

THE **NEW** BAZAAR

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CHINA SHOCK VS THE AI SHOCK

ADAM OZIMEK ON THE LESSONS, RIGHT AND WRONG

CARDIFF GARCIA: Hi, I'm Cardiff Garcia, and this is The New Bazaar.

The China Shock of the 1990s and 2000s remains, even now, the subject of so much debate. The broad outlines of the story are that rising trade between China and the United States meant new competition for certain industries in the US. And the trade-offs went like this: American consumers got to buy the cheaper goods that were imported from China, things like toys, shoes, electronics, and some American businesses also benefited from being able to import cheaper equipment that was made in China and that they ended up using to make the goods that they sell.

But other American businesses, the ones that are the subject of so much debate, are the ones that really suffered. These are the businesses that made those toys and shoes and electronics, and that now faced this new competition from Chinese companies.

So how bad was the China shock, and what was the overall effect on workers? How did workers and communities adjust?

Today's episode is about the lessons of the China shock for what might end up becoming a brand new shock. And I'm talking, of course, about the shock from artificial intelligence. Economists and so many other researchers and commentators are trying to figure out what it's going to mean if AI itself ends up becoming a new source of competition for American businesses and workers.

And one such economist is my old pal and colleague, Adam Ozimek. Adam is the Chief Economist at the Economic Innovation Group, EIG, where, of course, I am the Editorial Director, and the organization that sponsors this very podcast. Adam is the co-author of a [new analysis](#) just published today about the right and wrong lessons to take from the China shock for the strange world that we now find ourselves in.

You can find that post at agglomerations.eig.org, which is our terrific Substack newsletter.

Adam is with me in the studio here in his hometown of Lancaster, Pennsylvania.

Adam, quick check-in because I like to ask you this every few months on the pod. How are you feeling about the automateability of your own job? You feeling secure still?

ADAM OZIMEK: I feel very augmented. I don't feel automated. I feel augmented.

CARDIFF: Those are the two choices. You feel like AI is going to help you do your job better rather than replace you and take your job and take the jobs of other people who do stuff like you?

ADAM: I do. I mean, I use it every day probably. I think it helps me research better. I don't have it doing full coding for me yet, but I'll have it help me with little things here and there. Actually, I have had it code some things for me that are sort of exploratory. So something I might not otherwise do, but Claude, you go ahead and take a look at that for me and tell me if there's anything interesting.

CARDIFF: Hand it off. You're not worried that Claude's just going to eventually be able to ask the same questions that you're asking and do its own coding and just arrive at a solution before you even get out of bed in the morning?

ADAM: I feel that I'm beginning to understand the characteristics of Claude as a coworker. He is diligent, tireless, absolutely tireless. That's really important is that Claude, you never get a sense of he's getting bored with your request to do it again, do it again, do it again. Just always happy to keep going.

CARDIFF: Do you trust him?

ADAM: Yeah. I mean, depending on the context, sometimes you have to say, "You sure about that?" And check that again. But I think one of the most important limitations of Claude is he's not very creative. He doesn't come up with interesting questions on his own. He's not a collaborative partner in that sense. So he's helpful in executing the ideas that I come up with and starting down some pathways there and helpful for pulling together research, but not a creative partner in the sense of coming to me with interesting ideas. And so as long as I stay creative, I don't think Claude's going to replace me.

CARDIFF: All right. I want to signal to the end of the chat where you and I are going to talk about what we do, our jobs at EIG. There's going to be a little behind-the-scenes action because a lot of us have been thinking so much about the role that AI is going to play in our jobs. And I think there are some lessons there that we can extrapolate for the broader workforce, at least the people who do jobs that are sort of similar to ours. So everybody listening, stay tuned for that.

Meanwhile, we're going to talk about the China shock and the possible lessons, right and wrong, for the AI shock if it does materialize. So you've got a big new post out

today, along with our colleagues Jason Harrison and Nathan Goldschlag, about the China shock, and here's where I want to start.

Define the China shock itself. So beyond the stuff I said when I introduced this episode, what were the key components of the China shock?

ADAM: So the China shock starts at imports. Imports from China that grew really rapidly. We use the period 1991 to 2007. The imports from China, what industries were most affected by those imports? And so you go from imports to industries, and there you can see huge impacts in companies like shoemaking, in the making of clothes, toys, computers, electronics, furniture, a pretty good variety of different kinds of manufacturing where imports constituted a large share of industry output essentially.

CARDIFF: So it was almost entirely in goods. This was not competition with American services. And a lot of the goods you just named there don't sound like they're the most sophisticated advanced goods that America produces. We're not talking about things like aircraft or, we said electronics, but I mean like really high-end stuff, design, whatever, things like that. These were goods that are often referred to as low-value goods.

ADAM: Yeah. That's what China shock came for. Yeah.

CARDIFF: Okay. And what about the workers who were in those industries that suddenly faced all this new competition?

ADAM: So we look at what boils down to about the 5% of the workforce that's most exposed to imports. So that is around six million workers back in 1991, and we can identify them based on what industries they were working in. So here are the industries that were most China-shocked. Here are the workers that are in those industries. And from there we can characterize them, which turns out to be really important in understanding the nature of the China shock.

CARDIFF: Okay. And so give me their characteristics. Who are these workers?

ADAM: Disproportionately low-skilled. So around 60% had a high school degree or less. They're concentrated in specific places across the country. They were slightly disproportionately low-income or low-wage, but they did exist across the wage spectrum. And lastly, they were disproportionately in sort of low-educated places.

