Wage Effects of Shifts in Industrial Composition: The Case of Mexican Cities and NAFTA

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Summary
What happens to wages when local industrial composition of employment shifts? I address this question in the context of Mexican cities during 1990-2000, the decade in which NAFTA was enacted. The enactment of NAFTA and consequent rise in outsourcing of manufacturing jobs from the US into Mexico improved the share of manufacturing employment and earning of Mexican manufacturing workers in cities where trade and investment liberalization increased the demand for labour within manufacturing. I show that during the 1990s, such wage improvements within manufacturing sector spilled over locally to all other sectors via the improvements in the outside option of unemployed workers in all sectors and their position in bargaining for higher wages resulting from the induced shifts in local industrial compositions that favour high paying sectors such as manufacturing.

Significance
• This study highlights the importance of industrial composition as a long-run determinant of wages, which has been overlooked in the literature.
• It shows that a proper assessment of the wage and inequality impacts of changes in trade policy requires a holistic approach that looks into all sectors rather than focusing only on Manufacturing, and takes into account spatial heterogeneities across different localities within economies.

Results
• I find substantial and statistically significant wage impact causally associated with shifts in local industrial composition. A shift in a city’s industrial composition that increases its measure by 0.01 units (one standard deviation change) increases sectoral wages in that city by about 4%. This impact is almost 4 times larger than the wage impacts conventionally associated with shifts in industrial composition. The results do not suffer from endogeneity and are robust to correcting for sample selection bias generated by regional migrations and to the presence of alternative explanatory mechanisms.
• Pattern of shifts in industrial compositions in southern cities in Mexico do not favour the higher paying sectors. Thus, the results provide an explanation for the increase in North-South wage gap in Mexico during the 1990s that has been overlooked in the literature.

Objective and Approach
• When an unemployed worker is matched with a firm in a specific sector, the unemployed uses their outside option as leverage for bargaining. The outside option is to leave the match and search for jobs. The value of this option depends on the distribution of employment opportunities as an unemployed worker finds a job in another industry in proportion to the relative size of that industry in the city. Thus, improvements in composition of employment in a city in favour of the higher paying sectors, so that employment share of such sectors increase in the city’s total employment, is an improvement in the value of the outside option of the bargaining unemployed workers in all sectors within the city and will consequently result in higher wages across all sectors.
• The objective is to create and calculate a city level measure of industrial composition and use geographical variation in this measure over time to see whether changes in city-sector wages are systematically related to changes in the measure of industrial composition.

Measure of "fractionalization" of employment in a city at the start of the decade (Glaeser, Kallal, Scheinkman, and Shleifer, 1992), levels of education (Moretti, 2004; Acemoglu and Angrist, 1999), and minimum wages (Fairris, Ropli, and Zepeda, 2008).

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Future Objectives
• Further exploration of the impacts of shifts in local industrial compositions on poverty and wage inequality as well as understanding the reasons behind the spatial heterogeneity of such shifts.
• If there are inter-regional spillovers of high wages, so that improvements in industrial composition of a city could increase wages in other neighbouring cities, then concerns about the growing spatial wage inequality and poverty should be of less relevance over longer terms.