

REFERENCES

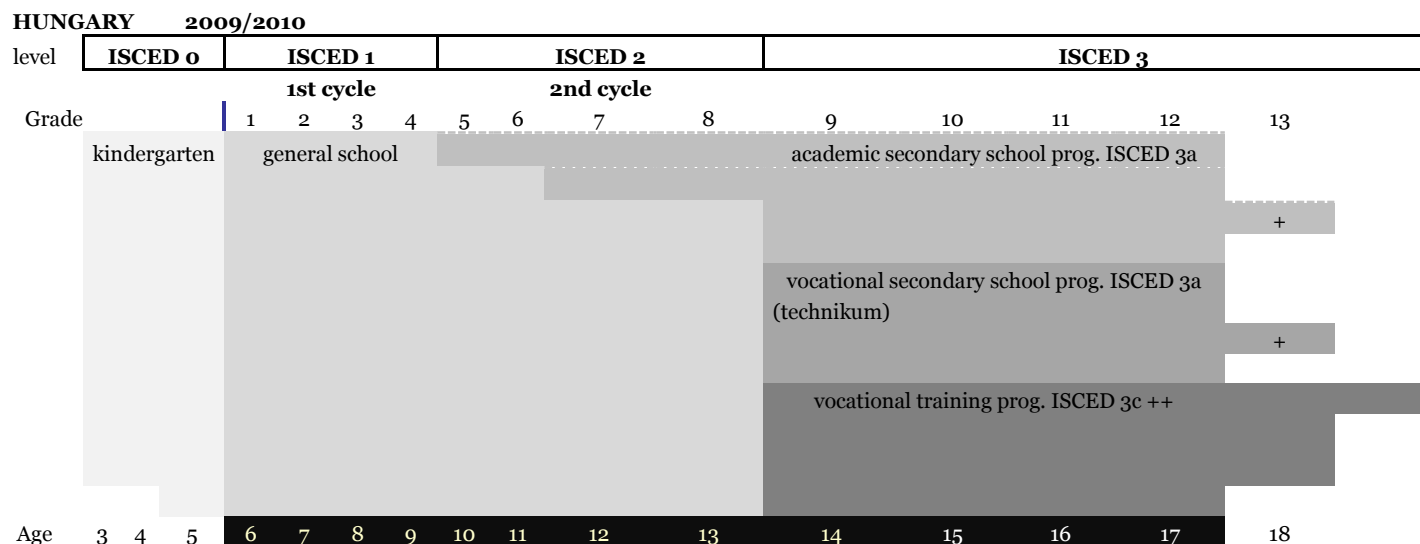
- Acemoglu, Daron, and Jörn-Steffen Pischke. 1998. "Why Do Firms Train? Theory And Evidence." *Quarterly Journal of Economics* 113 (1): 78–118.
- . 1999. "Beyond Becker: Training in Imperfect Labour Markets." *The Economic Journal* 109 (453): pp. F112–F142.
- Alet, Elodie, and Liliane Bonnal. 2011. *Vocational Schooling and Educational Success: Comparing Apprenticeship to Full-Time Vocational High-School*. TSE Working Paper. Toulouse School of Economics (TSE). <http://econpapers.repec.org/paper/tsewpaper/27239.htm>.
- Becker, Gary S. 1994. *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. 3rd ed. Chicago and London: University of Chicago Press.
- Bertschy, Kathrin, M. Alejandra Cattaneo, and Stefan C. Wolter. 2009. "PISA and the Transition into the Labour Market." *LABOUR* 23: 111–37. doi:10.1111/j.1467-9914.2008.00432.x.
- Bonnal, Liliane, Sylvie Mendes, and Catherine Sofer. 2002. "School-to-Work Transition: Apprenticeship versus Vocational School in France." *International Journal of Manpower* 23 (5): 426–42. doi:10.1108/01437720210436046.
- Breen, Richard. 2005. "Explaining Cross-National Variation in Youth Unemployment: Market and Institutional Factors." *European Sociological Review* 21 (2): 125–34.
- Dustmann, Christian, and Uta Schönberg. 2012. "What Makes Firm-Based Vocational Training Schemes Successful? The Role of Commitment." *American Economic Journal: Applied Economics* 4 (2): 36–61. doi:10.1257/app.4.2.36.
- Euwals, Rob, and Rainer Winkelmann. 2004. "Training Intensity and First Labor Market Outcomes of Apprenticeship Graduates." *International Journal of Manpower* 25 (5): 447–62. doi:10.1108/01437720410554151.
- Hanushek, Eric A., Ludger Woessmann, and Lei Zhang. 2011. *General Education, Vocational Education, and Labor-Market Outcomes over the Life-Cycle*. Working Paper 17504. National Bureau of Economic Research. <http://www.nber.org/papers/w17504>.
- Horn, Daniel. 2013. "Diverging Performances: The Detrimental Effects of Early Educational Selection on Equality of Opportunity in Hungary." *Research in Social Stratification and Mobility*. doi:10.1016/j.rssm.2013.01.002.
- Kis, Viktoria, Maria Luisa Ferreira, Simon Filed, and Thomas Zwick. 2008. *Learning for Jobs - OECD Reviews of Vocational Education and Training, Hungary*. Paris: OECD.
- Kotey, Bernice, and Cathleen Folker. 2007. "Employee Training in SMEs: Effect of Size and Firm Type—Family and Nonfamily." *Journal of Small Business Management* 45 (2): 214–38. doi:10.1111/j.1540-627X.2007.00210.x.
- Meer, Jonathan. 2007. "Evidence on the Returns to Secondary Vocational Education." *Economics of Education Review* 26 (5): 559–73. doi:DOI: 10.1016/j.econedurev.2006.04.002.
- Mendes, Sylvie, and Catherine Sofer. 2004. "Apprenticeship versus Vocational School: A Comparison of Performances." In *Human Capital Over the Life Cycle: A European Perspective*, 118–34. Celtenham: UK: Edward Elgar Publishing.
- Müller, Walter, and Yossi Shavit. 1998. "The Institutional Embeddedness of the Stratification Process: A Comparative Study of Qualifications and Occupations in Thirteen Countries." In *From School to Work: A Comparative Study of Educational Qualifications and Occupational Destinations*, edited by Yossi Shavit and Walter Müller, 1–48. Oxford: Clarendon Press.