CARDIFF: So places with not too many residents with college degrees basically?

ADAM: Yeah. So workers without a lot of education in places that didn't have a lot of educated workers overall, highly concentrated in those places.

CARDIFF: You looked at some of the findings that the leading scholars have done

on this. Okay. I'm thinking here of economists like David Autor and some of his co-authors who've done a lot of the seminal work on the effects of the China shock. And specifically, you looked at how some of those workers that were affected in these affected industries adapted. What do we know?

ADAM: This is a lot of where the negative effects of the China shock, that the labor market didn't adapt as well as you might have expected, is where they come from, is that the least skilled, least educated workers struggled to adapt, whereas the most skilled, most educated workers seemed to adapt just fine.

CARDIFF: Define adapt. Got a new job?

ADAM: Suffered no earnings loss. So yes, a bunch of them across the skill distribution lost their jobs, but the high-skilled workers are the ones that bounced back best. They found other opportunities. They moved to other labor markets. They moved out of tradable manufacturing and into industries that had less exposure, so they adapted.

It's the least skilled one-third of workers, the lowest-paid ones, who really struggled to adapt. They bounced around. They either stayed in the same industry, they stayed in the same area, they bounced into other tradable sectors that were just as exposed to the China shock. Those are the workers who suffered long-run earnings loss.

CARDIFF: And when we talk about geographic concentration, where did those workers who really suffered tend to live? Where was the concentration? Are we talking about the Rust Belt primarily here?

ADAM: Some of that, and also in the South as well, in manufacturing hubs, places with a lot of manufacturing, high concentrations of usually a handful of industries.

CARDIFF: We do know from some other work, including I think some work that you've done possibly, that highly educated workers are not just able to adapt, they're able to move. I mean, physically move to new places to go where the jobs are. What role might that have played in this sort of disparity between the adaptation of the highly skilled, highly educated, higher-earning workers and the workers on the lower end of the spectrum?

ADAM: Yeah, I think it's one of the ways in which economists were surprised. There's sort of this assumption that if you had a geographic shock, well, workers will just leave. They'll pursue opportunity elsewhere. But over time, we've seen declining geographic mobility of the US workforce overall, and especially the lowest-skilled workers. They kind of get stuck in place and they don't leave their labor markets even when their labor markets are dealing with industry loss, high unemployment. And it's the skilled workers who are better able to identify opportunities across the country and are more willing to move to it.

CARDIFF: Yeah. One of the conclusions that it seems like everybody agrees with is that these communities that had higher concentrations of the lower-paid, lesser-educated workers did not adapt the way that economists and other commentators sort of had hoped. Not only did they not adapt, but the communities themselves continued to struggle for a very long time. That the suffering was deeply entrenched, did not bounce back, and whatever policy agenda you might prefer, there was nothing really tried that worked, right? Do you largely agree with that consensus?

ADAM: Yeah. I mean for a lot of places, and this is kind of what's interesting, is that if we're talking about the low-human-capital places, they didn't adapt very well. Autor's coauthors have long-run papers where they've looked at the China shock two decades out and they're still finding impacts on some of these places, but they're finding that it's in low-human-capital places. And those are the ones where when you're missing high-skilled people, it makes you less resilient to shocks.

And I think that that's something that was not as well understood, that high-skilled people help places find its next best opportunities. They're entrepreneurs, they can find other industries to help capital and labor reallocate to. And a lot of these places have just fallen behind in the human capital race because of out-migration of the most skilled people.

And so you have these kind of regional trends where migration has declined. Places within the US aren't converging like they used to. You've got more fallen-behind places and you've got these big gaps in human capital that are opening up. And so it left places fragile, and I think that's part of the problem.

Yes, the China shock came, but the China shocks did not have a negative impact on every community that they hit. They had an impact on these fragile places. So if you look at some of the China-shocked areas that were high human capital, like Raleigh, North Carolina, San Jose, California, these places did just fine because they had the capacity to adapt.

CARDIFF: Even though they also had manufacturing sectors that were hit hard during the China shock.

ADAM: Yeah, they're among the top China-shock places. And so it's not about how do you prevent shocks, it's how do you have resilience. And the places that were harmed did not have resilience.

CARDIFF: You've been part of these conversations for a very long time. The idea that if we're going to have free trade, which is good for the economy overall, including trade with China, that we at least have to try to compensate the losers, which is sort of an inelegant way of saying that we have to do something to help the specific places that do end up suffering because even though it's overall good for the

national economy, there are some places that end up suffering quite a bit.

And then there's a discussion of what is the best policy response. What you're saying is that there's a characteristic, which is a high share of well-educated people, that can make these places resilient and help them bounce back. And so the natural policy response that we'd hope would work is to either help these places keep the high-skilled people that are already there or get high-skilled people to move to those places from either other parts of the country or from around the world.

ADAM: Yeah, exactly. So when we talk about compensate the losers, I think we're already too late. What we need to do is build resilience so that there are fewer losers in response to shocks when they happen.

If you look at the thriving parts of the country that got hit by the China shock, you don't have to compensate the losers there, or there's so few of them that they're just part of the normal churn in the economy. There's always some people who are on unemployment. And so you have to build resilience so that we can absorb those shocks.

And I think that that is kind of a missing part of the China shock discussion. It's like, "Oh, well, we need to do better at coming in after the fact and cleaning up. How do we have better cleanup crews?" But really if you have resilience, then you don't need to do that.

