News and knowledge capital

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Abstract

Under the assumption that knowledge is endogenously produced through a learning-by-doing process, we show that a standard one-sector real business cycle model augmented with only a learning-by-doing technology can exhibit an expectations-driven business cycle in response to news about a future temporary change in total factor productivity. News about future productivity immediately increases the value of knowledge. This induces agents to attempt to accumulate knowledge now by working harder. The ensuing expansion of output is sufficient that current consumption and investment can both move above steady state levels despite the absence of any contemporaneous productivity shock. Moreover, when we interpret learning-by-doing as the accumulation of firm-specific knowledge and augment the model further with capital utilization, we show that news about a change to future productivity generates procyclical asset prices. This feature has eluded many current models of Pigou type cycles.

Keywords: expectations-driven business cycle, Pigou cycle, news shock, learning-by-doing, asset pricing

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