

Skill Biased and Labor Augmenting Technical Change

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5:15-6:30

Carver 1

Abstract: Why is technical change biased towards some factors? What determines which of the many possible technological advances are developed and implemented? The first part of the talk will discuss a class of models where the direction of technical change is endogenous and responds to profit incentives. Using this class of models, it discusses why we should expect technical change to be skill biased and labor augmenting. The most important insight from this class of models is that as long as the elasticity of substitution between factors is not equal to 1, an increase in the supply of a factor induces endogenous technical change biased towards that factor. Consequently, the endogenous-technology demand curves for factors are always more elastic than the constant-technology demand curves. Moreover, if the induced technology effect is strong enough, the endogenous-technology demand curves can be upward rather than downward sloping. Whether technical change is augmenting a particular factor or not, in turn, depends on the elasticity of substitution between this factor and other factors of production. The second part of the talk will introduce a multi-sector version of the above framework. In this extended model, capital accumulation, population growth and endogenous technical change sustain unbalanced growth in the long run, where one sector always grows faster than the other. Technical change in the limiting equilibrium is both labor augmenting and skill biased, and despite the unbalanced nature of economic growth, aggregate consumption grows at a constant rate. This model therefore provides both a class of tractable unbalanced growth models and a unified framework for analyzing why technical change is labor augmenting and skill biased.

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