The Changing Landscape of International Trade: Protectionism, Bashing China and the American Worker

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I. Introduction

Aggregate trade figures and measures of protectionism suggest that the post-World War II expansion in global integration has come to a temporary standstill. Evidence for both the United States and Europe suggests that local exposure to higher import competition has led voters to support more extreme candidates. An important question is whether this voter sentiment reflects true costs of globalization. Research shows that some individuals, particularly those performing routine tasks, have been hurt by offshoring and trade. The pain is real. Yet most of the rising inequality and job dislocation is caused by other factors. Technological change has eliminated many jobs. China is most likely a convenient scapegoat. Restricting China's exports is unlikely to improve labor market outcomes, and will also jeopardize progress in reducing global inequality. Instead, the United States must both accelerate globalization and expand social support to those left behind.

II. A Return to Protectionism?

Donald Trump won the U.S. presidential election by convincing voters in key swing states like Michigan, Ohio and Pennsylvania that

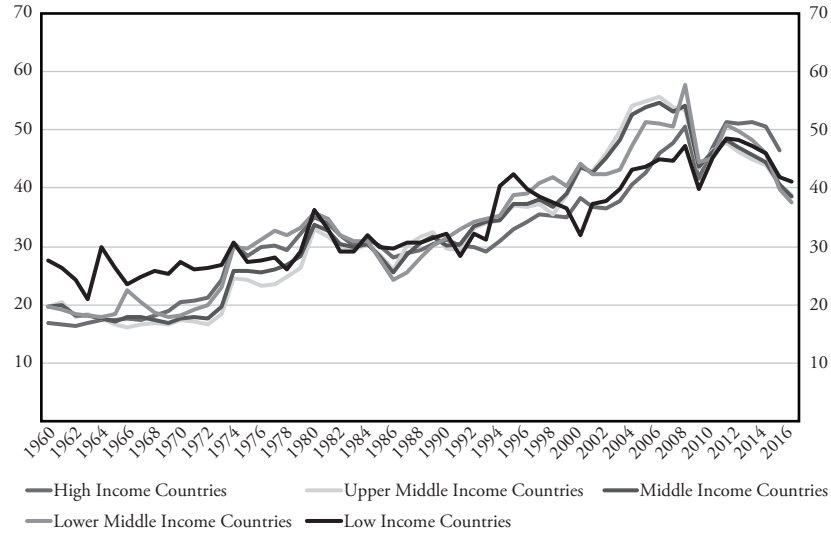
he would "make America great again." Trump promised to impose 20 percent tariffs on imports, build a wall to keep out Mexican immigrants and renegotiate the North American Free Trade Agreement (NAFTA). In the 2016 first round of voting in the French presidential elections, Marine Le Pen generated strong support on a far right platform that included leaving the European Union. The United Kingdom actually took the plunge, with the majority voting for Brexit in June 2016.

These separate events suggest a return to protectionism. Chart 1A shows that after four decades of rising trade shares, global integration has stalled. Since 2010, trade shares have declined for all country income levels. The slowdown in global integration is also evident in the steady increase in the number of trade restrictive measures adopted at the country level, as monitored by the World Trade Organization (WTO) (Chart 1B).

What is causing this slowdown? New studies show that exposure to global competition from low income countries is associated with a shift toward populist outcomes. Two studies of France and Germany found that regions more exposed to trade with low wage countries increased the vote shares going to extreme right parties.[1] Votes for Brexit were more strongly associated with local exposure to trade with China.[2] Gordon Hanson and colleagues analyzed voting patterns within the United States between 2002 and 2010 and showed that increased exposure to trade with China was associated with a shift toward both extreme right and extreme left candidates. Their key results are reproduced in Table 1.[3]

