

Education systems and the core tasks of education: What can we learn from comparative research?

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for Inequality Studies

onderwijsraad

What do societies expect from schools?

Three “societal functions”:

- Optimize academic performance (“Qualification”)
- Prepare for the labour market (“Allocation”)
- Prepare for active engagement as citizens (“Socialization”)

Two distributional concerns:

- Efficiency
- Equality

And do educational systems function well on these tasks?

- Or: how does the educational institutional structure affect efficiency and equality in the outcomes of interest?
 - Tracking
 - Standardization
 - Vocational orientation

A heuristic framework for studying institutional effects

	School performance		Labour market		Civic engagement	
	<i>efficiency</i>	<i>equality</i>	<i>efficiency</i>	<i>equality</i>	<i>efficiency</i>	<i>equality</i>
Selection tracking	A	B	G	H	M	N
Standardisation						
of input (curricula)	C	D	I	J	O	P
of output (centralized testing)						
Accountability						
Vocational orientation						
Relative size vocational sector in education	E	F	K	L	Q	R
Relative size of dual system						

More specific research questions

1. Does later tracking increase equality of educational opportunity?
Does that come at a cost in terms of efficiency?
2. Does standardization reduce inequality of opportunity?
3. How is early tracking related to civic engagement?
4. Is a strong VET system still useful for a good transition from school to work?

1. Later tracking and equality of opportunities

- Later tracking is associated with greater equality of opportunity by socio-economic background.
 - **Test scores:** comparing primary and secondary school performance
 - Strello, A., Strietholt, R., Steinmann, I., & Siepmann, C. (2021). Early tracking and different types of inequalities in achievement: Difference-in-differences evidence from 20 years of large-scale assessments. *Educational Assessment, Evaluation and Accountability*.
<https://doi.org/10.1007/s11092-020-09346-4>
 - **Test scores and educational attainment:** comparing pre- and post-reform inequalities in different countries
 - van de Werfhorst, Herman G. 2018. “Early Tracking and Socioeconomic Inequality in Academic Achievement: Studying Reforms in Nine Countries.” *Research in Social Stratification and Mobility*. doi: [10.1016/j.rssm.2018.09.002](https://doi.org/10.1016/j.rssm.2018.09.002).
 - Van de Werfhorst, H. G. (2019). Early Tracking and Social Inequality in Educational Attainment: Educational Reforms in 21 European Countries. *American Journal of Education*, 126(1), 65–99.
<https://doi.org/10.1086/705500>

