Youth Transition Regimes in Europe: From Schooling to Tertiary Education

Daniele Checchi and Paola Mattei

University of Milan, Italy

Edulog 2024 International conference

May 13-14, 2024 - Porto

Introduction

- Puzzle: the relationship between the expansion of higher education and equalization of access
- Overarching question: FOCUS ON TERTIARY EDUCATION (participation and equality in access)

  What are the institutional effects of different education and training systems on the quantity and quality of transition from schools to tertiary education?
- Core argument: European policy agenda on HE expansion formulated on assumption of convergence; yet, our comparative analysis shows persistent national variations in institutional structures and outcomes.
- Strategy: we use regime theory as a heuristic framework and we expand varieties of education regime classification to tertiary.

European policy agendas

- The European policy agenda associated with the European Education Area is focused on expansion of access in higher education systems as a pathway towards a more inclusive society (European Commission, 2017a).
- Member countries have agreed that by 2030 at least 45 per cent of 25 to 34 year-olds should have completed a tertiary degree (Council of the European Union, 2021).
- The international policy agenda has also conceived high participation levels in higher education systems as a long-term policy goal (UNESCO SDGs).

- PARADOX: HOWEVER, the politics of higher education reforms continue to be influenced by **NATIONAL** frameworks

Overview of presentation

- Motivation
- Theoretical building blocks
- Transition Regimes
- Factor and Cluster analysis
- EU-SILC data and educational choices
- Conclusions

Motivation

- **Aim:** cross-country comparative analysis of variations in European school-to-tertiary transition regimes.
  - Research questions and research strategy
  - Can we identify clusters of youth transition education regimes? If so, what are the features of these regimes?
  - What education and training system(s)/clusters lead to the highest completion rate in tertiary education? (most effective in terms of maximal educational achievement of adult population)
  - What type of system/ cluster is best at mitigating inequalities of opportunity given by socio-economic background? (most inclusive)

Theoretical building blocks

- Esping Andersen welfare regime theory(1990; 1995)
- Four varieties of education regimes (Busemeyer and Nikolai, 2010)
- Higher Education Participation Systems (Shofer and May, 2005; Lauder and Mayhew, 2020; Marginson, 2016)

What is a Regime ?

- The concept of welfare state regimes denotes: ... the **institutional arrangements, rules and understandings** that guide and shape concurrent social policy decisions, expenditure developments, problem definitions, and even the respond-and-demand structure of citizens and welfare consumers. The existence of policy regimes reflects the circumstance that short term policies, reforms, debates, and decision-making take place **within frameworks of historical institutionalization that differ qualitatively between countries** (Esping-Andersen 1990).

Secondary to tertiary regimes

- A regime theory explains (group of) country differences in specific markets, where their functionings produce different outcomes. They typically identify actors (state, unions, enterprises), interests and actions, and obtain expected outcomes.

Three possible functions:

- ① social stratification, regulating the access to better paid occupations:
  - open pattern → equality of opportunity, namely little relevance of family of origin
  - closed pattern → family resources and network matter

- ② country competitiveness by raising worker productivity via
  - more quantity of human capital (i.e. longer schooling)
  - better quality of human capital (i.e. higher achievements in terms of competences):
- ⇨ generalist (comprehensive systems → service sector as dominant in the economy)
- ⇨ work oriented (tracked systems → industry sector dominant)

- ③ better working of democracies via
  - enhancement of social mobility (conservative/populist governments oppose it).
  - better informed public opinions
  - higher turnout rate

Transition Regime

- By “transition”, we do not limit our empirical scope to “access” to HEI, and thus we do not only focus on structures at the points of entry to higher education.
- A Pathway approach encompasses tracking decisions in school systems (at primary and/or secondary level, see for instance Table 1 below) and admissions policies into HEI.
- In our view, the process of transition starts at some point in schooling.
- **We take a “transition regime” to mean an institutionally determined process that encompasses four institutional domains**

Characteristics of a School-to- Tertiary Transition Regime and Four Domains

- 1. **School system features**
- -organisation and financing of primary and secondary (years of schooling)
- -level of spending
- -share of students enrolled in VET vs. academic general
- -institutional stratification

- 2. **State Governance**
- - school autonomy and accountability, and school governance measures
- - State regulations

- 3. **Higher education systems**
- -admissions policies
- -use of tuition fees
- -existence of vocational tertiary

- 4. **Selection patterns**
- - individual and family characteristics (income, gender, parental occupation, parental education)

TRANSITION REGIME	MEMBER COUNTRIES	SELECTION MECHANISM	VET STATUS vs. ACADEMIC	UNIVERSITY ADMISSIONS	LINK TO EDUCATION REGIME	LINK TO WELFARE STATE REGIME	CASE STUDY
FAMILISTIC	IT, EL, ES, PT	Grade retention	Low/medium	State-control	Mediterranean	Mediterranean	Italy
UNIVERSALISTIC	DK, FI, IS, NO, SE, EE, LV	Comprehensive school and integration	Low/medium	State-control with limited autonomy	Nordic	Social Democratic	Sweden
EMPLOYMENT ORIENTATED	AT, BE-FR, DE, CH, NL	Early tracking	High	University management under state regulation	Continental	Conservative	Germany
MARKET-BASED	AU, NZ, UK, US, BE-FL	Ability grouping	Low	University management	English speaking	Liberal	UK
POST-COMMUNIST	BG, HR, CZ, HU, PL, SV	Tracking at lower secondary Early tracking (Croatia and Hungary) Highly stratified	Medium	University management with increasing autonomy	Eastern European	Hybrid model Conservative and Social Democratic	Poland

Table 1 – Secondary and tertiary tracking

		Tertiary	
		Vocational + academic	Academic only
Secondary	Tracking (early)	**Germany** A: 78.2% B: 60.0%	**Italy** A: 76.5% B: 54.2%
	Tracking (late)		**Poland** A: 70.5% B: 58.3%
	Never tracking	**Sweden** A: 84.1% B: 34.8% **UK** A: 82.6% B: 65.6%	

Note: **A**: fraction of youth aged 20-21 holding a secondary school degree (Germany includes ½ of students still holding a lower secondary degree for they will obtain a secondary degree later)

B: fraction of youth aged 24-25 holding a secondary school degree and enrolled in tertiary education or already having obtained a tertiary degree – Source: SILC 2019 (see below)

Cluster analysis

- We use the typology as a heuristic framework for comparison of countries (comparative strategy across countries)
- Ideal types are not real-world types
- **Do national education transition regimes cluster in a way that correlates with the welfare state regimes?**
- What countries resemble the ideal types? Are there deviations and outliers?
- MAIN AIM of the empirical analysis is **to provide an empirical clusterization of higher education systems**, taking into account several characteristics that constitute their **institutional** structures.

Moving to measurement

- Operationalise an "educational system"

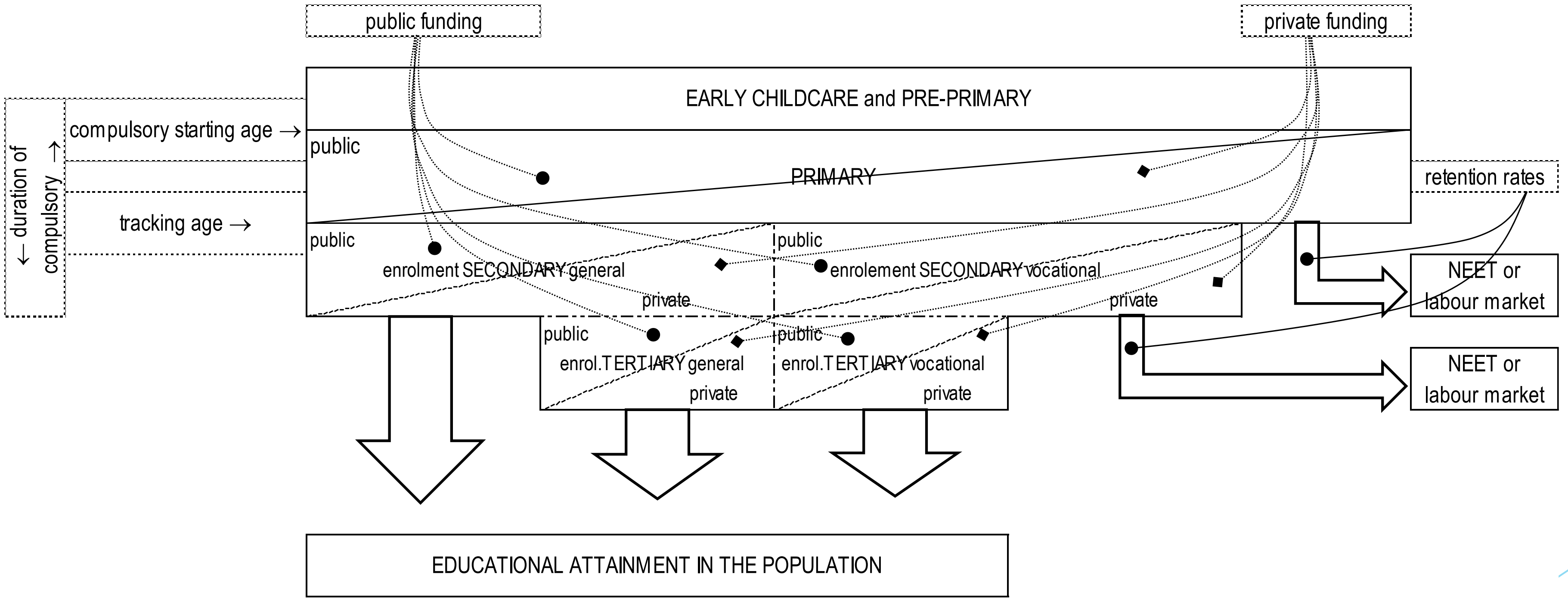
- Assess similarities among educational systems, in search for "transition regimes"
  - Factor analysis
  - Cluster analysis
- Assign countries to "transition regimes"

- Characterise individual behavior in each regimes using microdata from SILC
- Characterise trust and political support to educational expenditure in each regime

Operationalise educational systems

- We have collected institutional data on 29 European countries over the last two decades. Our sources of data are Unesco and OECD. Most of the data are available on a yearly base, but they do not change significantly from one year to the other. For this reason we have considered decadal averages, and in the present paper we focus on the most recent decade (2011-2022).
- 29 countries (AUT-Austria, BEL-Belgium, BGR-Bulgaria, CHE-Switzerland, CZE-Czech, DEU-Germany, DNK-Denmark, ESP-Spain, EST-Estonia, FIN-Finland, FRA-France, GBR-United Kingdom, GRC-Greece, HRV-Croatia, HUN-Hungary, IRL-Ireland, ISL-Iceland, ITA-Italy, LTU-Lithuania, LUX-Luxembourg, LVA-Latvia, NLD-Netherlands, NOR-Norway, POL-Poland, PRT-Portugal, ROU-Romania, SVK-Slovakia, SVN-Slovenia, SWE-Sweden.)
- 43 variables, from childcare to NEET, passing through compulsory duration, tracking, repetition, national testing, enrolments and attainments.

