

## **Impact of capital inflows on the real exchange rate in Uganda**

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### **Abstract**

This study investigated the impact of capital inflows on the real exchange rate in Uganda for the period 1987-2000. Time series data were obtained from annual and quarterly reports of the Bank of Uganda, Ministry of Finance Planning and Economic Development as well as from Uganda Revenue Authority and was analyzed using E-views computer soft ware and tested by using an error correction method. A number of independent variables were included in the model. Government expenditure, technological progress, degree of openness of the economy and capital inflows were revealed to be the most significant in influencing the real effective exchange rate (REER) with 0.56, 0.24, 0.18 and -0.06 as coefficients of variability, respectively. Capital inflows which was a major focus of this study, revealed a depreciating impact on REER. This indicates that capital inflows cause REER depreciation. Further this reveals that the expenditure of the capital inflows was made on non-tradable goods sector in the economy. Therefore, there is need to accelerate production of non-tradable goods and encourage more capital inflows into the economy as government reduces expenditure on less productive tradable sectors. This will help minimise the unwanted appreciation of the domestic currency.

Key words: Capital inflows, real effective exchange rate, real exchange rate, Uganda

### **Résumé**

Cette étude a examiné l'impact des entrées de capitaux sur le taux de change réel en Ouganda pour la période 1987-2000. Les données chronologiques ont été obtenues à partir des rapports annuels et trimestriels de la Banque de l'Ouganda, du Ministère de la planification des finances et du développement économique ainsi que de l'Autorité des Revenues de l'Ouganda et ont été analysées en utilisant le logiciel de calcul E-views et testées en utilisant une méthode de correction d'erreur. Un certain nombre de variables indépendantes ont été incluses dans le modèle. Les dépenses publiques, les progrès technologiques, le degré d'ouverture de l'économie et les entrées de capitaux sont les variables les plus significatives qui influencent le taux de change effectif réel (REER) avec respectivement 0,56, 0,24, 0,18 et -0,06 comme coefficients de variabilité. Les entrées de capitaux qui étaient une préoccupation majeure de cette étude, ont eu un impact sur la dépréciation du REER. Ceci

indique que les entrées de capitaux provoquent un amortissement du REER. En outre cela révèle que la dépense des entrées de capitaux a été faite sur les biens non échangeables du secteur de l'économie. Par conséquent, il est nécessaire d'accélérer la production de biens non échangeables et encourager davantage des entrées de capitaux dans l'économie et que le gouvernement réduise les dépenses dans le secteur des biens échangeables moins productifs. Ceci permettra de minimiser l'appréciation indésirable de la devise nationale.

Mots clés: Entrées de capitaux, taux effectif de change réel, taux de change réel, Ouganda

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## **Background**

The Ugandan economy in 1980s adopted a stabilization and rehabilitation programme which was supposed to be accompanied by heavy donor inflows. However, the political instability that prevailed in the first half of the 1980 resulted in sluggish donor inflows until 1986, but inflows became strong during the first five years (1986 - 1990) of National Resistance Movement administration (Kasekende *et al.*, 1997, WB 1997/98). The reforms undertaken after 1986 included improvement in the political environment; liberalization of the economy, privatization of non performing public enterprises, the coffee boom of 1994-95 and increased trade credit from off shore sources. So there was a steady build up of external finance in form of capital inflows to finance infrastructure rehabilitation and developments as well as assisting the private sector to take advantage of trade and investment opportunities prevailing in the economy at the time. Therefore, by 1995/96, macroeconomic stability had been achieved and capital inflows had become more sustainable than before (Ssemogerere *et al.*, 2000).

The Government of Uganda implemented a system of administrative allocation of foreign exchange as a mechanism to improve the administrative and managerial capacities. This was largely due to the sharp increase in the import demand and a drop in gross international reserves. Systematic exchange rate adjustments were undertaken as policy stances to ensure stability in commodity prices, exchange rates, export competitiveness and the overall macro-economic stability. The amortization of publicly owned and guaranteed external debt was facilitated by capital transfers in the form of debt relief to ease on the debt servicing difficulties faced by the government. Donor assistance through extension of loans and support to alleviate the external debt burden clearly indicated Uganda's favorable position with its creditors at that time (Kassekende *et al.*, 1997). Between 1992-1996, private inflow rose to an average of US \$ 241.2 million and provided a major off setting influence to adverse terms of trade developments. In 2000, private inflows grew to US \$535.20 million compared to US \$371.08 million the previous year. The inflows constituted 34% of the total foreign exchange inflows on the private sector market (Kassekende *et al.*, 1997). Net trade credits averaged at US \$13.71 million per annum for the 1986-2000 period. Foreign direct investment (FDI) averaged zero for 1986-1989 period and US \$ 77.19 million per annum for the 1986-2000 period (Bank of Uganda). These foreign exchange inflows reflected a number of factors including; renewed confidence in macro-economic management in the wake of the successful stabilization programmes which led to the return of domestic capital; increased investment by non-residents, and productivity gains arising from the structural reform.

