MERCATUS CENTER
George Mason University

TESTIMONY

LABOR MARKET IMPLICATIONS AS ECONOMY UNDERGOES STRUCTURAL SHIFT

Christine McDaniel
Senior Research Fellow, Mercatus Center at George Mason University

House Committee on Ways and Means
Hearing on Jobs and Opportunity: Local Perspectives on the Jobs Gap

April 12, 2018

Chairman Brady and distinguished members of the House Ways and Means Committee:

My name is Christine McDaniel. I am an economist and a senior research fellow at the Mercatus Center at George Mason University, and I work with the Program on the American Economy and Globalization. In recent years, my colleagues and I have been studying structural shifts in the American economy and labor market, and I am grateful for the opportunity to discuss our findings with you.

As my colleague Caroline Freund and I wrote for *Bloomberg View* back in July of 2017, the US economy has long been moving away from "hands" industries such as mining and manufacturing toward "minds" sectors such as finance, health, and education. From 1970 to 2016, the share of workers in the former declined from 38 percent to 16 percent of the labor force, while the share in the latter increased from 26 to 44 percent.

The steadiness of the shift from "hands" to "minds" suggests that technology is the main driving force. "Minds" jobs became dominant in 1982—well before China joined the World Trade Organization in 2001—and continued at an unaltered pace during the hyperglobalization of the late 1990s and the 2000–2010 period. Although increasing trade with China contributed to the decline in demand for production workers, it clearly was not the primary force behind the trend.

Detailed data suggest that new technologies, which tend to have the largest effect at the lower end of the education spectrum, have been better at replacing "hands" work. Employment in some predominantly male occupations that require a high school diploma or less—such as metalworkers, printing press operators, and carpenters—has declined by more than a quarter since 2005. By contrast, employment in some traditionally female occupations with similar requirements—bakers, manicurists, personal care aides—has grown by more than a quarter.

The male-female split here is interesting. Men with less than a bachelor's degree—that is, an education level of some college, high school, or less than high school—occupy more than three-quarters of "hands" jobs and have felt the sharp swing away from physical labor most acutely. By contrast, women comprised half of the "minds" as far back as 1970, and their share grew in subsequent decades as they increasingly joined the workforce.

For more information or to meet with the scholar, contact
Mercatus Outreach, 703-993-4930, mercatusoutreach@mercatus.gmu.edu
Mercatus Center at George Mason University, 3434 Washington Blvd., 4th Floor, Arlington, Virginia 22201

The ideas presented in this document do not represent official positions of the Mercatus Center or George Mason University.

The female advantage is evident in earnings as well. Although female-dominated occupations pay less on average at all levels of education, women are catching up. Since 2005, average incomes in female-dominated jobs have grown nearly 15 percent more than in male-dominated jobs—meaning that, for example, a nurse's income has grown faster than that of a carpenter. Men are doing better only in fast-growing areas—such as engineering, computers, and finance—that require some college or a bachelor's degree. At this level of education, men's average pay was already more than 50 percent higher than women's and is growing faster too.

These employment trends illustrate the importance of education in helping the men left out or left behind by the shift toward "minds" jobs.

Jobs for men with a high school education or less are not coming back. For instance, of the 3.5 million US truck drivers whose jobs are at risk of being automated, 95 percent are men. This means they will increasingly have to compete with women in occupations requiring more personal interaction—an area where they have not made much progress. Historically, jobs that are mostly male or mostly female have tended to remain that way.

Attempts to use trade policy as a quick fix to bring back the "hands" jobs are futile. Trade restrictions such as tariffs (import taxes) on steel, aluminum, and other inputs will just increase the cost of doing business in America for manufacturers and further hurt American manufacturing workers in industries that use steel. With or without international trade and foreign competition, innovation will continue, and the structural change throughout our economy and labor force will continue.

In an economy increasingly concentrated on "minds" jobs, everyone from the president and Congress to our local educators and communities must take the long view and recognize the need for more inclusive education in science, technology, engineering, and math. The "tech titans" already recognize this, and have called for coding in every public school. Goods and services are becoming smarter, and education and training need to keep up. It is the only way to give men a chance, to help women close the remaining wage gap, and to ensure good jobs for a wider swath of the population.

More details on these trends can be found in the attached op-ed. Thank you for the opportunity to discuss this research with you.

Sincerely,

Christine McDaniel

Senior Research Fellow
Mercatus Center at George Mason University

ATTACHMENT

Caroline Freund and Christine McDaniel, "The U.S. Needs to Invest in Minds, Not Miners," *Bloomberg View*, July 6, 2017.

OPINION | U.S. ECONOMY

The U.S. Needs to Invest in Minds, Not Miners

Otherwise the job market will leave a lot of men behind.

By Caroline Freund And Christine McDaniel

87 July 6, 2017, 7:00 AM EDT

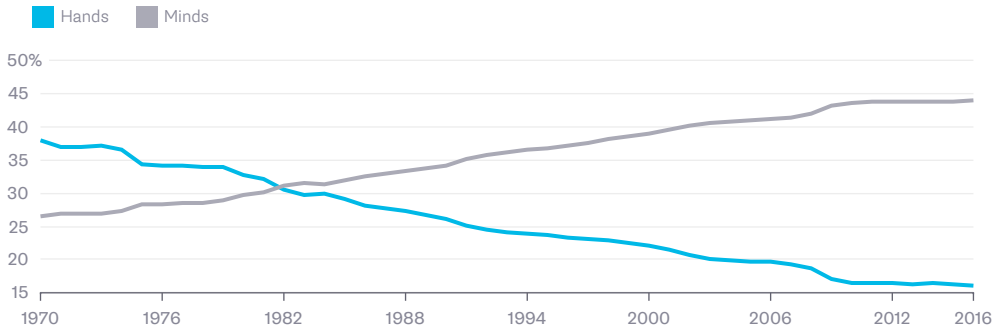
Not the future. *Photographer: Spencer Platt/Getty Images*

In J.D. Vance's memoir "Hillbilly Elegy," which recounts the blasted hopes of those left out of the modern economy, grandfather Papaw makes a prescient prediction: "Your generation will make its living with their minds, not their hands." What Papaw didn't foresee was that this shift would be far easier for women than for men.