A typical educational system



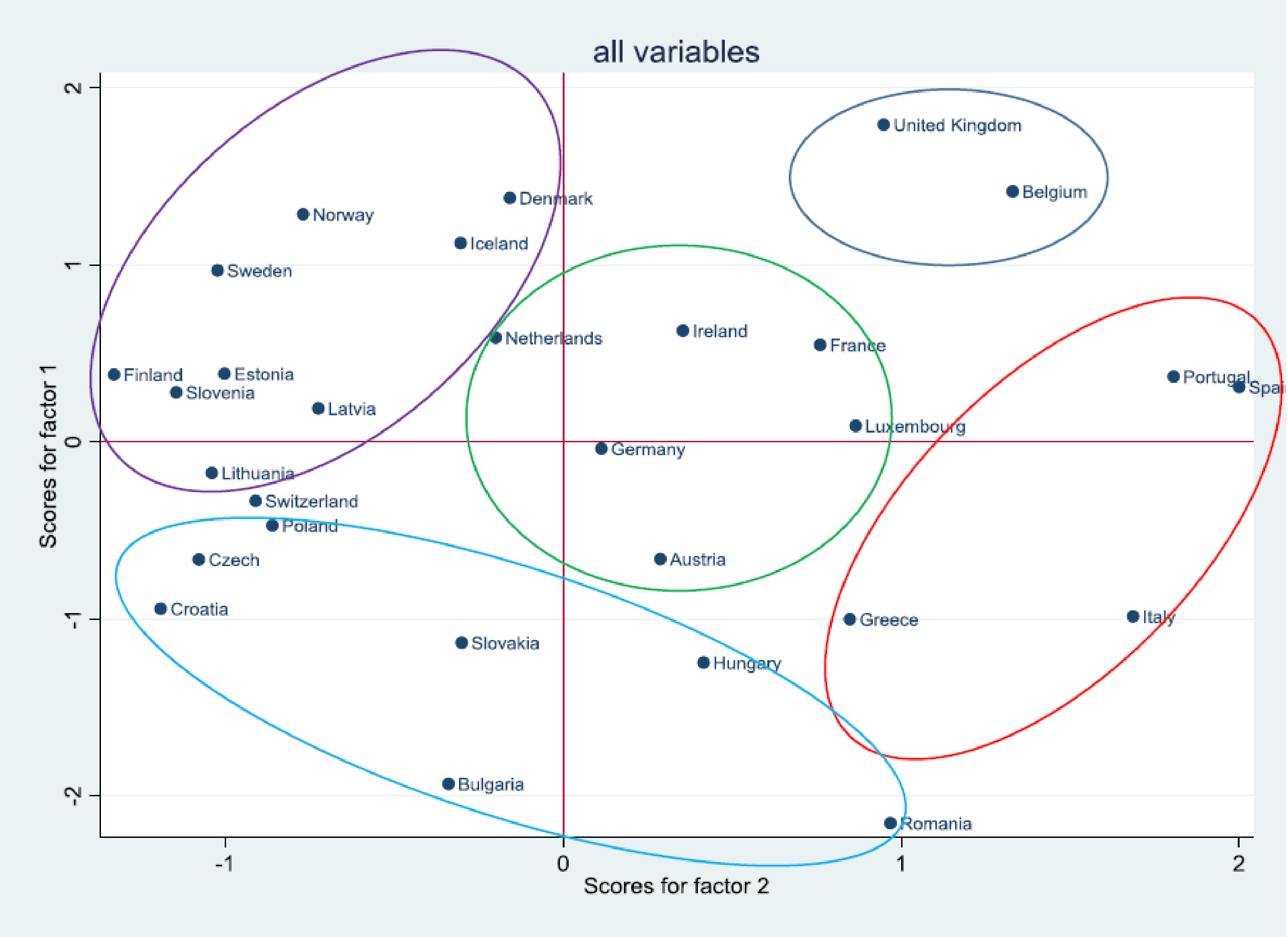
Appendix – variables for clustering

inputs	
primtosec_exp_gdp	Education spending - Primary to post-secondary non-tertiary, % of GDP, 2011 – 2020
privexp1	Private spending on education - Primary to post-secondary non-tertiary, % of GDP, 2011-2020
prim_exp_gdp	Education spending - Primary, % of GDP, 2011 – 2020
sec_exp_gdp	Education spending - Secondary, % of GDP, 2011 – 2020
tert_exp_gdp	Education spending - Tertiary, % of GDP, 2011 – 2020
dur_comp	Duration of compulsory education (years)
hours	weekly learning hours (2018)
inst_time_prim	Students' instruction time in compulsory education - primary - 2021
stud_teach_prim	Students per teaching staff - Primary, Ratio, 2013 – 2020
stud_teach_sec	Students per teaching staff - Secondary, Ratio, 2013 – 2020
stud_teach_ter	Students per teaching staff - Tertiary, Ratio, 2013 – 2020
t	

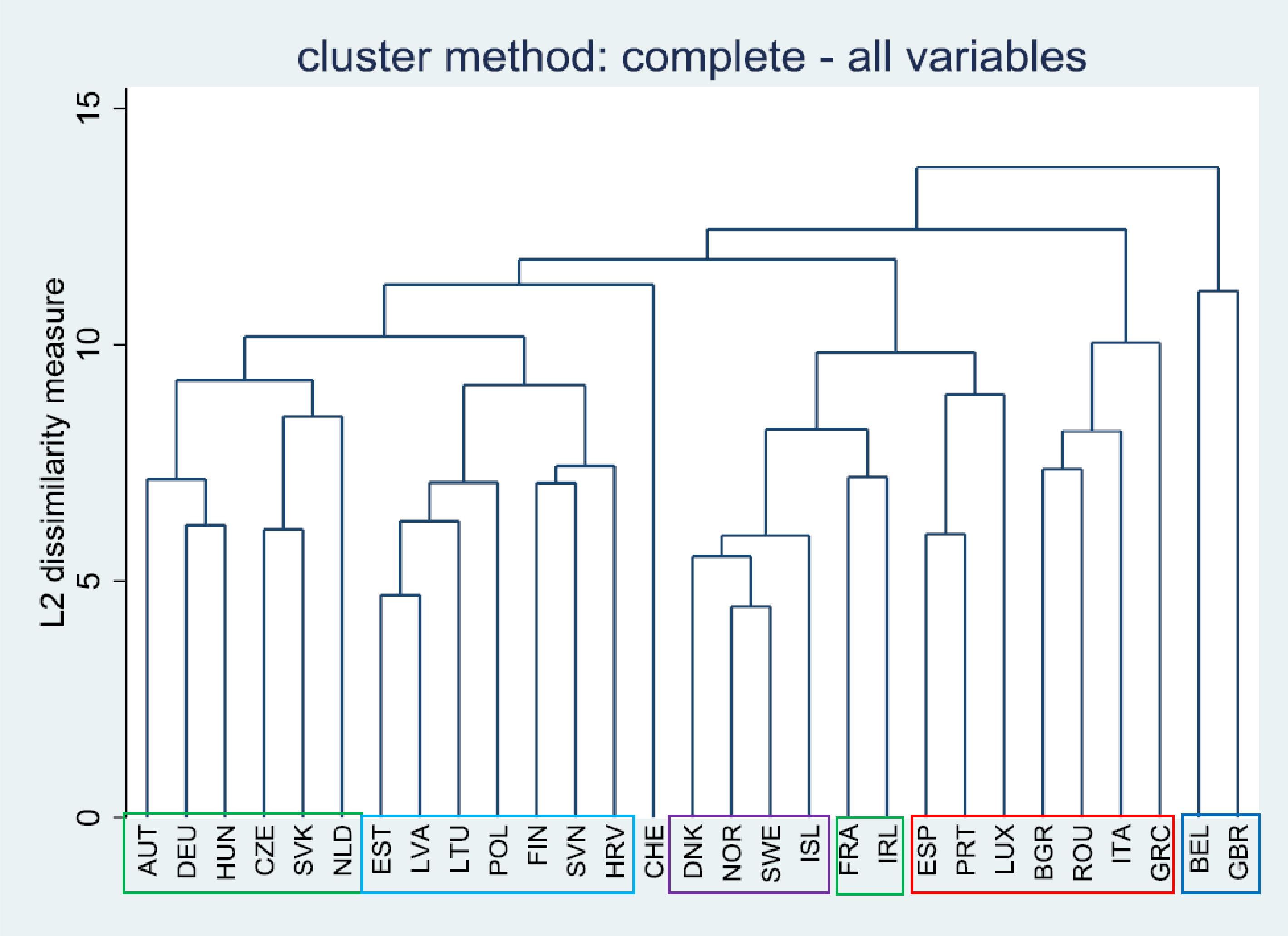
processes	
childhood1	Gross enrolment ratio, early childhood education, both sexes (%)
childhood2	Gross enrolment ratio, early childhood educational development programmes, both sexes (%)
childhood3	Gross enrolment ratio, pre-primary, both sexes (%)
tracking_age	First age of selection in the education system
housexp	Spending on tertiary education Household, % of education spending, 2011 – 2020
sh_priv_pri	Percentage of enrolment in primary education in private institutions (%)
sh_priv_sec	Percentage of enrolment in secondary education in private institutions (%)
sh_priv_post	Percentage of enrolment in post-secondary non-tertiary education in private institutions (%)
sh_priv_ter	Percentage of enrolment in tertiary education in private institutions (%)
	Official entrance age to pre-primary education (years)
	Official entrance age to primary education (years)
	Repetition rate in primary education (all grades), both sexes (%)
	Repetition rate in lower secondary general education (all grades), both sexes (%
	Share of all students in secondary education enrolled in general programmes (%)
	Share of all students in secondary education enrolled in vocational programmes (%)
	Share of all students in post-secondary non-tertiary education enrolled in general programmes (%)
	Share of all students in post-secondary non-tertiary education enrolled in vocational programmes (%)
	Administration of a nationally representative learning assessment in Grade 2 or 3 in reading (number)
	Administration of a nationally representative learning assessment in Grade 2 or 3 in mathematics (number)

outputs	
enrol_17	Enrolment rate in secondary and tertiary education 17 year-olds, % in same age group, 2013 - 2020
enrol_18	Enrolment rate in secondary and tertiary education 18 year-olds, % in same age group, 2013 - 2020
enrol_19	Enrolment rate in secondary and tertiary education 19 year-olds, % in same age group, 2013 - 2020
pop_tert_25_34	Population with tertiary education25-34 year-olds, % in same age group, 2011 – 2022
pop_tert_25_64	Adult education level Tertiary, % of 25-64 year-olds, 2011 – 2022
pop_belowsec2564	Adult education level Below upper secondary, % of 25-64 year-olds, 2011 – 2022
pop_upsec_25_64	Adult education level Upper secondary, % of 25-64 year-olds, 2011 – 2022
att_voc	Educational attainment rate, completed short-cycle tertiary education or higher, population 25+
att_ba	Educational attainment rate, completed Bachelor's or equivalent education or higher, population 25+
att_ma	Educational attainment rate, completed Master's or equivalent education or higher, population 25+
att_phd	Educational attainment rate, completed Doctoral or equivalent education, population 25+
neet_15_19	Youth not in employment, education or training (NEET)15-19 year-olds, % in same age group,

Factor analysis – first two factors (32% variance explained)



Cluster analysis (4 o 5 clusters)



5 clusters among European countries

Nordic	**Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, Slovenia, Sweden**
Continental	Austria, France, Germany, Ireland, Luxembourg, Netherlands, Switzerland
Mediterranean	Greece, Italy, Portugal, Spain
Anglo-Saxon	Belgium, United Kingdom
Post-Communist	Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Slovakia

Using Euclidean distance, **Sweden** is the most representative of the Nordic, **Germany** of the Continental, **Portugal** of the Mediterranean and **Slovakia** of the post-Communist.