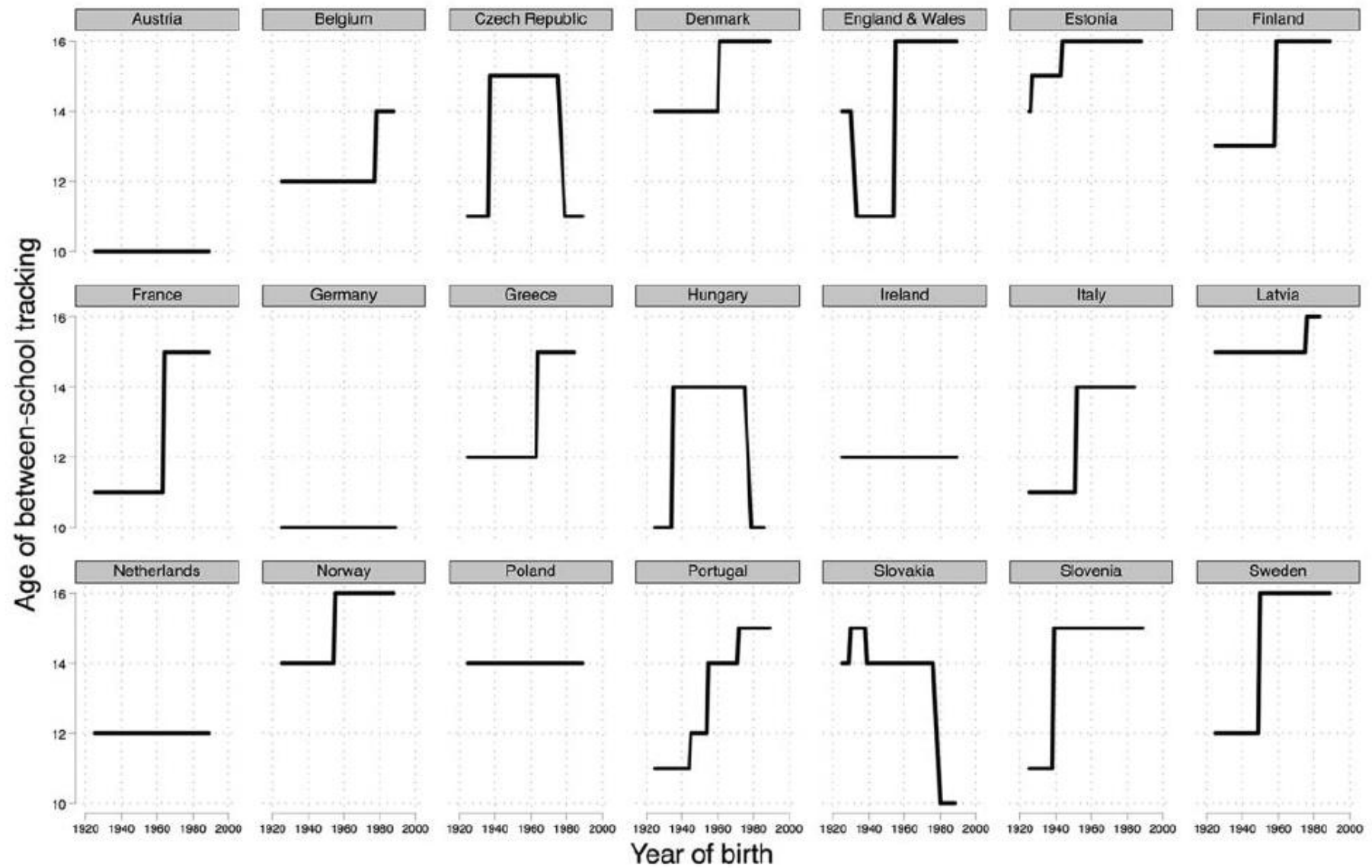
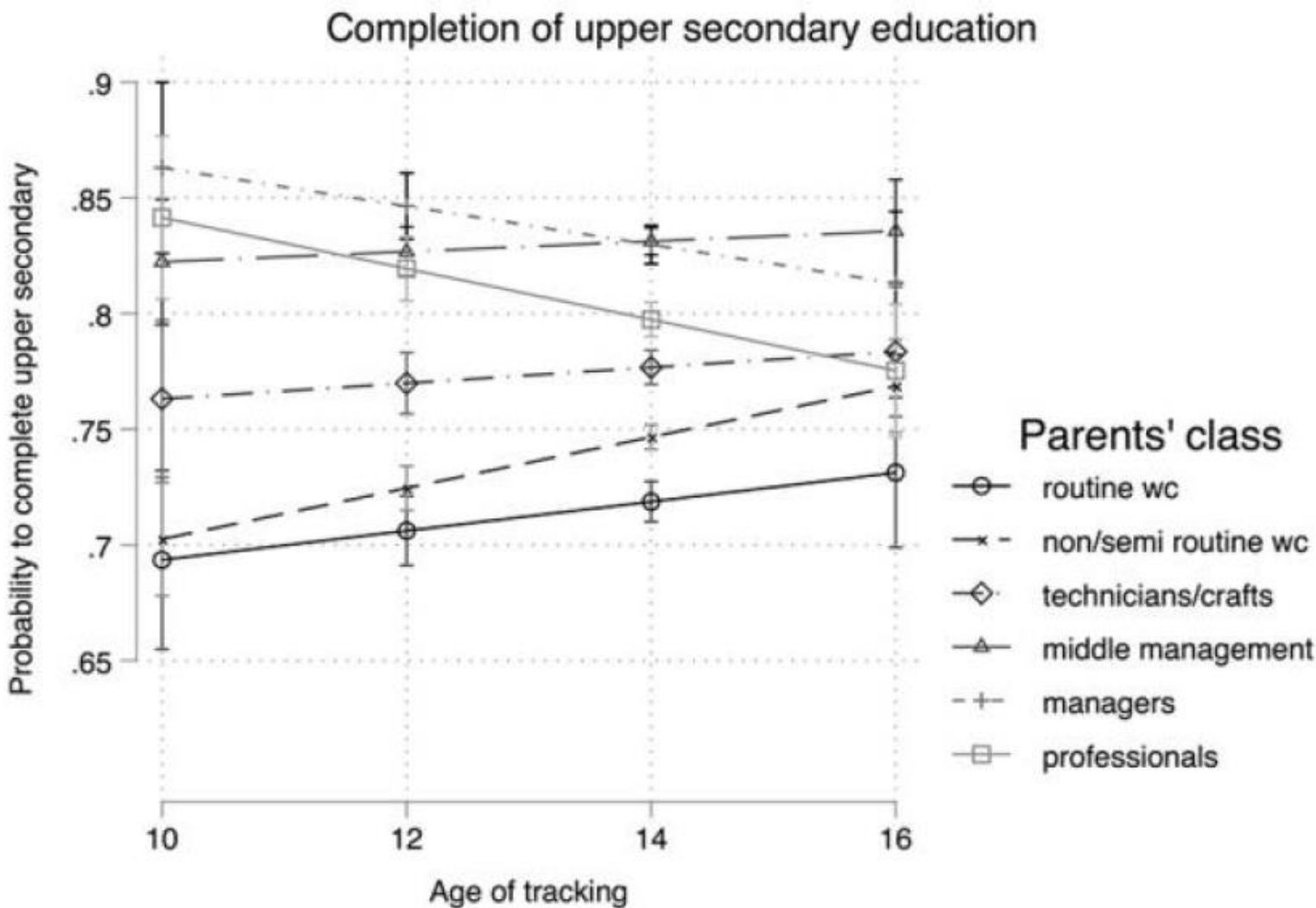


