Robots and Jobs: Not To Worry

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ITIF: Who We Are

The Information Technology and Innovation Foundation is a think tank at the cutting edge of designing innovation policies and exploring how innovation drives boost growth and competitiveness. ITIF focuses on:

- Innovation processes, policy, and metrics,
- Internet, big data and ICT policy,
- Tech, productivity, and jobs,
- Science and tech policy, and
- Innovation and trade policy.
Should we have saved these jobs?
Doomsdayers have been warning us for decades that robots will destroy jobs

- With robots and AI “perhaps as much as 20% of the work force will be out of work in a generation.”
  – Gail Garfield Schwartz, 1982

- “We are beginning a gradual process whereby over the next 30-40 years many people will be displaced, creating massive problems of unemployment and dislocation.”
  – Wasily Leontief, 1983

- “We must convince our leaders that they should give up the notion of full employment. The pace of technical change is accelerating.”
  – Nils Nilson,
Actually, more robots = lower unemployment and more exports

<table>
<thead>
<tr>
<th>Correlation</th>
<th>Description</th>
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<tbody>
<tr>
<td>-0.34</td>
<td>correlation between robot adoption and unemployment rate</td>
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<tr>
<td>0.61</td>
<td>correlation between robot adoption and current account balance</td>
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</tbody>
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Data from International Federation of Robots, 15 nations.
Reality: Robots Won’t Lead to Joblessness

Most jobs are really hard to automate.

Current U.S. Employment:

- 500K pre-k teachers
- 230K athletes/coaches
- 110K detectives
- 70K massage therapists
- 45K clergy
- 25K computer scientists
- 6K fashion models
We Need “Pedal to Metal” for Robots

(annual labor productivity growth)
Why AI Won’t Lead to Joblessness

Second order effects drive job growth:

• U.S. Bureau of Labor Statistics shows that automation lowers prices which increases demand for products, both within and without the industry. Savings are spent. Spending creates demand. Demand creates jobs.
The logic should be clear

Acme Widget Company - Base Case

50 Workers

Cost: $10 per widget

Sales: $10 Million
The logic should be clear

Acme Widget Company - After Robots

20 Workers

10 Robots

Beta Robot Company

4 Workers

Cost: $5 per widget

Sales: $10 Million
The logic should be clear

Acme Widget Company - After Robots, Increased Sales

30 Workers

15 Robots

Cost: $5 per widget

Beta Robot Company

6 Workers

Sales: $15 Million
The logic should be clear

**Acme Widget Company - After Robots, Reduced Price**

- **20 Workers**
- **10 Robots**

Cost: $5 per widget

**Beta Robot Company**
- **4 Workers**

Sales: $10 Million

**Delta Airlines**
- **26 Additional Workers**
Human wants are far from being satisfied
Thank You!

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