Table 20 – School system indicators

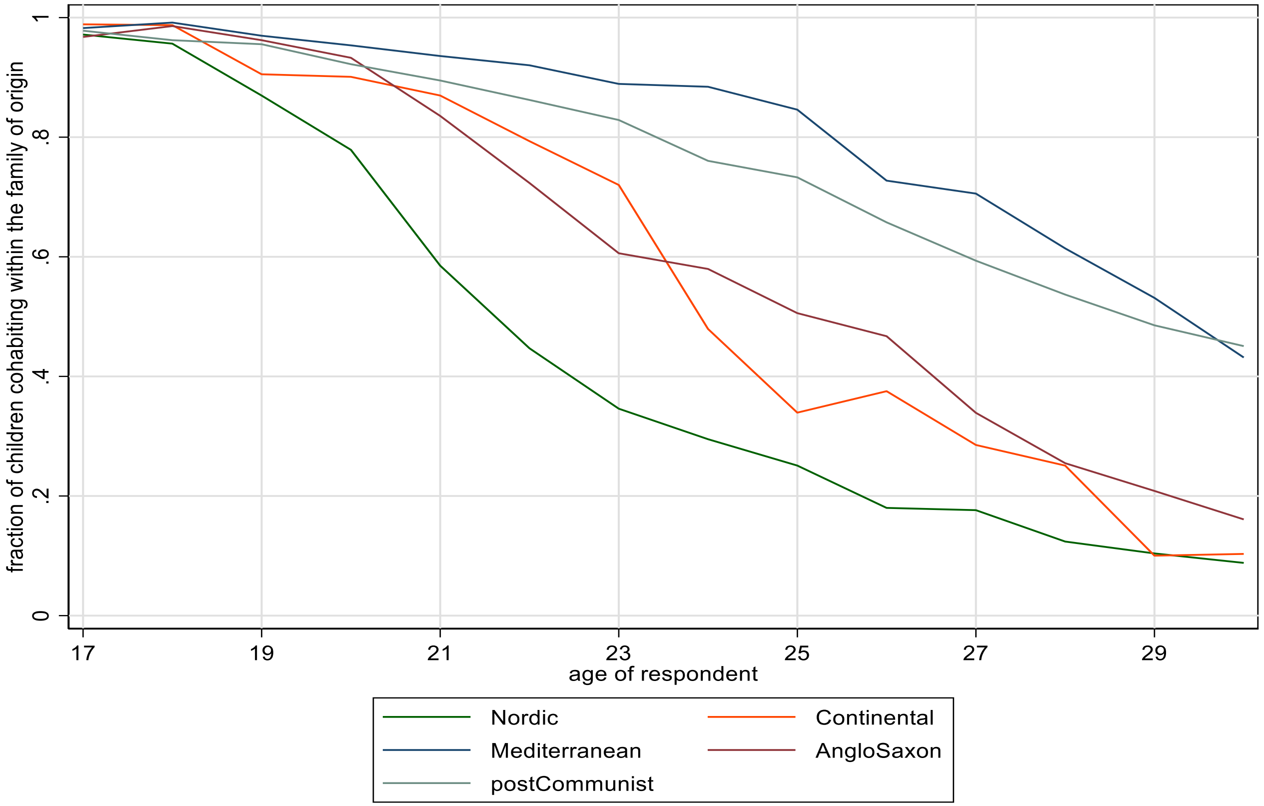
	GERMANY	POLAND	SWEDEN	ITALY	UK
SCHOOL SYSTEM					
Education spending per student (USD)[a]	Primary: 11.587 Secondary: 15.614 Tertiary: 20.760	Primary: 11.872 Secondary: 8.485 Tertiary: 14.488	Primary: 13.997 Secondary: 13.902 Tertiary: 26.215	Primary: 12.008 Secondary: 10.569 Tertiary: 12.663	Primary: 12.513 Secondary:13.695 Tertiary: 29.534
Private spending on education (as % of GDP)[b]	Primary to post-secondary non tertiary: 0,39 Tertiary: 0,18	Primary to post-secondary non tertiary: 0,28 Tertiary:0,25	Primary to post-secondary non tertiary: 0,01 Tertiary:0,18	Primary to post-secondary non tertiary : 0,16 Tertiary: 0,32	Primary to post-secondary non tertiary: 0,55 Tertiary: 1,48
Skills specificity (share of students enrolled in general vs vocational programmes)[c]	Lower secondary: Gen 97% Voc 3% Upper secondary: Gen 51% Voc 49% Post-secondary Non tertiary: Gen 6% Voc 94%	Lower secondary: Gen 99,55 Voc 0,45 Upper secondary: Gen 47 Voc. 53 Post-secondary Non tertiary: Gen 0,0 Voc 100	Lower secondary: Gen 100 Voc 0,0 Upper secondary: Gen 64 Voc. 36 Post-secondary Non tertiary: Gen 26 Voc 74	Lower secondary: Gen 100 Voc 0,00 Upper secondary: Gen 47 Voc 53 Post-secondary Non tertiary: Gen 0.0 Voc 100	Lower secondary: Gen 87 Voc 13 Upper secondary: Gen 60 Voc 40 Post-secondary Non tertiary: Not applicable.
Institutional stratification and age at which decisions are made[d]	Early formal tracking at the age of 10	Formal tracking system at the age of 16	Formal tracking at the age of 16	Formal tracking at the age of 14	Formal tracking at the age of 16
Student enrolment in public and private schools (by School Types)[e]	Enrolment by type of school: State: 96,1% State-dependent private: 3,4% Private: 0,6%	Enrolment by type of school: State: 95,5% State-dependent private: 3,6% Private: 0,9%	Enrolment by type of school: State: 80,7% State-dependent private: 19,2% Private: 0,1%	Enrolment by type of school: State: 96,4 State-dependent private: 1,7 Private: 1,9	Enrolment by type of school: State: 34,0 State-dependent private: 59,8 Private: 6,2
Frequency of using standardized tests[f]	Share of students assessed through mandatory standardized tests at least once a year: 60,3%	Share of students assessed through mandatory standardized tests at least once a year: 55,6%	Share of students assessed through mandatory standardized tests at least once a year: 100%	Share of students assessed through mandatory standardized tests at least once a year: 95,7%	Share of students assessed through mandatory standardized tests at least once a year: 95,4%
School autonomy (Index for Curriculum and Resources)[g]	Index value of school responsibility for: Curriculum: - Public schools: 1,36 - Private schools: 1,83 Resources: - Public schools: 0,47 - Private schools: 0,52	Index value of school responsibility for: Curriculum: - Public schools: 2,12 - Private schools: 3,33 Resources: - Public schools: 1,36 - Private schools: 5,32	Index value of school responsibility for: Curriculum: - Public schools: 1,77 - Private schools: 2,64 Resources: - Public schools: 3,16 - Private schools: 6,90	Index value of school responsibility for: Curriculum: - Public schools: 3,47 - Private schools: 3,88 Resources: - Public schools: 0,80 - Private schools: 6,38	Index value of school responsibility for: Curriculum: - Public schools: 4,10 - Private schools: 4,38 Resources: - Public schools: 3,47 - Private schools: 4,56

Validation 1: Individual educational transitions

- We use of the information available in the EU-SILC survey.
- The most recent survey is 2021 but we have preferred using the 2019 survey for three reasons:
- A) avoiding the confounding impact of the Covid crisis occurred in 2019;
- B) inclusion of Great Britain and Iceland 2018 wave (abandoned thereafter)
- C) availability of a special module on intergenerational persistence (information related to the social origins of the household head and spouse (parental education and occupation, wealth, books and relative deprivation when the interviewees were 14 year old).

Validation 1: Differences in home leaving

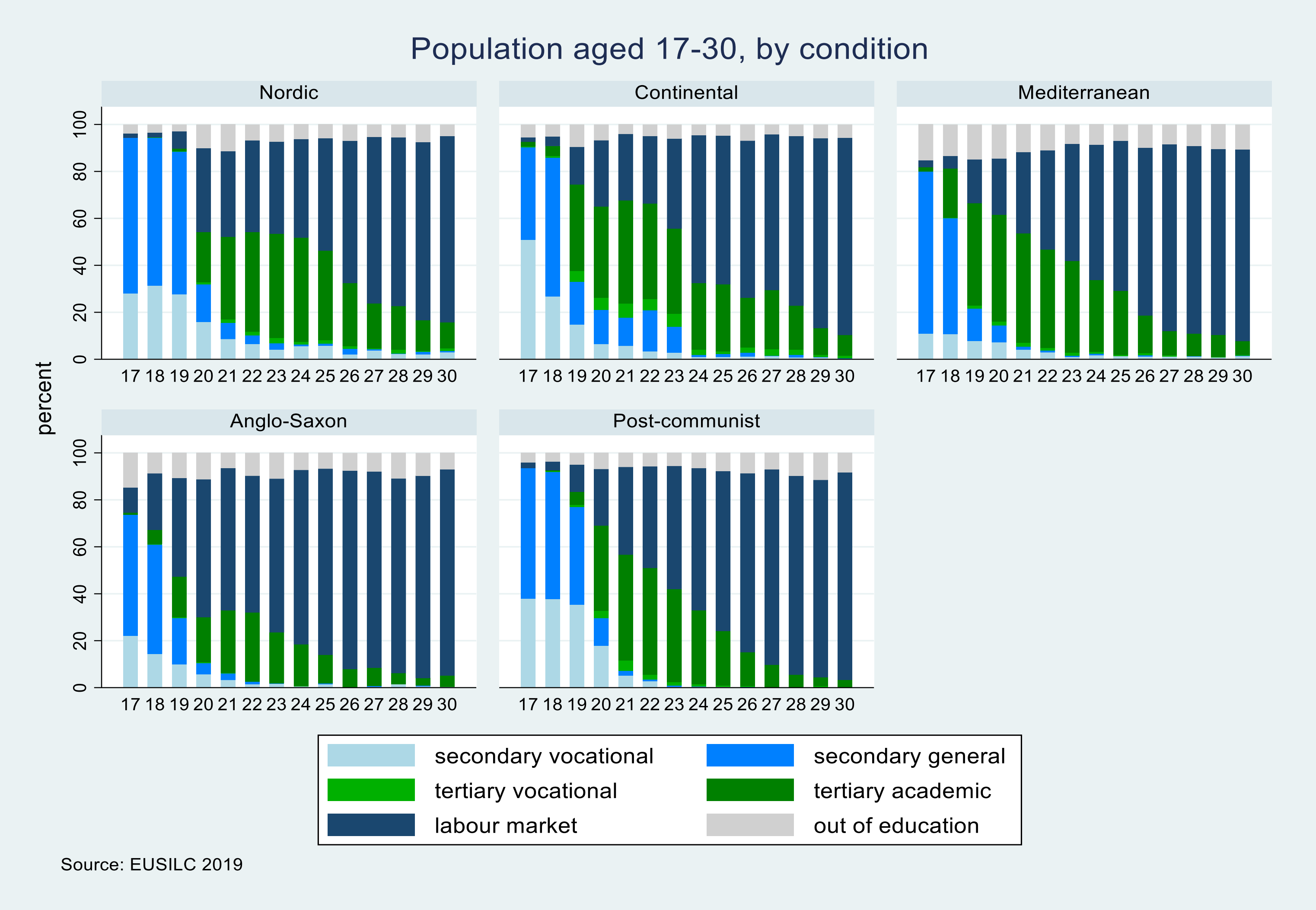
- European countries are significantly different in terms of home leaving age that is possibly connected to differences in welfare regimes.