FIG. 1.—Tracking age reforms by year of birth

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Social class differences in educational attainment reduce after reforms to later tracking

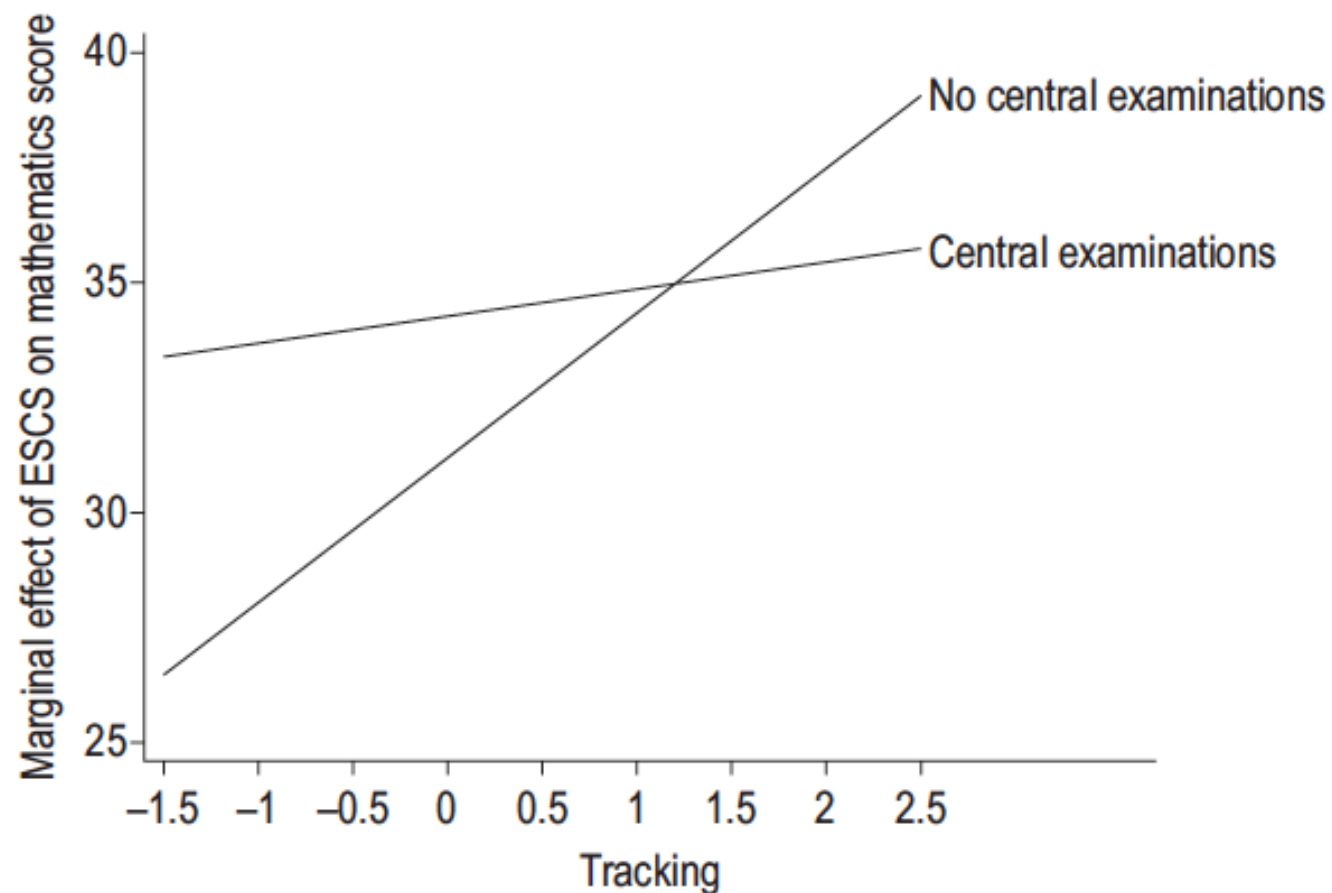
Source: European Social Surveys



2. Standardization and equality of educational opportunity

- Especially in early-tracking systems, standardized exams reduce inequality by socioeconomic background.
- But: Dutch system of standardized tests also magnifies the 'meritocratic' expectations by teachers... A self-fulfilling prophecy?

