*, 50, 3, pp. 229–243.

Arnesen, A.-L. and Lundhahl, L. (2006) 'Still Social and Democratic? Inclusive Education Policies in the Nordic Welfare States', *Scandinavian Journal of Educational Research*, 50, 3, pp. 285–300.

Borgonovi, F., Pokropek, A., Keslair, F., Gauly, B. & Paccagnella, M. (2017) *Youth in Transition: How Do Some of The Cohorts Participating in PISA Fare in PIAAC?* OECD Education Working Papers, 155, OECD, Paris.

Boudon, R. (1974) *Education, Opportunity, and Social Inequality: Changing Prospects in Western Society,* Wiley, New York.

Brown, P., Green, A. and Lauder, H. (2001) *High Skills: Globalization, Competitiveness and Skills Formation,* Oxford University Press.

Burger, K. (2016) 'Intergenerational Transmission of Education in Europe: Do More Comprehensive Education Systems Reduce Social Gradients in Student Achievement?' *Research in Social Stratification and Mobility*, 44, pp. 54-467.

Busemeyer, M. & Iversen, T. (2011) 'Collective Skills Systems, Wage Bargaining and Labour Market Stratification' in: M. Busemeyer & C. Trampusch (eds) *The Political Economy of Collective Skill Formation,* Oxford University Press, Oxford.

Carlgren, I., Klette, K., Mýrdal, S., Schnack, K. and Simola, H. (2006) 'Changes in Nordic Teaching Practices: From Individualised Teaching to the Teaching of Individuals' *Scandinavian Journal of Educational Research*, 50, 3, pp. 301-326.

Castells, M. and Himanen, P. (2002) *The Information Society and the Welfare State: The Finnish Model*. Oxford University Press, Oxford.

Esping-Andersen (2009) *The Incomplete Revolution: Adapting to Women's New Roles*. Polity Press, Bristol.

Esping-Andersen, G. (1999) *Social Foundations of Post-Industrial Economies*. Oxford University Press, New York.

Esping-Andersen, G. (1990) *The Three Worlds of Welfare Capitalism*, Princeton University Press, New Jersey.

Frímannsson, G. H. (2006) 'Introduction: Is there a Nordic model in Education? *Scandinavian Journal of Educational Research*, 50,3, pp. 223-228.

Green, A. (2017) *The Crisis for Young People: Generational Inequalities in Education, Work, Housing and Welfare*, Palgrave Pivot, Palgrave, Basingstike.

Green, A., Kaye, N., Pensiero, N. and Phan, H. (2021) *The Effects of System Type and System Characteristics on Skills Acquisition in Upper Secondary Education and Training*. LLAKES Research Paper 69, UCL Institute of Education.

Green, A. and Pensiero, N. (2016) 'The Effects of Upper Secondary Education and Training Systems on Skills Inequality. A Quasi-Cohort Analysis using PISA 2000 and the OECD Survey of Adult Skills.' *British Education Research Journal*, 45, 5, pp. 756-779.

Green, A, Green, F. and Pensiero, N (2015) 'Cross-Country Variation in Adult Skills Inequality: Why are Skill Levels and Opportunities so Unequal in Anglophone Countries?' *Comparative Education Review*, 59, 4 (featured article), pp. 595-618 .

Green, A., Green, F., and Pensiero, N. (2014) *Why are Literacy and Numeracy Skills in England so Unequal: Evidence from the OECD's Survey of Adult Skills and other International Surveys*, LLAKES Research Paper 27, Institute of Education, London.

Green, A. and Mostafa, T. (2013) 'The Dynamics of Education Systems: Convergent and Divergent Trends, 1990 to 2010.' in Janmaat, J.G., Duru-Bellat, M., Green, A. and Mehaut, P. (eds), *The Dynamics and Social Consequences of Education Systems*. Palgrave Macmillan, pp.160-181.

Green, A. and Janmaat, J-G (2011) *Regimes of Social Cohesion: Societies and the Crisis of Globalisation*. Palgrave, Basingstoke.

Green, A. and Mostafa, T. (2011) *Pre-School Education and Care - a 'Win-Win' Policy?* LLAKES Research Paper 32, Institute of Education, London.

Green, A. and Wiborg, S. (2004) 'Comprehensive Schooling and Educational Inequality: An International Perspective' in M. Benn and C. Chitty (eds) *A Tribute to Caroline Benn: Education and Democracy*, Continuum, London, 2004, pp. 217-243.

Hall, P. & Soskice, D. (eds) (2001) *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage,* Oxford University Press, Oxford.

Hanushek, E. A. &, Wößmann, L. (2006) 'Does Educational Tracking Affect Performance and Inequality? Differences-in-Differences Evidence across Countries', *Economic Journal*, Royal Economic Society, 116 (510), 63-76.

Heckman, J. (1974) 'Effects of Child-Care Programs on Women's Work Effort', *Journal of Political Economy*, 82, S136-S169.

Hodgen, J., Pepper, D., Sturman, L., & Ruddock, G. (2010). *Is the UK an Outlier? An International Comparison of Upper Secondary Mathematics Education.* Nuffield Foundation, London.

Imsem, G., Blossing, U. & Moos L. (2017) 'Reshaping the Nordic Education Model in the Era of Efficiency Changes in the Comprehensive School Project in Denmark, Norway and Sweden since the Millennium', *Scandinavian Journal of Education Research*, 61, 5, pp.568 – 583.

Lave, J. & Wenger, E. (1991) *Situated Learning: Legitimate Peripheral Participation*, Cambridge University Press, Cambridge.

