

Multiple Technologies in a Ricardian Perspective: The RCOT Model Revisited

Topic: Resources and Alternative Technologies

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In this session we discuss situations where sectors simultaneously employ more than one technology to produce the same good. To understand such situations, Duchin and Levine (ESR, 2011) recently proposed the so-called Rectangular Choice of Technology (RCOT) model, an optimization model constrained by primary resources. When supply limits are to be confronted with, technologies that are more (factor) efficient but also more expensive, will replace the older and cheaper technologies.

A different mechanism is encountered in specific sectors such as agriculture or mining where a particular product (corn or specific metals and minerals) can be produced in lands or mines of different fertility. In this case, increasing demand also causes newer and more expensive technologies to be introduced. Here, however, the older and cheaper technologies stay active and will co-exist with the newer technologies.

In the session we focus on the specifics of the various cases, and how these explain the prices, quantities and rents involved. We aim to present some empirical applications of the basic model.