And so we have to think about human capital across the country. We have to think about how do we help regions that have fallen behind in order to make sure that they're resilient to shocks.

CARDIFF: Yeah. I like all that. Obviously I like all that, right? And you and I work in the same place and one of our big policy ideas is more high-skilled immigration to these fallen-behind places.

At the same time, for the places that don't already have the resilience built in, it's tough, right? It feels a little callous to say we're not going to do anything. And in some sense, I get how this could happen. A lot of people just do have an attachment to home. It's not just about, well, hey, listen, just pack up and go move to where the jobs are. That's a tough thing to do for a lot of people. It's certainly tougher for people without fancy educations, as we've seen in the data.

But at the same time, to say, "Eh, don't worry about it. This massive macroeconomic force just hit your region. The resilience wasn't built in. The highly educated, high-skilled people have left." The idea of saying, "Eh, too late," feels like the wrong response too. You know what I mean?

ADAM: Yeah. I mean, I'm certainly supportive of doing what we can. It's just much

harder at that point. I do think that if we look at those places and simply say, "Well, just move away," you're going to be leaving places even less resilient so that another shock in the future could hit them again.

So I don't think people moving away is the end of the story for these places. We have to think more about how do we develop more resilience and sure, how do we have a good safety net so that people who do fall through the cracks get caught?

But at the end of the day, the safety net should not be catching people who fall through the cracks because of China. They should be catching people who fall through the cracks.

CARDIFF: Because of anything?

ADAM: Exactly. So whether your job is lost to a robot or imports or technological change or changes in preferences, people might not want to buy the thing that your company sells anymore. Whatever reason, I think the safety net should be broad and it doesn't matter where the loss comes from.

So whatever we do, it should be more agnostic than simply saying, "Well, we're going to ex post identify when trade has harmed someone and help them specifically out."

And we can talk about all the different policy options there. I mean, I'm a big believer in a wage subsidy as a way to help the low end of the labor market. But to come back to the China shock literature, what we see is that the higher-skilled people tend to do better. They tend to bounce back. So you don't really need the safety net there as much.

CARDIFF: In your post with Nathan and Jason, you get into this idea that a lot of experts kind of missed the boat on what these specific effects would be of the China shock. And you'll still see some economists now say, "Well, look, I mean, if you look at our models, we do account for the fact that not everybody's a winner from trade. We just say that overall the economy benefits, but there's going to be the side effect of some specific categories of people who do suffer and then we should do something for them."

But I don't know that it's the case that the consensus of economists expected that rapidly increasing trade with China across a couple of decades would lead to this kind of failure in these communities to adapt as we've been discussing. And the fact that the experts missed this coming has led them to become more pessimistic now about what might happen in response to the AI shock should it materialize, or as it is materializing depending on your perspective there.

I'm curious to hear more about your thoughts on the experts, what they missed, and

how that has in some ways psychologically affected their approach to future shocks.

ADAM: Yeah, I think it is a very big unspoken issue right now, is that a lot of people, both the experts themselves, but also journalists and commentators — and look, I missed it. You know what I mean?

CARDIFF: You were in grad school, weren't you? When this was all happening.

ADAM: I was in grad school. But I did not think that trade was going to create these massive geographic issues and leave lots of low-skilled labor there disemployed. So I put myself in the camp too, but I think that economists thought that there would be losers. That is not what was surprising.

But if you look back, looking back at some Paul Krugman stuff from back in the day, Paul, obviously, very smart thinker on trade and geography, and what he wrote at the time was, "This is probably going to manifest as inequality." And I think that is closer to the consensus that when you have these trade models that tell you that there will be losers, it's just going to be inequality. Their relative wages will be lower. The relative wages of workers who are not negatively affected, they're going to be higher.

And so it's a wage effect. The United States has very dynamic, very fluid, flexible labor markets. You shouldn't see unemployment from this. So we should adapt.

CARDIFF: And that did not turn out to be wrong because the China shock did coincide with a period of rising wage inequality. The 2000s, certainly in a few years after the 2008 financial crisis, wage inequality was climbing.

ADAM: I think that's part of it is that you have this background of less demand for low-skilled workers, and that is sort of a macro story, that growth is going towards the top half of the distribution. It's a source of kind of macro fragility. So you have these local regional fragilities, but I do think the US economy in a few macro ways was not as protective as it otherwise would be.

You also had energy price shocks in the early 2000s, you had a growing housing bubble that hit not too long after that. So you had these other issues.

CARDIFF: Yeah, there were other things going on. For sure.

ADAM: Yeah. And in the context of those macro issues, regional shocks can hit harder.

CARDIFF: Right. The idea that wage inequality was climbing while the China shock was happening means that one causing the other is a consistent story. It's not necessarily a causal or a monocausal story.

ADAM: Yeah, it's both ways.

CARDIFF: But finish your earlier thought. When you said what the experts missed was not that it would lead to more inequality. They did say that and that is part of the story for sure. What they really missed was those regional effects that you're describing.

ADAM: Yes. They missed the regional effects. They missed the fact that some workers would see their job opportunities diminished so much that they would stop working altogether. And so you have this substantial disemployment effect, long-run negative earnings effects, people who are out of work switching to disability, moving to long-term unemployment.

And so that kind of thing is not really what was expected. The individual-level difficulty of adjusting and the place-based sort of long-term negative shocks, those are the things that were surprising.