Figure 2. Marginal effects graph of the three-way interaction (table 3)



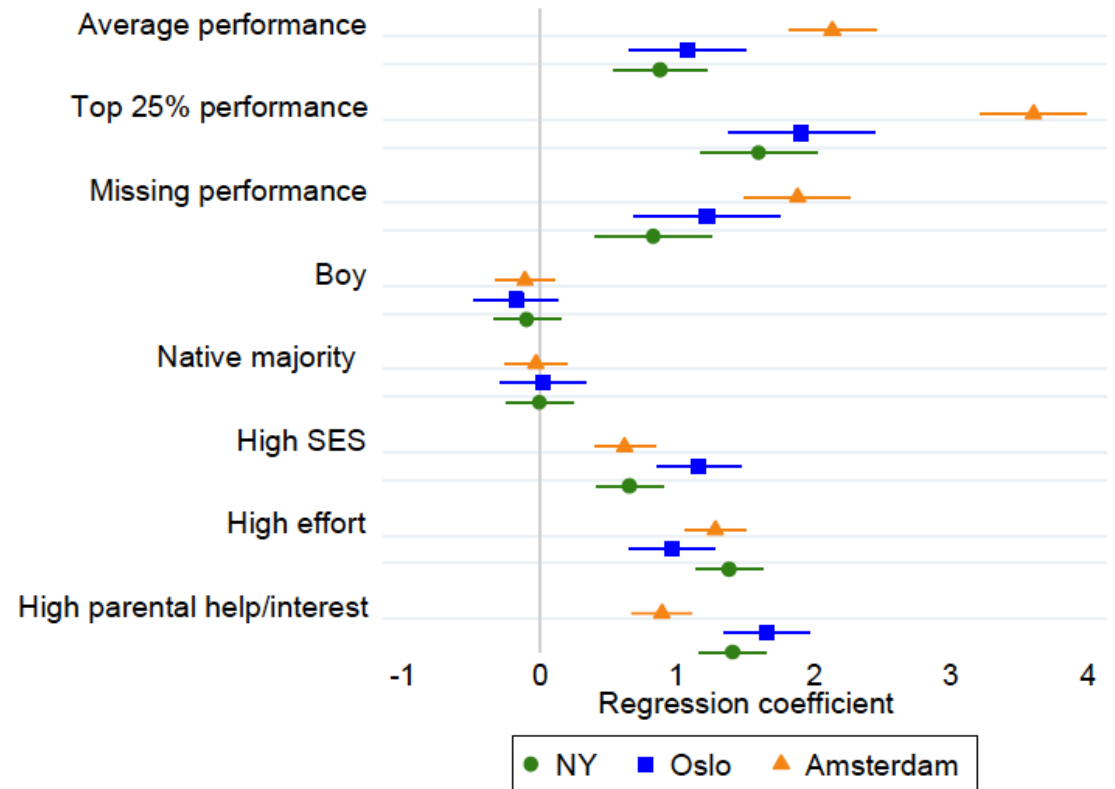
Note: Based on model 4, table 3. There is a significant difference between the slopes for tracking in the absence of central examinations and presence of central examinations. ESCS refers to the PISA measure of socio-economic status.

Bol, Thijs, Witschge, Jacqueline, Van de Werfhorst, Herman G. and Dronkers, Jaap. (2014). Curricular Tracking and Central Examinations: Counterbalancing the Impact of Social Background on Student Achievement in 36 Countries. *Social Forces*, 92(4): 1545-1572.

Strong effect of primary school performance on teacher expectations in the Netherlands

- Experiments among grade-5 teachers in three cities:
expectations about hypothetical children
- Bias or realism?
- Geven, Sara, Øyvind N. Wiborg, Rachel E. Fish, and Herman G. van de Werfhorst. 2021. "How Teachers Form Educational Expectations for Students: A Comparative Factorial Survey Experiment in Three Institutional Contexts." *Social Science Research* 100:102599. doi: [10.1016/j.ssresearch.2021.102599](https://doi.org/10.1016/j.ssresearch.2021.102599).

