Full length Article

Import competition from and offshoring to low-income countries: Implications for employment and wages at U.S. domestic manufacturers

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\begin{abstract}
Using confidential linked firm-level trade transactions and census data between 1997 and 2012, we provide new evidence on how American firms without foreign affiliates adjust employment and wages as they adapt to import competition from low-income countries. We provide stylized facts on the input sourcing strategies of these domestic firms, contrasting them with multinationals operating in the same industry. We then investigate how changes in firm input purchases from low-income countries as well as domestic market import penetration from these sources are correlated with changes in employment and wages at surviving domestic firms. Greater offshoring by domestic firms from low-income countries correlates with larger declines in manufacturing employment and in the average production workers’ wage. Given the negative association, however, the estimated magnitudes are small, even for a narrow measure of offshoring that includes only intermediate goods. Import penetration of U.S. markets from these sources is associated with relatively larger changes in employment for arm’s length importing firms, but has no significant correlation with employment changes at firms that do not trade. Given differences in the degree of both offshoring and import penetration, we find substantial variation across industries in the magnitude of changes associated with low-income country imports.
\end{abstract}

1. Introduction

The growth of imports from low-income countries has sparked national debate over its impact on the U.S. manufacturing sector, which has shed jobs while charting consistent output growth. After holding steady at about 17 million jobs through the 1990s, manufacturing employment dropped by 6.2 million between 1997 and 2012. This rapid decline in the number of manufacturing jobs coincided with rising levels and shares of U.S. imports of manufactured goods from low-income countries. 

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\textsuperscript{1} Any opinions and conclusions expressed herein are those of the authors and do not necessarily represent the views of the U.S. Census Bureau. All results have been reviewed to ensure that no confidential information is disclosed.

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countries – those countries with per capita incomes only a fraction of the American level. Over the period, U.S. imports from low-income countries rose steadily as a share of domestic consumption, from less than 7% in 1997 to almost 21% by 2012.2

Sophisticated analyses support the popular belief that import competition from countries with lower income, especially China, is a significant driver of losses in U.S. manufacturing employment. Acemoglu, Autor, Dorn, Hanson and Price (2016) seek to explain employment losses at the industry level, focusing on import competition from China. Their central estimates suggest job losses from rising Chinese import competition in the range of 2.0–2.4 million over the period 1999 to 2011. Looking at the national labor market, Pierce and Schott (2016) again focus on imports from China but link manufacturing job losses after 2000 to a U.S. policy change rather than Chinese supply growth. They find that industries for which the granting of permanent Most Favored Nation status to China resolved uncertainty about larger future US tariff rates experienced greater employment loss.

Despite this bleak picture of how trade with low-income countries influences American manufacturing jobs, not all observers see a direct relation between changes in trade patterns and employment. Edwards and Lawrence (2013) show that the decline in U.S. manufacturing employment has been remarkably predictable since 1960 and argue that there is little to suggest that something fundamental has changed in the relationship between manufacturing employment and job trends, even though manufactured imports from low-income countries have grown. They also find that the level and decline in the US manufacturing employment shares is similar to trends in other industrial countries, including those with large manufacturing trade surpluses.

While these analyses are motivated by the growth in manufactured goods imports from low-income countries, they do not distinguish between imports that compete with U.S.-made goods generally and “offshore outsourcing,” direct purchases of foreign-made inputs by U.S. firms. This approach ignores the important linkages between fragmentation of production processes and the growth in low-income manufactured imports. As found by Pierce and Schott (2016) using Chinese Customs data, the strongest relationship between changes in U.S. tariff policy and Chinese export growth is for foreign-owned firms operating in China. Moreover, they find that trade volumes in industries liberalized by the granting of permanent normal trade relations rose for both general exports and for processing exports. This evidence is consistent with important links between production fragmentation, direct investment by developed country firms, and the import surge from low-income sources.

This paper documents contemporaneous movements in U.S. manufacturing employment and wage and import competition in the form of final goods, on the one hand, and firm offshore outsourcing, on the other. We measure “import competition” as economy-wide, industry-specific import penetration. Changes in import penetration capture the pressure on American producers when wholesalers and retailers make imported products available to consumers on final markets. To measure offshoring, we create a broad and a narrow measure of imported inputs, both using confidential firm-level trade transactions. Because we are able to create separate measures of import penetration and offshoring, we are able to record the co-movements of employment and wages with each of these dimensions of competitive pressure from the growth of low-income-country export competency.

Offshore outsourcing reflects the trading activities of firms themselves, and its predicted impact on employment is thought to be more complicated than that of import penetration generally. Firms may use offshore outsourcing as a substitute for domestic production of certain inputs, leading to domestic lay-offs. At the same time, imported intermediates may allow domestic firms to compete successfully with imported final goods by lowering production costs. Surviving firms may then be able to expand production domestically while shifting their employment mix away from production workers and toward non-production and headquarter employment. In this way, production workers’ wages as well as relative labor shares may be affected by offshore outsourcing.

Considering the multiple margins along which firms adjust to competition from low-income countries, this paper focuses on manufacturing firms that do not trade with foreign affiliates – that is, we focus on domestic firms rather than multinational firms. These less-globally-engaged enterprises account for 95% of manufacturing firms and employ about half of American manufacturing employment. Unlike larger and more productive multinational enterprises, domestic firms cannot move employment to overseas affiliates to reduce costs.3 Replacing domestically produced inputs with foreign-sourced inputs requires that these firms import intermediate goods directly.4 Unlike multinationals, whose trade patterns reflect affiliate locations and activities as well as U.S. based production activity, trade patterns of non-multinational domestic firms reveal changes in their U.S. operations only.

With access to confidential matched firm-level production and trade datasets, we focus on this narrowly defined set of U.S. firms to better understand the dynamics of manufacturing employment and their relation to offshoring and import penetration. Defining domestic firms as those that do not engage in trade with foreign affiliates, we investigate how employment changes correlate with growth in offshore outsourcing, measured by firms direct importing activity, and with growth in the share of foreign-made goods sold on the U.S. market. We are able to compare the response to import

2 Sources and additional data on U.S. import patterns are provided below.
3 However, even in this case, movement of jobs offshore may have a net positive effect on U.S. based employment if it allows multinational firms to reduce costs and expand global sales.
4 Bernard, Jensen, Redding, and Schott (2016) provide a framework for understanding the multiple dimensions along which multinationals operate and use it to interpret features of U.S. trade transactions data.
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