Davide Castellani, Torben Schubert: Technical efficiency, productivity, R&D and multinationality

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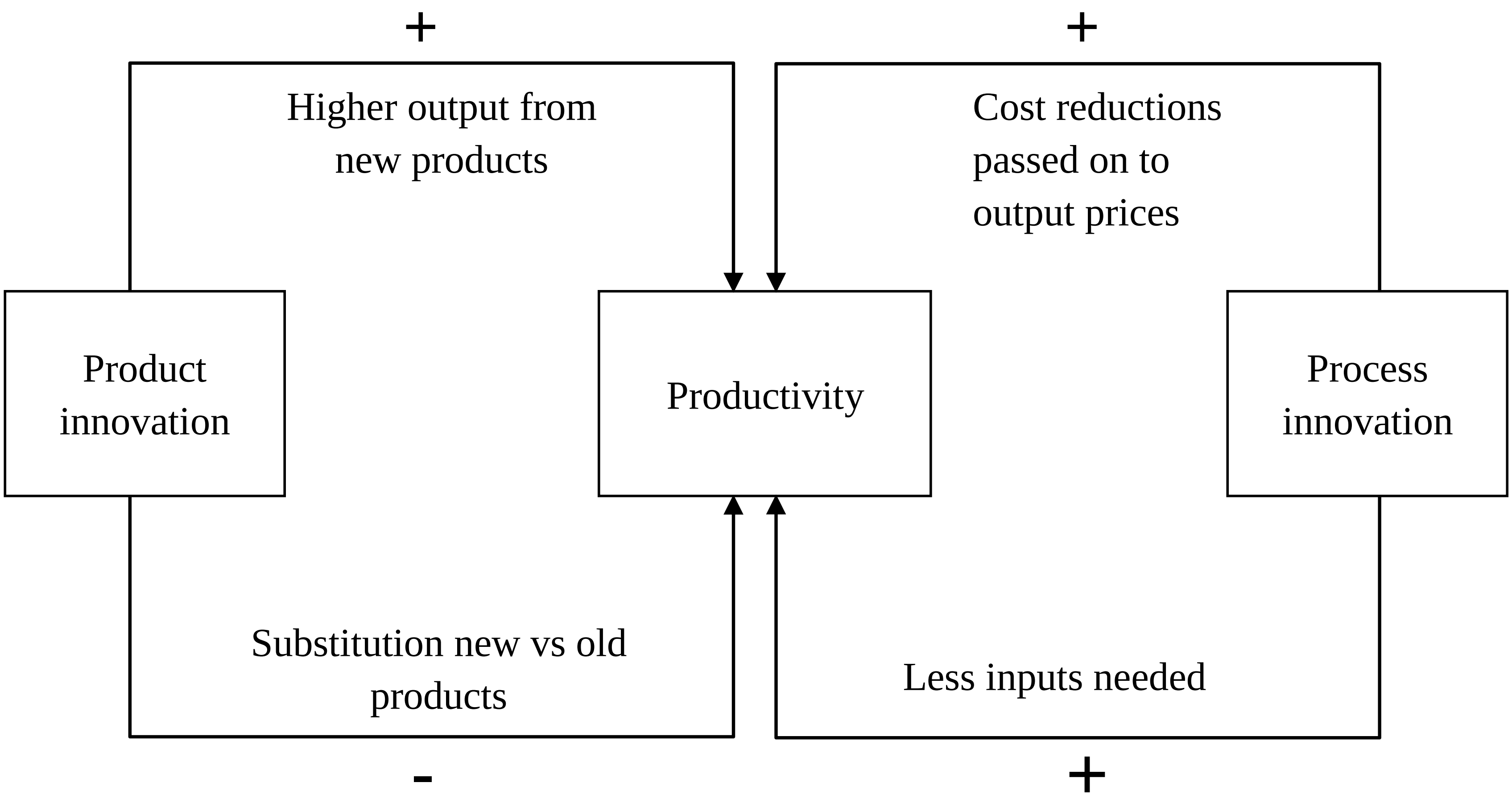
Effects of R&D and Innovation on Productivity



What is the market, what is technology (R&D?)

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- Firms can influence the technical characteristics of products and processes with R&D
- However, R&D does not affect market acceptance, substitution between old and new products, reactions of competiors

- Castellani/Schubert introduce additional variables that refer to this **international market aspect of innovation**
  - Subsidiaries can soften competition between new and old products (Iphone 4 vs. 5**)**
  - International market presence raises economies of scale and allows to spread of fixed cost of R&D over a larger output (but additional R&D is required!)
  - Allows experimentation and transfer of best practices

So why does it not work?

- Multinationality as the share of international subsidiaries on total subsidiaries is negatively related with productivtity and positively with R&D

- Reasons?
  - From a certain size, the advantages of multinationality may grow slower than co-ordination (N=5000!)
  - Regard subsidiaries within Europe of EU firms as international?
  - Labour productivity vs. TFP?

- Moreover, the key to understand the productivity gap may lay in investements that tackle the market side of innovation:
  - Advertising and the value of brands (only 10 of the 50 MVB are EU)
  - Non-technological process innovation (Management capabilities)