Figure 2: Teacher fixed effect models, separately for each country



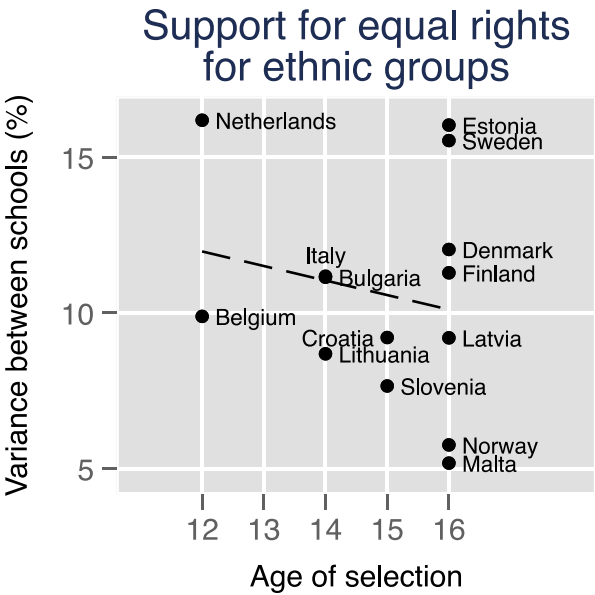
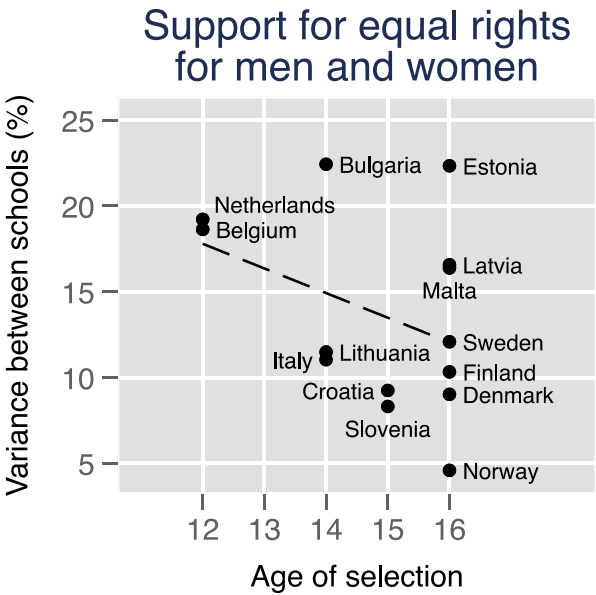
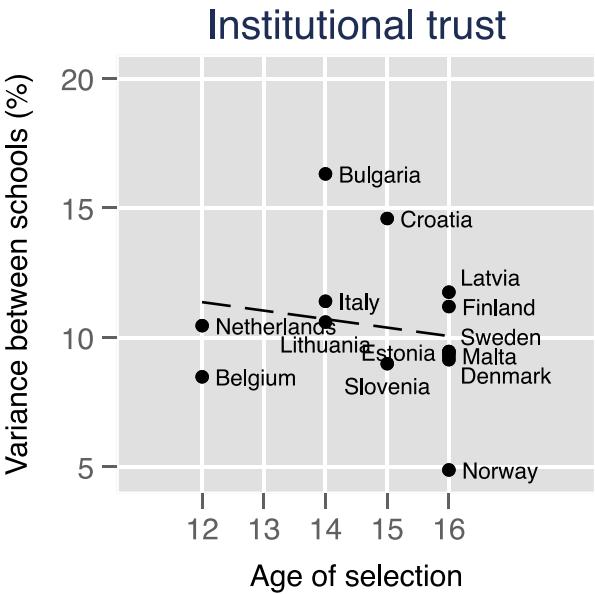
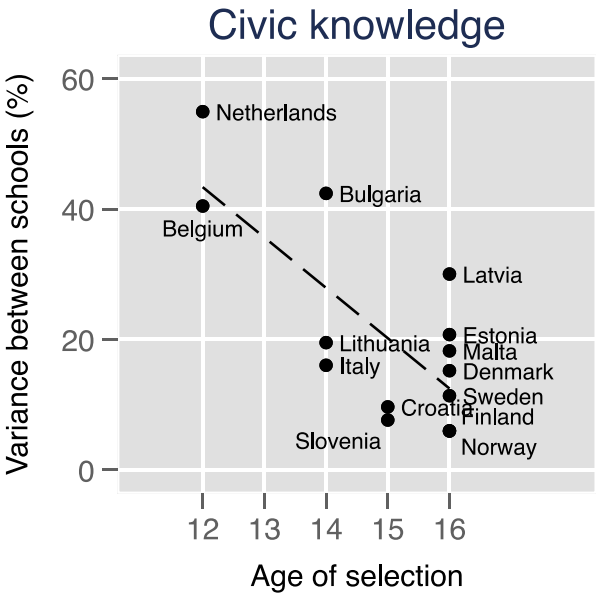
3. Tracking and civic engagement