CARDIFF: And so many experts missed that and now, according to your post, has made them possibly too pessimistic about what might happen in response to the AI shock.

ADAM: Exactly. Yeah. So we have this fear, oh, experts underestimated shocks and we don't make it through shocks as well as we thought. Any sort of labor market shock is just going to be harder for the US economy to adapt to. The people in places that are hit by it are just going to struggle to adapt because we're going to make the same kind of mistake, but that's really misunderstanding the lessons of the China shock.

The lessons of the China shock are not that every person in place that was hit by this labor market shock suffered. It's that particular kinds of people and particular kinds of places proved to be less resilient than we expected. And so that is the question we should ask. Who is the AI shock coming for? Is it coming for people in places that lack resilience?

CARDIFF: Now let's talk about measuring the potential exposure of workers to the AI shock. So we know that you did this for the China shock, but in hindsight, it's easier to do that kind of thing because that shock already happened well into the past and there were some other things that made that a little easier to measure. The AI shock, and how it might affect workers, is harder to measure. Take us through what you're able to do.

ADAM: So we use a measure from an [academic paper](#), and what they do in this paper is they focus on tasks. And this is generally the approach that the literature has taken. This paper, in particular, is by Tyna Eloundou, Sam Manning, Pamela Mishkin, and Daniel Rock. And what they do is they ask the question, they look at the lists of tasks that workers do and they say, "For each of these tasks, could AI essentially do this job?"

CARDIFF: Do this task?

ADAM: Do this task.

CARDIFF: We actually have to distinguish between jobs and tasks. Jobs are a combination of many tasks.

ADAM: Jobs are a bundle of tasks.

CARDIFF: One job is a bunch of tasks, right?

ADAM: Yes.

CARDIFF: So can AI do this specific task that this worker does?

ADAM: Yeah. So they start with the tasks and then they look across jobs and they say, "For the bundle of tasks that make up every job, what percent of the worker's tasks can be done by AI?" And so that's their measure of exposure.

CARDIFF: So if right now I do 10 tasks and AI possibly will soon be able to do seven of them, I have 70% exposure to AI. My job has 70% exposure. Is that how it works more or less?

ADAM: Basically, yes, more or less. Yeah.

CARDIFF: Okay. So this all seems a little speculative to me, right? The AI thing is happening in real time.

ADAM: Yes.

CARDIFF: Presumably not all the tasks that could be automated have been, and it might take some time for that to happen. Maybe the AI's not advanced enough yet for a lot of these. So a lot of this still seems to me like it's guesswork. Am I wrong about that?

ADAM: It's definitely guesswork. What I like about this particular paper is they aren't focused on right now what can AI do, but what could AI do? Which of these tasks could AI replace? It allows us to be a little bit more forward-looking than something that's just judging based on what is happening with AI right now.

CARDIFF: What can we say about the qualities of tasks that AI is more likely to be able to do? Are these really straightforward routine jobs? Is it just coding? How do we gauge that sort of thing? Or how do these researchers gauge it?

ADAM: What's nice about this measure is we can sort of look at different levels of exposure. So we can look at workers who have a really high percentage of their tasks exposed and then workers who have a relatively low percent of their tasks exposed.

If we focus on the low-exposure share of the labor market, it's about a quarter of workers, a little more than a quarter of workers. And so what that tells you is that more than half of the labor market doesn't have exposure. And so there's a ton of tasks that just the exposure is, it's not there.

CARDIFF: Who are those people like? Barbers, human-interaction-type jobs?

ADAM: Yeah. Are you cutting someone's hair? Are you digging a hole? Are you cooking a meal? The task exposure for a lot of people in the economy is just, it's not there.

CARDIFF: Very low. You're good.

ADAM: Yeah. And so once you start to sit at the computer for most of your day, you start to get exposed to greater levels of tasks that can be replaced by AI.

CARDIFF: I thought of my barber because when I go to get my haircut, he's always telling me about these crazy risks he's taking in the stock market because he's very confident that his job can never be automated. And I'm like, I'm not sure that's the right response, but all right. But he's feeling good. He's feeling confident.

ADAM: Yeah. I mean, I agree with his assumption about automation. I just probably wouldn't draw the same conclusion from it.

CARDIFF: Okay. So you've got this measure of exposure, of AI exposure, for this combination of workers, right? Twenty-five percent of the workforce, you just said, has very low exposure to AI. What do we know about the workers that are very highly exposed to AI?

ADAM: What's interesting is that the more exposure you get, the more the workers become the exact type of workers who you expect to be resilient. So the more exposure a worker has, the higher their education levels.

And here we can compare it to the China shock, and it's totally different from—

CARDIFF: Well, it's opposite. It's the exact opposite, is what you're saying.

ADAM: Yeah. So the China shock was like 60% of workers had a high school degree or less. The AI shock, even at the lowest exposure category, we're talking about 60% of workers with a bachelor's degree or higher. The higher you go, the more you have master's and PhDs. So education just goes up the more exposure you get.

So the more of your job can be done by AI, the more educated you tend to be. Also, the higher income you tend to have. So these are higher-paid, higher-educated workers. It is really not like the China shock in this regard.

These are the kinds of workers who, when the China shock hit them, they proved resilient. And so this is the important thing to remember. It's not just that the China shock disproportionately hit low-education workers. It's that the ones that survived it were among the more educated, higher-paid of them.

