Economics Letters 160 (2017) 38–42

Contents lists available at ScienceDirect

Economics Letters

journal homepage: www.elsevier.com/locate/ecolet

Trading with China: Productivity gains, job losses☆

JaeBin Ahn *, Romain Duval

International Monetary Fund, 700 19th street NW, Washington, DC 20431, United States

HIGHLIGHTS

- This paper analyzes the impact on sector-level productivity in advanced economies of trade with China.
- Main findings suggest large productivity gains from growing trade with China.
- Meanwhile, findings on adverse labor market impacts from imports points to a critical role for policy in redistributing the gains from trade.

ARTICLE INFO

Article history:
Received 22 May 2017
Received in revised form 12 July 2017
Accepted 13 July 2017
Available online 6 August 2017

JEL classification:
F13
F14
F43
O43

Keywords:
Trade
Productivity
Growth
Jobs
China

ABSTRACT

We analyze the impact on sector-level productivity in advanced economies of trade with China between the mid-1990s and late-2000s, separately identifying the export and import channels. Our findings point to large productivity gains from growing trade with China.

1. Introduction

Protectionist sentiment is on the rise amid prolonged economic stagnation in advanced economies, representing a major shift in political focus away from the benefits toward the costs of globalization. In particular, rising trade with China has been increasingly blamed for job losses in exposed industries. However, any such effects should be weighed against the gains from trading with China.

There are good reasons to believe that trade can improve the productivity of an economy. For one thing, imports can promote productivity by increasing competitive pressure on domestic firms (e.g., Helpman and Krugman, 1985). In addition, imported inputs can improve firm-level productivity by expanding the variety and enhancing the quality of the intermediate goods to which firms have access (e.g., Grossman and Helpman, 1991). At the same time, exporting can increase firm-level productivity via learning from foreign markets both directly, through buyer–seller relationships, and indirectly, through increased competition from foreign producers or externalities (e.g., Balassa, 1978). Alongside the realization of those firm-level productivity gains, reallocation of resources toward more productive firms yields a further increase in productivity at the aggregate level (e.g., Melitz, 2003).

The modern empirical literature on trade and growth traces back to, among others, Frankel and Romer (1999), who explored cross-country variation without distinguishing export and import channels.[1] More recently, firm-level studies in emerging market economies successfully identified productivity gains from exporting (e.g., Bustos, 2011; Lileeva and Trefler, 2010; De Loecker,

☆ We thank to participants at Columbia University, the IMF-WB-WTO joint trade workshop, and the IMF Jobs, Growth and Structural Reforms seminar. The views expressed in this note are those of the authors and do not necessarily represent the views of the IMF, its Executive Board, or IMF management.

* Corresponding author.
E-mail addresses: jahn@imf.org (J. Ahn), rduval@imf.org (R. Duval).

[1] For a recent study that looks at the growth impact of the recent global trade slowdown, see Constantinescu et al. (2016).

