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# REMAPPING DEBATE

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Asking "Why" and "Why Not"

## If only tech solved things like it used to

**Original Reporting** | By Mike Alberti | Economy, Income inequality, labor

June 15, 2011 — Who could doubt the long-term correlation between technological advancement and higher living standards? The production line, antibiotics, mass transit — all were developments that eventually improved the lives of most Americans significantly. So, regardless of what is happening to workers now, their welfare will ultimately be assured so long as technological advances continue to be made, right?

### HERE'S WHAT PROMPTED THE STORY

We were reading an interesting story last week in The New York Times about companies spending money on equipment, not workers, and came across this attempt by the reporter to put short-term worker dislocation into context: “[I]n the long run, better technology lowers prices, raises living standards and helps workers move into higher-paying jobs. This was the case with the mechanization of farming, which a century ago employed 41 percent of the American work force.”

Well, the farming example seemed correct, but did it really automatically follow that technological improvements always and necessarily bring about higher wages for workers? We thought the assumption that things would automatically work out in the end — regardless of policy decisions — was worth exploring.

— Editor

Actually, no. According to many economists and social scientists, there is no more common or dangerous mistake than taking a past pattern and projecting it into the future regardless of changing external factors. In the context of the benefits of technological improvements, the impact on workers and their families is very much dependent on policy choices regarding how those benefits are distributed and what adaptations are made to remedy technology-driven dislocations.

## Past performance is no guarantee of future results

“The habit of assuming that what happened in the past will continue to happen, or, conversely, that what hasn’t happened can’t or won’t happen in the future, can quickly get you into a lot of trouble,” said Neil H. Buchanan, a law professor at George Washington University who also holds a degree in economics, “but it’s done so often that, on a lot of issues, we’ve stopped having a serious debate in this country. Instead, we have a few platitudes that get repeated a lot, and that may or may not be based on fact.”

Buchanan explained that when a certain relationship or pattern is taken for granted, it has the effect of limiting the policy options that are at the disposal of elected officials. “Why do politicians think that having a big budget deficit right now is bad?” he asked. “Because that’s never happened [since World

War II]. But is it really bad? What if we figured out that it isn't? We might be doing a lot of things differently."

And the phenomenon isn't limited to the United States. "There's a real danger in making those assumptions," said James Plunkett, a senior analyst at the Resolution Foundation, a British non-profit that focuses on issues affecting the middle-class. "It leads to a lot of lazy rhetoric. It also prompts people to understate the importance of politics and policy and what we can do to change things. It's quite disempowering, in a sense, because it minimizes the effects of your choices."

## **A leap of faith, not a matter of natural law**

The linkage between technology and better living standards is an easy one to assume, Buchanan said.

"By definition it's true that if you have an innovation that increases productivity, then you'll have more stuff produced," he said. "The more stuff you produce, the greater your economic growth."

The next link in the chain, he said, is that economic growth leads to greater wages and a better quality of life. But making that assumption requires a leap of faith.

"We know that greater productivity means we get more stuff. But why should we necessarily assume that that's the way to raise people's incomes?" he said. "Isn't it possible to have more stuff without having the vast majority of people being better off?"

## **The weakest link**

While few economists question that technology has led to better living standards over the course of history, a growing body of research has demonstrated that the linkage may no longer hold.

"Over the broad sweep of history, the generalization that technology increases living standards is right on target," said Lane Kenworthy, a professor of sociology at the University of Arizona who has studied the effect of technology on wages over the last four decades. "The thing is, it seems as though in the U.S. especially in the last generation that link may have broken down."