Earlier tracking:

- more between-school differences in civic engagement
- Stronger civic and citizenship differences between education categories in young adulthood

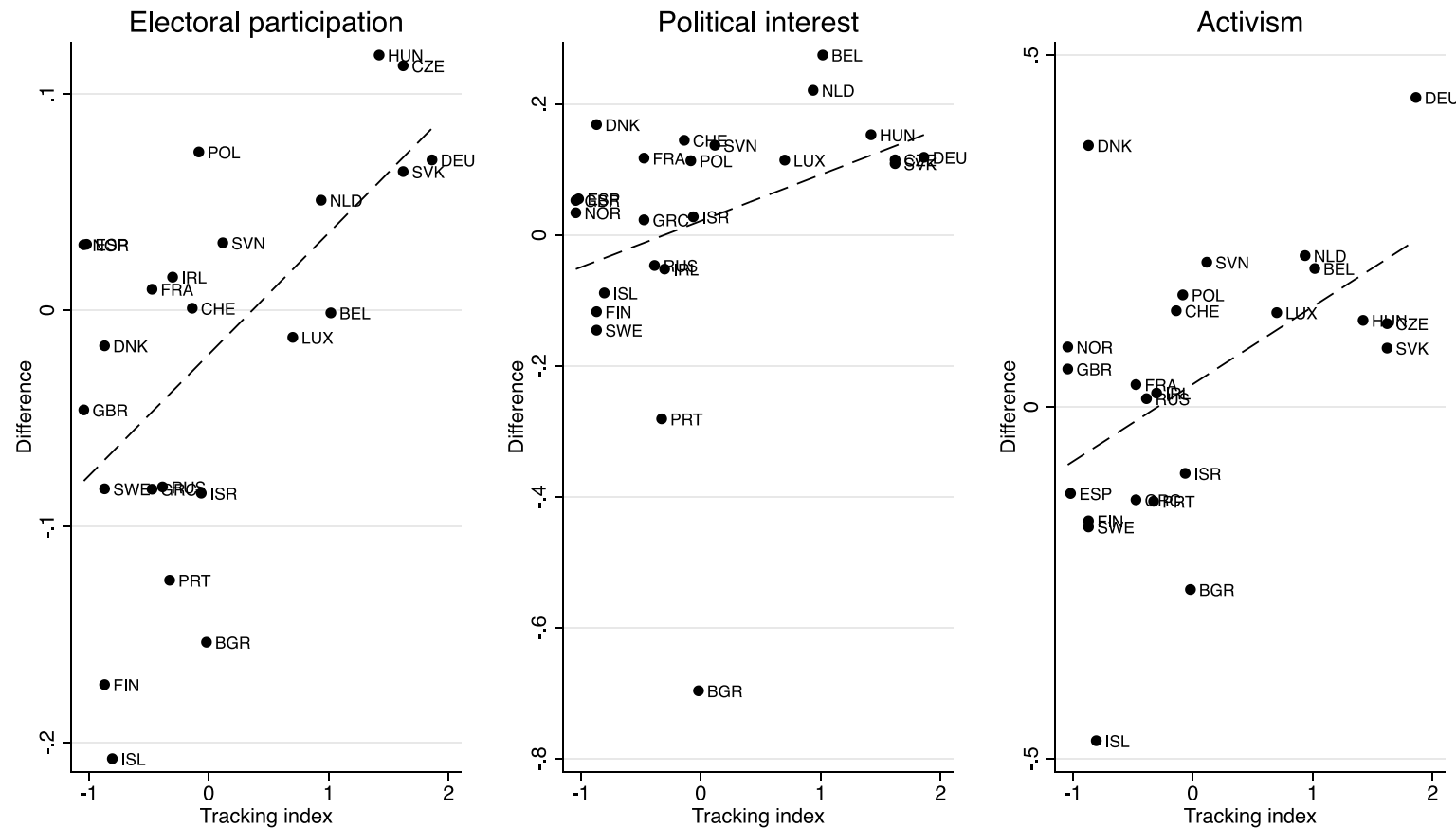
International Civic and Citizenship Education Survey (ICCS 2016) (8th graders)

Bron: Munniksmma, Anke, Anne Bert Dijkstra, Ineke Van der Veen, Guuske Ledoux, Herman G. Van de Werfhorst, and Geert Ten Dam,. 2017. *Burgerschap in Het Voortgezet Onderwijs. Nederland in Vergelijkend Perspectief*. Amsterdam: Amsterdam University Press.



