



Is foreign direct investment good for health in low and middle income countries? An instrumental variable approach



Darren K. Burns^{a, *}, Andrew P. Jones^b, Yevgeniy Goryakin^c, Marc Suhrcke^{a, d}

^a Health Economics Group, Norwich Medical School, University of East Anglia, Norwich, NR47TJ, UK

^b Norwich Medical School, University of East Anglia, Norwich, NR47TJ, UK

^c Organisation for Economic Co-operation and Development, Paris, France

^d Centre for Health Economics, University of York, Heslington, York, YO105DD, UK

ARTICLE INFO

Article history:

Received 25 July 2016

Received in revised form

16 March 2017

Accepted 24 March 2017

Available online 28 March 2017

Keywords:

Low and middle income countries

Foreign direct investment

Instrumental variables

Population health

Development

Panel data regression

ABSTRACT

There is a scarcity of quantitative research into the effect of FDI on population health in low and middle income countries (LMICs). This paper investigates the relationship using annual panel data from 85 LMICs between 1974 and 2012. When controlling for time trends, country fixed effects, correlation between repeated observations, relevant covariates, and endogeneity via a novel instrumental variable approach, we find FDI to have a beneficial effect on overall health, proxied by life expectancy. When investigating age-specific mortality rates, we find a stronger beneficial effect of FDI on adult mortality, yet no association with either infant or child mortality. Notably, FDI effects on health remain undetected in all models which do not control for endogeneity. Exploring the effect of sector-specific FDI on health in LMICs, we provide preliminary evidence of a weak inverse association between secondary (i.e. manufacturing) sector FDI and overall life expectancy. Our results thus suggest that FDI has provided an overall benefit to population health in LMICs, particularly in adults, yet investments into the secondary sector could be harmful to health.

© 2017 Elsevier Ltd. All rights reserved.

1. Introduction

There is a long-standing debate in the literature on the importance of the macroeconomy to population health. Whilst the predominant view, in the spirit of Pritchett and Summers (1996) seminal paper 'Wealthier is Healthier', appears to be that economic development over the long run or in a cross section of countries is good for health. Yet the same may not apply for short run macroeconomic fluctuations (Gerdtham and Ruhm, 2006).

One important macroeconomic determinant of health could be foreign direct investment (FDI), defined by the World Bank (2014) as cross-border investment to establish a lasting interest. FDI is widely acknowledged to promote economic growth, increases in wages and generally improved working conditions in low and middle income countries (LMICs) (Blouin et al., 2009; Feenstra and Hanson, 1997; Moran, 2004). As these factors could affect access to healthcare, especially in LMICs where access to care is strongly dependent on ability to pay, it may be the case that FDI is

beneficially associated with population health. Yet conversely, FDI may also have adverse effects on health.

For example, there is a considerable body of work suggesting links between FDI and consumption of tobacco or unhealthy foods, rising levels of harmful pollution, and increasing over-nutrition, all of which directly harm population health (Gilmore and McKee, 2005; Hawkes, 2005; Jorgenson, 2009, 2009a; Labonté et al., 2011). This suggests a complex and ex ante ambiguous overall relationship between FDI and health in LMICs. Just three articles to date have quantitatively investigated the health impacts of FDI in LMICs. Two very similar studies by Jorgenson (2009, 2009a) focus on FDI into secondary sector industries (See Appendix Table 3), and levels of water pollution using panel analysis of annual data from 30 countries. Their results suggest that secondary sector FDI is associated with elevated pollution, which in turn increases infant and child mortality. Another study investigated the effect of FDI and international trade on life expectancy, using annual time-series data from Pakistan (Alam et al., 2015). Results from vector error correction models indicated that in Pakistan, increases of FDI were associated with both short and long-term benefits to life expectancy.

Whether the findings from these studies extend to LMICs in

* Corresponding author.

E-mail address: DBurns@bresmed.com (D.K. Burns).

general is yet to be rigorously tested. We address this by empirically investigating the overall impact of FDI on health, with health being proxied by a set of general population health indicators. Additionally, as Jorgenson (2009, 2009a) raised the possibility that industrial composition of FDI affects its association with health, we also begin to further unpack the role of FDI by exploring the potentially specific, differential health impacts resulting from different types of FDI. To achieve this, FDI to LMICs was disaggregated into investments into primary, secondary, and tertiary industries, as defined by the United Nations Conference on Trade and Development (UNCTAD; see Appendix Table 3). In empirically assessing the impact of FDI on health, it is important to acknowledge the likelihood that there is a reverse impact running from health to FDI inflows in LMICs, as described in Fig. 1 (Burns et al., 2016). As Alsan et al. (2006) argue, health affects the human capital of the workforce, and consequently productivity. If this is the case, then this relationship leads to LMICs with better population health subsequently receiving more FDI. The authors report some empirical support for this, in the form of regression analysis of life expectancy and FDI inflows in 85 LMICs. Since then, empirical studies of health influencing FDI have generally supplemented evidence for healthier LMICs receiving more FDI, using similar methods and panel datasets (Asiedu et al., 2015; Azemar and Desbordes, 2009; Ghosh and Renna, 2015).