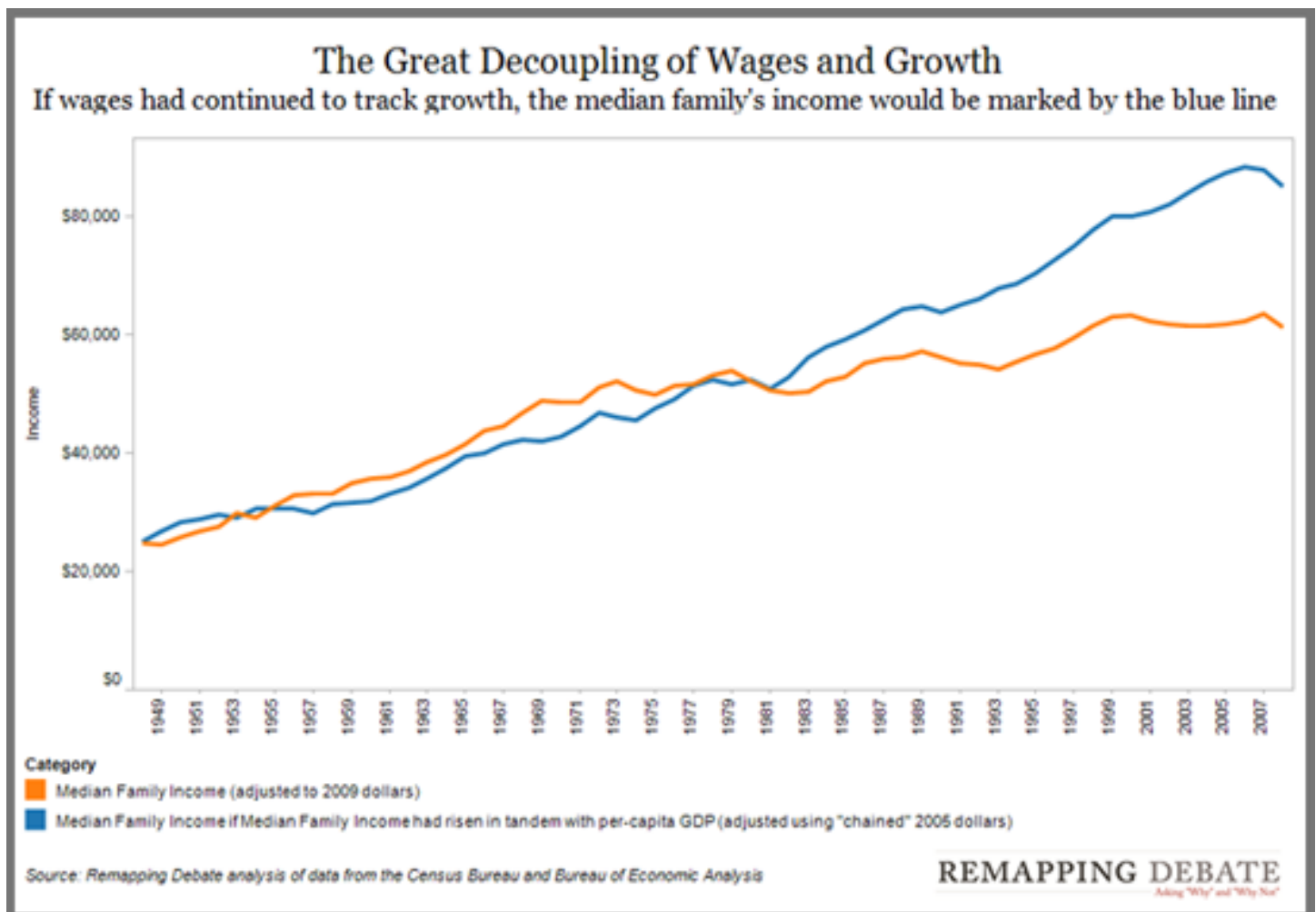
Kenworthy refers to this as "the great decoupling" — the separation of economic growth from increases in wages and quality of life. During the post- World War II period, the United States experienced a boom in economic growth that correlated strongly to an increase in median family income. But starting around 1973, those two lines began to diverge sharply. Economic growth continued at only a slightly slower pace, while families incomes increased slowly, if at all. Kenworthy has calculated that, if median family income had continued to increase at the same rate as GDP, as it did in the 1950s and '60s, it would have reached almost \$90,000 a year by 2007, just before the financial crisis. In contrast, median family income in 2007 was substantially less: \$64,000 a year (see chart on next page).

The reasons for this decoupling are a subject of considerable debate. What's clear, though, is that economic growth no longer leads necessarily to broadly-shared income growth, Kenworthy said. And not only are the benefits from technology no longer widely shared, technology is part of the problem itself.

## Hollowing out

David Autor is an economist at the Massachusetts Institute of Technology who has focused his research on the effect of new technologies on the labor market. What he's found over the last few years is disturbing.

Technological gains have always affected workers differently, a process known in economic parlance as "skill-biased technological change." The most common example is the widespread move of labor, at the beginning of the 20th century, from the farm to the factory. Because new factory technology required some skills that farm workers did not have, the farm workers were not able to fluidly make the transition.



“We see these scenes in ‘The Grapes of Wrath’ that show the issues that resulted from an excess in the supply of farm labor,” Autor said. But although a lot of people suffered in the short-run, most were eventually reintegrated into the workforce by learning the skills necessary to work in factories and other sectors of the economy.

“Today, we have a somewhat romanticized notion of what farm work means,” Autor said. “Really, farm labor was extremely physically intensive and extremely insecure. Factory work was no picnic, but it paid better and provided better security.”

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This cycle has repeated itself in various forms over the course of the last century: a new “skill-biased” technology is developed that displaces some low-skill workers temporarily, but, in the long run, those workers and their children learn the skills required for the new jobs that are created, which pay more than the ones that were lost.

But Autor has found evidence that in the past two decades, the introduction of computers has displaced middle-class workers and left them with no place to go but down.

“Computers are doing tasks that used to require a non-trivial amount of skill — anything from factory work to accounting,” Autor said.

