Skill Rebound – a qualitatively new type of rebound?

Digitalisation and the Rebound Effect, ETH 2020

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Outline

- Skill Rebound – Definition
- Some Examples of Skill Rebound
- Other Types of Rebound in Relation
- Discussion

Skill Rebound – Definition

"(...) a lowering of the skill requirements needed to perform a specific activity that leads to an increase in that activity" [1]

"largely been ignored as such"

[1]: Vlad C. Coroamă and Daniel Pargman. Skill rebound: On an unintended effect of digitalization

Self-Driving Cars

Skill Rebound:

anyone, regardless of ability or physical fitness, can use a car independently

Image source: https://www.bbc.com/news/business-45048264

Self-Driving Cars

- Direct Rebound Effects:
  - Cheaper Transportation

- Indirect Rebound Effects:
  - Time Rebound
  - Income Effect
  - Skill Rebound?

Image source: https://www.bbc.com/news/business-45048264

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Self-Driving Cars

Experimental Evidence:

– 34% of the increase in VMT were in lieu of chauffeuring
  → picking up family members, getting gas, getting groceries

– 61% of these trips were «zero-occupancy»

  → finding a parking spot, first trip of picking up people

Harb, Xiao, Circella et al. 2018. Projecting travelers into a world of self-driving vehicles: estimating travel behavior implications via a naturalistic experiment. Transportation 45 (2018), 1671–1685.
Image source: https://www.dreamstime.com/photos-images/chauffeur.html

Digitalisation as a Whole

- Before digital computers were around: human computers
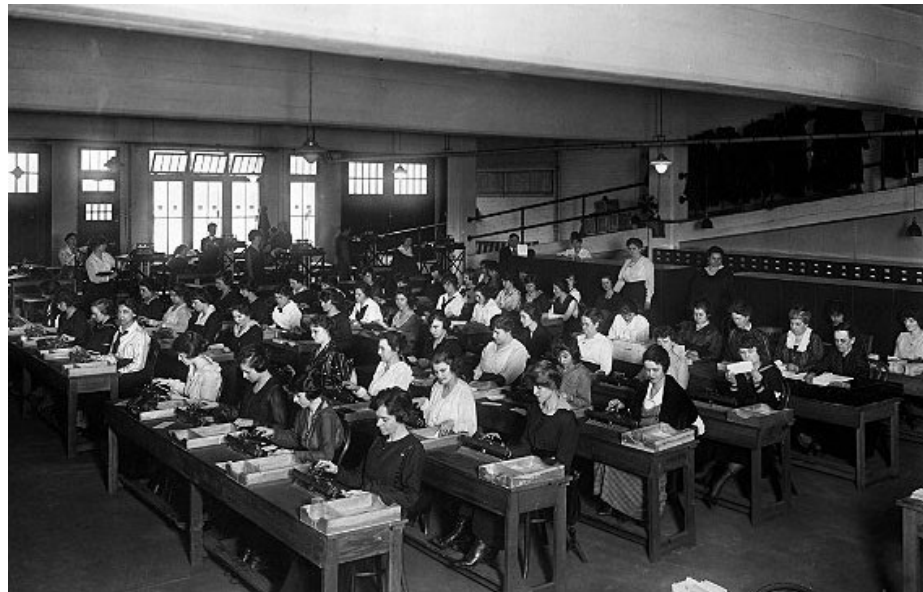
- Did digitalisation lower the skill hurdle for computing?

Image source: https://ece.engin.umich.edu/stories/human-computers-from-pioneer-high-school

Digitalisation as a Whole

- The job «Computer» was quite specialised & skilled

- Specialized computers were faster & more reliable than most engineers

- Yes, it lowered the skill hurdle

- So is all of modern computing a Skill Rebound effect?

Music Production

- Before 2000, music production equipment was very expensive & specialised

- Mixing & mastering a track needed good ears and some experience

Music Production

- Nowadays: pro-level software affordable for amateurs

- Modern tools make recording, mixing, mastering etc. easier

Many Terms and Definitions

- Direct Rebound: single service
- Indirect Rebound: effects accross product domains
- Induction, Income, and Substitution Effect
- Time Rebound
- Backfire
- Macroeconomic (world-wide) Rebound

Many Terms and Definitions

- Direct Rebound: single service

  - backfire

- Indirect Rebound: effects accross product domains

  - Induction, income and substitution effects

  - Time rebound

- Macroeconomic (world-wide) Rebound

  - Multi-level indirect rebound

Classification of Rebound Effects

- Direct Rebound

  – efficiency gain → lower cost → higher consumption of same good

- Indirect Rebound

  – efficiency gain → lower cost → higher consumption of different good

- Skill Rebound (???)

Classification of Rebound Effects

- Direct Rebound

  - efficiency gain → lower cost → higher consumption of same good

- Indirect Rebound

  - efficiency gain → lower cost → higher consumption of different good
  - Product easier to use → broader market (Skill Rebound??)

Classification of Rebound Effects

- Direct Rebound

  – efficiency gain → lower cost → higher consumption of same good

  – Skill Rebound in some parts

- Indirect Rebound

  – efficiency gain → lower cost → higher consumption of different good

  – Skill Rebound in some parts

Discussion: Where would you classify Skill Rebound?

submit answers:

https://app.sli.do/event/sbzlyeai

Discussion: Opening of new markets

Skill Rebound as an opening of markets to customers that were previously not able to participate.

Does it make sense to classify it as a rebound effect?

Discussion: does it matter?

What are the implications of not considering Skill Rebound as a «true» rebound effect?

Does it change the approach to solve the problem?