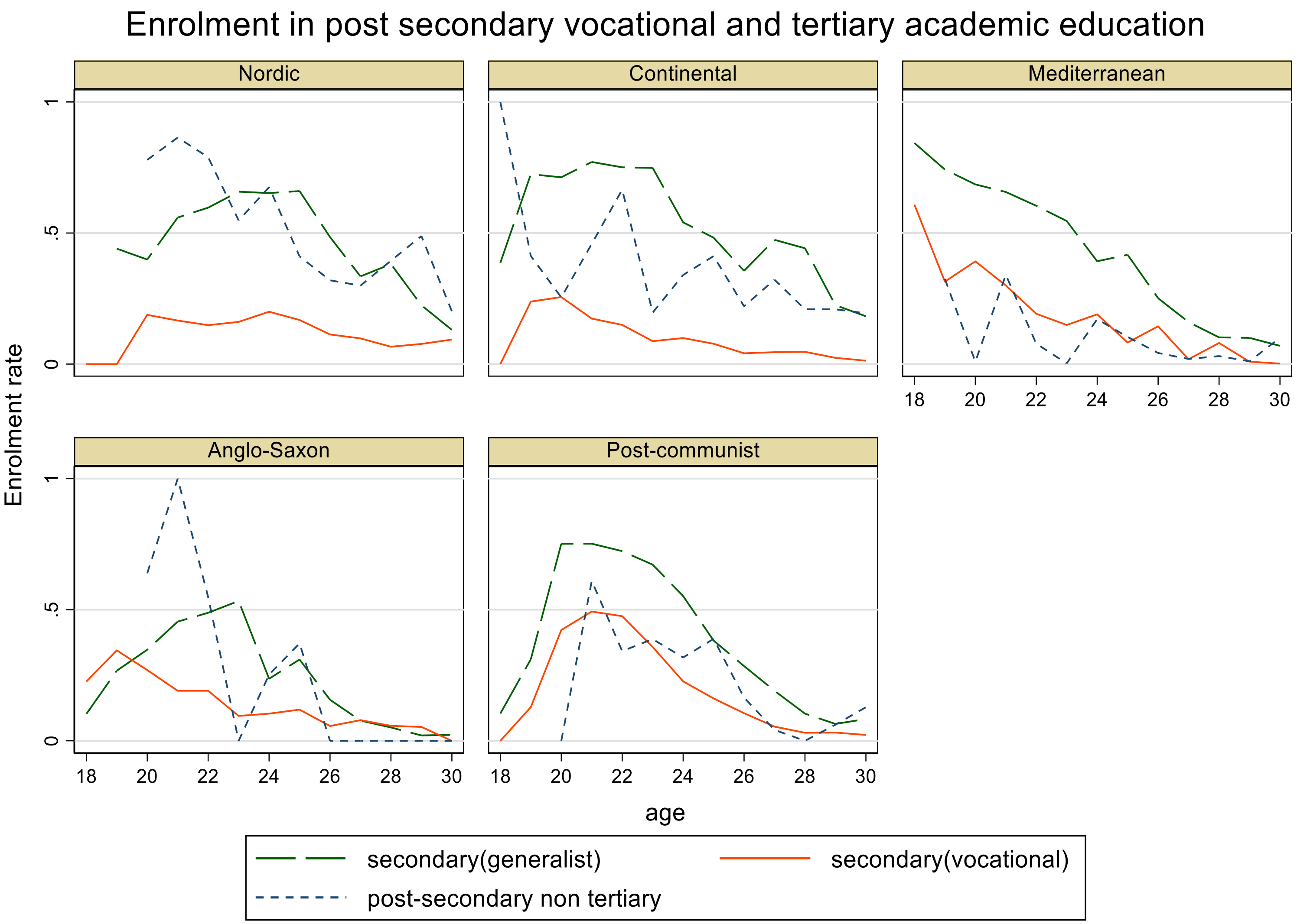
Validation 1: Individual educational transitions

- To formally describe the educational pathway to completion of tertiary education we can assume compulsory education almost fully attended and simplify the picture by considering a sequence of two stages, secondary and tertiary.
- If g_p is the population that completes compulsory education, the population that will complete tertiary education g_t is given by
$$g_t = g_p(1-\alpha)\beta(1-\delta)$$
- where α is the early school leaving rate, β is the enrolment rate in tertiary education of secondary school graduates $g_s = g_p(1-\alpha)$ and δ is the non-completion rate during tertiary education.
- the transition from secondary to tertiary education can be identified in SILC cross-sectional data by comparing adjacent age cohorts in the neighbourhood of the end of secondary education.
- ③ the dropout rate during tertiary education requires longitudinal data $\rightarrow$ an indirect strategy is comparing enrolment rates and attainment rates for the relevant age cohorts (say between 18 and 30 year old), the difference representing an estimate of the dropout rate in tertiary education.

Validation 1: difference in transitions

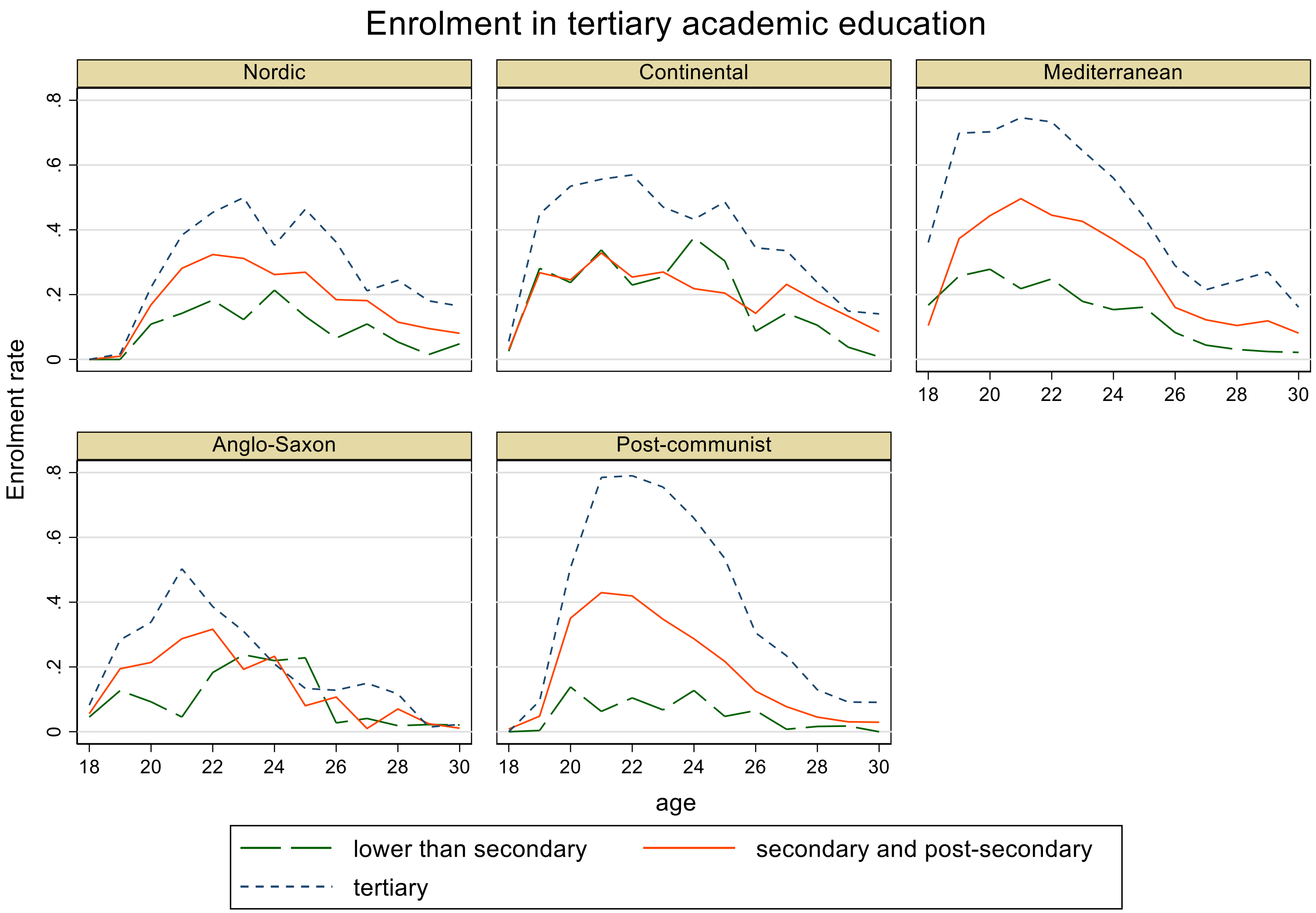


Validation 1: HEI enrolment by secondary attainment



Enrolment rates by previous attainment relative to the age cohort, using sample weights

