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Trade liberalisation, inward FDI and productivity within Australia's manufacturing sector

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ABSTRACT

Using a simultaneous equations model, this paper aims to analyse the endogenous relationship among trade liberalisation, inward foreign direct investment and productivity within Australia's manufacturing sector. Using two-digit quarterly time-series data, from 1988 to 2012, we find empirical support for trade liberalisation as a mechanism for improving productivity within the domestic manufacturing sector. However, we find that inward foreign direct investment has not had a statistically significant impact on productivity within the sector. By drawing on these findings, among others, we make some recommendations for Australia's international trade, foreign investment and manufacturing industry policies.

1. Introduction

The manufacturing sector has long been a key pillar of the Australian economy, accounting for as much as 16% of domestic output in the early 1970s. However, the domestic economy has undergone significant structural change in recent decades, characterised by an expansion of the services sector, and a relative decline in manufacturing and agricultural output (Lowe, 2012). According to the Reserve Bank of Australia (2001), structural change in the Australian economy has been predominantly driven by technological advancement and reduced protection from international competition. This paper focuses on the latter, paying particular attention to the impact of international competition on productivity within the domestic manufacturing sector.

The most notable channels through which domestic manufacturers have been exposed to foreign competition are imports and inward foreign direct investment (FDI). As depicted in Fig. 1, both nominal and effective rates of assistance (NRA and ERA, respectively) afforded to the aggregated two-digit Australian and New Zealand Standard Industrial Classification

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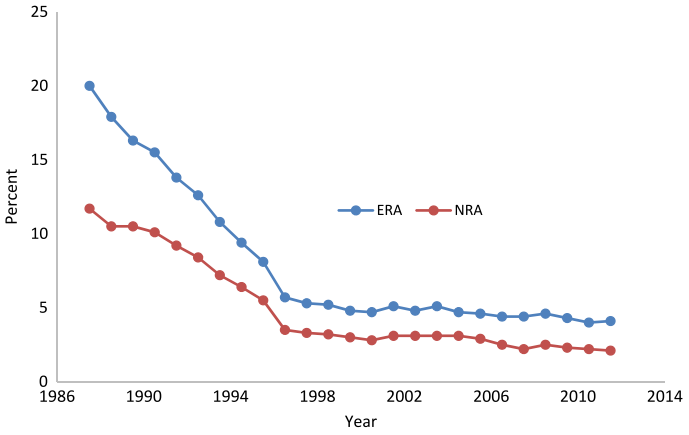

Fig. 1. Assistance afforded to two-digit manufacturing industries. Note: Estimates of ERA and NRA from after the year 2000 are available from the Productivity Commission upon request.
Source: Productivity Commission (2000).

(ANZSIC) manufacturing sector have declined substantially in recent decades. Moreover, microeconomic reforms and bilateral agreements have assisted Australia's total stock of inward FDI to grow from around 15% of GDP in 1980 to over 35% of GDP in 2012.

Whilst much of the existing theory in international economics suggests that increased liberalisation of trade and FDI should result in improved host-nation productivity, productivity levels in Australian manufacturing have stagnated since the early 2000s (Parham, 2004). Consequently, this paper aims to explore the relationship among trade liberalisation, inward FDI and productivity within the aggregated two-digit ANZSIC manufacturing industries. Specifically, in exploring this relationship, the paper focuses on addressing the endogeneity issue that has been largely ignored in previous studies.

As a result of limited research exploring this issue in the Australian context, this paper aims to provide an important evaluation of the Australian international trade, foreign investment and manufacturing industry policy arrangements. Additionally, this paper also aims to update the existing literature by analysing current datasets and providing a useful starting point for further empirical research.

The remainder of this paper is structured as follows. Section 2 offers a brief background on international competition and the manufacturing industry in Australia. Section 3 provides a review of key literature. Section 4 outlines the methodology underpinning the empirical analysis. Section 5 identifies data sources and constructs variables. Empirical results are presented and discussed in Section 6. Section 7 offers policy recommendations and concludes the paper.

2. The empirical setting

In the years following the Second World War, attitudes towards international competition in Australia have changed dramatically. Under the Menzies-led governments of the 1950s and 60s, protectionism was the cornerstone of industry policy. Specifically, the Menzies governments offered significant tariff protection to domestic manufacturing industries while concurrently attempting to attract FDI (Freedman and Stonecash, 1997). Although protectionist policies achieved their aim of expanding the domestic manufacturing sector and providing an abundance of employment opportunities to Australians, by the late 1960s calls to improve economic efficiency gained traction.

Over the following two decades the level of trade protection afforded to domestic industries declined substantially, assisted largely through a universal 25% tariff reduction in 1973. The ERA afforded to domestic manufacturers began to decline more rapidly through the late 1980s and 1990s following significant microeconomic reforms and, since the late 1990s, the ERA has remained relatively steady at around five percent, reflecting the sector's exposure to increasingly higher levels of import competition (Productivity Commission, 2000).

Whilst the microeconomic reforms undertaken in Australia throughout the 1980s and 90s helped to significantly reduce trade barriers, they also continued to attract FDI. According to Crotti et al. (2010), these reforms played an important role in attracting greater FDI in Australia; rising from 15% of GDP in 1980 to over 35% in 2012. However, it is important to note that over the five years to 2013, FDI in manufacturing averaged less than 16% of total inward FDI in the Australian economy.

As the Australian economy has increased its openness to international competition, the manufacturing sector has undergone significant change. In the mid-late 1980s, manufacturing was responsible for close to 17% of total employment and produced nearly 10% of domestic output. However, as in most developed economies, Australia's manufacturing sector has been the victim of major structural change in recent decades. In 2012, manufacturing's share of total employment and domestic output had fallen to around eight and six percent, respectively.