CARDIFF: That makes sense. Here's a counter to that, though. The China shock targeted, by its very nature, a specific kind of worker. Lesser-educated workers who made certain kinds of low-value goods. The AI shock is targeting those higher-educated workers who do certain kinds of jobs.

So I guess my question is just because, in the past, highly educated, very high-skilled workers have been able to adapt, is it necessarily the case that they'll, again, be able to adapt even though the thing that's targeting them is much more specifically targeting them?

ADAM: We can look at a wide body of evidence that shows that higher-educated workers are more resilient. In the Great Recession, the more highly educated workers were less likely to lose their jobs, and then years later, they were more likely to be working. They bounced back faster, and they were less likely to be disemployed in the first place.

There's other examples like historical shocks to coal mining where, again, you see the highest-paid, highest-educated workers bounce back faster. And if you just look at the simple fact of who is more likely to be unemployed. We have like 80 years of data on this. And we compiled this little historical estimate to show that almost always, if you divide the workforce into the one-third most educated and the one-third least educated, and we go back to 1940, the one-third most educated workers always have lower unemployment than the one-third least educated workers.

So that's a long historical time period of less adaptability, higher propensity to be unemployed for the lower-skilled workers. And higher-skilled workers, they're more adaptable. They have better second, third, fourth, and fifth options. They're at the top of what you call the job ladder. So they have higher-quality jobs, and then they can trade down into slightly lower-quality jobs versus workers at the bottom of the ladder who run out of options, and their next best option is unemployment.

CARDIFF: I would also say that in this case, because of the more speculative nature of this research right now, saying that a task or a lot of tasks are possibly displaced in the future by AI or other kinds of automation does not mean that the jobs that those tasks comprise will necessarily be lost.

Let's say that 70% of what I do is automated, but the 30% is where I shine anyway. Well, now I just have more time for that. So I'll keep my job. I might even become better at my job. You see what I mean?

ADAM: Yeah

CARDIFF: I might be able to produce more at my job.

ADAM: Yes. So there's two things to look at. One is, what do we think will happen if the job loss shock happens? And I find myself being more optimistic than a lot of commentators there, again, because I think they're drawing the wrong lessons from the China shock.

But then there's the other question, which you bring up, which is, what are the odds of this job loss shock happening in the first place? Because if these workers have other tasks that they can do, if we find higher demand for the industries that they're working in, because productivity's growing and prices are falling, then there's going to be other options there as well.

So yeah, it's important to think of the job as a bundle of tasks and also inside of a firm, inside of an industry. So there's a lot of moving pieces there. And I think excessive focus on what are the particular tasks being done right now and can they be done by AI is too shortsighted.

CARDIFF: Okay. So, inherent adaptability, education levels of the workers, possibly exposed. Those are two key differences between the China shock and the AI shock. Another one that you find is geographic dispersal.

ADAM: Yes.

CARDIFF: Explain that one.

ADAM: So, possible AI-shocked workers, or AI-exposed workers, are much more evenly spread across the country. If we look at the commuting zones with the highest concentrations of AI-exposed workers, they're like 20% overrepresented in the most exposed places versus, if you look at the most exposed places to the China shock, they're like five or six times more exposed. So, 400 or 500% more exposed to the China shock.

So the geographic concentration is just much lower. These workers are spread more throughout the country. Computer programmers exist, for example, software developers, in a variety of industries.

CARDIFF: A lot of them work from home too, or they're able to work remotely, and so they're more easily spread across the country as well.

ADAM: Yes.

CARDIFF: Yeah. It's interesting because something that often goes either underappreciated or underdiscussed is that if you have a ton of workers in one

concentrated area, as you did in the China shock, right, well obviously, if a lot of those workers are suddenly unemployed, it's going to have terrible consequences for the surrounding community. There's less tax revenue. There's more people who are not employed, who are looking for work, competing for work.

Whereas if you have more of a dispersal in terms of possible job loss, if that's what the AI shock leads to, it doesn't lead to this horrible downward spiral in a specific community. You're more likely to be able to find a job in that community.

ADAM: The economy deals with reallocation all the time. There's always jobs being created and destroyed. And so just a small amount of job destruction spread across the country just becomes part of that underlying dynamism that's always going on, that Schumpeterian creative destruction. And we absorb that, and it's part of progress, and it's how we become richer over time.

When the job losses begin concentrated, they begin to constitute a larger share of the economy. And places struggle to deal with reallocation shocks that are larger shares of the economy. They start to become demand shocks. It's enough job loss that there are spillover losses in the local services economy that these people normally shop in.

CARDIFF: You do a couple of worst-case scenarios in your post with Nathan and Jason. One is what if the AI shock materializes much faster than people largely anticipate, and much faster than prior shocks? So, for example, if we think of the China shock as being something that started in the 1990s and ran roughly through the financial crisis of 2008, well, what if the AI shock is like, I don't know, what if it all happens in the next two years because you get this unbelievable exponential growth in the capacity of AI to do tasks and to do even whole jobs? What then?

ADAM: I think that there's reasons to be suspicious that it's going to arrive so quickly. One is that you already see the supply curve for AI taking shape.

What I mean by that is that behind the curtain of AI, there is hardware, and that hardware takes time to build. We have data centers, and those data centers are already facing political pushback. The build-out's happening so fast that the prices of computing hardware are rising rapidly.