Validation 1: HEI enrolment by parental education



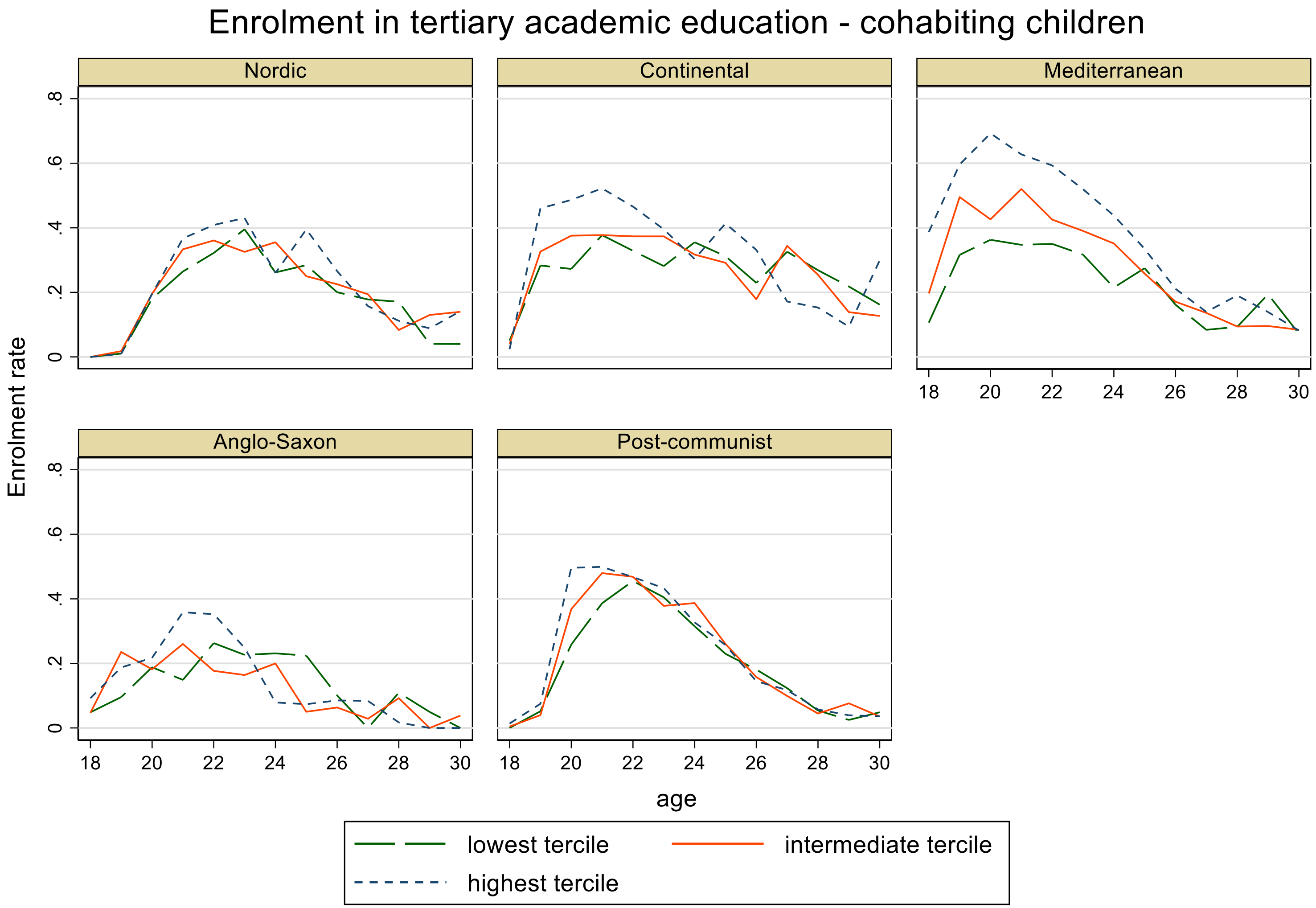
Enrolment rates by highest educational attainment among parents relative to the age cohort, using sample weights

Validation 1: Inequality of opportunity by parental education

Table 9 – Tertiary enrolment by highest parental education – 2017-2020

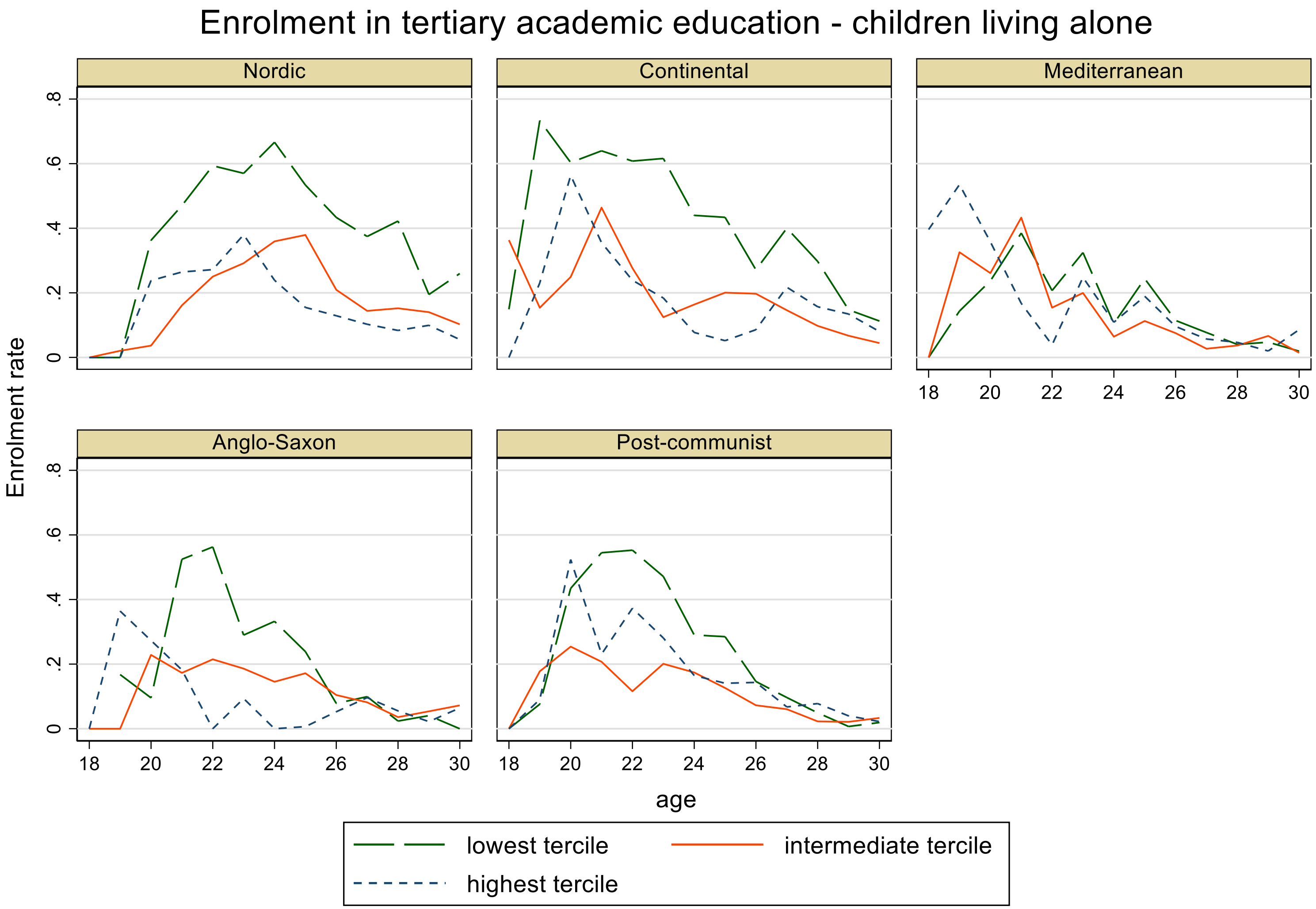
	low (primary and lower secondary)	medium (upper secondary and post-secondary)	high (tertiary academic)	total	Inequality of Opportunity in enrolment (tertiary/ secondary)
Nordic	0.071	0.147	0.224	0.179	1.52
Continental	0.140	0.200	0.362	0.257	1.82
Mediterranean	0.124	0.274	0.487	0.268	1.77
Anglo-Saxon	0.100	0.156	0.227	0.177	1.45
Post-communist	0.043	0.173	0.363	0.193	2.10
Total	0.115	0.202	0.362	0.236	1.80

Validation 1: money does not matter ?



Enrolment rates by family of origin income position relative to the age cohort, using sample weights

Validation1: maney matters if you live alone



Enrolment rates by own income position relative to the age cohort, using sample weights

Source: table B-5.1 in OECD 2022, Education at a glance

Validation 1: tertiay completion rate requires longitudinal data

		Completion rates of students who entered a bachelor's (or equivalent) programme and completed any tertiary level					
		By the end of the theoretical duration of the programme			By the end of the theoretical duration of the programme plus three years		
	theoretical duration	men	women	total	men	women	total
Estonia	3 - 4	31	52	43	53	73	64
Finland	4	32	56	46	66	80	74
Iceland	3 - 4	36	41	39	64	73	69
Lithuania	3 - 4	49	67	59	56	73	65
Norway	3 - 4	44	53	49	67	79	74
Sweden	3	28	37	33	49	69	61
Slovenia	4 - 5	30	44	38	47	64	56
Nordic	**3.6**	**36**	**50**	**44**	**57**	**73**	**66**
Austria	3	21	29	26	54	65	60
France	3	31	40	36	67	74	71
Netherlands	3 - 4	22	36	29	64	78	71
Switzerland	3	36	42	39	78	84	81
Continental	**3.1**	**28**	**37**	**33**	**66**	**75**	**71**
Italy	3	19	22	21	50	56	53
Portugal	3	32	43	38	63	79	72
Spain	4	27	46	37	64	79	72
Mediterranean	**3.3**	**26**	**37**	**32**	**59**	**71**	**66**
Belgium	3 - 4	26	37	32	62	72	68
Great Britain	3 - 4	67	71	69	82	87	85
Anglo-Saxon	**3.5**	**47**	**54**	**51**	**72**	**80**	**77**
Poland	3 - 4	39	58	50	60	77	69