http://dx.doi.org/10.1016/j.econlet.2017.07.015
0165-1765/

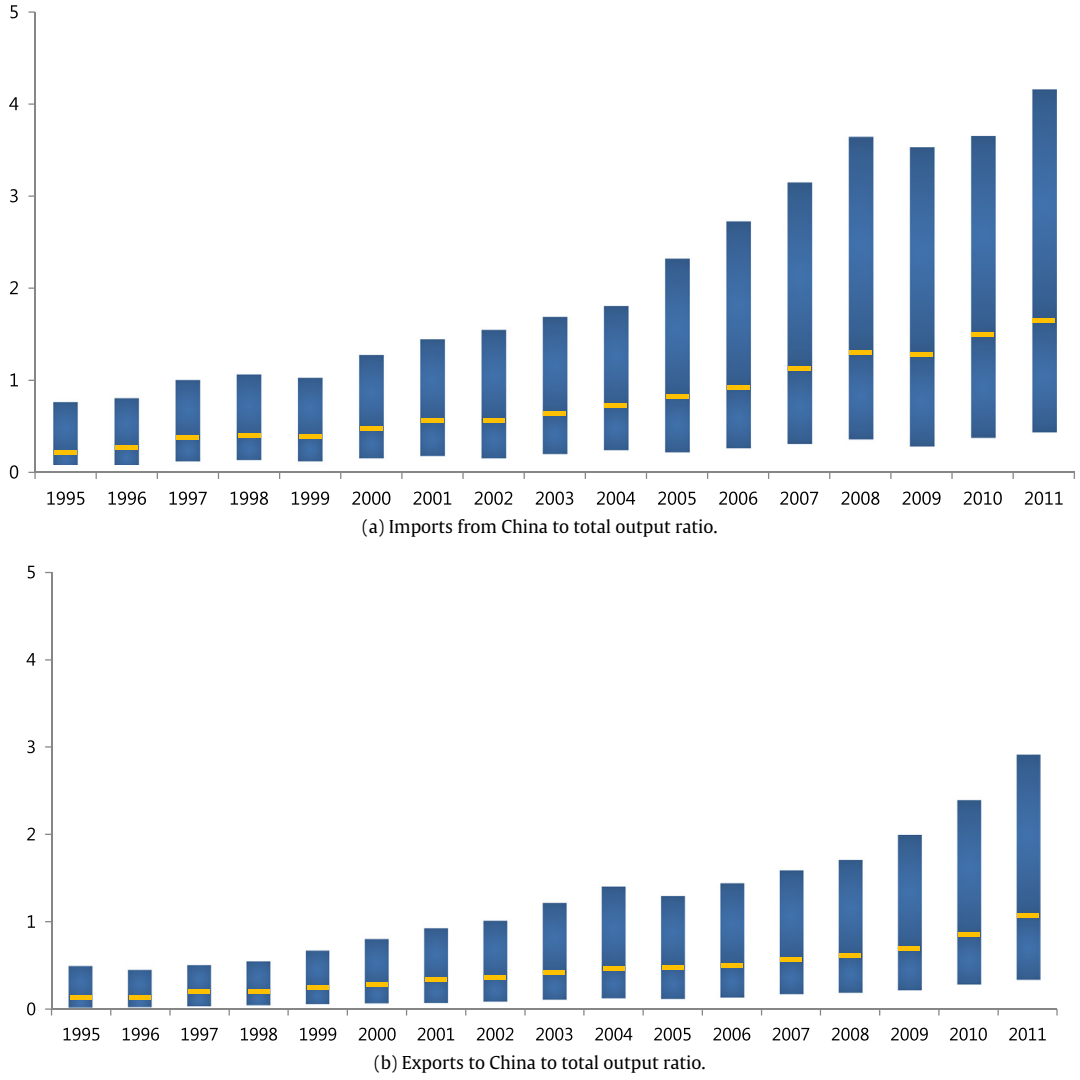

Fig. 1. The evolution of trade with China across industries in advanced countries. Note: The horizontal line inside each box represents the median value across all country-industry observations; the upper and lower edges of each box show the top and bottom quartiles. They are all expressed in percent. Source: World Input Output Database (WIOD); Authors' calculation.

2013) and importing (e.g., Amiti and Konings, 2007; Kasahara and Rodrigue, 2008; Halpern et al., 2015; Topalova and Khandelwal, 2011) separately.

This note fills a gap in the empirical literature by transposing the econometric methodology used in micro-level studies to a sector-level framework, so as to estimate sector-level – rather than firm-level – productivity gains from import and export channels separately. In doing so, we quantify the productivity gains for advanced economies from rising trade with China.

2. Data and empirical strategy

We combine the country-sector-year-level TFP data from the EU KLEMS and World KLEMS databases with the corresponding trade data from the World Input Output Database (WIOD).[2]

Both exports to, and imports from China grew steadily between the mid-1990s and mid-2000s, before falling during the global financial crisis and recovering only slowly since then (Fig. 1). At the same time, there has been wide dispersion in these trends across countries and industries, providing a source of variation that can be used to identify the impact of each trade channel on productivity.

We consider the following baseline empirical specification[3] :

$$\ln TFP_{ist} = \beta_1 IMP^{CHN}_{is,t-l} + \beta_2 EXP^{CHN}_{is,t-l} + FE_{is} + FE_{it} + \varepsilon_{ist}, \quad (1)$$

where subscripts i, s, t denote country, sector, and year, respectively. The dependent variable $\ln TFP_{ist}$ denotes log total factor productivity (TFP) in country i and sector s in year t, while $IMP^{CHN}_{is,t-l}$ and $EXP^{CHN}_{is,t-l}$ are the corresponding country-sector-level imports from and exports to China (both as a ratio to total domestic output) lagged 1 year. The specification also includes country-sector (FE_{is}) and country-year (FE_{it}) fixed effects.

Identifying the causal effect of trade on growth is challenging due to potentially severe reverse causality and measurement issues. Since the analysis in this note attempts to identify the causal effect of the two distinct channels through which trade may shape productivity, it requires a separate instrumental variable for each of them.

[2] For more details on TFP data employed in this note, see Ahn et al. (2016).

[3] A set of panel unit root tests, not reported here but available upon request, rejects the hypothesis that these variables contain a unit root.