



SEMINAR

“Digital Products and Global Value Chains in an Agent Based Model”

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ABSTRACT

We develop an agent-based model with a multi-country multi-sector structure to analyze the impact of digitalization on market structures, global value-chain dynamics and structural change processes. In the model, households consume goods produced in a final goods sector and services. Final good firms use labor, capital and an intermediate product as inputs. At a specific point in time, we assume that a digital sector emerges providing digital components with varying degrees of quality to final goods firms. The quality of the digital components increases through R&D and, if incorporated in a final product as additional input, influences the final good's quality. We employ a model setup with heterogeneous countries to analyze potential factors explaining in which country the digital sector will eventually establish and how the market structure of the digital sector evolves over time. Moreover, we assess how the emergence of the digital sector and the digitization of the final product changes the market structure of the final goods market, the global value-chain dynamics and the sectoral composition of the economies.