Therefore, it is evident that capital inflows were on the increase in the economy for a sustained period of time and these inflows were expected to have a major influence on macro-economic variables including the real effective exchange rate. Hence it became necessary to investigate this important effect on the real effective exchange rate.

### **Literature summary**

Tobin (1976), in his analysis of freedom of capital movements across countries indicated that under a flexible exchange rate regime, the current exchanges transmit disturbances originating in international financial markets. Thus national economies and governments are not capable of adjusting to massive movements of funds across the foreign exchanges without real hardship and significant sacrifice of the objectives of national policy, with respect to employment, output and inflation. In the same way capital movements may jeopardize foreign exchange rate policies particularly in the absence of countervailing policies by the central bank.

Corden (1994) contend that the exchange rate, in a floating rate regime with high capital mobility, depends both on current variables such as current monetary and fiscal policies and on expectations about future exchange rates. Capital inflows have always been accompanied by an appreciation of the domestic real exchange rate. An increase in capital inflows can be interpreted as reflecting more favourable medium and long-term investment opportunities in the receiving country. But capital may also pour in for purely short-term speculative purposes when lack of credibility in government policies leads to high nominal returns on domestic financial assets Guillermo *et al.* (1993).

Capital flows can translate into exchange rate volatility and this can cause resources shifts between traded and non-traded sectors (Stijn *et al.*, 1995, Elbadawi *et al.*, 1994, 1998, 2000; Abuka *et al.*, 1996). Kasekende and Kitabire (1997), noted that while capital inflows are generally a welcome development, flows that are large relative to the size of the economy can complicate macroeconomic management as well as the task of ensuring that excessive risk taking does not undermine the health of the financial system. (Dornbush, 1983, Khan *et al.*, 1987; Caballero *et al.*, 1989; Edward, 1989; Atingi-Ego, 2000). Therefore, capital inflows whether long term and short term influences real exchange rate either positively or negatively depending on the variables in question. However, the stability of the exchange rate was analysed as a major determinant of economic performance and severe macro-economic disequilibria including balance of payment of developing economies were often seen as the consequence of real exchange rate misalignment. So any changes in the real exchange rate influence foreign trade flows, the balance of payment position, the structure of production and consumption, employment and allocation of resources in the economy.

### **Study description**

The study analyzed the impact of capital inflows on the real exchange rate taking into consideration the impact of other explanatory variables. The decision was based on the fact that after 1980 through 1990s, a lot of capital inflows were received in Uganda and such

inflow had far reaching impacts on the growth of the economy. This study, however, singled out exchange rate as one of the major variables that were believed to be greatly affected particularly under the liberalized exchange regime. Secondary quarterly data were collected, calculated and compiled on both endogenous and exogenous variables which included terms of trade, capital inflows, trade proceeds, real effective exchange rates, government expenditure, technological progress (proxied by industrial production index), the stock of international reserves, and tariff revenue as a proportion of total revenue.

These secondary data were obtained from the Bank of Uganda (BoU) Research Department, BOU quarterly and annual economic reports, Background to the Budget for various years, and International Financial Statistics. The quarterly data for government expenditure were obtained by the use of the Linear Interpolation technique of the SPSS programme. This was because it was difficult to get all data in a quarterly form from all the sources. The REER is regarded as the multilateral real exchange rate and provides a measure of the country's degree of competitiveness relative to a group of its trading partners (Williamson, 1994). Therefore, it compares the movement in the country's domestic currency with those in a basket of trading partners' currencies.

The model was tested first for stationarity (order of integration of independent variables) in order to ensure that influences drawn from the estimated relationships are non-spurious (Johansen, 1988). Secondly, non-stationary explanatory variables were tested for unit roots or co integration with the dependent variable using Augmented Dickey –Fuller (ADF) tests (Gujarati, 1994). Subsequently, an error-correction model (Granger and Engle, 1987) was used to analyze short-run impacts on the dependent variables. The ordinary least squares regression was later applied to analyze the data.

