The impact of Technology on the economy

Fintech and the Future of Retail banking
Brussels, December 9 2016
Geert Gielens, Ph.D.
Chief econmist
Agenda

- Technology and growth
- Technology and consumer surplus
- Technology and employment
Technology and growth

Source: Global Innovation Index (2016), Worldbank, Belfius
Technology and growth: causality?

United States

per capita GDP growth

source: Eurostat, Worldbank, Belfius
Technology and growth: productivity?

Manufacturing sector inflation-adjusted output and employment, 1980 to 2015

Source: Brookings analysis of Moody’s Analytics estimates
Technology and growth

- Adoption (cross section differences)
  - Extensive margin
  - Intensive margin

- Causality? (time series data)
  - Macro level
  - Measurement issues?
  - Enterprise / sector level

- Channels
  - Productivity
  - Creation of goods
  - Comparative advantages and International trade
Technology and consumer surplus

- Increased choice; love of variety
  - US: 3% of GDP (Broda & Weinstein, 2006)
  - EU: 0.5% - 2.8% of GDP (Mohler & Seitz, 2010)

- Lower Prices

![Price index (Belgium) chart]

source: FOD economie
Technology and employment

- Technological unemployment (Frey & Osborne, 2013)

Share of workers with high risk of automisation

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<th>Country</th>
<th>Share of Workers at High Risk (&gt;70%) in Percent</th>
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Source: OECD
Technology and employment

- This view is exaggerated
  - Biased view: one knows what one can lose, one cannot imagine what will be created
    - either because of new sorts of jobs (f.i. app programming)
    - either because of increased demand for existing products
  - However it will generate shifts between occupations and industries.
- Conditions:
  - Labour & other markets sufficiently flexible
  - Institutional change
  - Permanent schooling

source: OECD
Technology and employment

- Increased inequality

source: FRED, Fed Res of St Louis
Conclusion

- Technology contributes to growth & consumer well being
  - but it needs to be embedded in a “fertile system”

- It is not a Pareto improvement
  - Mitigation via demand and supply side measures needed

- The benefits outweigh the disadvantages