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Growth, human development, and trade: The Asian experience

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ABSTRACT

This study looks at the three-way relationship between economic growth, human development, and openness to trade in a large panel of developing Asian economies. Using a theoretically motivated simultaneous equations system, we find that although human development contributes positively to economic growth, in the case of our Asian sample growth does not appear to have had a positive influence on human development. Uneven growth accompanied by lagging institutional development, preventing human capital formation, might have inhibited human development in the short to medium run. Complementary to the literature showing that growth is sustainable only when accompanied by human development, we confirm a role for trade liberalisation policies in achieving higher growth as well as human development.

1. Introduction

The subject of this paper is the relationship between economic growth (EG) and human development (HD). Recent work on development and growth has suggested that human capital accumulation may be important in enhancing economic growth *as well as* human development (Suri et al., 2011). We widen the debate by also considering the role of trade liberalisation, which has a long pedigree in the policies of development organisations such as the World Bank, IMF and WTO (Wang et al., 2004).

The empirical literature on the relationship between openness to trade (OT) and economic growth has had somewhat mixed results (see Frankel and Romer, 1999; Greenaway et al., 2002; Falvey et al., 2012). Most authors conclude that openness has generally improved economic growth in developing countries, however the precise channel through which it can help achieve balanced economic growth does not appear to be straightforward.²

The 'conventional' economic approach to development holds that trade liberalisation has a generally positive impact on poverty alleviation. A more sceptical view has seen globalisation as a channel for exploiting developing countries' low labour costs, for example through

child labour (Dagdemir and Acaroglu, 2010; Neumayer and De Soysa, 2005). We build on the recent literature, notably Suri et al. (2011), that has uncovered subtle causal interactions between HD and EG in developing countries. But we also build OT into our analysis, since it has long been at the core of economic orthodoxy in development policy.

By examining this three-way link between EG, HD, and OT, the more complete model is capable of addressing not only outcomes but also the factors that drive those outcomes. Our approach is consistent with the recent literature that emphasises the socio-economic role played by institutions (education, governance quality, social development, etc.) as long-run determinants of development and growth (Acemoglu et al., 2005). Our findings suggest that development policy can be considered as a three-way mix of openness, growth and development. Focussing on human development earlier in the process can help sustain growth, while openness to trade may be appropriate in cases where socio-economic conditions and the quality of institutions are at an adequate level.

Despite strong arguments (Acemoglu et al., 2005) that political institutions underlie the poverty traps besetting many countries growth records, there has been relatively little analysis or agreement on whether inadequate HD has a role in sustaining such traps. Barro

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¹ The paper draws on Ghulam Mustafa's doctoral research; nevertheless, the authors' contributions to this paper are equal. We thank Michela Vecchi and John Grahl for contributions to earlier versions of the paper and the journal editor and anonymous referees for constructive comments.

² For example Cooray et al. (2014) show that the impact of openness on growth is importantly moderated by the gender-specific levels of primary and secondary education.

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(2000), for example, sees HD as a 'good' which wealthier countries choose to supply to their population. Against this, we can set Amartya Sen's (1999) argument in favour of all types of HD. This approach found empirical support in Blume and Voigt (2007), who found positive relationships between elements of HD and economic development. Econometric modelling by Suri et al. (2011) has shown that bidirectional causality can exist between HD and EG. Thus the former can be viewed not only as an outcome of EG, but also as an essential precondition for achieving it. Our goal is to test further whether such positive, bi-directional effects are robust to the inclusion of a third explanatory factor - openness to trade - since this has been an important factor in standard growth equations (e.g., Cooray et al., 2014).

The literature on trade liberalisation has generally taken the view that it increases economic growth (e.g., Frankel and Romer, 1999; Greenaway et al., 2002; Wang et al., 2004; Falvey et al., 2012). By contrast, an influential strand of international economics increasingly concerns itself with socio-economic phenomena. Hence we extend the analysis of HD to include trade openness in line with work by Nunn (2007), which has looked at the relative quality of national institutions (security, law, governance) in trade performance. But also this approach is in keeping with work that has looked at the role of social, institutional and political factors in EG (e.g., Acemoglu et al., 2005; Acemoglu et al., 2008; Tabellini, 2010). In this stylised view, the social and institutional components inherent in HD are often not only 'deeply embedded' but usually also long-run in nature. These long-run, deeplyembedded processes may play a part in how EG, HD, and OT interact in the development process. Furthermore, such subtle relationships may not have been easily picked up in 'conventional' economic studies. And this oversight may have been largely due to their use of single equation frameworks, shorter data sets, and pervasive endogeneity problems. Taken together, these difficulties may have served to conceal the economic significance of some deep lying, socio-economic phenomena.