And so we're talking about a level of AI that's not even displacing workers yet. If we're talking about a level of AI compute that would be needed to replace 5, 10, 15 million workers, that supply curve is really going to bite, and you're going to struggle to build the data centers out. The price of AI is going to rise. The price of energy is going to rise.

There's a sense in which we are talking about software, and software could be implemented faster, but I do think we're already starting to see that rising supply curve in the real world, and that will slow it down.

CARDIFF: You're skeptical that this first worst-case scenario would arrive in the first place because there are going to be some supply constraints?

ADAM: Exactly, yes. And then the other part of it is, so what if it does? At this point, we sort of really aren't comparable to the China shock anyway. If you're actually talking about large swaths of the skilled workforce being replaced and you start to get into more science-fiction territory, then it's not really useful to talk about the China shock anymore. So, for the parallels being drawn, they don't help you or hurt you either way. You're really talking about something totally different.

But for the reasons that the costs are much higher, the benefits are much higher. So a large productivity-improving shock like this is going to supercharge economic growth. And that's going to mean that you have a growing economy with more room to absorb other workers. Huge increases in take-home pay, income, spending. Some of that, presumably, AI capacity will be labor augmenting, high demand in some jobs.

So, high economic growth is just a much better backdrop to adapt to these kinds of things. Ultimately, the local economies that were shocked and negatively harmed didn't have that high-economic-growth backdrop. They didn't have lots of new opportunities being created. They didn't have supercharged GDP. They just had a factory closure, and the benefits of the China shock were dispersed across the country.

So, as we know, this is not likely to be a concentrated shock. It's going to be dispersed. So people and places will be enjoying the benefits as well as the huge adaptation costs. It's just a totally different context.

CARDIFF: The second worst-case scenario is actually related to a lot of what you just said, which is the idea that maybe you and other researchers have severely underestimated how many workers are actually exposed to having the tasks in their jobs displaced or maybe even their whole jobs displaced.

So what if, I don't know, the rise of physical robotics coincides with the rise of AI, happens very fast, and then suddenly you have something closer to 90-95% of the workforce that is exposed.

Maybe even including my barber, who's going to, by the way, at that point, be very happy about the risks he took in the stock market (CHUCKLES) because all those stocks that he's investing in are going to go through the roof.

But what if it's just a much, much higher share of the labor force, including a lot of people who may not have a ton of savings and weren't making a lot of money before, and are people who have lower educational attainment, things like that? So basically, it's like the China shock again for them. It just also includes a shock for

higher-skilled and higher-educated workers. What if it's everybody?

ADAM: So I mean, it's a kind of science-fiction outcome, but if we want to consider it and keep it on the table, and who knows, technological progress is difficult to forecast. Who knows where it's going, what could happen. You never want to say never about these sorts of things.

So if we arrive in that world, you're dealing with a couple things. One is it's a much more widespread shock in the sense that fiscal and monetary policy will be helpful. Fiscal and monetary policy are not very helpful for localized geographic shocks because those are economies that are dealing with sort of isolated incidents, and the rest of the economy may be doing fine or even thriving.

And so you can't really help those places with fiscal and monetary policy that are set at the US level. For a shock that's dispersed, you have fiscal and monetary policy. Having high underlying economic growth also gives you a lot of room to utilize that fiscal and monetary policy.

Then what if we still have sort of low structural labor demand after the fact? I think you have tools like the wage subsidy to help offset that, to boost demand for lower-skilled workers.

But at the end of the day, all of these scenarios where you're talking about science-fiction-level labor displacement are talking about science-fiction-levels of economic growth. And so it gives you a lot of room to work with. Yes, there would be big adjustment costs, but we're also talking about an economy where you would be curing all sorts of diseases and our physical wants and needs could be met at low cost.

CARDIFF: If you get the policy response right, because otherwise you might just end up with unimaginably high levels of inequality that'll make the China shock inequality look pedestrian.

ADAM: It's true. But I mean, if you look at the last 20 years, 25 years of the US economy, I would say a nice simple narrative is that progress was not as much as people wanted and we had long periods of unemployment. And what we got for it was huge waves of populism on the left and the right.

And so I look at that broadly, I see an economy that is responsive to when people are unhappy with the economy. And those are shocks that aren't affecting everybody. Obviously, median wage growth trends affect a lot of people, but this was still 25 years that saw economic progress for the median worker.

And so if we're talking about an economy where all the gains are concentrated and everybody else is being left behind, that doesn't sound to me like an environment

where democracy would fail to produce policy to help. And for a lot of these, especially with huge economic growth that really loosens the fiscal constraints, things like the wage subsidy and the UBI, they go a very long way.

And we're in a sci-fi world now. It'll be great. We'll be retired.

CARDIFF: (CHUCKLES) I want to inject something else into this. This is not in your post with Nathan and Jason. This is my own thing.

The comparison that I've also seen is not just to the China shock but to the dot-com bubble bursting, which, by the way, was followed by what was then known as a jobless recovery. So the path back to health for the labor market was long and at a very shallow angle. It was bad.

That was a situation where you had what I think we'd all consider now to be a general-purpose technology revolution, the IT revolution. It did lead to faster productivity growth for a little while, and you also had a tremendous amount of investment that was sometimes well deployed. Very, very often just chasing terrible ideas. And then you had the bubble, and the bubble burst.

And when the bubble burst, you did have a fallout. And I've seen a lot of people compare the two because that bubble itself was one that was based on investing very generally in higher economic capacity, right? Something that did prove to be capacity-expanding for the economy, as investments in AI are thought to be, but it can also lead to a bubble.

