



# Technological change

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MacMillan Center

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  - ▶ Bias: perpetuates discrimination and inequality.
  - ▶ Substitutes workers: fuels populism and nationalism.
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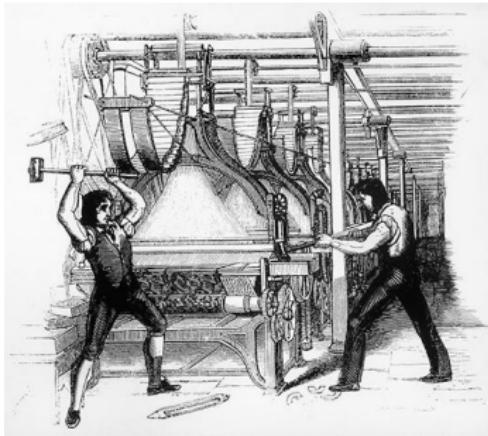
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# Technological unemployment. Luddite politics?



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## Displacement and reinstatement

Textile machines and textile workers:

- ▶ Textile machines took over tasks performed by woolen workers.
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- ▶ Increase in consumption (i.e., real wages).

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Year	Sugar			Tea		
	Mitchell & Deane	Davis	New Estimate	Mitchell & Deane	Davis	New Estimate
1784–86	n.a.	19.04 lbs.	n.a.	n.a.	1.36 lbs.	n.a.
1794–96	13.41 lbs.	16.24	16.03 lbs.	1.34 lbs.	1.60	1.60 lbs.
1804–06	19.00	22.85	22.86	1.37	1.96	1.74
1814–16	15.49	18.70	17.35	1.27	1.81	1.57
1824–26	17.85	24.08	21.64	1.29	1.73	1.61
1834–36	17.16	22.74	20.72	1.60	1.97	1.88
1844–46	19.11	23.97	22.26	1.59	2.14	1.85
1854–56	30.80	34.16	33.11	2.26	3.19	2.43

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## Class exercise: The "Luddite fallacy"

1. Make groups of 2/3 people.
2. Can you think of another industry where automation had a reinstatement effect?
3. Can you think of another industry where automation didn't exhibit a reinstatement effect?
4. 5 minutes.
  - ▶ Feel free to use the Internet.

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## Education, new opportunities, opportunity costs

Education:

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Average wage (USD) for assembly worker & robot operator

	Assembly line worker	Industrial robot Operator
Annual salary	40,880	70,176
Hourly rate	19.65	33.74

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Changes household choices:

- ▶ Increase opportunity cost of bigger families.
- ▶ Could increase time allocated to leisure.
- ▶ Cheaper goods ⇒ improved social wellbeing.

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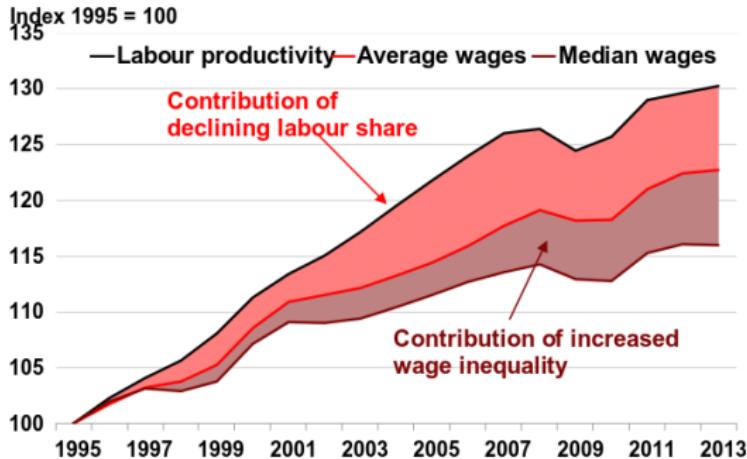
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## Class exercise: Does chatGPT threatens workers?

1. Make groups of 2/3 people.
2. Does the advent of chatGPT threatens workers' livelihoods?
3. If not, what are the opportunities you think it brings for workers?
4. 5 minutes.
  - ▶ Feel free to use the Internet.