Asian economic development has generally been characterised by a disparity between levels of human development and economic growth (Suri et al., 2011). Not only has the literature on improving HD, and that on generating EG, tended to proceed on separate lines but also the HD literature has tended to view development mainly as an output of economic growth rather than a potential contributing factor.

We focus on estimating a three-way relationship between EG, HD, and OT in the context of Asian economic development. Even if there is no simple association between openness and growth (e.g. Cooray et al., 2014), improvements in human development may be a pre-requisite for sustained growth (Ranis et al., 2000; Suri et al., 2011) since trade openness may interact with both these variables. Our sample of developing countries is highly relevant to investigating this three-way relationship. China and India are countries which adopted trade liberalisation policies only after achieving higher rates of economic growth, while the East Asian smaller economies are often cited as successful examples of export-led growth. Furthermore, Fig. 1 shows a strong positive association between openness and human development in the Asian economies.

Among the key relationships we set out to test are: is trade liberalisation a pre-requisite for economic growth, or the result of sustained output growth? Further, are there any systematic links between trade openness and economic growth and are the welfare consequences from trade liberalisation reflected in the level of human development?

The rest of the paper is organized as follows. In Section 2 we provide a description of the dataset and then set out a theoretically motivated framework for the empirical analysis and econometric methodology. Section 3 reports our estimation results, provides robustness checks, and includes a discussion of our main findings. Section 4 provides a brief summary in the context of the literature and draws some broader conclusions.

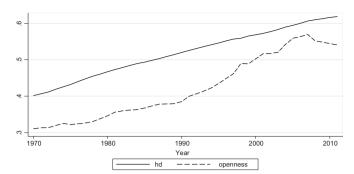


Fig. 1. Openness and human development in Asia. *Notes:* Openness is measured by economic globalization calculated as in Dreher (2006) and human development (hd) is authors own calculations.

2. Data and method

2.1. Data

For this paper we assembled a dataset including panel observations from twelve developing Asian countries, over forty-two years (1970–2011). The countries are Bangladesh, India, Nepal, Pakistan, Sri Lanka, Indonesia, Malaysia, Philippines, Singapore, South Korea, Thailand, and China. The data come from several sources. Real GDP at PPP exchange rates and employment data is collected from the Conference Board (2011). We complement this data with information from Deininger and Lyn (1996), Dreher (2006), WIDER (2008), Barro and Lee (2010), IMF (2011), UNDESA (2011), UNDP (2011), and World Bank (2012). Table 1 provides a brief description, summary statistics, and sources of the variables used in the analyses that follow.

We use the UNDP (2011) methodology to construct a time-varying HD index (HDI) as an indicator of human development. This index has been designed to emphasize the role of human welfare as a development policy goal (and outcome) rather than focussing only on economic growth (Klugman et al., 2011). The HDI aims to measure human development and capabilities in three dimensions: (i) long and healthy life; (ii) knowledge and human capital; and (iii) a decent standard of living. The HDI is based on the human capital measure used by Cohen and Soto (2007), for which we obtained data from Barro and Lee (2010).³

To measure trade openness, we use a globalization sub-index from the KOF Globalization Index (Dreher, 2006) as a broad measure of trade openness (OP1) which is our preferred OT measure. The KOF Globalisation Index is a composite index comprising an economic globalization index, a social globalization index, and a political globalization index. To check the robustness of our results we also use a trade volume measure of openness (OP2), from the Penn World Tables and a final measure (OP3) from the World Bank (2012).

2.2. Analytical framework and estimation methodology

The starting point of our analytical framework is the standard Cobb-Douglass country-level production function with constant returns to scale as used in Cooray et al. (2014):

$$Y_{it} = A_{i0} K_{it}^{\alpha} L_{it}^{(1-\alpha)} e^{\varphi Z_{it}}, \tag{1}$$

where Y_{it} is aggregate output of country i in period t, A_{io} is total factor productivity, K_{it} is the stock of physical capital, and L_{it} is the labour

 $^{^3}$ Human capital stock (H) is constructed using Cohen and Soto (2007) methodology and employing Barro and Lee (2010) data. We use a depreciation rate of 5% following Wang and Yao (2003). Details on the calculation methods for H and for HDI are available on request.

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