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# Potential impacts of the devaluation of Nepalese currency: A general equilibrium approach

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### ABSTRACT

This paper measures the potential impacts of the devaluation of domestic currency of the small, developing, landlocked and transition South Asian economy of Nepal, which is lagging behind in policy studies. The impacts on growth, distribution, price changes in factor and product markets, and on selected macroeconomic features are measured. Using a computable general equilibrium model applied to social accounting matrix data, we conclude that devaluation is expansionary but mostly benefits the rich, thus leading to a more uneven income distribution. In general, the expansion of economic activities occurs in agricultural and industrial sectors, whereas services activities contract. However, when the rate of devaluation is high, the agricultural sector also starts contracting. To this typical developing economy, devaluation causes an improvement in saving investment and export/import ratios, whereas the budget deficit widens.

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## 1. Introduction

Depreciation of the exchange rate of domestic currency is the most frequent outcome of exchange rate liberalisation in many developing countries. Moreover, devaluation of domestic currency is also one of the major components of the orthodox stabilisation strategy. Whatever the reason for the depreciation of the currency of many developing countries in the long run, the impacts are not only pervasive but also deep. In addition to some theoretical studies, some partial analyses in measuring the impacts of the devaluation of the currencies of developing economies are also apparent, while studies that followed the general system approach are quite limited. The latter have not yet covered

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the impacts in the poor, landlocked transition and developing economies of South Asia. This study tries to fill this gap.

In this paper, we start with a review of some of the studies – both theoretical and empirical – that measured the impacts of the devaluation of domestic currencies of a wide range of countries. However, general equilibrium analyses in this regard are rather limited—more specifically to Asian poor economies. Therefore, we formulate a general equilibrium model and apply it to the case of Nepal and then measure major macroeconomic and distributional impacts of currency devaluation of this economy.

Conventionally, nominal devaluation is understood to result in expenditure switching, increased production of tradables, higher exports and improvement in the current account in international trade. However, a number of authors, such as [Edwards \(1986, p. 1\)](#), attack this notion. According to them, though nominal devaluation may achieve its goal of generating a relative price readjustment, this stabilisation process may be very long and painful. This high cost is mainly because of the decline in total output. This is sometimes referred to as a contractionary devaluation problem.

Why are devaluations sometimes contractionary? The first reason is the immediate contraction in aggregate demand. The devaluation raises the general price level of imports, and consequently, the import-based economy moves towards demand compression. This ultimately results in negative real balance effects. The second effect of devaluation on aggregate demand is through the change in income redistribution from groups with low marginal propensity to high marginal propensity to save, resulting in a decline in aggregate demand and output (see [Alejandro, 1966](#); [Krugman and Taylor, 1978](#)). Moreover, in a situation of low export and import price elasticities, the trade balance worsens, leading towards recession.

There are also some supply-side analyses; [Van Wijnbergen \(1986\)](#) developed a model with intermediate goods and informal financial markets where, under certain conditions, the devaluation can result in an upward shift of aggregate supply. According to his model, once this supply side channel is introduced into the analysis, it is possible for devaluations to be contractionary even if the net effect on aggregate demand is expansionary. This is a situation where the expenditure-switching effect dominates the expenditure-reducing effect. To be more specific, according to the author, devaluation is contractionary under the conditions of: the domestic currency costs of intermediate imports, wage indexing (in the form of explicit contracts, implicit arrangements, or social pressure) with foreign goods present in wage earners' consumption bundles (namely, food imports), and a reduced volume of real credit to firms. This last channel has its impact on the supply side of the economy because firms in need of funds to finance working capital are pushed into the informal financial market if bank credit is reduced; as a result, interest rates increase and the aggregate supply curve shifts back. This last contractionary effect is obviously exacerbated if the devaluation is accompanied by a cut in the nominal volume of bank credit, as is often the case.

The existing partial analyses on the effects of devaluation on real economic activities are mixed, some suggest expansionary effects and others contractionary effects. [Connolly \(1983\)](#) analysed the effect of a nominal exchange rate on the rate of economic growth. The coefficient obtained was positive and marginally significant, providing some support to the hypothesis of expansionary devaluation. The study by [Gylfason and Risager \(1984\)](#), using the imputed parameter data, suggests that devaluations are generally expansionary in developed countries and likely to be contractionary in developing countries. The reason behind the contractionary devaluation in developing countries is the rise in the prices of imported intermediate products. This causes a decline in aggregate demand in the economy in both final consumption and intermediate consumption. Furthermore, this contraction is also reinforced by debt servicing. This is due to the price effect of devaluation. In the case of developed countries, this contraction also applies, but the force to raise aggregate demand is strong as well. The developed countries are able to reap the benefit of devaluation by export growth which they can enjoy with a fuller utilization of their production potential. On the other hand, developing economies face the resource crunch rather than enjoy the widened foreign markets when they undergo contraction. Likewise, the simulation model of [Gylfason and Radetzki \(1985\)](#) suggests that devaluation results in a decline in output and the extent of contraction increases in the presence of indexed wages.

[Christopoulos \(2004\)](#), using panel data unit root tests and panel cointegration tests, examined the effect of currency devaluation on output expansion in a sample of 11 Asian countries over the period

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