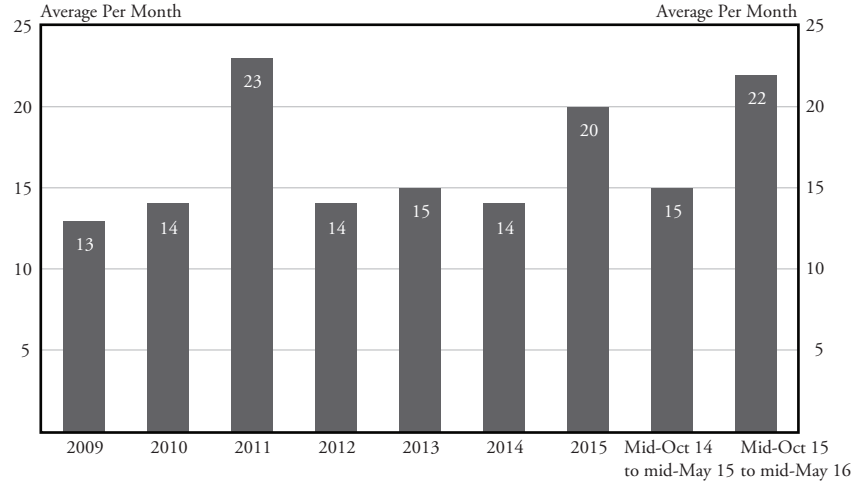
A key group of voters in the United States associates global competition—especially Chinese competition—with declines in their welfare. A separate question is whether in fact greater international competition has led to worse labor market outcomes. The question I would like to explore is whether the pain is real, or whether trade is just a visible and convenient scapegoat. In the last six years, many new studies have appeared re-evaluating the linkages between trade and worker-level outcomes. Many of these studies use China's entry into the WTO in 2001 as a kind of natural experiment to evaluate

Chart 1A
Merchandise Trade Share in GDP, 1960 to 2016



Note: Each line shows the average share of trade (exports plus imports) in GDP for the period 1960 through 2016 by country income category according to the World Bank classifications.
Source: Graph compiled by the author based on World Bank Open Data Repository.

Chart 1B
Trade Restrictive Measures Also Rising Over Time



Source: World Trade Statistical Review, WTO, 2016, Chart 7.1

Table 1
Import Exposure and Change in Ideological Position of Election Winner, 2002-10*

	Change in Probability 2002-10 that Winner has Given Political Orientation					
	Moderate	Liberal Democrat	Moderate Democrat	Moderate Republican	Conservative Republican	Tea Party Member
	(1)	(2)	(3)	(4)	(5)	(6)
ΔCZ Import Penetration	-35.96 ** (13.35)	0.17 (7.01)	-22.91 ** (8.56)	-13.04 (9.02)	35.79 ** (13.54)	24.30 (12.65)
Mean Outcome Level in 2002	-19.7 56.8	2.6 19.9	-4.6 27.0	-15.0 29.8	17.0 29.8	11.7 6.1

*Dependent Variables: 100 X Change in Indicators for Election of Politician by party and Political position
Notes: N=3,504 County*District cells. "Liberal Democrats," "Moderates" and "Conservative Republicans" are defined as politicians whose Nominate scores would respectively put them into the bottom quintile, middle three quintiles, or top quintile of the Nominate score in the 107th (2001-03) Congress that preceeds the outcome period. A Tea Party member is defined as a representative who was a member of the Tea Party or Liberty Caucus during the 112th (2011-13) Congress. These two caucuses which are often associated with the Tea Party movement were first established in 2010 and 2011, respectively. All regressions include the full set of control variables from Table 1. Observations are weighted by a cell's share of total district population in 2000, and standard errors are two-way clustered on CZs and congressional districts. ~$p \leq 0.10$,*$p \leq 0.05$, **$p \leq 0.01$.
Source: David Autor, David Dorn, Gordon Hanson and Kaveh Majlesi, "Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure," December 2016, working paper.

