

# **AI and Employment: Misplaced Fears**

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# **AI: A Creator of Mass Unemployment?**

- **No invention in 250 years since the First Industrial Revolution has created Mass Unemployment**
- **The unemployment rate is now 4.2 percent**
- **16 million new jobs have been created since 2009**
- **Monetary policy has achieved low unemployment and can continue to do so**
- **Enormous churn in labor market. August 6.1m job openings, 5.4m hires, 5.2m separations of which 3.1m were voluntary quits**
  - **Job losses from AI will be quickly offset by new jobs**
- **Shortages of workers: skilled manufacturing, construction, even long-distance truck drivers**

# **Concern About Quality of Jobs? Nothing New and Nothing About AI**

- **Concern about polarization, hollowing out of the middle jobs, a familiar theme for last 15 years**
- **Concern about rising inequality a familiar theme for last 40 years**
- **Concerns for more than 40 years: mismatch of jobs by skill and location, low pay for unskilled workers**
- **New concern, shrinkage of labor's income share**
- **Surprising but true: 2006-16 skill mix increased – more good than bad jobs were created**

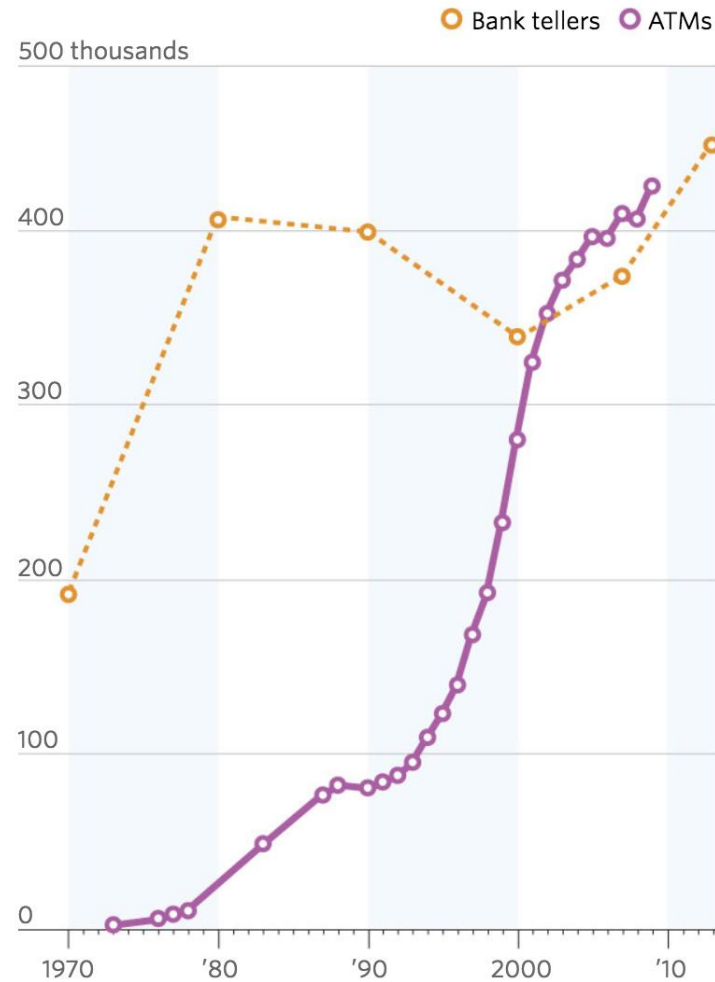
# **What's New About AI and Robots?**

- **Robots? First in 1961, plentiful by 1995**
- **Mainly in manufacturing, few in service sector, almost none in education or health care**
- **Amazon's warehouse robots haven't prevented massive increase of employment in e-commerce**
- **AI's creation dates back to 1957**
- **IBM's Deep Blue beat Kasparov in 1997**
- **IBM's Watson won at Jeopardy in 2011**
- **What does AI involve besides games?**

# Job Displacement Varies from Severe to Minor

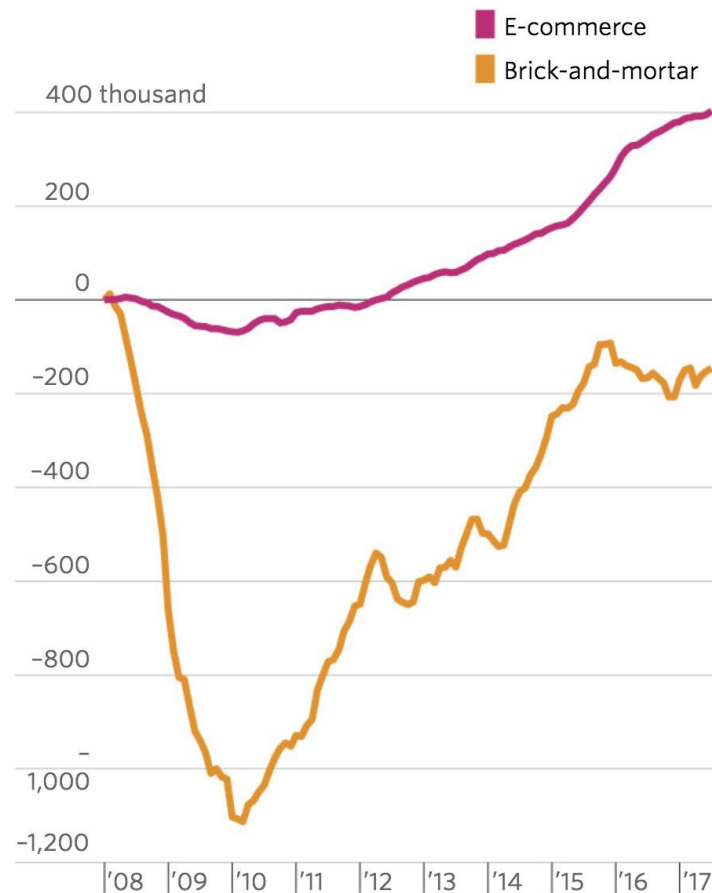
- Airline and hotel reservations system replaced most travel agents
- Voice recognition and language translation have replaced many transcribers and translators
- Computer phone menus replaced some customer service agents
- Bar-code scanning didn't replace check-out clerks
- Computerized radiology scans have not displaced radiologists, who still are required to sign off
- Most spending on AI is in marketing, but marketing analyst jobs have flourished
- *McKinsey Quarterly* survey