Lasonen, J. & Young, M. (1998) *Strategies for Achieving Parity of Esteem in European Upper Secondary Education. Final Report on the Project*, Institute for Educational Research, University of Jyvaskyla, Finland.

Lassnigg, L. (2020) *Different Structures, Different Results? Continental and Nordic education Structures Compared*, at: https://www.edu.su.se/polopoly_fs/1.540754.1613111560!/menu/standard/file/Emergent%20Vol%206-Inlaga-POD-Tryckoriginal-210114.pdf#page=233

Méhaut, P. (2013) 'Formal or Actual Convergence? Three Cases of Hybridisation' in Janmaat G., Duru-Bellat M., Méhaut P., Green A. (eds.) *The Dynamics and Social Outcomes of Education Systems*, Palgrave MacMillan, Houndmills, pp, 94-115.

De Mooij, P. and Tang, P. (2003) *Four Futures of Europe*. CPB Special publication n. 49, Centraal Planbureau, The Hague.

Mostafa, T. and Green, A. (2012) *Measuring the Impact of Universal Pre-School Education and Care on Literacy Performance Scores*, LLAKES Research Paper 36, Institute of Education, London.

Norris, P. and Inglehart, R. (2019) *Cultural Backlash: Trump, Brexit and Authoritarian Populism*, Cambridge University Press, University of Michigan, Ann Arbor.

OECD, *Education at a Glance* (2020), OECD, Paris.

OECD, *Education at a Glance* (2020), OECD Indicators, OECD, Paris.

OECD (2019) *PISA 2018, Results*, Vol.1, OECD, Paris.

OECD (2016) *PISA 2015,* Results, Vol. 1, OECD, Paris.

OECD (2014) *PISA 2012,* Results, Vol. 1, OECD, Paris.

OECD (2013) *The Survey of Adult Skills: Reader's Companion*, OECD, Paris.

OECD (2010*) PISA 2009 Results: Overcoming Social Background. Equity in Learning Opportunities and Outcomes*, Volume 11, OECD, Paris.

OECD. (1985). Education and training beyond basic schooling. Paris, France: OECD.

Pensiero, N. & Green, A. (2018) 'The Effects of Post-Compulsory Education and Training Systems on Literacy and Numeracy Skills: A Comparative Analysis using PISA 2000 and the 2011 Survey of Adult Skills, *European Journal of Education*, pp. 1–16.

Raffe, D., Brannen, K., Fairgrieve, J. & Martin, C. (2001) 'Participation, Inclusiveness, Academic Drift and Parity of Esteem: A Comparison of Post-Compulsory Education and Training in England, Wales, Scotland and Northern Ireland', *Oxford Review of Education*, 27 (2), 173-203.

Raffe, D., Howieson, C., Spours, K. & Young, M. (1998) 'The Unification of Post-Compulsory Education: Towards a Conceptual Framework', *British Journal of Educational Studies*, 46, 2, 169-187.

Rubenson, K. (2006) 'The Nordic Model of Lifelong Learning', *Compare*, 36, (3) pp. 327–341.

Sahlberg, P. (2015) *Finnish Lessons 2.0*, Teachers College Press, Columbia University, New York.

Salverda, W., Nolan, B., Checchi, D., Marx, I., McKnight, A., Tóth, I. & van de Werfhorst, H. (2014) *Changing Inequalities in Rich Countries: Analytical and Comparative Perspectives*, Oxford University Press.

Schütz, G., Urspung, H. and Wößmann, L. (2008) 'Education Policy and Equality of Opportunity.' KYKLOS, 61 (2) pp. 279 – 308.

Simonsen, M. (2010) 'Price of High Quality Daycare and Female Employment', *Scandinavian Journal of Economics*, 112 (30) pp. 570-94.

Stephen, P., Jenkins, A, Micklewright, J. and Schnepf, S. (2008) 'Social Segregation in Secondary Schools: How does England Compare with Other Countries? *Oxford Review of Education*, 34 (1).

Streeck, W. (2016) *How Will Capitalism End? Essays on a Failing System*, Verso, London.

Streeck, W. and Thelen, K. (2005*) Beyond Continuity: Institutional Change in Advanced Political Economies*, Oxford University Press, Oxford.

Thelen, K. (2004) *How Institution Evolve: The Political Economy of Skills in Germany, Britain, the United States and Japan*, Cambridge University Press, Cambridge.

UNESCO (2020) *Global Education Monitoring Report 2020*, UNESCO, Paris.UNESCO (1996) *Learning – The Treasure Within* ('Delors Report'), UNESCO, Paris.

Verdier, E. (2013) 'Lifelong Learning Regimes versus Vocational Education and Training Systems in Europe: The Growing Hybridization of National Models' in Janmaat G., Duru-Bellat M., Méhaut P., Green A. (eds.) *The Dynamics and Social Outcomes of Education Systems*, Palgrave MacMillan, Houndmills, pp. 70-93.

Wiborg, S.(2015). 'Privatizing Education: Free School Policy in Sweden and England'. *Comparative Education Review*, 59 (3), 473-497.

Wiborg, S. (2010). *The Swedish Free Schools: Do they work?,* Research Paper, LLAKES, Institute of Education, London

Wiborg, S. (2009) *Education and Social Integration,* Macmillan, Basingstoke

Wößmann, L. 2005. 'The Effect Heterogeneity of Central Examinations: Evidence from TIMSS, TIMSS-Repeat and PISA', *Education Economics*, 13 (2), pp. 143-169.