



## The Education Industrial Complex: The Hammer We Have

### Description

In a recent [NY Times feature article](#), Noam Scheiber provided a pretty thorough picture of the mid-to-longer term economic challenges weâ€™re facing and some of the alternative policies that the Biden administration may pursue to address them. The most important forces driving things boil down to a few:

- Manufacturing that has a high labor component is almost universally cheaper to do outside of the US, where the workforce is paid less (and where worker protections may not be as comprehensive.)
- Automation is increasingly being applied to wring manufacturing jobs out of the economy. For companies, this brings improvements in unit costs, throughput, output and quality.
- Globalization (mostly outsourcing the fabrication of components or finished items) reduces costs to US companies and to US consumers.
- While the US is still leading in invention and Intellectual Property generation, other countries, such as China, realize a lot of the value when they manufacture or assemble goods based on our IP. When the US relies on other countries to manufacture and assemble high-tech products, it loses valuable exposure and on-the-ground experience which should inform ongoing innovation. Scheiber cites research presented in a 2012 book by the Harvard business professors Gary Pisano and Willy Shih [that] made the case that when it comes to manufacturing, strength yields strength, and weakness yields weakness. They showed that the offshoring to Asia of the consumer-electronics industry, which executives believed was becoming too commoditized to be worth keeping entirely in the U.S., had weakened Americaâ€™s so-called industrial commons â€” the ecosystem of research, engineering and manufacturing know-how that creates innovative products. In effect, getting out of the business of making stereos and TVs in the 1960s and 70s made it harder for American manufacturers to produce more sophisticated technologies like advanced batteries. The Chinese, of course, took the other side of the bet â€” gaining know-how by starting with simpler products, which then led to the making of more sophisticated ones. Thatâ€™s partly why the China shock started with exports of products like textiles and steel and eventually included smartphones.
- As some industries wink out of existence in the US, there isnâ€™t anywhere for a lot of their displaced employees to go, especially in exurban or rural areas.

Education could certainly be an important part of the answer to some of these issues, but there are numerous impediments. Out-of-work miners or factory workers are not good prospects to become robotics programmers and maintenance technicians. (See [this NY Times article](#) about Mined Minds, a failed program intended to turn out-of-work miners in West Virginia into web developers. Mined Minds is currently the defendant in a suit brought by a number of its students.)

A November 2020 [whitepaper by the Baker Institute](#) presents a model based on data from 1984 to 2016 that shows that automation may not reduce the number of jobs, overall, but it will increase inequality by diminishing prospects for workers that cannot attain knowledge worker status. The whitepaper's authors present the job of a librarian as an example. Some of a librarian's work, such as tracking lent-out materials and replacing returned items to the shelves, is essentially manual and automatable. Some, such as advising users about available resources, is not. At least, not yet. In any event, automating what can be automated would reduce the need for some number of librarians, even though all of them are presumably accomplished knowledge workers. It's possible some of the displaced librarians could be educated to manage the automation that displaced them, but there is no reason to believe that they would be more qualified than anyone else to do so just because the technology would be applied in the setting in which they used to work.

In his article, Scheiber asserts that *"The Biden team initially focused on job creation that didn't require massive retraining or relocation."* and *"In Zoom call after Zoom call, he pleaded with [his policy staff] to identify jobs in manufacturing and energy that would not require workers to undergo years of retraining or uproot their families."*

Herein, I believe, lies the crux of an intractable problem—using industrial policy to paper over a structural problem might provide some immediate relief but it does nothing to address underlying issues. Kicking the can down the road like this might be palliative for the moment while we are in a dire situation, but it will not position us better for the future. Unfortunately, we can't just educate ourselves out of this mess with the EIC we have in order to suppress the pain and dislocation in a systematic way. In addition, nationalist, protectionist policies could ultimately end up being counterproductive and *"... might encounter resistance from some of Biden's own advisers and much of the party's policymaking elite, who tend to consider such economic nationalism counterproductive and passively..."* Treasury secretary, Janet Yellen, said just last year that *"the manufacturing diaspora has been a major boon for the global economy."*

Scheiber also observes that *"... [green new deal] proposals . . . are also somewhat controversial, even on the left, unlike the relief portion of his agenda. In part, that's because these provisions would most likely increase the price of clean technologies, which can be imported more cheaply from abroad."*

However, *"A growing body of evidence on the harm done to workers by a trade agreement with China, which other economists played down at the time, has increasingly vindicated [Dani Rodrik, an economist at Harvard]."*

Many policy makers are looking at the potential of education to play a major role in restructuring our economy and, thereby, our society. For example, *"Representative Ro Khanna of California, for one, has introduced a bill that would spend \$100 billion over five years to fund research in industries like quantum computing, robotics and biotechnology and to situate tech hubs in areas hit hard by deindustrialization. Most of the top 20 universities in the world are American"* places like the

*University of Wisconsin, University of Michigan, which are dispersed across the country, says Khanna, who represents parts of Silicon Valley and was a co-chair of Bernie Sanders's presidential campaign. "There's no reason we can't see innovation and next-generation technology in these communities."*

This might certainly contribute to US competitiveness, but does it really have the potential to address the needs of displaced factory workers? If they aren't viable web developers, why should we think that they have the potential to contribute to or even participate meaningfully in leading-edge AI or Quantum Computing projects? It's attractive to focus investment in education on the leading edge of the wave of innovation but the focus required to help workers displaced by it is at the trailing edge. Instead of allowing the wave to wash over many of these people, we need to get them moving fast enough to at least make it through the backwash and get to shore.

I am a believer in education as an important lever with which to address some of the economic and societal issues we face. It's clear, though, that goals and outcomes need to be retargeted, it needs to be restructured to deliver on its promise and it must evolve in parallel with the changes we make to address the needs of our citizens. The one-size-fits-all model we essentially have now isn't what we need.

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