The Option Value of Human Capital

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February 15, 2012

Abstract

We study human capital investment decisions in the face of risk. Human capital is an important source of uninsurable idiosyncratic risk. However, the few studies that focus on the effect of risk on human capital investment typically treat human capital like any other risky asset, without taking into consideration its unique features. Unlike most assets, human capital investments are irreversible, so that it cannot be decumulated or sold off even if it may be desirable to do so. Furthermore, it has an option-like payoff structure. For example, when hit by a large negative wage shock, an individual can choose an outside option—such as leisure or home production—rather than work for a low wage. Similarly, a college graduate may take a job that does not require a college degree. In contrast to a standard risky asset, this implies that an individual has an incentive to increase human capital investment in response to a mean-preserving spread in wages, because they are protected from the downside risk in current and future periods. As a result, an increase in wage volatility may lead to an increase in human capital investment. This may in turn translate into increased labor supply, as higher human capital, holding other things equal, leads to more labor supply ex post. We characterize conditions under which this "optionality" of human capital dominates the standard risk aversion considerations, and individuals increase human capital investment in the face of larger risk.

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