

# Potential effect of automation technologies on employment in both developed and developing countries

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- There are two schools of thoughts: net jobs destruction/remain the same or increase.
  - Schumpeter's theory of creative destruction
    - that new technology destroys old companies along with old jobs
    - But in the process create even more companies and better jobs.
    - Over time observation is that societies that allow creative destruction to operate grow more productive and richer, with high living standards.

# Impact on employment cont..

- Good example is the first industrial revolution where agricultural jobs were destroyed by creating much more and skill intensive ones through industrialization and associated services: banking, logistics, trade, business services, etc.
- Studies on impact of tech change on employment were carried out ever since :  
e.g Haltiwanger and Schuh (1996) studied job flows in the US manufacturing, and observed that over ten per cent of the jobs that exist at any point in time did not exist a year before or will not exist a year later.

# Impact on employment cont..

- That is, over ten per cent of existing jobs are destroyed each year and about the same amount are created within the same year.
- Following this study, some others were carried out in other developed countries, with more or less the same conclusion.
- **Conclusion: impact of exponential tech change and automation is positive in developed countries.**
  - Even if few jobs are lost; the welfare system can easily take care of them, because generally countries get richer.

# Impacts on employment cont..

- While, exponential technical change and automation will have little negative effects on jobs and the welfare of the society in developed countries, it potentially has a very negative impact on poor countries.
  - Ever Cheaper and higher quality products – because of automation technologies - from developed countries will flood the markets in poor countries.
  - Poor countries do not have capabilities for these technologies and therefore products produced in these countries will be of low quality and production processes more costly (expensive inputs, e.g. energy)

# Impacts on employment cont..

- The net result is products of low quality and expensive that cannot compete with imported products.
- Already happening even in low tech sectors such as food processing; Tz for instance import cooking oil by 70%.
- And therefore export jobs that could have been produced through local processing of edible oil.
- In theory, to address the situation, poor countries needs to catch up technologically with rich countries; however, the catch up that is already a major problem, will be made even more difficult by exponential technical change (or just technology becoming more science intensive and complex).
- **leading to loss of more jobs; exacerbating poverty of individuals and nations.**