## **Results and discussion**

The results of the model revealed that the economic variables posited the expected signs. Capital inflows was found to be negative and less than one but significant at the 1% level. This meant that a one percent increase in capital inflows caused depreciation of the domestic currency by 0.06%. The growth of inflows was directly related to REER depreciation. This implied that the increase in the capital inflows induced increased production of the tradable goods (exportables and importables), hence leading to a depreciation of the domestic currency through the substitution effect.

The co-efficient of the degree of openness (OPEN) is positive and significant at the 1% level, suggesting that reducing the ratio of tariff revenue to total revenue led to appreciation of the domestic currency. The results indicated that a one percent increase in degree of openness led to an appreciation of the REER by 0.18%. This is because a reduction in this ratio exerts a down effect on the relative price of importables resulting in increasing demand for them and less production of the importables. Therefore, resources would be drawn from the production of importables towards the production of exportables, thereby increasing exports and foreign exchange.

The co-efficient of technological progress (TEC) was found to be negative and significant at the 1% level. This implies that gains emanating from productivity enhancement led to depreciation of the domestic currency. A one percent increase in productivity gains led to real exchange rate depreciation by 0.24%. The sign of technological progress was predicted to be either positive or negative depending on whether productivity occurs in the tradable or non-tradable sector. Therefore, the negative sign indicated that increased productivity in the non-tradable sector override the productivity in the tradable sector.

The coefficient of the ratio of government expenditure to GDP was positive and very significant at the 1% level. This implied that a one percent increase in government expenditure led to an appreciation of the domestic currency by 0.56%. This suggested that a large component of the expenditure was directed towards the production of non tradables which tended to appreciate the real exchange rate.

The coefficient of external terms of trade (TOT) was negative, less than one and insignificant at the 10% level. The negative sign of the external TOT suggests that improvement in the TOT in favour of the domestic economy would result in REER appreciation of that country. Hence, a one percent improvement in the external TOT led to a depreciation of the domestic currency by 0.002%. This suggested that the income effect associated with improving external TOT probably dominated the substitution effect.

The coefficient of the trade proceeds (TR) was positive, less than one and insignificant at the 10% level. This meant that a one percent increase in the trade proceeds led to an appreciation of the domestic currency by 0.09%. This meant that foreign exchange was made on non-traded goods sector

### **Conclusion and recommendation**

Capital inflows that was a major focus of this study, revealed a depreciating impact on REER. This indicates that capital inflows cause REER depreciation and that expenditure of the capital inflows was made on non-tradable goods sector in the economy. It is recommended that more capital inflows should be encouraged into the economy to promote further production of the non-tradable goods. The government should also reduce its expenditure on less productive activities in the tradable sector in order to avoid the unwanted appreciation of the domestic currency. It should further enhance import trade restrictions, and expand foreign markets so as to make the country's exports more competitive. This will also improve the terms of trade of the country.

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The impact of volatile capital flows on financial markets and the real economy has been attenuated by South Africa's flexible exchange rate and very efficient financial intermediation. Most other African countries have considerably less developed financial markets, so it is not surprising that capital inflows come to them mainly via foreign direct investment. Finally, exchange rate, monetary and fiscal policies also condition the macroeconomic effects of capital inflows. Maintaining an exchange rate target requires the central bank to intervene in the foreign exchange market in order to neutralise the effects of capital inflows or outflows on the exchange rate. The economy of Uganda has great potential and appeared poised for rapid economic growth and development. Uganda is endowed with significant natural resources, including ample fertile land, regular rainfall, and mineral deposits. Chronic political instability and erratic economic management since the implementation of self-rule has produced a record of persistent economic decline that has left Uganda among the world's poorest and least-developed countries. The informal economy, which is predominantly This paper analyzes the impact of capital inflows and exchange rate flexibility on the real exchange rate in developing countries based on panel cointegration techniques. The results show that public and private flows are associated with a real exchange rate appreciation. Among private flows, portfolio investment has the highest appreciation effect—almost seven times that of foreign direct investment or bank loans—and private transfers have the lowest effect. Using a de facto measure of exchange rate flexibility, we find that a more flexible exchange rate helps to dampen appreciation of the re... capital inflows have a similar impact on the exchange rate which allows testing of an average effect through an aggregate flow. Although there is as yet little relevant empirical work, this hypothesis is debatable. Exchange rate flexibility ensures that monetary policy is partially independent of capital inflows. By introducing uncertainty, a more flexible exchange rate is able to discourage short-term speculative flows and reduce financial system vulnerability, particularly when supervision and regulation are poor (Calvo, Leiderman, and Reinhart, 1996; Lopez-Mejia, 1999). Hence, a flexible exchange rate regime would penalize the capital flows that generate the most real appreciation.