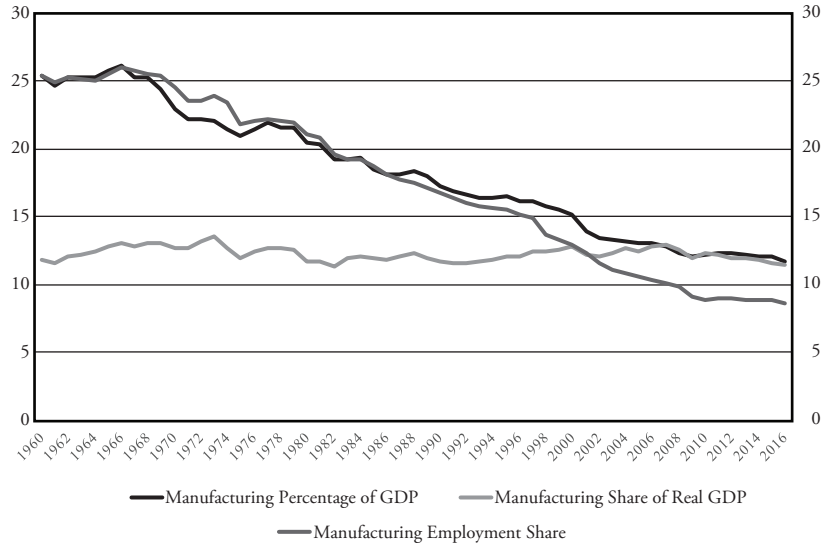
the impact of globalization on wages, employment, and other measures of labor force well-being.

III. Measuring the Impact of Globalization on Workers

Since 1984, when there were 25 million jobs in U.S. manufacturing, about half have disappeared. Chart 2 shows that the share of employment has steadily declined from one in four workers to less than one of 10 today. In much of Europe, the story is the same: manufacturing employment shares have steadily declined by nearly 2 percent a year since the 1980s.[4] These were typically good jobs: my research shows that if the same individual moves from manufacturing to services, their wage falls by up to 20 percent in real terms if the cause is trade. This fall in wages for people who move out of manufacturing jobs suggests that there is a significant premium to remaining in this sector.

In the United States, inequality is at its highest level since the 1920s. Chart 3 updates an earlier chart created by Anthony Aktinson (2015). It shows the level of inequality in major industrial and emerging markets using standard Gini measures and household disposable income collected by the Luxembourg Income Study (LIS). Chart 3 shows that

Chart 2
Manufacturing Value Added (Real and Nominal) and Employment as a Share of the Total U.S. Economy, 1960-2016

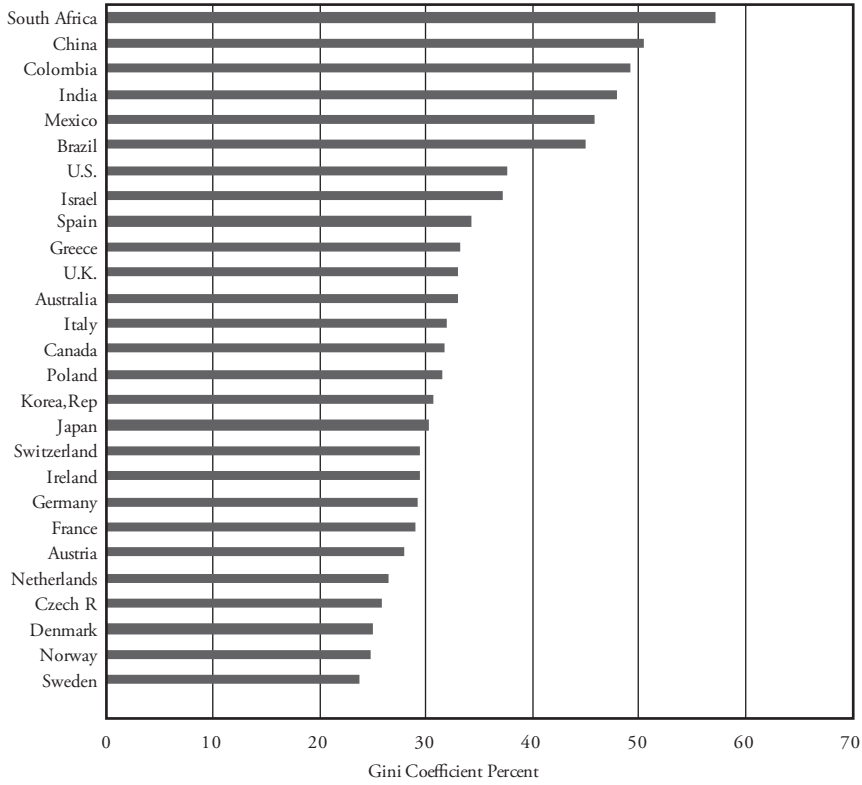


Notes: Manufacturing share of Real GDP is real manufacturing value added (in 2009 prices) as a share of real GDP (in 2009 prices), manufacturing percentage of GDP is the percentage of the manufacturing value added in gross domestic product, and employment is reported as persons engaged in production (full-time equivalent employees plus the self-employed) as a share of total employment.
Source: Industry Accounts of the Bureau of Economic Analysis.

the United States has the highest level of inequality within high income countries. While inequality is higher in a number of emerging markets like Mexico, in those countries inequality has declined or remained relatively stable. Rising inequality in the United States combined with an erosion of high paying manufacturing employment has likely contributed to voter discontent.