And if that bubble then bursts — maybe we're in one now, maybe not, I don't know. It's hard to speculate about these things. But let's say we're in a bubble and then the bubble bursts. You still might have a period of weak job growth in the economy, even though a lot of investment was made in a general-purpose technology that eventually will help the economy.

You can still have these economic swings. You can have a weak recovery in the business cycle. How do you feel about that comparison?

ADAM: Oh my gosh, there's so much to unpack there. So if we look at the period of the late '90s and early 2000s, it was a period of high productivity growth, and it was a period of strong real wage growth. And so I do think that the IT tech boom did sort of trickle down to the median worker and did deliver progress and prosperity.

The aftermath, there's two kinds of periods to it. One is talking about the Great Recession aftermath is this whole sort of problem. The period between the dot-com bursting and the Great Recession is a weird macro period. You had rising energy prices, which were not helpful for having a healthy macroeconomic point. You had a housing bubble that was developing. You had in the background of all of that the

China shock. So there was a lot going on, but that would be bad, but it's putting us back into the world of normal economic policy challenges.

Sure. I think the hardest question to answer for the AI shock is what if it is different than anything we've seen before? I can sit here and say, well, we have policy tools for this, that, and the other thing. But being different than we've ever seen before is going to be a policy challenge. But if it just kind of flops and we have this bubble bursting, it'll be disappointing, but not the kind of thing we haven't dealt with before.

CARDIFF: Or manage for it, I think. One thing, and again, I'm super unsure about this, but one distinction I would draw between whatever's happening in AI right now and the dot-com bubble was that back then, you also had a lot of money that was willing to chase truly astonishingly frivolous stuff that just had dot-com at the end of it. People were coming up with ideas to then grab the capital that was so readily available.

You do see some of that now, right? People just adding AI to their name, and then the stock price goes up or whatever, stuff like that. But also the very fact that you're already hitting these supply constraints on things like compute, data center construction, all that. The fact that prices are going up for a lot of the goods that you need to create the data centers and to do the build-out for AI suggests that this is maybe more demand-driven than that one was, where there was a lot of just crap out there and the money would just go to it anyways.

The money right now seems a little bit more discerning, but that is a qualitative guess on my part. I can't be sure. That is the thing that I'm sort of clinging to. What do you think?

ADAM: Well, I mean, I guess the world where we see a big pop is where AI technology is some kind of commodity or something like that. It's cheap, and anyone can access it, and any startup can do it. But I do think you're right that that's tied to real-world architecture, and it seems it's expensive to build the capacity for this stuff, in which case the companies that are currently investing a lot of capital, it's a reason to feel that they're solidly entrenched and not just disappear like [pets.com](#).

CARDIFF: Unless it doesn't end up leading to widespread productivity growth throughout the economy, in which case, when the bubble bursts, oh boy, look out.

ADAM: I would say that the sort of, I wouldn't want to say scammiest, but the sort of more frivolous part of the dot-com boom, more comparable to the crypto boom, right? There, you saw a lot of stuff that was just total nonsense and vaporware. I mean, NFTs, almost in its entirety, just nonsense, goofy. It's all [pets.com](#), right?

CARDIFF: (CHUCKLES)

I want to close now with the promise that I made at the beginning of our chat, which is to share with our listeners a little bit about our own jobs and specifically as they relate to a concept known as messy jobs, which I'm getting from the economist Luis Garicano, who's got a book out, I don't think it's out just yet, about this idea, but he's written an essay about the idea of messy jobs. And I just want to read from that essay for our listeners, and then get your thoughts on this as well.

Okay. So here's what Luis Garicano writes: "Artificial intelligence commoditizes codified knowledge, textbooks, proofs, syntax, but it does not interface in a meaningful way with local knowledge where a much larger share of the value of messy jobs is created. Even if artificial intelligence excelled at most of the single tasks that make up her job, it could not walk the factory floor to cajole a manager to redesign a production process, for example. A management consultant whose job consists entirely of producing slide decks is exposed, but a consultant who spends half of her time reading the room, building client relationships, and navigating organizational politics has a bundle that AI cannot replicate." That's the end of the quote.

So this idea of messy jobs is essentially that you have a bundle of tasks, yes, but those tasks are sort of varied, and a lot of them are sort of hard to explain. It's hard to explain exactly what you do when you have a messy job in a way that is not really captured by the job title.

So in your case, you're the Chief Economist of a think tank, of the Economic Innovation Group, but you don't just sit there with your head down doing equations and coding all day. Your job's much more varied. It's messier than that.

ADAM: Yeah, definitely. I mean, once you start thinking about the AI research, there's new papers out every day and the more that you work with Claude or whomever, you do start to kind of think of what are the tasks that make up your job and especially when Claude comes from one of those tasks and you sort of hand it off and then you think about, well, what's left.

Recently, our AI guru, Ben Glasner—

CARDIFF: Yeah, another economist at EIG.

ADAM: So I've used Claude and ChatGPT for helping me research, like, "Please find papers on this, please find papers on that." Sort of like as a librarian, Ben advised me, he's like, "You should build a skillset for it. Tell it how you'd like your research to be done. Describe to it exactly what kind of researcher you want it to be." And I did that, and I found it was working much better.

It was searching for papers and finding connections in the literature and bringing me the research that was much more close fit to how I would do it. And so it's interesting

because your first thought is, well, there goes a task of mine. I thought it was pretty good at finding connections between literatures and thinking about who the leading researchers were, and then exploring their works and finding the most important things.

