

# Trade liberalisation and household welfare in Nepal

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## Abstract

We examine some of the most recent works on general equilibrium models that measured the impact of trade liberalisation on household welfare. We modify the standard neo-classical model and apply it to a typical South Asian village economy which is still lagging in studies of policy modelling. We conclude that the combination of import and export liberalisations generates higher growth but the distribution pattern does not become pro-poor. Liberalisation under a flexible exchange rate regime when compared to the fixed regime can work negatively since the currency may appreciate much and eliminate the comparative advantages. We also find that a piece by piece external reform gives better economic results than implementing all external reforms together.

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## 1. Introduction

Computable general equilibrium model is becoming increasingly popular in studying the impacts of trade reform on household welfare. Here, we present a brief account of the most recent works on it. Hosoe (2001) found the overall impact of trade reform to be expansionary for the reforming developing country in the context of realisation of the Uruguay Round (UR) and Free Trade Agreement (FTA). Chitiga, Kandiero, and Mabugu (2005) found that complete trade liberalisation favours agricultural export and agricultural labours. But Boccanfuso and Savard

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(2005) found that only removal of specific import taxes would be positive for these households as a consequence of price and income effects of trade reform. While examining endogenous tariff formation, Francois and Rojas-Romagosa (2005) concluded that import protection in developing countries not only diminishes social welfare through efficiency and equity considerations, but also signals the economic and political weight of the capital-owners. Naude and Coetzee (2004) emphasized the mechanism by which the labour market becomes a transmission through which globalisation induces higher inequality, unemployment, and wage income differentials towards poorer/unskilled households.

These recent works deal with impacts of sectoral and unilateral import liberalisations. Here, two facets of trade reforms are overlooked so far. First, what happens to the household welfare if both import and export liberalisations are implemented together? And second, what happens if they are implemented along with exchange rate liberalisation?

This paper tries to answer these two questions. We model a representative South Asian developing economy of Nepal, implement the two policy simulations and address these two unanswered questions. The remainder of this paper runs as follows. Section 2 presents the methodological differences of our general equilibrium model with other neo-classical models. Section 3 discusses the distributional impact of two policy simulations. Section 4 presents the conclusion and implications of the simulated policies.

## 2. The model

Our model consists of 128 single equations and equal number of endogenous single variables divided into prices, production and commodities, institutions, and system constraints blocks. Thirty variables are exogenous. Here we give only a brief account how this model is different from other neo-classical models. For detail description of the model, see Acharya (2006):

$$\frac{QM_c}{QD_c} = im_c \left[ \left( \frac{PD_c}{PM_c} \right)^{ime_c} \frac{\delta_c^q}{1 - \delta_c^q} \right]^{1/(1+\rho_c^q)} \quad (1)$$

$$\frac{QE_c}{QD_c} = eec_c \left[ \left( \frac{PE_c}{PD_c} \right)^{eec_c} \frac{1 - \delta_c^t}{\delta_c^t} \right]^{1/(\delta_c^t - 1)} \quad (2)$$

$$GFCF = GI + \varepsilon_0(GI)^\mu (WF_{cap})^\phi \quad (3)$$

$$YH_h = \sum_{fa} shry_{h,fa} YF_{fa} + TR_{hg} + EXR TR_{hr} \quad (4)$$

Using import calibration constant ( $im_c$ ), and import elasticity coefficient ( $ime_c$ ), Eq. (1) specifies how the domestic price ( $PD_c$ ) to import price ( $PM_c$ ) ratio determines import ( $QM_c$ ) to domestic demand ( $QD_c$ ) ratio. Similar specification to exportable is given in Eq. (2), where  $eec_c$  is the export elasticity coefficient. Incorporation of the latter two coefficients has provided enough flexibility for fine tuning the model with import and export liberalisations. In Eq. (2),  $QE_c$  and  $QD_c$  respectively refer to the quantity of export and domestic supply of commodity  $c$ ; and  $PE_c$  and  $PD_c$  their prices. In Eqs. (1) and (2),  $1 < \rho_c^q < \infty$ ,  $0 < \delta_c^q < 1$ ,  $0 < \delta_c^t < 1$ .

The model elaborates on gross fixed capital formation (GFCF). We introduce the values of two coefficients  $\varepsilon_0$  and  $\mu$ , which determine whether there is crowding in(out) effect of government investment (GI) on private investment (second part of Eq. (3)). Moreover, the model is fully able to incorporate the investment elasticity of profit rate change, coefficient  $\phi$  in Eq. (3). The flexible

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