Validation 1: estimating dropout by confronting adjacent cohorts

- In symbols

$$g_{st}\beta_t(1-\delta) = g_{tt}$$

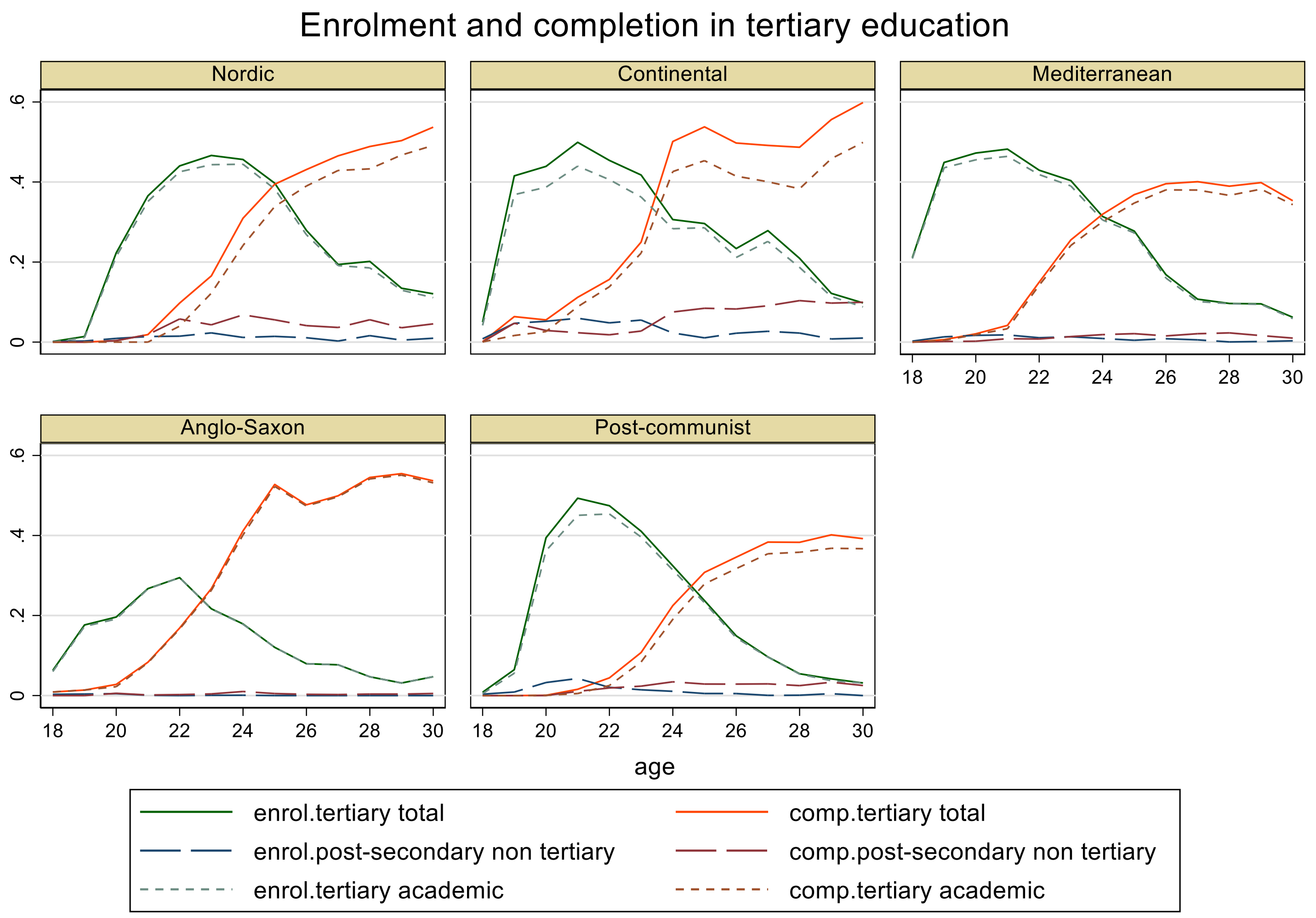
- Then the dropout rate for the birth cohort t can be estimated by

$$\hat{\delta}_t = 1 - \frac{g_{tt}}{g_{st}\beta_t}$$

- which can be averaged over adjacent cohorts in order to reduce sampling variability. We assume an effective duration of 4 years. The estimated dropout rate seems consistent with those produced by OECD except that in British data

	tertiary enrolment 18-25	tertiary enrolment 26-30	tertiary attainment 30-35	estimated dropout rate
Nordic	0.295	0.186	0.533	0.288
Continental	0.369	0.184	0.575	0.343
Mediterranean	0.381	0.105	0.377	0.528
Anglo-Saxon	0.191	0.056	0.540	-0.336
Post-Communist	0.310	0.073	0.398	0.372
Total	0.333	0.126	0.485	0.345

Validation1: enrolment vs attainment



Enrolment and completion rates relative to the age cohort, using sample weights

Validation 1: inequality of opportunities differ by clusters

	low (primary and lower secondary)	medium (upper secondary and post-secondary)	high (tertiary academic)	total	Inequality of Opportunity in attainment (tertiary/ secondary)	Inequality of Opportunity in enrolment (tertiary/ secondary)
Nordic	0.251	0.382	0.668	0.501	1.75	1.52
Continental	0.355	0.424	0.676	0.496	1.59	1.82
Mediterranean	0.233	0.441	0.737	0.374	1.67	1.77
Anglo-Saxon	0.262	0.445	0.703	0.480	1.58	1.45
Post-Communist	0.105	0.368	0.749	0.377	2.04	2.10
Total	0.255	0.405	0.698	0.435	1.72	1.80

Validation 1: summing up

- We can summarise our results by showing that *tertiary enrolment is socially conditioned* by three order of factors:
- *i*) the *institutional design of secondary education*, for those with a vocational degree are in a disadvantaged position;
- *ii*) the *cultural capital of the student*, proxied by parental education, that does not vanish even after 11-13 years of compulsory education (not to speak of the one fifth who did not complete secondary education);
- *iii*) *aspirations* induced by parental social status, proxied by parental occupations incorporating greater availability of financial resources.

- Taken at face value, our results also indicate that beyond previous factors *financial resources seem irrelevant*: family income is negatively correlated, but the order of magnitude is small: using the coefficients of the linear probability model, doubling family income reduces the probability of enrolment by 5.6 percentage points); real wealth is uncorrelated.

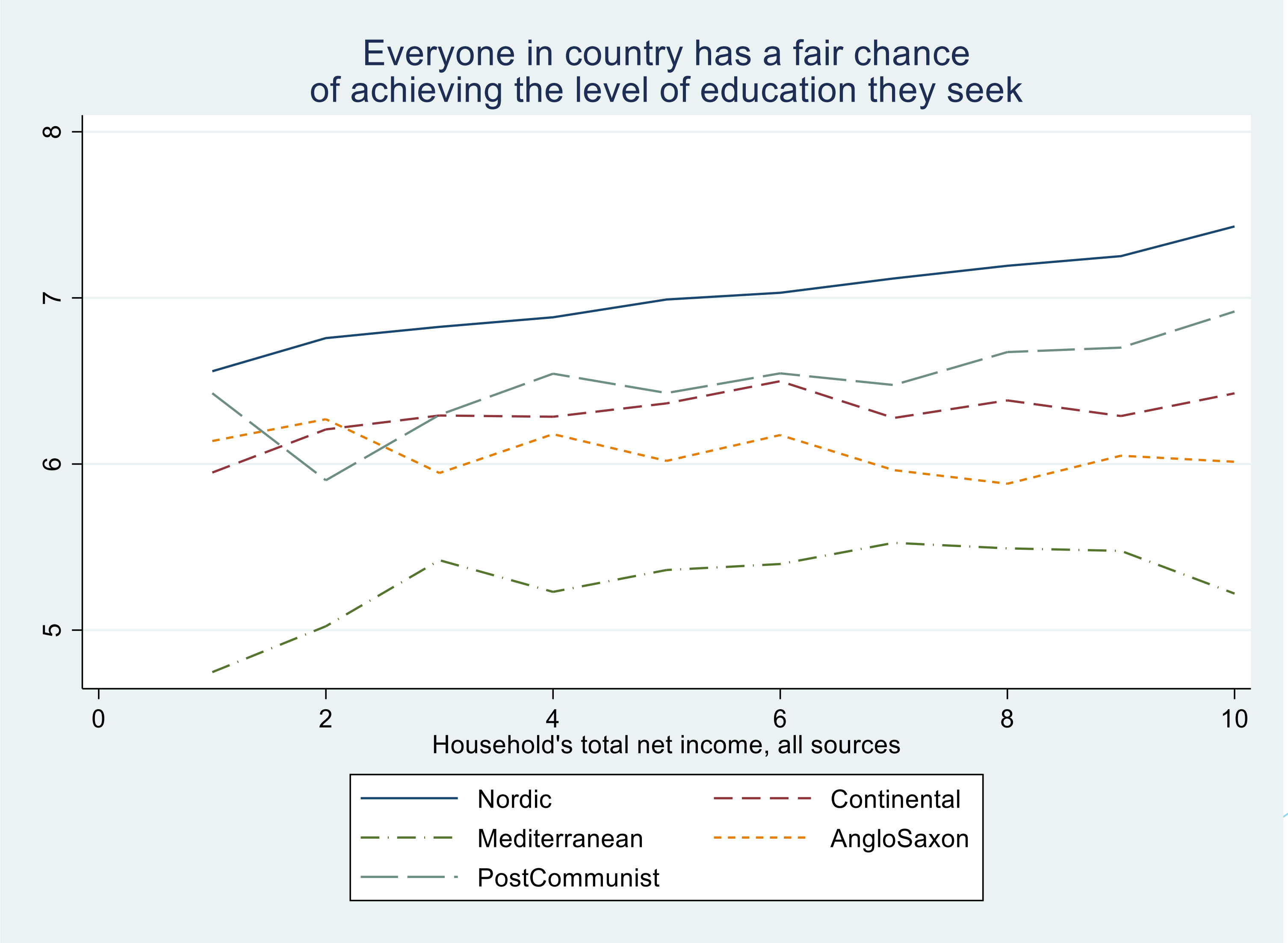
Validation 1: summing up

- Inequality of opportunity is lowest in Nordic, Anglo-Saxons and Continental countries and highest in Mediterranean and Post-Communist ones
- This is the result of
  - social attitudes (age of home leaving, life long learning),
  - public support (cost of enrolment),
  - institutional design (tracked or comprehensive)
- The educational attainment in the population are highest in in Nordic, Anglo-Saxons and Continental and lowest in Mediterranean and Post-Communist countries.