# ATM Machines and Bank Teller Jobs



Source: James Bessen, Boston University School of Law

# Brick and Mortar Retail Job Losses versus e-Commerce Job Gains

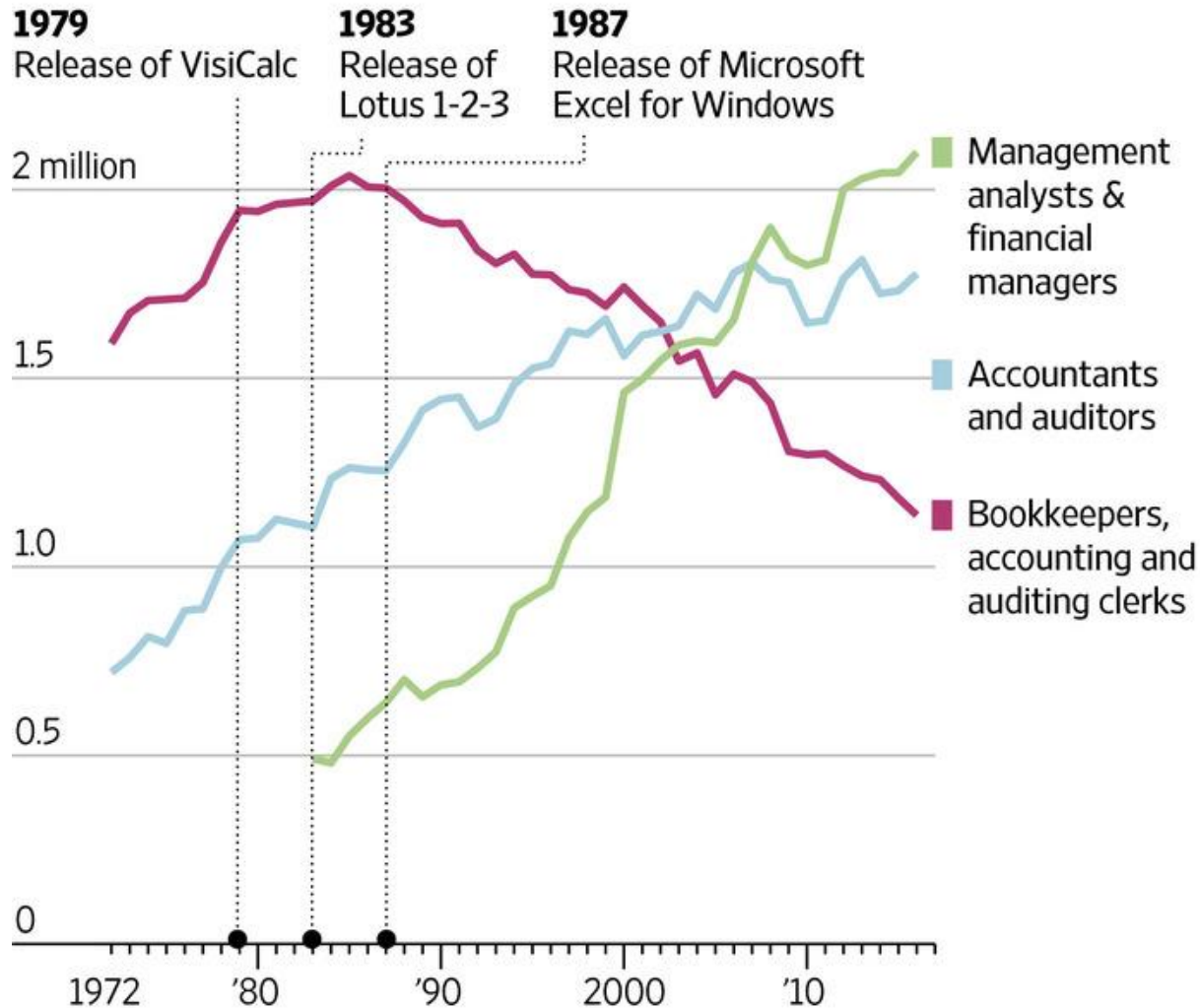


Note: Full-time equivalent employment, three-month average. E-commerce includes electronic shopping and mail-order houses; and warehousing and storage.

Source: Michael Mandel, Progressive Policy Institute

# The Spreadsheet Apocalypse, Revisited

Jobs in bookkeeping plummeted after the introduction of spreadsheet software, but jobs in accounting and analysis took off.



Notes: There is no data for 1982. Changes in occupational definitions in 1983, 2000 and 2011 mean that data is not strictly comparable across time. There was no category for management analysts or financial managers prior to 1983.

Source: Bureau of Labor Statistics

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# Conclusion

- **My horizon is the next 20 years, not 50 or 100 years**
- **AI will displace some jobs, adding to labor market churn**
- **Spreadsheet example pervasive – easy to predict jobs to be destroyed, harder to predict those to be created**
- **AI is nothing new, and its evolution over the past decade has been accompanied by slow productivity growth and since 2009 by continuous net job creation, not net job destruction**