Exchange rate policy and export performance in a landlocked developing country: The case of Nepal

Ramesh C. Paudel, Paul J. Burke *

Arndt-Corden Department of Economics, Australian National University, Canberra, ACT, 2601, Australia

A R T I C L E   I N F O

A B S T R A C T

This paper examines the implications of Nepal's exchange rate policy for its export performance over the period 1980–2010. We first document Nepal's long-standing currency peg against the Indian rupee and that Nepal's real exchange rate appreciated substantially from the late 1990s. We then employ a gravity modeling approach to confirm that this real exchange rate appreciation has adversely affected Nepal's exports, especially to third-country markets. Nepal's exchange rate-related export competitiveness trap provides a motivation to reconsider the current peg.

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1. Introduction

The choice of exchange rate regime for a landlocked developing country involves several considerations. One is the effect on exports. Landlocked countries have to rely heavily on bordering countries for connections to international markets, although for some goods this reliance can be reduced by the use of air transport. Higher transport costs typically increase the costs of goods from landlocked countries, placing them at a disadvantage in international markets. This is particularly so for developing countries, the economies of which are often focused on the production of bulky agricultural and manufactured goods rather than light goods and services. The disadvantage could be exacerbated by the choice of a fixed exchange rate regime in the context of comparatively rapid producer-price inflation, which would combine to result in an appreciation of the real exchange rate against the currency to which the peg applies, and potentially other currencies also. This paper will document that this type of real exchange rate appreciation has occurred in Nepal, to the detriment of Nepal's exports. The results provide a motivation for Nepal to reconsider the current peg of the Nepalese rupee (NRe) against the Indian rupee (IRe).

The mountainous landscape of the Himalayan range has led Nepal to seek access to the sea via India only, with most merchandise exports to third-country markets travelling around 1000 km to reach the Bay of Bengal at Kolkata. Nepal's

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* Corresponding author. Tel.: +61 2 6125 6566; fax: +61 2 6125 3700.
  E-mail address: paul.j.burke@anu.edu.au (P.J. Burke).

dependence on India and its desire for macroeconomic stability have seen it maintain a fixed exchange rate against the IRe, with no change to this rate since 1993. As will be seen, however, Nepal's average producer prices increased at a relatively fast rate since the late 1990s, causing a real exchange rate appreciation vis-à-vis the IRe. Our calculations show that Nepal's real exchange rate also appreciated against the currencies of *other* partner countries from the late 1990s to the end of our sample period (2010). The International Monetary Fund (IMF, 2011) assessed that, as of 2010, Nepal's nominal exchange rate was overvalued by 10% or more.[1]

Nepal's export performance has been far from impressive. Merchandise exports were 5% of gross domestic product (GDP) in 2010, well below the global figure of 24% (World Bank, 2014a). The value of Nepal's annual merchandise exports to partners other than India has actually fallen since the year 2000, even in nominal terms. Nepal has a huge goods and services trade deficit (27% of GDP in 2010, or US$4.3 billion; World Bank, 2014a), financed by a combination of foreign aid, worker remittances, and borrowing. The country's trade deficit is often cited as an important structural challenge facing the nation (Basyal, 2011; Oh & Prasai, 2012; Panday, 2014; Paudel & Shrestha, 2006). Nepal remains a low-income country, with a lower GDP per capita than any other South Asian country except Afghanistan (World Bank, 2014a).

Our method involves two steps. We first document Nepal's exchange rate policy and the real currency appreciation the country experienced during the late 1990s and the 2000s. We then employ gravity modeling to confirm that Nepal's real exchange rate appreciation has been a significant contributor to its poor export performance. The analysis covers Nepal's merchandise exports to its largest twenty export markets over the period 1980–2010.

Our finding that Nepal's fixed exchange rate has seen it enter an export competitiveness trap presents a case that is consistent with the results of Nilsson and Nilsson (2002), who report that flexible exchange rates boost export performance among a sample of more than 100 developing countries. Our results also provide an illustration of the warning of Ghosh and Ostry (2009) that, when they result in real overvaluations, pegged exchange rate regimes can be economically damaging. In addition to being of direct policy relevance to Nepal, our findings may be of interest to, for example, the other landlocked developing countries that peg their currency to that of a large neighbor (e.g., Bhutan, Lesotho). As far as we are aware, this is the first paper to provide a systematic analysis of the effect of Nepal's real exchange rate on its exports.

This paper is structured as follows. Section 2 presents an analysis of Nepal's exchange rate, documenting the real appreciation it experienced in the late 1990s and 2000s. Section 3 discusses Nepal's export performance. Section 4 details our gravity model. Section 5 presents the gravity model results. Section 6 concludes.

2. Nepal's exchange rate

Recent history has seen the NRe fixed to the IRe, with occasional adjustments until the early 1990s. The most significant revaluation since the 1960s happened in November 1985 when Nepal devalued its currency under an IMF structural adjustment program, with the number of NRe per IRe increasing by 17% (Acharya, Khatiwada, & Aryal, 2003). There were three small appreciations of the NRe against the IRe in 1986, 1991, and 1993. Since 1993 the NRe:IRe exchange rate has remained the same: IRe 1 can be traded for NRe 1.60. The Appendix provides a history of Nepal's exchange rate since 1960.

Fig. 1 presents price indexes for Nepal and India for the period 1980–2010, each normalized to 100 in the year 2000. The GDP deflator – a measure of average producer prices – is used as it better reflects changes in the price competitiveness of a country's output than the consumer price index would (noting that the consumer price index covers imported consumer goods). Changes in the price levels for both countries show minor differences in the 1990s, but in the 2000s prices in Nepal increased relatively quickly. The Dutch disease effect of large remittance receipts has been cited as one of the reasons for Nepal's comparatively high inflation in recent years (IMF, 2012; Nepal Rastra Bank, 2009).[2]

Fig. 2 presents three real exchange rate indexes for Nepal for the period 1980–2010. The first is an export-weighted index covering Nepal's 20 largest export markets identified by their merchandise imports from Nepal over the full period. The second is a bilateral index with India (Nepal's large neighbor and largest export market). The third is an export-weighted index excluding India (i.e. for 19 partners). The indexes are based on the following formula:

$$\text{REER} = \text{BERI}\left(\frac{\text{WP}}{\text{DP}}\right) \tag{1}$$

where REER is the real effective exchange rate index, BERI is a nominal exchange rate index, WP is the GDP deflator of a partner, and DP is Nepal's GDP deflator. The index is for NRe per partner currency, so an increase denotes a depreciation of Nepal's real exchange rate. We have used initial euro-domestic currency conversion rates listed by the European Central Bank (2013) in our construction of euro-adopting countries' nominal exchange rate indexes. The export-weighted series in Fig. 2 use time-invariant weights equal to the merchandise export share of each partner over the full period 1980–2010.[3]

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[1] Panday (2014) also reports that Nepal's real exchange rate was overvalued as of 2008 (the last year of their analysis). The IRe has depreciated against major currencies such as the US dollar, euro, and Japanese yen since 2010, which has somewhat alleviated Nepal's export competitiveness trap. Nepal's peg means that any overvaluation against the IRe remains unaffected by this change.

[2] For a review of the effects of remittance inflows to Nepal, see Sapkota (2013). Lartey et al. (2012) found that the Dutch disease effects of remittance inflows are particularly damaging in countries with currency pegs.

[3] Our gravity model uses the same real exchange rate indexes but without any weighting by export share.