Educational systems and the civic engagement gap

Gap between general/academic and vocational education



Source: ESS rounds 1-6

Van de Werfhorst, Herman G. (2017). Education and Political Engagement: The Importance of the Educational Institutional Structure. *Comparative Education Review*, 61(1): 111-140

4. Vocational Education and Training (VET) and labour markets

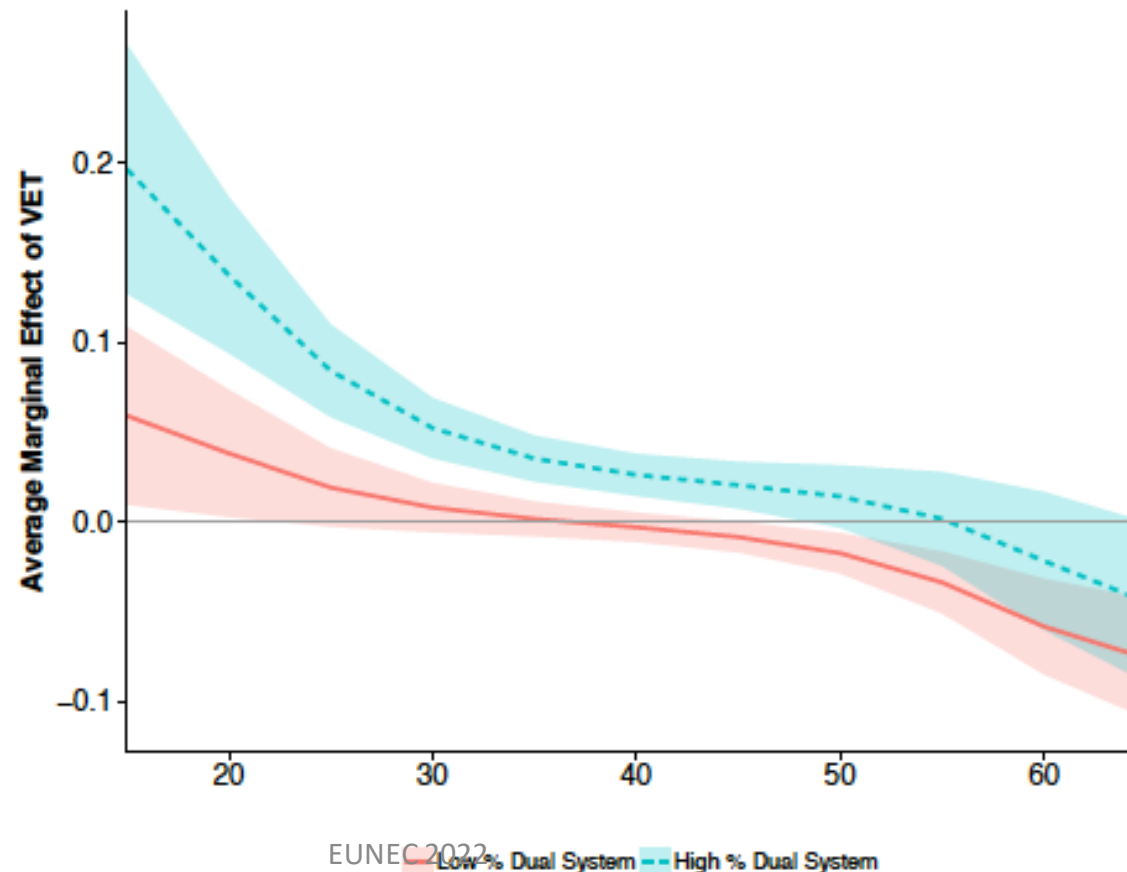
- Stronger VET → smooth school to work transition.
- But only at the beginning of the work career? (Hanushek) → **No**.
- Stronger linkage between education and work is associated to higher earnings.

The life course effects of vocational education

(Source: PIAAC)

Figure 4: Average Marginal Effect of VET on Employment in Countries with Low and High Dual System Enrollment

(a) Men



Forster, A., Bol, T. &
Van de Werfhorst
HG (2016).
Vocational
education and
employment over
the life cycle.
Sociological Science

Stronger linkage between schooling and work is associated to higher earnings

DiPrete, Thomas A., Thijs Bol, Christina Ciocca Eller, and Herman G. van de Werfhorst. 2017. "School-to-Work Linkages in the United States, Germany, and France." *American Journal of Sociology* 122(6):1869–1938. doi: [10.1086/691327](https://doi.org/10.1086/691327).

