

## The mysterious threats and impacts of workforce obsolescence

---

### Warm-Up Questions:

1. How do you think technology, especially AI, will change the future of work?

**Listen:** Link to audio [\[HERE\]](#)

### Read:

MARY LOUISE KELLY, HOST:

Every day, artificial intelligence is getting more effective at tasks previously reserved for human workers. As Alexi Horowitz-Ghazi of our Planet Money podcast reports, some economists are looking at how even just the threat of **obsolescence** might already be affecting the workforce.

ALEXI HOROWITZ-GHAZI, BYLINE: To figure out how labor markets respond to the threat of a new technology, labor economist Kevin Lang says we should consider the truck driver. Truck drivers are **facing the prospect of** being replaced by self-driving trucks, but truck drivers don't know when exactly that's going to happen.

KEVIN LANG: Self-driving trucks have been five years away for a long time, and that's definitely my **impression**.

HOROWITZ-GHAZI: A while back, Kevin and a group of co-authors started **puzzling over** how that might change worker behavior when it comes to joining or leaving the truck trade. They came up with a theory about how that calculation should vary depending on your age. If you're relatively young, they theorized, becoming a trucker should be less appealing because the job could go away sometime soon, and fewer young workers would mean a smaller supply of truckers overall. That smaller workforce would force employers to pay higher wages to compete. And so if you're an older worker in a lower paying job...

LANG: You might say, well, I think wages are pretty high right now for truck drivers. Maybe that's actually a good thing for me to get into.

HOROWITZ-GHAZI: Which led Kevin and his co-authors to their main **hypothesis** - when a workforce is **reckoning with** the threat of impending obsolescence...

LANG: The wages should be rising, and we should see the occupation getting older.

HOROWITZ-GHAZI: Kevin and his colleagues had their theory, and next they needed to test it against real-world historical data for an occupation that was made obsolete through technology. And so they asked the obvious question.

LANG: What happened to the people who were delivering goods before motorized trucks arrived?

HOROWITZ-GHAZI: In other words, what happened to the teamsters? Those are the people who used to deliver goods in horse-drawn trucks, who were then made obsolete by motorized

trucks. They **dug through** census and wage data from the early 20th century, and here is what they found. For a decade or so after the invention of the first **combustion engine** truck in the 1890s, motorized trucks weren't even close to threatening the horse-drawn truck trade. Kevin calls this the pre-shock period. Then, starting around 1910...

LANG: Is what we call the anticipatory **dread** period. It's where...

HOROWITZ-GHAZI: Sorry, what?

LANG: The anticipatory dread - they're dreading the motor trucks coming and leaving them either with very low wages or having to find a new job.

HOROWITZ-GHAZI: It's a very dramatic name.

LANG: Well, I've got a clever co-author.

And what Kevin and company saw in the data seemed to match their predictions. Younger people seem to see what's coming with motorized trucks, and they start to avoid the teamster trade. Wages rise, and then older workers from lower-paying jobs enter the trade at a higher rate. Then in the 1920s, when motorized trucks start to dominate the nation's roads, that anticipatory dread becomes real dread.

LANG: There's just a **dramatic** decline in employment of teamsters.

HOROWITZ-GHAZI: Kevin thinks that cycle has already started in the trucking industry, and maybe in other industries where AI is starting to **loom**. And so the **parable** of the teamsters may contain lessons for all of us.

LANG: One is people often think, well, the job's paying well, this occupation must be doing well. And it...

HOROWITZ-GHAZI: Yeah.

LANG: ...Can, in fact, be a sign that the occupation is not doing well in the sense that people don't think it's going to be around very long.

HOROWITZ-GHAZI: That may be the obsolescence premium.

LANG: It is. That's exactly what it is.

HOROWITZ-GHAZI: So just because wages are rising does not mean that a particular job is **long for this world**.

### **Vocabulary and Phrases:**

1. **Obsolescence:** The process of becoming outdated or no longer used.
2. **Facing the prospect of:** Preparing for the possibility of something happening.
3. **Impression:** A feeling or thought based on how something seems.
4. **Puzzling over:** Thinking hard about something to understand it.
5. **Hypothesis:** A proposed explanation made on the basis of limited evidence as a starting point for further investigation.
6. **Reckoning with:** Dealing with or preparing for something difficult or unpleasant.
7. **Dug through:** Searched through information or data thoroughly.
8. **Combustion engine:** An engine that generates power by burning fuel, typically used in vehicles.
9. **Dread:** Great fear or anxiety about something that may happen.
10. **Dramatic:** Striking in appearance or effect; noticeable.
11. **Loom:** To appear as a large, often frightening or unclear shape or object.
12. **Parable:** A simple story used to illustrate a lesson.
13. **Long for this world:** Expected to last or survive for a long time.

### Comprehension Questions:

1. What is the main concern for truck drivers regarding new technology according to the report?
2. How did Kevin Lang and his co-authors theorize the threat of new technology would affect truck drivers' wages and the age demographic of the workforce?
3. What historical occupation did Kevin Lang and his team study to test their theory?
4. What did they call the period before motorized trucks threatened the horse-drawn truck trade, and what did it signify?
5. How did the arrival of motorized trucks affect the employment of teamsters in the 1920s?

### Discussion Questions:

1. **Technology and Jobs:** How do you feel about robots and AI possibly doing jobs that people do now? Would you be worried if robots could do your job in the future?
2. **Change in Work:** Have you or someone you know ever had to change jobs because of new technology? What was that like?
3. **Old Jobs and New Technology:** Think about jobs from the past that don't exist anymore because of technology. Can you name any? How do you think people adapted to those changes?
4. **Choosing a Career:** If you were choosing a new career today, would the possibility of it being replaced by technology in the future affect your choice? Why or why not?
5. **The Future of Work:** What kind of jobs do you think will be most important in the future? Are there jobs you believe will always need humans?