If the FDI and health association is truly bi-directional, regression analyses failing to take this into account will be biased by so-called “endogeneity”, meaning that FDI will be correlated with the error term, leading to an erroneous estimated coefficient and standard error (Gujarati, 2009). To adjust for this issue and the misleading results it can lead to, an exogenous determinant of FDI inflows which is not related to population health (see Fig. 1) is required. In this article, therefore, we investigate the existence of a causal relationship between FDI and population health in LMICs whilst explicitly taking endogeneity into account using a novel instrumental variable (IV) regression approach.

Our findings suggest that after explicitly adjusting for endogeneity, FDI is weakly associated with a marginal benefit to overall life expectancy in LMICs, yet more closely associated with adult mortality. We also find some weak preliminary evidence of secondary sector FDI harmfully impacting upon health in LMICs.

2. Data

Table 1 lists the data sources and descriptive characteristics of all the variables used. Sections 2.1–2.3 briefly comment on the population health, FDI and factors influencing both FDI and health cells in Fig. 1. To investigate whether FDI is related to overall health in LMICs, annual panel data from 85 LMICs, over the period 1974–2012 was used. Countries were categorized as LMICs based on the World Bank (2015a,b) classification of income and lending groups. Information on countries included in the analysis is available in Appendix Tables 1 and 2.

We explored whether the industrial decomposition of FDI was related to health using panel data from a subset of 31 LMICs 1987–2008 (see Appendix Table 3). Except for FDI data, both the overall and sectoral analyses utilized the same data sources.

2.1. Outcome variables

Life expectancy at birth, as reported in the World Bank (2015a,b) World Development Indicators (WDI) was used as a primary measure of overall population health because it was the most encompassing measure which was also widely available for LMICs. Measures incorporating both length and quality of life are preferable, but were unavailable for a large number of countries and years. Other health outcome variables were used to investigate the relationship between FDI and health in different age groups, and these included infant, under-five and adult mortality rates.

2.2. Predictor variables

Foreign investment was measured using data on FDI inflows to LMICs taken from the UNCTAD (2014) bilateral investment database, as is common in research within this context (Ghosh & Renna, 2015). Although it has been suggested that aggregate FDI inflows are unlikely to fully account for multinational corporation activity, FDI is the only measure which is available for most LMICs over longer time periods (Lipse, 2008).

Data on the sectoral breakdown of FDI inflows to LMICs was combined with data on total FDI inflow to calculate the proportion of total FDI made up of primary, secondary or tertiary sector investments, (defined by UNCTAD (2009), see Appendix Table 3). This

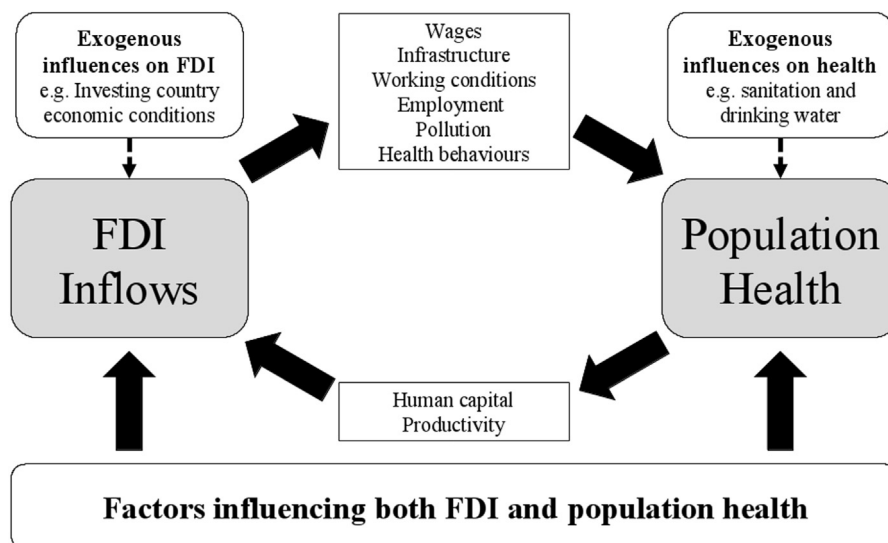


Fig. 1. Conceptual Framework of the association between FDI and population health in LMICs.

Download English Version:

<https://daneshyari.com/en/article/5046600>

Download Persian Version:

<https://daneshyari.com/article/5046600>

[Daneshyari.com](https://daneshyari.com)