That has benefited those in high-skill, managerial jobs: these workers, Autor says, can rely on computers instead of colleagues earning middle class pay, and the pay and numbers of these upper tier jobs has grown.

In Autor’s telling, the people in high skill jobs create other jobs (primarily in service occupations) when they spend their money. Thus, the number of low-wage service jobs has continued to grow.

But jobs with middle class pay continue to vanish: “It’s no longer the case that workers without a lot of skills and education can go work at the GM plant or the typing pool at the insurance company and get paid a decent wage,” Autor said.

Job growth at both ends of the economic spectrum and losses in the middle is what Autor calls a “hollowing out” of the labor market.

In the past, displaced workers could be educated for new jobs of equal or higher skill that were created. But now, with many of the jobs that are lost are being replaced with lower-wage jobs, if they are being replaced at all, education alone may not be enough to fix the problem (see box).

## Trickle-down technological change

Autor said that there is no reason to believe that the increasing polarization of society will stop on its own. “It is certainly the case that these trends could continue and even get worse,” he said.

While Autor didn’t raise it, one of the questions that appears to emerge when considering a future in which companies become accustomed to not sharing the benefits of technological advancement with labor is whether large numbers of citizens will be looking not at low skill jobs but at no jobs at all.

Autor did say that the dislocations in the U.S. that have occurred due to technology in the last 30 years are not inevitable. “Many other countries face the same challenges that we do, but the degree to which that results in vast degrees of inequality vary tremendously.”

While evidence of hollowing out — even before the recession — was found in the U.K., Germany, the Netherlands, Spain, and elsewhere, countries like Italy, France and Denmark have managed to grow their highest-wage occupations while shrinking their low- and middle-wage occupations at a proportional rate.

### Education as magic bullet?

Educating more workers for high-skill has often been proposed as the solution to technological change that displaces low-skilled workers. But how would it work if the workers being displaced are not particularly low-skilled?

Mark Thoma, an economist at the University of Oregon said that he doubts that education and training have much potential to solve the hollowing out of the labor force that has been caused by computerization.

“Education is extremely important, don’t get me wrong,” he said. “And it’s still vital for those without a high school degree to get one to be competitive.”

But Thoma explained that the effects of technological change may have actually had the effect of devaluing a college degree, because workers who have one are no longer largely immune to job displacement. “A college degree no longer guarantees you a middle-class job,” he said

Harvard economist Claudia Goldin is one of the most vocal champions of education, and wrote a book in 2008 with labor economist Larry Katz called “The Race Between Education and Technology” in which they detailed how technological gains have displaced low-skill workers throughout history, but how the educational attainment levels of worker have generally risen accordingly, until the last few decades. “We’ve seen a dramatic slowdown in education attainment in the country,” Goldin said. “We used to be world leaders in education. Now we trail a lot of other countries.”

This has led Autor to conclude that how the benefits of technology are distributed is “to some substantial degree within the control of policy.”

Buchanan agreed, and pointed to a variety of labor market policies that some countries, unlike the U.S., have taken, including policies that make it easier for workers to join unions, create high-paying jobs, and help workers find those jobs.

Exactly what those policies should look like in the U.S. is a matter of debate, he said, “but it’s certainly the debate we should be having.”

Buchanan likened the assumption that technological gains will inevitably increase the quality of life for everyone to trickle-down economic theory, or the belief that economic gains for firms and for the wealthiest members of society will inevitably improve the lot of the rest of society over time. That theory, he said, rests on a similar set of assumptions.

“What we can learn from what’s happening right now in the United States is that the efficient modern economy that is so focused on growth is not giving us the results we need,” he said. “If we step back and acknowledge that, what’s to stop us from revisiting policies that have been foreclosed because we’re stuck in this idea that we need to promote growth at all costs?”

## Taking charge of policy decisions

According to the Resolution Foundation’s Plunkett, making the assumption that technological change will always prove a magic elixir “lets us off the hook” in regards to the need to raise living standards through other means. “When you stop assuming that technology will automatically make all of our lives better, you have to think very differently about policy,” he said. “The implications are everywhere. You have to start at the beginning and ask, how do we want society to be and how do we make that happen.”

Plunkett said that the safety net becomes much more important if wages are not increasing at the same rate as the cost of living. “If we have to adjust to this new world where you can’t depend on economic growth to raise living standards, we need to be thinking much more about things like child care and rent regulation to provide workers with security,” he said.

And in the United States, where citizens don’t have guaranteed access to other basic services like health care and higher education, the implications are even broader, Buchanan added.

“As soon as you accept that the gains from technology are not necessarily going to be shared by the whole society,” he said, “you realize that you need to be doing a lot more of the heavy lifting of raising living standards” by adopting new public policy.

It would mean, he said, “a whole new set of options.”

*This content originally appeared at <http://remappingdebate.org/article/if-only-tech-solved-things-it-used>*