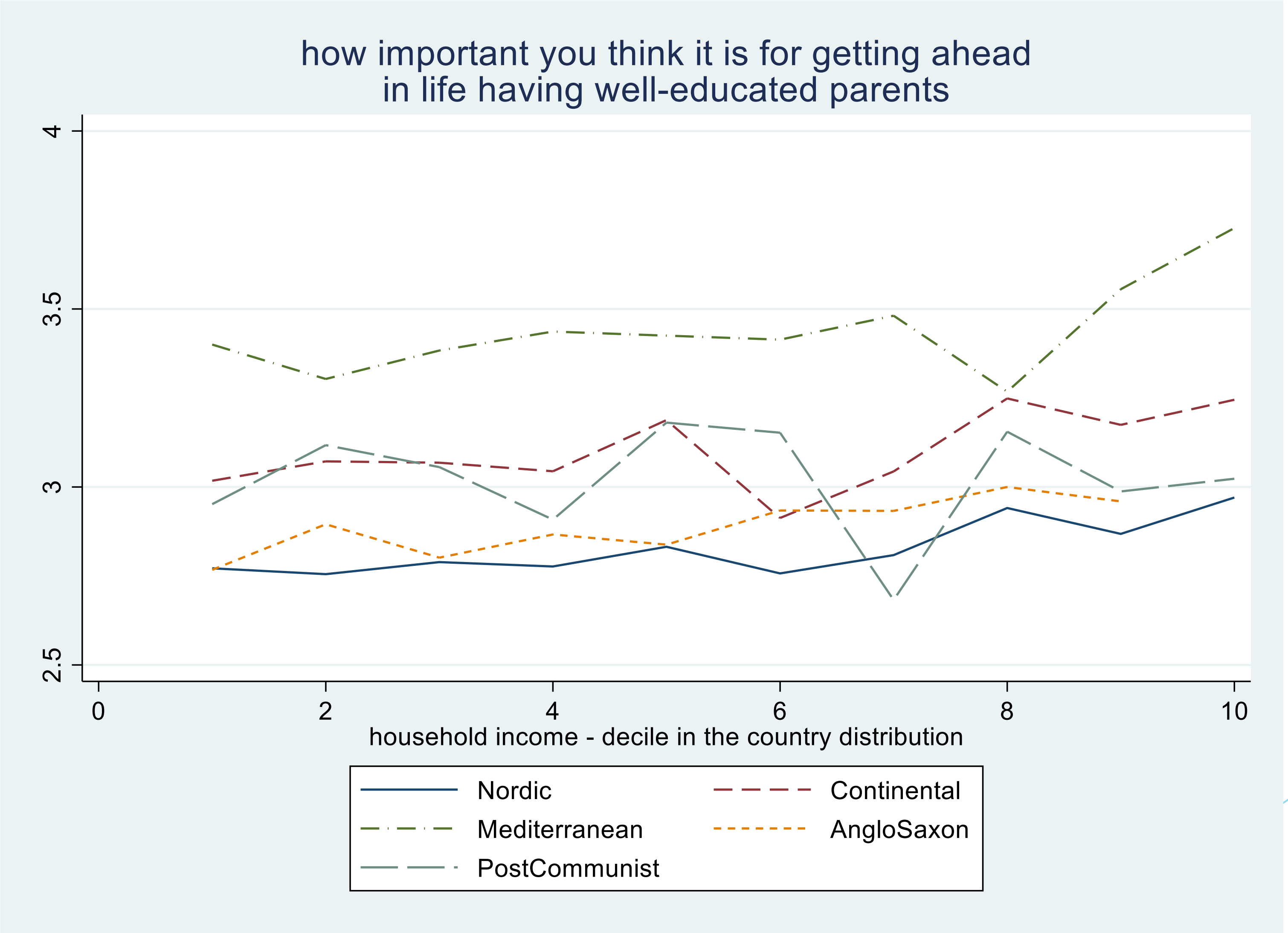
Validation 2: public opinions on educational investment

- We used five datasets in search for differential support to education expansion, across countries and within countries:
- ⇨ European Social Survey wave 9 on "Timing of life, justice and fairness", fielded in 2018 in 26 European countries
- ⇨ International Social Survey Programme (ISSP) on "Social Inequality V" fielded in 2019-
- ⇨ World Values Survey v.7 conducted between 2017 and 2020.
- ⇨ Life in Transition survey (LiTs) fielded in 2016, targeted on post-Communist countries
- ⇨ INDEVUC (Investing in Education in Europe: Attitudes, Politics and Policies) project datasets.

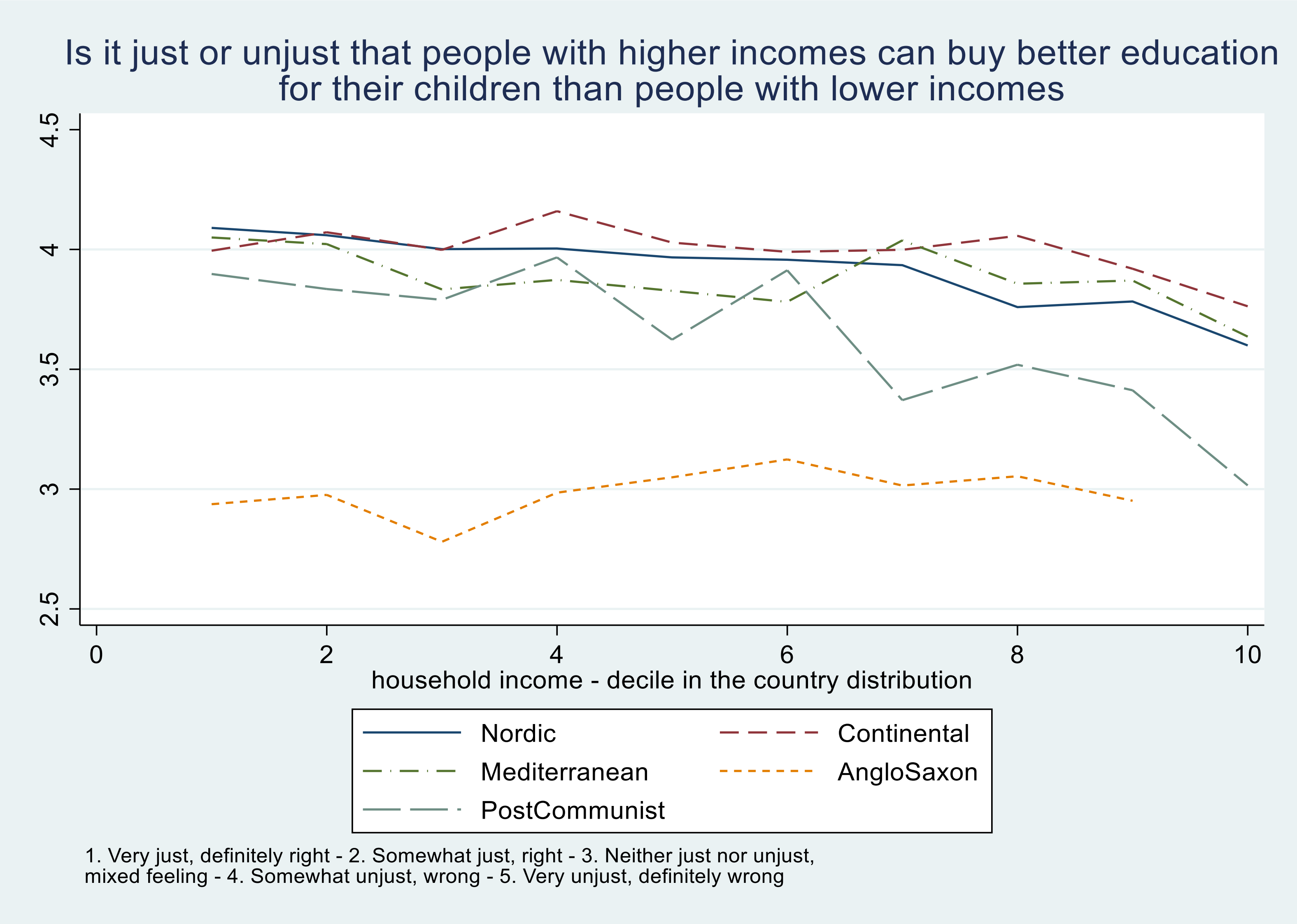
Validation 2: ESS 2019



Validation 2: ISSP 2019



Validation 2: ISSP 2019



Validation 2: WVS v.7 2017-20

- World Values Survey v.7 conducted between 2017 and 2020 asks "*To what degree are you worried about […] Not being able to give my children a good education*"
- Continental and post-Communist countries record a limited concern for the inability to provide good education to their own children, possibly reflecting the fairness of the national educational systems.

(Lack of) Concern about inability of providing good education – WVS 2017-20

	raw mean	standardised agreement	conditional on gender, age and education	conditional on gender, age, education and income	observations
Continental	3.23	0.19	0.16	0.19	2392
Mediterranean	2.91	-0.11	-0.19	-0.13	930
Anglo-Saxon	2.77	-0.25	-0.15	-0.09	1887
Post-Communist	3.00	-0.03	0.02	0.03	3357
Total	3.00	-0.03	0.00	0.03	8566

Validation 2: LiT 2016

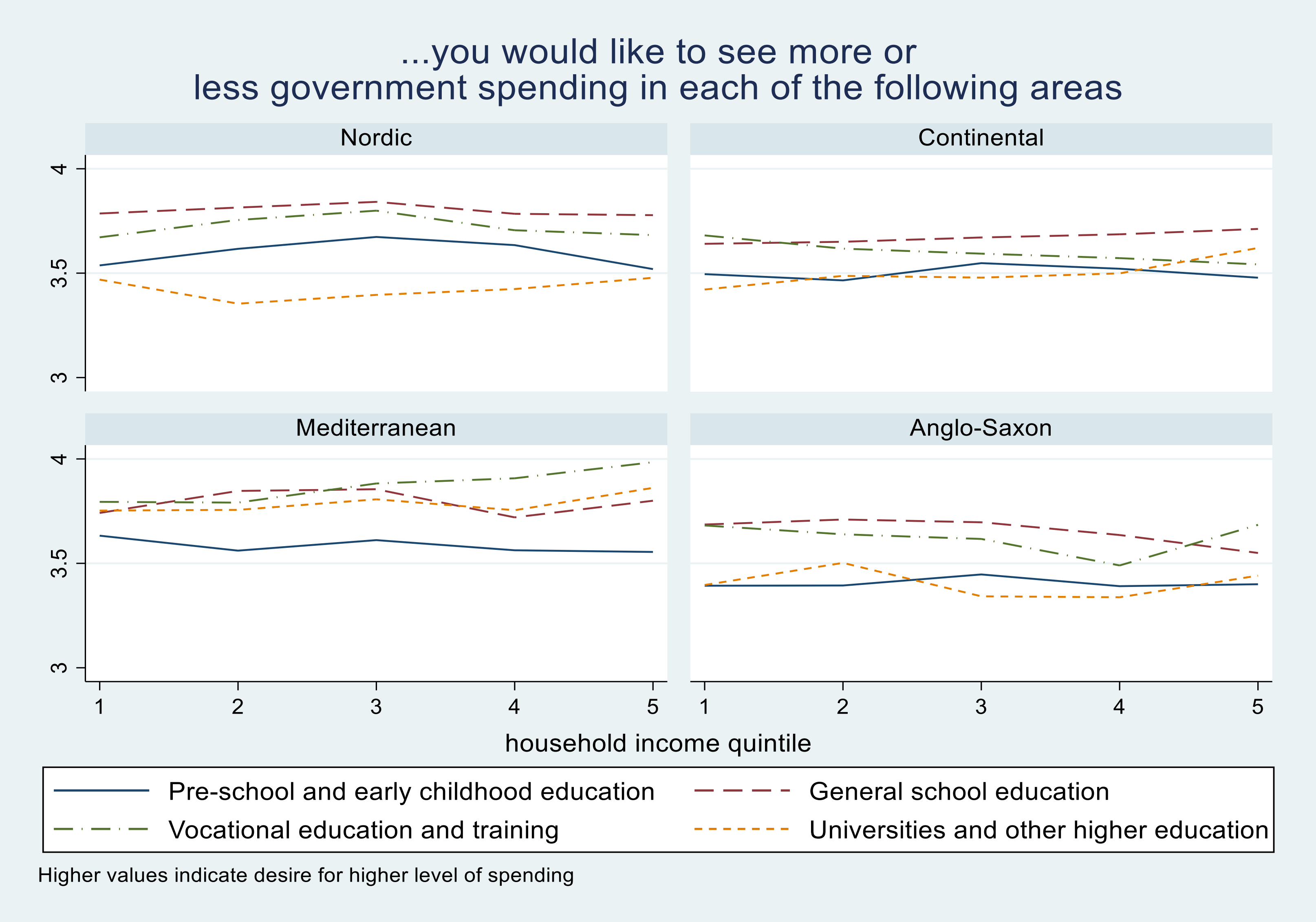
- Life in Transition survey (LiTs) fielded in 2016, targeted on post-Communist countries ask to indicate the following "*In your opinion, which of these fields priority should be the first and second priorities for extra government spending?*"
- Nordic countries put a great emphasis on educational spending, followed by Continental (Germany) and post-Communist countries.
- The Mediterranean countries end up with a lower attention to such a priority, possibly due to the lack of confidence revealed by the other surveys.