Did economists, who have long supported free trade, miscalculate the costs of globalization? We made two mistakes. First, we thought that it would be much easier for people to shift out of trade-impacted sectors. My own research with Avraham Ebenstein, Margaret McMillan and Shannon Phillips (shown in Table 2) makes this point. In the first four columns, we measure the impact of changes in offshoring and trade on individual wages within manufacturing and show that with this approach there is no significant impact of international competition. In the last four columns, we measure globalization at the occupational level and show significant effects. This is because a lot of

Chart 3
Gini Coefficients in Different Countries in 2013



Note: This graph shows the Gini coefficient for equivalent household disposable income in different countries ranked in decreasing order. The coefficient in Sweden was 23.7 percent.
Sources: LIS Key Figures http://www.lisdatacenter.org/data-access/key-figures/download-key-figures/, downloaded June 9, 2017. The data are for 2013 except for Australia (2010), Canada (2010), China (2005), France (2010), India (2011), Ireland (2010), Israel (2012), Japan (2008), Korea (2012), Mexico (2012), South Africa (2012), Sweden (2005).

the action is in *leaving* manufacturing, which is captured by occupational exposure as some occupations are more tradeable than others.

Table 2 also shows us what kind of U.S. workers have been most affected by international competition. The wage impacts of occupational exposure to global competition are significantly higher for workers engaged in routine tasks. Table 2 shows that routine workers are significantly affected by both imports (in a negative way) as well as exports (in a positive way). The point estimates indicate that a 10 percent increase in import competition would lead an individual's wages to decline by 3 percent, while a 10 percent increase in exports

Table 2
OLS Estimates of Wage Determinants Using Occupational Versus Industry Exposure to Offshoring and Trade, 1984-2002; Dependent Variable: Log Wage

	Offshoring and Trade Measured by Industry Specific Exposure, Manufactruing only				Offshoring and Trade Measured by Occupation-Specific Exposure, All Sectors			
Variable	All Occupations	Most Routine	Intermediate Routine	Least Routine	All Occupations	Most Routine	Intemediate Routine	Least Routine
Lgged Log of Low-Income-Affiliate Employment	0.001	0.002	0.000	0.002	-0.0401**	-0.0702***	0.018	0.072
	(0.002)	(0.002)	(0.003)	(0.003)	(0.016)	(0.0163)	(0.029)	(0.056)
Lagged Log of High Income Affiliate Employment	0.0143***	0.00793*	0.011	0.0239***	0.0339**	0.0508***	-0.003	-0.045
	(0.005)	(0.005)	(0.007)	(0.008)	(0.015)	(0.014)	(0.026)	(0.048)
Lagged Export Share	0.022	-0.021	0.002	0.047	0.255**	0.667***	0.232	-0.815*
	(0.043)	(0.058)	(0.048)	(0.045)	(0.121)	(0.157)	(0.184)	(0.420)
Lagged Import Penetration	0.077	0.090	0.042	-0.050	-0.290***	-0.296***	-0.761	1.083
	(0.050)	(0.061)	(0.057)	(0.074)	(0.091)	(0.099)	(0.466)	(0.750)
Number of Observations	551,528	316,048	150,319	85,161	3,068,095	1,109,835	1,156,208	802,052
R^2	0.46	0.39	0.41	0.38	0.50	0.42	0.54	0.40

* Significant at the 10 percent level
** Significant at the 5 percent level
*** Significant at the 1 percent level