- Noelke, Clemens, and Daniel Horn. 2014. "Dual System Vocational Education and the Transition from School to Work: Hungary as a Test Case." *European Sociological Review*, no. forthcoming.
- OECD. 2004. *Education at a Glance 2004*. Paris: OECD.
- . 2010. "OECD Review on Evaluation and Assessment Frameworks for Improving School Outcomes - Hungary Country Background Report". OECD: PARIS.
- Parey, Matthias. 2009. "Vocational Schooling versus Apprenticeship Training - Evidence from Vacancy Data." *Unpublished Manuscript*.
- Pfaff, Klaus. 2011. *Implementation of a Multinomial Logit Model with Fixed Effects*. German Stata Users' Group Meetings 2011. Stata Users Group. <http://econpapers.repec.org/paper/bocdsug11/03.htm>.
- Piopiunik, Marc, and Paul Ryan. 2012. "Improving the Transition between Education/training and the Labour Market: What Can We Learn from Various National Approaches?" *EENEE Analytical Report*, no. 13.
- Plug, Erik, and Wim Groot. 1998. "Apprenticeship versus Vocational Education: Exemplified by the Dutch Situation." *Unpublished Manuscript*.
- Rosenbaum, James E, Takehiko Kariya, Rick Settersten, and Tony Maier. 1990. "Market and Network Theories of the Transition from High School to Work: Their Application to Industrialized Societies." *Annual Review of Sociology* 16: 263–99.
- Ryan, Paul. 1998. "Is Apprenticeship Better? A Review of the Economic Evidence." *Journal of Vocational Education & Training* 50 (2): 289–329. doi:10.1080/13636829800200050.
- . 2001. "The School-to-Work Transition: A Cross-National Perspective." *Journal of Economic Literature* 39 (1): 34–92.
- Shavit, Yossi, and Walter Müller. 2000. "Vocational Secondary Education: Where Diversion and Where Safety Net?" *European Societies* 21 (1): 29–50.
- Spence, Michael. 1973. "Job Market Signaling." *The Quarterly Journal of Economics* 87 (3): 355. doi:10.2307/1882010.
- Stevens, Margaret. 1994. "An Investment Model for the Supply of Training by Employers." *The Economic Journal* 104 (424): 556. doi:10.2307/2234631.
- Stiglitz, Joseph E. 1975. "The Theory of Screening, Education, and the Distribution of Income." *American Economic Review* 65 (3): 283–300.
- Van der Velden, Rolf, and Bob Lodder. 1995. "Alternative Routes from Vocational Education to the Labour Market. Labour Market Effects of Full-time vs. Dualized Vocational Education*." *Educational Research and Evaluation* 1 (2): 109–28. doi:10.1080/1380361950010201.
- Winkelmann, Rainer. 1996. "Employment Prospects and Skill Acquisition of Apprenticeship-Trained Workers in Germany." *Industrial and Labor Relations Review* 49 (4): 658–72.
- Wolbers, Maarten H. J. 2007. "Patterns of Labour Market Entry: A Comparative Perspective on School-to-Work Transitions in 11 European Countries." *Acta Sociologica* 50 (3): 189–210.
- Wolter, Stefan C., and Paul Ryan. 2011. "Apprenticeship." In , edited by Stephen Machin Eric A. Hanushek and Ludger Woessmann, 3:521 – 576. *Handbook of the Economics of Education*. Elsevier.

APPENDIX

Figure A.1

The Hungarian compulsory education system



compulsory education until the age of 18 applies for the 1st graders in 1998 and later (previously and from September 2012: until the age of 16)

vocational secondary school programs curriculum includes vocational subjects and many students progress to PS voc to get a VQ

+ : some schools offer an extra grade teaching a foreign language before secondary school educ. (i.e. between grade 8 and 9)

++: some programs are also available for elementary school drop-outs

ISCED	English	national language	share
0	kindergarten	óvoda	
1,2a	general school	általános iskola	100%
3a	academic secondary school prog.	gimnázium	
3a	vocational secondary school prog.	szakközépiskola	
3c	vocational training prog.	szakiskola	

Old and new categories of the national training register (OKJ)

New categories (industries)	Original categories in the national training register
Social Services	Health
	Social services
	Education
	Art, culture, communication
Mechanics	Engineering
	Electrical-engineering, electronics
	Informatics
Industry	Chemical industry
	Architecture
	Light industry
	Wood industry
	Printing industry
Transportation-environment	Transportation
	Environment and water-management
Services	Business and economics
	Management
	Trade, marketing and administration
	Catering, tourism
	Other Services
Agriculture	Agriculture
	Food industry