Priorities of public spending – LiTs 2016

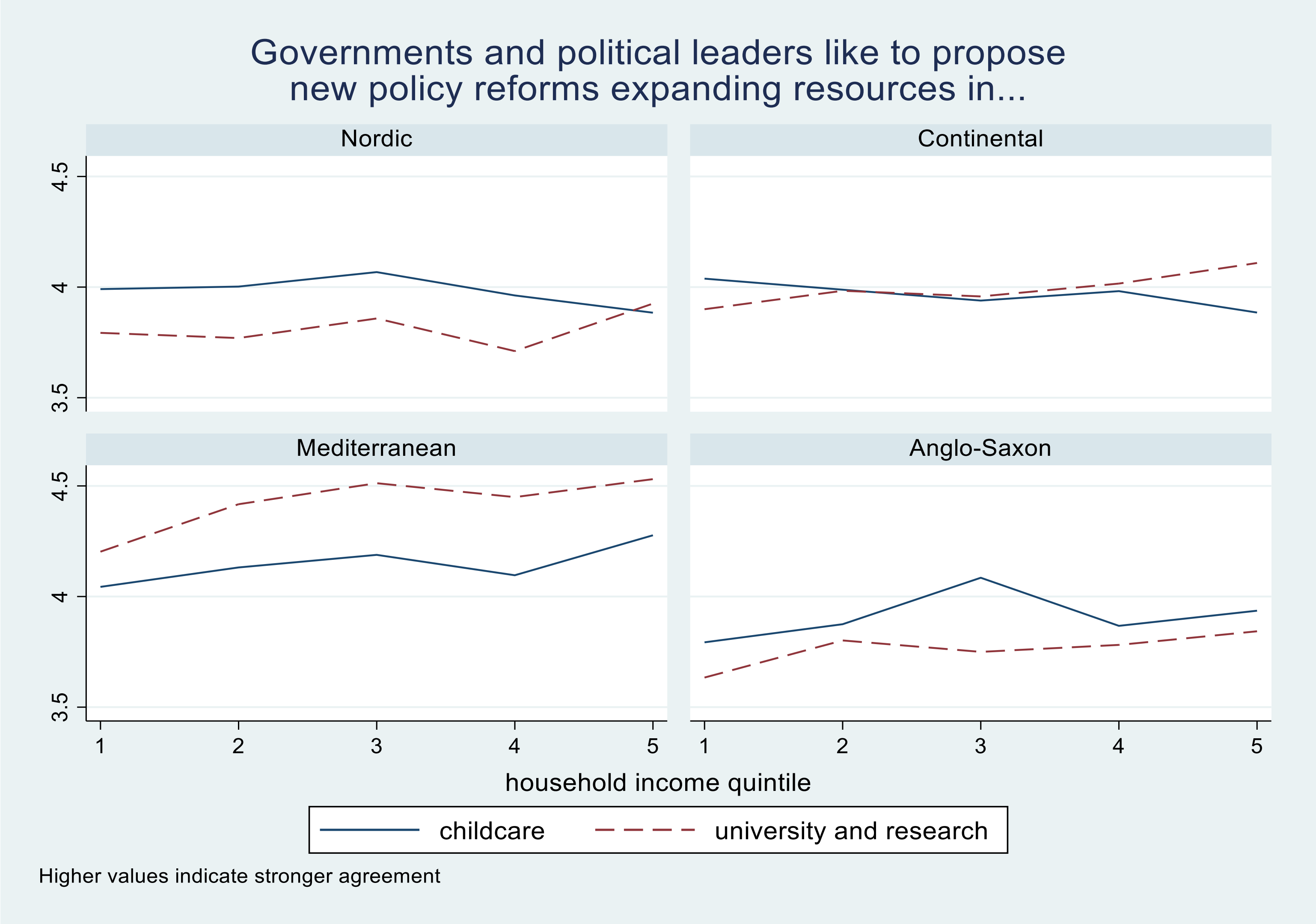
	% indicating Education as 1st or 2nd priority	conditional probability on gender, age and education	conditional probability on gender, age, education and income	observations
Nordic	0.36	0.36	0.36	5865
Continental	0.42	0.34	0.33	1487
Mediterranean	0.29	0.31	0.31	2996
Post-Communist	0.32	0.33	0.33	10422
Total	0.34	0.34	0.34	20770

Note: Nordic includes Estonia, Latvia, Lithuania and Slovenia; Continental includes Germany; Mediterranean includes Greece and Italy; Post-Communist includes Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania and Slovak Republic.

Validation 2: Inveduc 2014



Validation 2: Inveduc 2014



Validation 2: summing up

- Public opinion in **Nordic** countries is convinced of the «levelling the play field» contribution of education and is uniformly supporting further investment in early education.
- In **Continental** countries people is not worried by the actual working of the educational system, and is supportive of further expansion
- In the **Mediterranean** cluster people lack of trust about the ability of education to reduce social differences, even though they would like to have more investment in HE
- In the **Anglo-Saxon** public opinion takes as normal investing private money in education
- In **post-Communist** people think of equality of opportunity characterizing education, and is less available to invest further money in the sector

Conclusion

- Cross-national diverging patterns across clusters continue to characterise the European landscape
- We have shown that **marked patterns** of participation to tertiary education persist in the five European clusters we propose , both in terms of equity and efficiency.
- The public opinion regarding educational investment is also diversified in the five clusters, in terms of trust, willingness to allocate further public resources and the stage of education to be prioritised.
- Policy proposals institutional design
- Poliocy proposals social policy

Policy proposals to ease the transition to higher education – institutional design

- *i*) increase the generalist curriculum of professional training schools, raising the cultural capital of children enrolled in these tracks (courses should include generalist theory and not just practical subjects);
- *ii*) introduce incentives to secondary schools in order to ease the transition to HE by means of information provision, guidance, preparatory courses. This should be accompanied by delegating greater autonomy to schools to develop extra tutoring for disadvantaged students, because contexts vary greatly (urban/rural, demographics of cities, etc);
- *iii*) expand the available pathways from secondary vocational to postsecondary non tertiary vocational, and from there to tertiary academic. This requires integrating secondary and postsecondary education and not treat them as separate and disconnected sectors of policy interventions. To facilitate this, in our study we have conceptualized a smooth transition as a pathway from one education stage to the next one, with multiple mechanisms and entry points that students face in their educational career.
- *iv*) create bridging programmes from vocational tracks to academic education, introducing additional terms of study, summer courses, postponed admission tests.

Policy proposals to ease the transition to higher education – social policies

- *v*) encourage home leaving in order to reduce the impact of family customs and financially support students attending higher education courses. Encouraging student mobility nationally and internationally requires financial support for students from families without resources; the financial aid could be conditional on targeted enrolment in best universities outside one's region. But this requires cooperation and partnerships by the same universities designing correlated admission policies.
- *vi*) design carefully bursaries to disadvantaged students not only based on low income students (our data show that financial resources do not strongly correlate with household incomes once controlling for parental education and occupation), but also underrepresented and socially discriminated groups in society (ethnic minorities, women from ethnically discriminated groups, non-traditional students).
- *vii*) support students during their higher education experience with tutoring, optimal course design, ECTS recognition. HE institutions should create additional tutoring for disadvantaged students, and they should gain recognition from the central government in terms of extra funding

Appendix – probit for enrolment by cluster

Table 12 - Tertiary enrolment conditional on possessing a secondary degree – people aged 18-30 – probit model – SILC 2019

VARIABLES	SILC	Nordic	Continental	Mediterra nean	AngloSaxon	Post-communist
dep.variable: tertiary enrolment	37.8%	34.2%	42.8%	43.4%	22.0%	31.9%
female	0.202***	0.150**	0.191***	0.197***	0.15	0.348***
age	-0.116***	-0.055*	-0.082**	-0.165***	-0.081*	-0.152***
born outside EU	-0.199	-0.534***	0.014	-0.424**	0.394*	0.327
secondary vocational degree	-1.061***	-0.988***	-1.708***	-1.142***	-0.652***	-0.557*
working student	1.544***	0.948***	1.665***	1.724***	1.291***	2.120***
living alone	-0.391***	0.019	-0.645***	-0.628***	-0.529***	-0.689***
(log) household income equiv.	-0.228***	-0.284***	-0.505***	-0.070***	-0.170*	-0.243***
ability to make ends meet	0.043***	-0.008	0.108***	0.078***	0.055	0.009
home ownership	0.059	-0.216***	0.098	0.262***	0.005	0.109
HPO: Managers	0.607***	0.516**	0.415**	0.448***	0.445***	1.041***
HPO: Professionals	0.653***	0.372	0.328**	0.664***	0.541***	0.918***
HPO: Technicians and Associate Professionals	0.496***	0.423*	0.099	0.377***	0.375*	0.782***
HPO: Clerical Support Workers	0.306**	0.328***	0.026	0.487***	-0.139	0.759***
HPO: Services and Sales Workers	0.165	0.224	-0.221**	0.309***	0.099*	0.532***
HPO: Skilled Agricultural, Forestry and Fish	-0.088	0.078	-0.318*	-0.017	-1.131	0.121
HPO: Craft and Related Trades Workers	0.184**	0.06	0.191**	0.130*	0.178	0.397***
HPO: Plant and Machine Operators-Assemblers	0.078	0.344	-0.202**	-0.052	0.263	0.298***
HPE: secondary or postsecondary	0.374***	0.373***	0.240**	0.320***	0.188***	0.412***
HPE: tertiary degree	0.656***	0.598***	0.499***	0.737***	0.166*	0.979***
parent born outside EU	0.213**	0.249***	0.427***	-0.048	0.312***	0.05
absent father	0.03	-0.064	0.033	-0.024	0.133	0.025
absent mother	0.256***	0.238***	0.229***	0.101	0.800***	0.234***
Observations	38 431	8 268	6 920	10 288	2 174	10 781
Pseudo R^2	0.341	0.262	0.431	0.366	0.256	0.350

Robust standard errors in brackets - *** p<0.01, ** p<0.05, * p<0.1 – Constant and country fixed effects included – errors clustered at country level – weighed using sample weights – HPO: highest parental occupation – HPE: highest parental education