The U.S. economy has long been moving away from "hands" industries such as mining and manufacturing toward "minds" sectors such as finance, health and education. From 1970 to 2016, the share of workers in the former declined from 38 percent to 16 percent, while the share in the latter increased from 26 to 44 percent. Here's how that looks:

From Hands to Minds

Percent of private nonfarm employment, by type of work



Source: Bureau of Labor Statistics. "Hands"' sectors include mining and logging, manufacturing, and construction. "Minds" sectors include information, financial activities, professional and business activities, and education and health services. Excluded sectors: trade, transport and utilities; leisure and hospitality; other services.

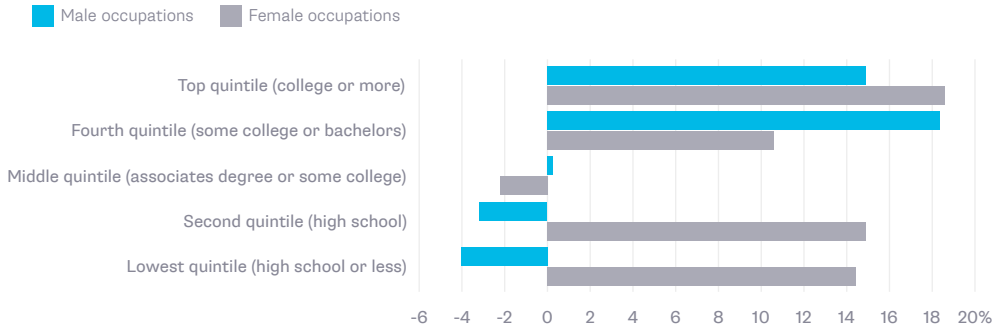
Less-educated men, who occupy more than three-quarters of "hands" jobs, have felt the sharp swing away from physical labor most acutely. By contrast, women comprised half of the "minds" as far back as 1970, and their share grew in subsequent decades as they increasingly joined the work force.

The steadiness of the shift from hands to minds suggests that technology is the main driving force. "Minds" jobs became dominant in 1982, well before China joined the World Trade Organization in 2001, and continued at an unaltered pace during the hyper-globalization of the late 1990s and early 2000s. Although increasing trade with China might have contributed to the decline in demand for production workers, it clearly wasn't the primary force behind the trend.

Detailed data suggest that new technologies, which tend to have the largest effect at the lower end of the education spectrum, have been better at replacing men's work. Employment in some predominantly male occupations that require a high-school diploma or less -- such as metalworkers, printing press operators and carpenters -- has declined by more than a quarter since 2005. By contrast, employment in some female occupations with similar requirements -- bakers, manicurists, personal care aides -- has grown by more than a quarter.

Male, Uneducated and Out of Work

Employment growth (2005-2014) by education and occupation gender



Source: Bureau of Labor Statistics. Male (female) occupations are those where the share of men (women) is above average. Occupations are sorted into quintiles by average years of education.

The female advantage is evident in earnings as well. Although women's occupations pay

less on average at all levels of education, they are catching up. Since 2005, average incomes in female jobs have grown nearly 15 percent more than in male jobs -- meaning that, for example, a nurse's income has grown faster than a carpenter's. Men are doing better only in fast-growing areas -- such as engineering, computers and finance -- that require some college or a bachelor's degree. At this level of education, men's average pay was already more than 50 percent higher than women's and is growing faster, too.

These employment trends illustrate the importance of education in helping men left out or left behind by the shift toward "mind" jobs. Yet President Trump's budget proposal calls for a 13.5 percent cut to the Department of Education, even though he won the election in large part on a promise to deliver jobs to these people. This is absolutely the wrong direction in an economy run by "minds." Any efforts to bring back the "hands" jobs with trade policy or desperate attempts to keep production plants from relocating abroad will surely fail.

Employment for uneducated men isn't coming back. Of the 3.5 million U.S. truck drivers whose jobs are at risk of being automated, 95 percent are men. This means they will increasingly have to compete with women in occupations requiring more personal interaction -- an area where they haven't made much progress. Historically, jobs that are mostly male or mostly female have tended to remain that way.

Congress and the President need to craft an education budget that recognizes the size and implications of the structural shift away from the hand to the mind -- a trend no less significant than the industrial revolution of the 18th and 19th centuries. This means a budget that invests in better and more inclusive education in science, technology, engineering and math. The "tech titans" who gathered last month at the White House recognize this skills deficit, and called for coding in every public school. Goods and services are becoming smarter, and education and training need to keep up. It's the only way to give men a chance, to help women close the remaining wage gap, and to ensure good jobs for a wider swath of the population.

This column does not necessarily reflect the opinion of the editorial board or Bloomberg LP and its owners.

To contact the authors of this story:
Caroline Freund at cfreund@piie.com
Christine McDaniel at cmcdaniel@sidley.com

To contact the editor responsible for this story:
Mark Whitehouse at mwhitehouse1@bloomberg.net

Terms of Service Trademarks Privacy Policy
©2018 Bloomberg L.P. All Rights Reserved