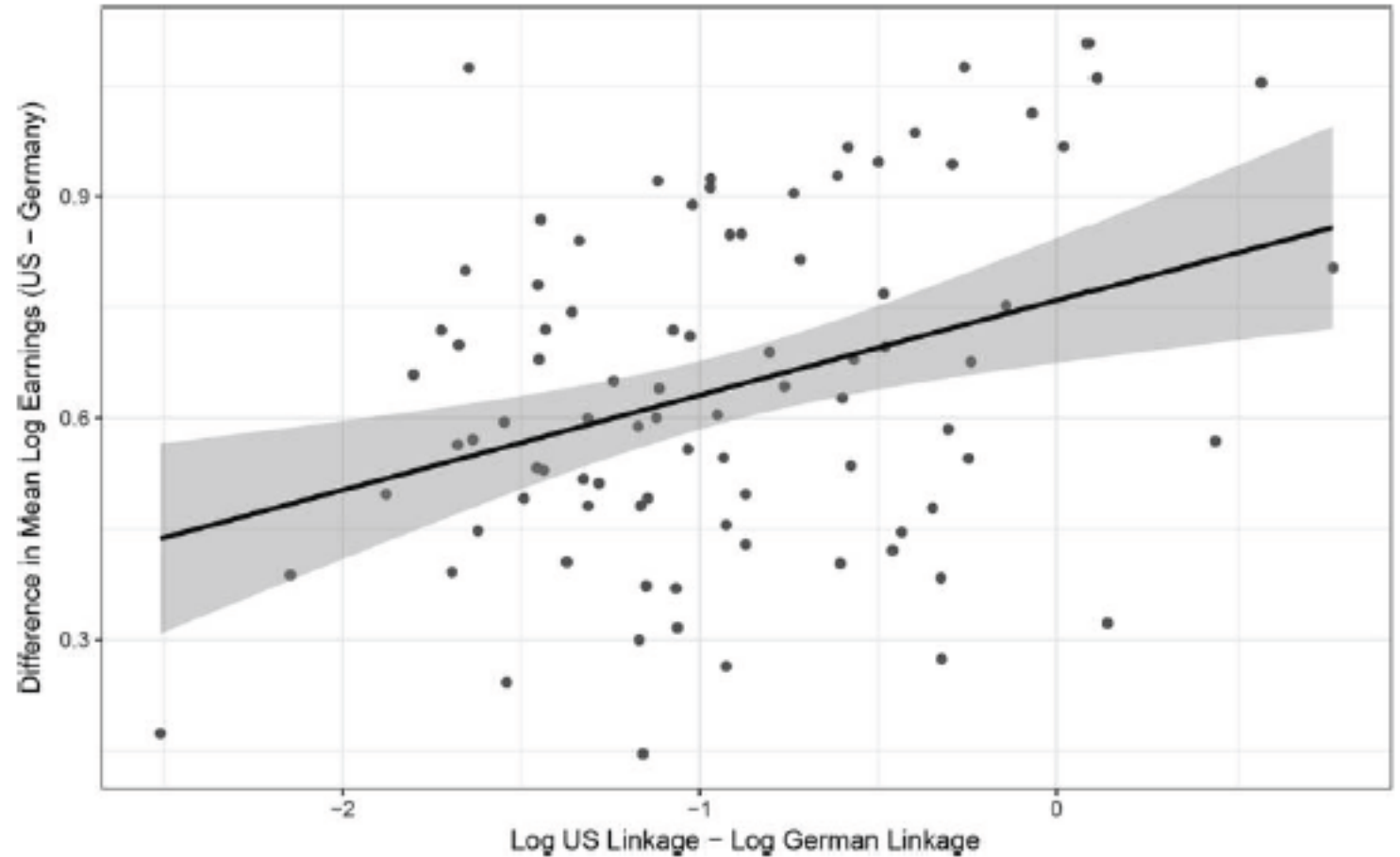


FIG. 7.—Occupational mean earnings difference between the United States and Germany by difference in linkage strength. Data are from the Mikrozensus. Observations are limited to occupations with at least 50 full-time worker respondents in both the United States and Germany. Color version available as an online enhancement.

Discussion

- Education systems matter!
 - Tracking: more inequality, no impact on efficiency
 - Standardization: reduces inequality but also promotes the meritocracy
 - Vocational orientation: still two cheers for the labour market, but concerns about civic engagement.
- Education system design should be concerned with **policy trade-offs**.
- Other system characteristics?
 - Privatization
 - Early childhood education and care (ECEC)
- Other tasks / functions?
 - Subjectivication

Teamwork

