

# On the Aggregate and Distributional Effects of Globalization on the United States

by Andres Rodriguez-Clare (based on joint work with Costas Arkolakis, Natalia Ramondo, and Stephen Yeaple)

A recent article by the Wall Street Journal called attention to the fact that U.S. multinational firms "cut their work forces in the U.S. by 2.9 million during the 2000s while increasing employment overseas by 2.4 million, new data from the U.S. Commerce Department show." The article went on to suggest that this phenomenon underscores "the vulnerability of the U.S. economy, particularly at a time when unemployment is high and wages aren't rising. Jobs at multinationals tend to pay above average wages and, for decades, sustained the American middle class."<sup>1</sup>

This project seeks to understand the effect of increasing internationalization of production by U.S. firms on aggregate income as well as its economic impact on different types of workers. By using their technologies abroad, U.S. firms can lower their costs, and this leads to a combination of higher profits and lower prices for domestic consumers. For example, the fact that Apple Corporation produces iPads in China leads to higher profits for Apple and lower prices for U.S. consumers. But this has a downside for U.S. production workers: production abroad by U.S. firms effectively generates competition for home-country workers, and this tends to lower wages in the U.S.

At the same time, some U.S. workers may actually benefit. This is because the higher profits made by U.S. firms thanks to the possibility of producing abroad at lower costs leads to a higher demand for the highly-skilled workers needed to come up with their innovative products. Returning to the previous example, the high profits expected by Apple from being able to sell an iPad at \$500, itself the result of manufacturing the product in China, leads to higher investments in R&D by Apple. In turn, this leads to higher demand for engineers at its headquarters in California.

In a sense, thanks to multinational production, the U.S. can specialize in producing and exporting ideas while importing goods made abroad with those ideas. This has effects on

---

<sup>1</sup>"Big U.S. Firms Shift Hiring Abroad," Wall Street Journal, April 19, 2011.

profits and wages as well as the allocation of resources between innovation and production. Sorting out these different effects of globalization in a world in which the location of innovation and production is endogenous and geographically separable requires careful general equilibrium analysis. This project intends to develop a quantitative multi-country general equilibrium model that allows for endogenous innovation and for the fruits of this innovation to be exploited anywhere in the world.

The model will be calibrated to match trade and MP flows and then use the calibrated model to address a series of questions. How does a general decline in trade and MP costs affect the location of innovation, and what are the implications for relative and real wages in different countries? In particular, does MP hurt low-skilled workers and benefit high-skilled workers in the U.S.? How much do different countries gain from trade and MP? What are appropriate policies for the U.S. in dealing with globalization of production?