

Ageing and the Skill Portfolio of Older Workers *

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September 2014

*This work is supported by the CIBC Centre for Human Capital and Productivity and the Canadian Social Sciences and Humanities Research Council.

The evolution of human capital over the life-cycle has been extensively studied within an optimal human capital investment framework. The focus, however, has been on the path of human capital investments in the accumulation phase. Given the ageing of the workforce, there is increasing interest in the human capital of older workers. The most recent research on wage patterns and human capital in the accumulation phase has adopted a new multidimensional skills/tasks approach. We argue that this approach is also well suited to the investigation of the evolution of the human capital of older workers. Depreciation is not a major focus in conventional life-cycle human capital models which often assume a constant rate for homogeneous (at least within education group) human capital. However, evidence from various disciplines suggests that the components of a multidimensional vector of skills do not all depreciate at the same rate. This should influence how the skill portfolio of older workers evolves, both in a mechanical sense of the actual depreciation, but also in the optimal behavior sense of what investments should be made to maintain or change skills as workers age.

A multidimensional skills/tasks framework is also well suited to gain a deeper understanding of the documented link between health and human capital for older workers, and the growing phenomenon of partial retirement. Specific health issues may differentially affect different components of the skill vector. Partial retirement may involve changes in the skill vector from that used in the jobs held for much of the worker’s career into a different portfolio of skills associated with the jobs held in partial retirement. These changes may involve a combination of depreciation and health related issues as well as preferences and labor supply considerations.

This paper makes two main contributions. First it uses multi-dimensional skill portfolio measures developed in the recent literature to contrast the evolution pattern in the (net) de-cumulation phase with the pattern in the higher investment accumulation phase. These measures identify a low dimension portfolio of skills from the Dictionary of Occupational Titles (DOT) that might be characterized as “cognitive skills”, “fine motor” skills, “physical strength”, etc. The skill portfolio measures used in Poletaev and Robinson (2008) and Robinson (2014), are used for this part of the analysis. The results show clear differences in the path of the different components of the skill vector in the accumulation phase compared to later in the life-cycle in cohorts of US workers constructed from Current Population Survey Data from 1963-2010. While it is informative to contrast the path of these skill “types” for older workers with that for younger workers, they were not specifically constructed to allow for a focus on the later part of the working life where depreciation, the relative costs of maintaining specific skills and health issues may be particularly important. The second

main contribution of the paper is to derive new skill portfolio measures that are more readily linked to health and ageing issues, and to use them to improve our understanding of the influence of these issues on the evolution of human capital at each stage of the life-cycle. This part of the analysis uses both the full life-cycle cohorts of US workers and longitudinal data on older workers from the English Longitudinal Study of Ageing (ELSA) panel which includes detailed linkages between health and specific skill limitations. Results show clear links between health and skill portfolio choices throughout the life-cycle.