Notes: Robust standard errors are reported in parenthases below the coefficient estimates. The workers are taken from CPS samples from 1984 to 2002, with their lagged values of the independent variables taken from 1983 to 2001. The standard errors are clustered by industry and five-year period in columns 1-4 and by occupation and five-year period in columns 5-8. The classification of occupations into routine categories is determined by the proportion of tasks that are routine in each occupation, with low being occupations with more than two-thirds, intermediate being one-third and two-thirds and high being occupations with less than one-third of tasks designated routine. We also control for the lagged log price of investment, lagged total factor productivity, and lagged capital to labor ratio among manufactring workers. Among nonmanufacturing workers, these controls are set equal to unity. Wage specifications control for a worker's gender, age, race, experience, whether in a union and include industry, year, education, and state fixed effects. The occupation-specific exposure regression also include twp-digit occupation fixed effects. Controls for computer use rates are imputed by the worker's industry (columns 1-4) and by occupation (columns 5-8).

Source: "Estimating the Impact of Trade and Offshoring on American Workers Using the Current Population Surveys," Avraham Ebenstein, Ann Harrison, Margaret McMillan and Shannon Phillips, *The Review of Economics and Statistics*, October 2014.

would lead their wages to increase by nearly 7 percent. All this would be missed in typical research that evaluates the effects of import competition within manufacturing, since moving across industries doesn't hurt workers as much as being forced to leave manufacturing. The positive impact of U.S. exports is something I will get back to when I discuss the literature on China and labor market outcomes. Note also that offshoring to low income countries hurts routine workers, while offshoring to high income countries (like Europe) only has benign effects. Studies in the 1970s, 1980s, and early 1990s consequently would have missed the negative impact of offshoring because most of it was to high income regions like Europe, instead of to Mexico and China where many firms go now.

The results in Table 2 also show that non-routine workers, which typically include individuals with a college education and those performing more complex tasks, are not affected by either offshoring or trade. This difference in impact means that globalization has become a divisive issue across the U.S. population.

Most models of international trade suggest that the best outcomes in terms of welfare can be achieved if we are able to "compensate the losers." Our second mistake as academics was to assume that this would be an easy task. While we have a comprehensive trade adjustment program, known as TAA, the program has not been subjected to a lot of evaluation. What we do know is that half of those who could have benefited didn't use it. There have been surprisingly limited efforts to understand whether those who did apply for TAA are made better off relative to other comparable individuals. Preliminary evidence, conducted by my Ph.D. student Ben Hyman, suggests that TAA can be effective in getting workers to go back to work (2017). If so, then finding ways to increase take-up above 50 percent of eligible workers could do a lot to alleviate the pain for losers from globalization.

IV. Is China to Blame?

China accounts for nearly 25 percent of nonoil imports in the United States.[5] There are now a number of highly influential papers evaluating whether Chinese exports can account for the decline of U.S. manufacturing employment. These include work by David

Autor, David Dorn and Gordon Hanson showing local labor market effects of Chinese competition, and Peter Schott and Justin Pierce's work on China's joining the WTO. Autor, Dorn and Hanson (2013) suggest that China's rise accounts for around 25 percent of the decline in manufacturing employment in the United States.

These results have been questioned by Robert Feenstra in a series of papers and also by Shang Jin Wei in a new paper focusing on vertical linkages. Feenstra, Ma and Xu (2017a) argue that the original results in Autor, Dorn and Hanson are overstated. They show that taking into account local demand shocks and including local housing prices leads the ADH result to lose significance for aggregate employment. A second paper by Feenstra, Ma and Xu (2017b) makes the point that looking only at Chinese exports is like evaluating traffic in one direction. They show that the negative employment effects of Chinese imports on aggregate employment are completely offset by the positive effects of U.S. exports. We already saw this in Table 2, where export growth would completely offset the negative effects on wages of import competition.

Shang Jin Wei makes a different point. He shows that if we take into account the benefits from Chinese imports that are inputs into other sectors, we can again offset the negative employment effects found by Autor, Dorn and Hanson. Yet another paper by Robert Feenstra (Amiti, Dai, Feenstra and Romalis 2017) shows that China's entrance into the WTO accounts for a 1 percent reduction in the U.S. price index each year between 2000 and 2006.

My own reading of this literature is that there is a segment of the U.S. population that is really hurt by the increase in global competition. These are the individuals with less education who are already frustrated by high levels of inequality and who are not being reached by programs like the TAA.

