Applied Economics ›

Volume 44, 2012 - Issue 25

Original Articles

Does skill obsolescence increase the risk of employment loss?

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Pages 3237-3245 | Published online: 13 Jun 2011

Cite this article https://doi.org/10.1080/00036846.2011.570727

Abstract

In this article, we analyse whether technological change induces skill obsolescence and early labour market exit, and to what extent training participation and on the job learning reduce these risks. Using panel data on older workers, we find that workers report skill obsolescence more often when learning is a structural characteristic of the job. This perceived skill obsolescence is not related to a higher probability of losing employment. Instead, workers who experience skill obsolescence appear to learn more on the job and participate more often in training, which decreases the risk of losing employment. These results are consistent with the dynamic model of skill obsolescence and employment loss we develop in this article. Moreover, we find that when workers with long job tenures decrease their training participation, this is an early indicator of future job loss.

Keywords:

human capital development training on-the-job learning skill obsolescence

labour market participation

JEL Classification:

J24 J26

Notes

[1] As more recent waves of the OSA panel lack data on variables needed in our analysis, we have to restrict the analyses to the period 1992 to 2000.

[2] Because we pool data from different years, some respondents are represented more than once in the data. The data contain a total of 2594 individual respondents, of which 1211 appear in only one of related survey years (e.g. 1992, 1994 and 1996), 677 appear twice and 706 in all 3 years.

[3] On average between 25% and 30% of respondents who participated in a given wave do not participate in the subsequent wave. Panel attrition shows little or no relation to key variables like skill obsolescence and on-the-job training. However, those who participated in training in a given period are somewhat less likely to drop out in the following wave. There is, however, no reason to expect that our results are affected by panel attrition, since this would require that both the dependent variables and at least some of the independent variables are related to the chance of participating in the following wave.

[4] For more information on the OSA Panel, see http://www.tilburguniversity.nl/osa/datasets.

[5] We use two different indicators of training, which play two different roles in our analyses. Training in the previous period is used as a predictor of current skill obsolescence and the chance of losing one's work. Training in the current period is used as a dependent variable, with among other things, the percentage of computer use, the initial training time needed in the job and previous skill obsolescence as predictors. The

fact that these two variables overlap partly does not present a problem, because they never appear together in any analyses.

Related Research Data

Technological Change and Retirement Decisions of Older Workers
Source: Journal of Labor Economics
Technology and Changes in Skill Structure: Evidence from Seven OECD Countries
Source: The Quarterly Journal of Economics
Skill-biased technological change and endogenous benefits: the dynamics of unemployment and wage inequality
Source: Applied Economics
'Voluntary' and 'Involuntary' Early Retirement: An International Analysis
Source: SSRN Electronic Journal
The economics of skills obsolescence: A review
Source: Unknown Repository
The European Job Security Gap
Source: Work and Occupations
Non-formal learning and tacit knowledge in professional work
Source: British Journal of Educational Psychology