And it's sort of like tacit knowledge that's useful when you're looking into a new area. And so Claude or ChatGPT takes that from you, and they're like, "What's left?" And you start to realize that's not really an essential task at all. And now you start much farther down the pathway.

And so they bring you this literature, this list of literature, places to start, where to go, and it leaves you with what's left. And there's so much left. And so, as I think about what are the tasks that AI could take, there's so much left to do. There's always more things you could do more of.

And at the end of the day, I think at the farthest end of the limit is that creativity stuff. And there's always projects that I could come up with, ideas I could come up with, hypotheses to be pursued. Having ChatGPT or Claude begin the tasks at the beginning end of that research leaves you with a whole lot to do at the far end of the research.

CARDIFF: And even what you just described, Adam, about your job stays within the rubric of doing economics. I think of economists as people who do literature reviews in addition to coming up with their own novel ideas. But I mean specifically within EIG, you do a lot of other stuff too.

So, for example, you're the backup research director. So Nathan is our research director, Nathan Goldschlag. When he's out, you fill in for him. You and I are both on the leadership committee at EIG, which means we spend a lot of time on strategy, the future direction of EIG.

When we put together events, okay, EIG puts together a lot of events. We put together these dinners from time to time, where we meet with experts and things like that, but we also put on conferences. We put those together ourselves, and a lot of times we're drawing from our own contacts within the worlds of economics, journalism, which is my background, the wider media, other scholars, other researchers, other think tanks, people in the policymaking world.

So all of that knowledge as well, which is the result partly of effort and partly of just experience, it just comes to you in some sense. All of that is also put to use. And you wouldn't guess that from just telling somebody, "Oh, I'm the Chief Economist." They wouldn't know that all of these other things are parts of your job, but they are.

You would not be as valuable to EIG if you could not do those things. If your only set of skills was limited to economics, including literature reviews and all these other

things, some of which you can get help with from Claude or do better because of Claude, even if it were just limited to that, you still would not be as valuable as you are in the job that you have.

So I think this concept of messy jobs is a really powerful one, and it also is one of the few insights that I think leads to pretty good advice, which is get good at a bunch of stuff within the context of your job. Develop not just your skills in terms of the specific job title you have, but also develop things like wisdom, judgment, discernment, the ability to connect with people as well, even other peripheral things like public speaking or whatever.

In this case, we're on a podcast together. If I told somebody I was the Editorial Director at EIG, they'd be like, "All right, you're the lead editor of all the stuff that you guys put out, the written stuff." I'd have to tell them, "Oh, I also host a podcast, which by the way I founded, which I brought with me to EIG, et cetera, et cetera."

There's this very strange, varied bundle that I think helps with this concept of resilience, resilience to shocks. So I love this insight from Garicano that if you have a messy job, that's actually quite powerful now.

ADAM: Yeah. I think building that diverse bundle and understanding your bundle of tasks that you do, the things that you do well, thinking about what are some adjacent skills that you can build that you can focus on.

At EIG, a big thing that we've done is build the team. That's been something that they were doing before we got here, too. John Lettieri, the president of EIG, has been building this team, and finding the talent is a big part of what we do. And thinking who's a good fit here and being able to bring them in and then also managing them and helping them reach their highest, best potential, thinking what do they need to learn, what are they really good at, what are they interested in.

It's a very important part of being at the leadership of an organization like EIG.

CARDIFF: The one part of it that I have to say is a little tougher, and it's probably intimidating in particular to young people, is that you actually have to be able to go both deep and wide now, right? It's not enough to just have very extensive domain knowledge of what you do or the main thing that you're supposed to do. You actually do need that too, and you have to be able to go wide. You have to have all of these other peripheral skills.

In some limited circumstances, you might be so unbelievable at the one specific thing — I mean, top 0.1% or whatever — that that'll be totally fine and everything else you'll have catered to. I get it. That's very few people.

And for others, they might just be wonderful at reaching across different things, but

they don't know any one particular thing all that well. They're going to struggle too, I think.

So the fact that you really have to be well-rounded and you have to be able to go deep on some of the things that you know, that's tough. That is an important piece of advice. I think that's a necessary component of having a messy job, but I don't want to pretend like it's easy, and maybe not everybody's going to be able to do that.

ADAM: I think a lot of young people, they come out of school and they have a sense of what they think they're good at. And a lot of times, at least in sort of our industry and occupation, it's kind of like, I'm a researcher. I look things up, and I figure out how to look in the data, and then I write about that.

And you sometimes have to push them to develop the more adjacent skills that are not their favorite or not their natural inclination. Writing well, something that you helped me do and push me to do, and then we try to push everyone else to do. Communicating well, being a good speaker, being able to go talk to journalists, building those relationships, networking, understanding who are the other experts in the field and being able to get on the phone with them and talk with them.

Those kinds of soft skills are really important, and they really add a lot of value over time. And I would say they become even more valuable the older you get. And it's something that a lot of people don't have a natural inclination to do. They just think, I'm a researcher and I do my papers and I get the right answer and that's what I do. I read the papers, and I get the right answer.

And I think pushing beyond that to develop a messier, broader bundle is very important. And I would agree, even more important in the age of AI, but even if AI flops, it's important too.

CARDIFF: I think that bit of advice is a good place to end. Adam, thanks, man.

ADAM: Always glad to be here.