But my research also suggests that import competition is a small problem compared to the onslaught of automation. Chart 3 makes it clear that manufacturing employment as a share of total employment in the United States has steadily declined since the 1960s. Yet China did not begin the transition to a more open economy until 1978.[6]

Table 3
Calculating the Impact of Different Aspects of Globalization of Parent Labor Demand

	Impact of 1% increase in Factor	Actual Increase in Sample	Percentage Change in Labor Demand	Keeping Only Signifigant Coefficients
Factors Affecting U.S. Labor Demand	(1)	(2)	(3)	(4)
Log U.S. Industrial Wages	-0.351	0.116	-4.072	-4.072
Log Industrial Wages in High-Income Countries	-0.048	0.229	-1.099	
Log Industrial Wages in Low-Income Countries	0.104	-0.229	-2.382	-2.382
Log of U.S. Price of Capital	0.439	-0.276	-12.116	-12.116
Log of Foreign Price of Capital	0.162	-0.099	-1.604	-1.604
Import Penetration	-0.192	0.121	-2.323	-2.323
Import Penetration from Low-Wage Countries	0.181	0.059	1.068	
R&D Spending (% sales)	0.737	0.011	0.811	0.811
R&D Spending in High-Income Countries (% Sales)	1.449	0.004	0.580	0.580
R&D Spending in Low-Income Countries (% Sales)	4.949	0.0001	0.049	0.049
Log of Industry Sales	0.142	0.109	1.548	1.548
Log of Affiliate Sales by Industry	-0.033	0.314	-1.036	
Log Industrial Wages in Low-Income Countries x Exports for further processing	-3.127	-0.008	2.502	2.502
Log Industrial Wages in High-Income Countries x Exports for further processing	1.741	0.005	0.871	0.871
Net Impact of All Above Variables			-17.204	-16.137

Notes: Coefficients in column 1 are taken from column (3b) of table 4. Numbers in column 2 are taken from means table 4. Numbers in column 3 are calculated by multiplying 100 x column 1 x column 2. Column 4 is calculated the same way as column 3, but only the coefficients that were significant in table 4 are reported. The final row net impact sums up all the previous effects.
Source: "Offshoring Jobs? Multinationals and U.S. Manufacturing Employment," Ann Harrison and Margaret McMillan, *The Review of Economics and Statistics*, August 2011.

Something else is going on, a combination of structural change and technological progress.

V. Technological Change and Falling Manufacturing Employment

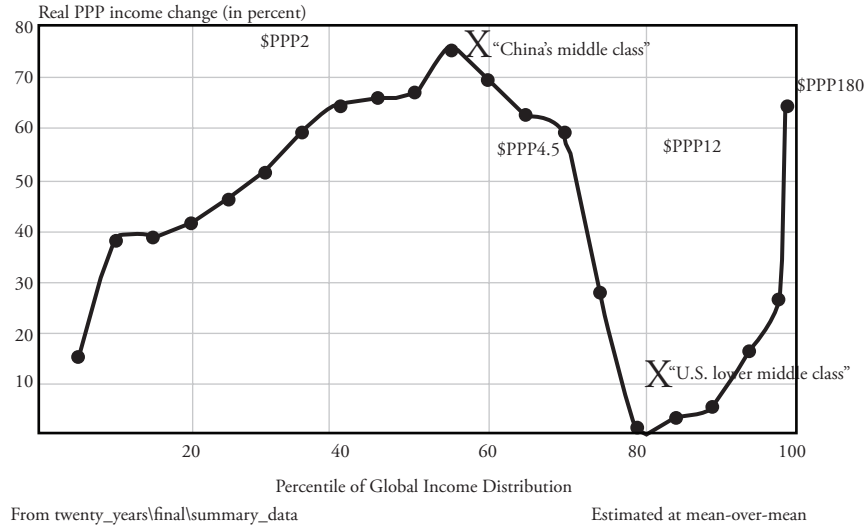
Labor-saving technical change is the real reason why I believe that protectionist measures against China and renegotiating NAFTA won't preserve manufacturing jobs. My co-author Lionel Fontagne and I have new book, titled *The Factory-Free Economy*. The first chapter by Richard Baldwin starts out with a joke making the rounds in South Carolina: "if you go to a local textile mill you will see only a man and a dog. The man is there to feed the dog, and the dog is there to keep people away from the machines." China is not the enemy; the enemy is the machine.