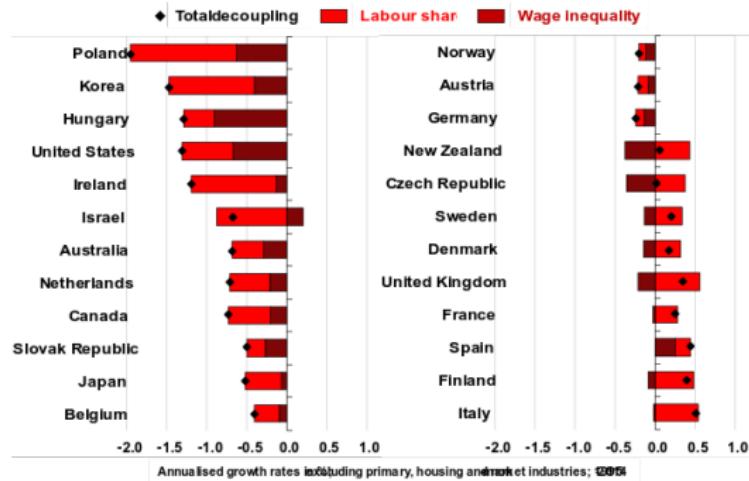
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# Automation does seem to create inequality



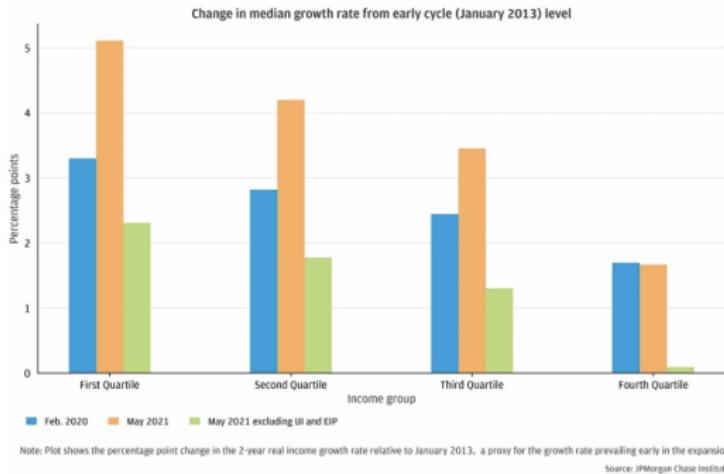
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- ▶ Gains accrue disproportionately to those at the top.
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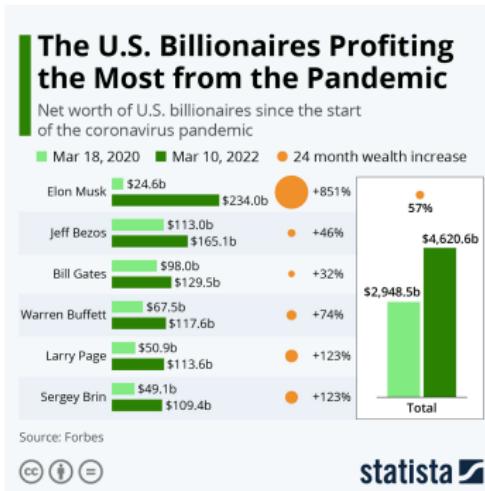
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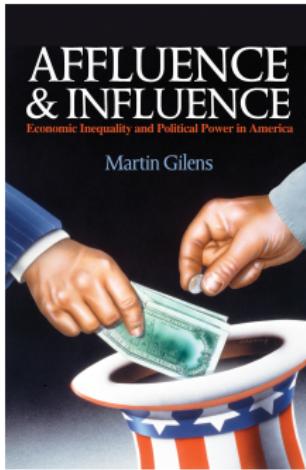
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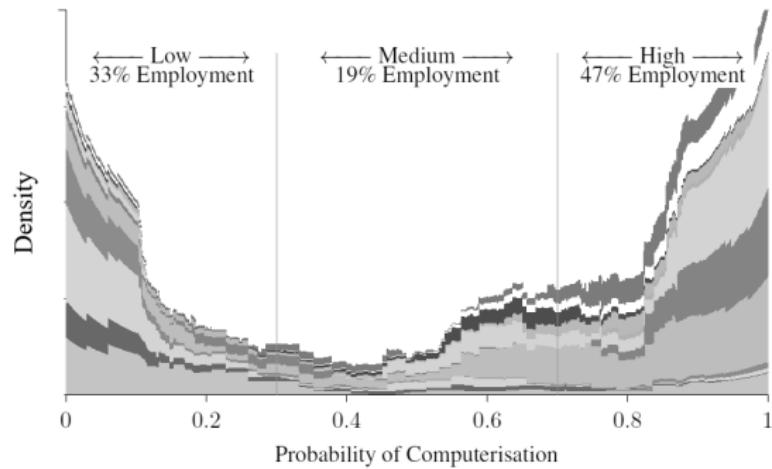
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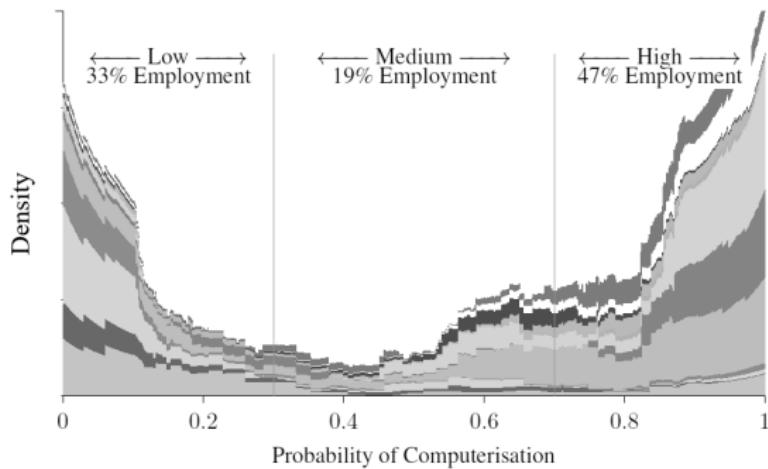


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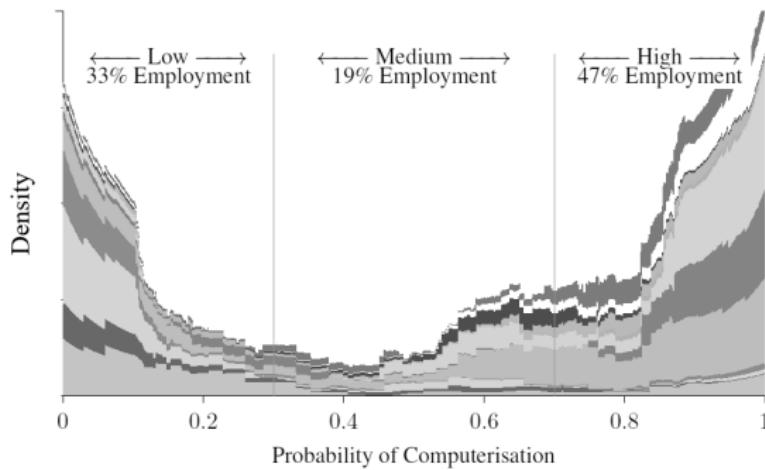


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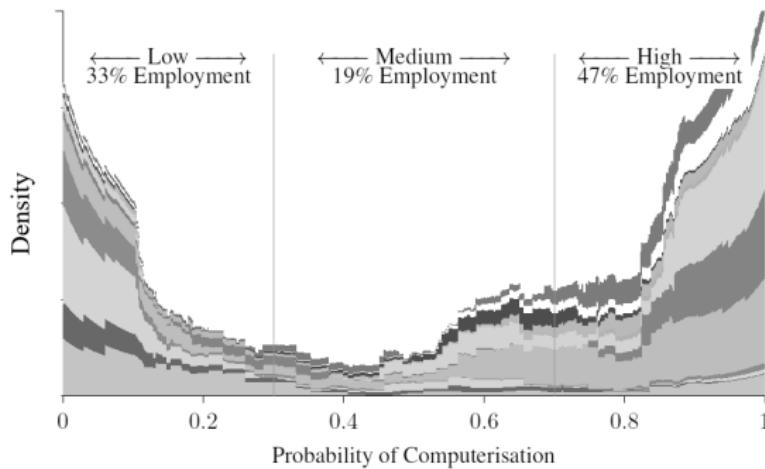
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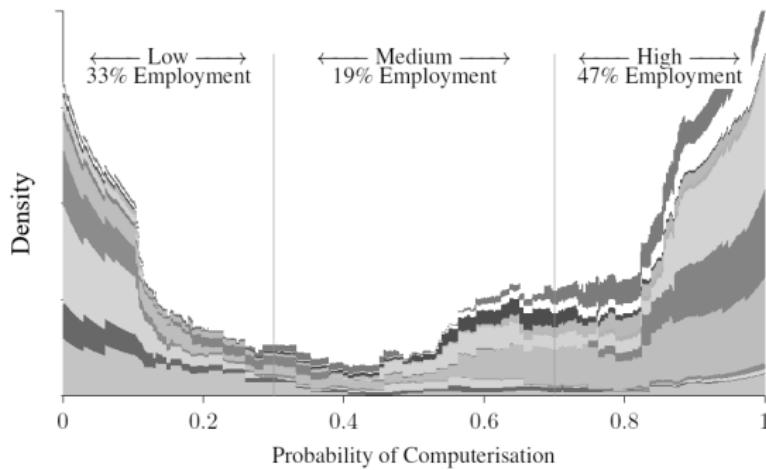
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## Unstoppable market forces

Domestic and international competition as driving forces:

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- ▶ Inefficient firms may exit the market.
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## Class exercise: reigning-in automation

1. Make groups of 2/3 people.
2. Should we/can we stop automation?
3. Should politicians/policymakers intervene? When? How?
4. 5 minutes.
  - ▶ Feel free to use the Internet.

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Next class...

## **How does automation affects politics and policy?**