My research with Margaret McMillan (2011) explored the determinants of labor demand for U.S. multinationals. I report these results in Table 3. The numbers suggest that firms moving factories offshore can account for about 10 percent of the manufacturing employment decline. Most of it—12 out of the 17 percentage point decline in labor demand between 1982 and 1999—is because cheaper capital equipment is replacing people. In our book, Lionel Fontagne and I asked Jean Imbs to document the structural shift in Organisation for Economic Co-operation and Development (OECD) countries away from manufacturing employment. Imbs shows that manufacturing employment in the United States and rest of OECD has been falling since the 1970s. But manufacturing as a share of gross domestic product (GDP) has been steady. Chart 3 shows this for the United States. While manufacturing as a share of GDP in constant terms has remained at 12 percent for the last 50 years, employment shares have steadily declined. This is true for most of the industrial world: falling manufacturing employment has been accompanied by a steady manufacturing VA share in GDP. How can that be? Because productivity is rising.

VI. Policy Solutions

So what kind of solution would simultaneously allow global markets to remain open but also address the unequal effects of

Chart 4
Real Income Growth at Various Percentiles of Global Income Distribution, 1998-2008 (in 2005 PPPs)



Source: Courtesy of Branko Milanovic, from Lakner and Milanovic (2016).

offshoring and trade? This is clearly a first order policy challenge. Although these latest studies show that globalization has imposed real and prolonged pain for dislocated workers, most economists expect protection would be a costly solution. Given the fact that much of the culprit for lost jobs isn't globalization anyway, I would also expect protection to be ineffective.

While not the focus of most U.S. policy debates, a more open United States has contributed to a decline in *global* inequality. My last chart shows that global inequality has declined as countries in the middle of the global income distribution have grown the fastest. The kind of global leadership that was provided by the United States and Europe post-World War II to open international markets provided opportunities to grow and reduce poverty. Poverty rates in China and India have fallen by more than half. Chart 4, created by Branko Milanovic, is known as the elephant graph due to its shape. Without China, this curve looks pretty flat. One important question articulated by Paul Krugman is whether continued growth of middle income emerging markets is possible without hurting routine workers in rich countries.

It is likely that real solutions to the loss of manufacturing jobs are complicated and challenging, and that is why it is so much easier to bash China. Proposals that would support increasing global integration while at the same time help routine workers find new jobs are desperately needed. Effective solutions are likely to include universal access to higher quality and lower cost public education at all levels as well as training programs like those in Germany. Some innovative proposals have been suggested by individuals across the political spectrum. Anthony Atkinson and Microsoft founder Bill Gates both suggested evaluating new technology for its ability to create jobs instead of eliminate them. Combatting rising insecurity with more effective safety nets should also be explored, such as a Trade Adjustment Assistance program that covers all affected workers. While a greatly expanded safety net may seem ex ante to be a costly policy solution, I suspect that the costs are small relative to the lost opportunities from a more protectionist world.

Author's Note: I would like to thank Wei Xiang at Peking University for excellent research assistance.

Endnotes

[1]See Malgouyres (2014) and Dippel, Gold and Heblich (2015).

[2]See Colantone and Stanig (2016), NBER Working Paper 21812.

[3]They also analyzed the votes in the 2016 presidential election and found a robust positive effect of rising import competition on Republican vote share gains. In a counterfactual exercise, they show that if Chinese import penetration had been 50 percent lower then Hilary Clinton would have been elected instead of Donald Trump.

[4]See Jean Imbs (2017) in *The Factory-Free Economy*, edited by Lionel Fontagne and Ann Harrison (2017).

[5]See the presentation by Robert Feenstra, June 28, 2017, "The 'China Shock' in Trade Reconsidered," The Groningen Growth and Development Centre 25th Anniversary Conference.

[6]For an overview of China's trade and industrial policies, see my chapter "Trade and Industrial Policy: China in the 1990s to Today," in *The Oxford Companion to the Economics of China*, 2014, Oxford University Press.

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