Impact of capital flight on economic growth in Zimbabwe (1980-2010)

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ABSTRACT

The study empirically examined the impact of capital flight on economic growth in Zimbabwe for the period 1980 to 2010, using the ordinary least squares (OLS) technique. In the estimated model, current and one-period lagged capital flight variables were found to be insignificant. However, two-period lagged capital flight reported a negative and significant impact on economic growth. The findings also indicate that while gross domestic investment positively affects economic growth, the occurrence of droughts has got a negative effect. Therefore, economic growth in Zimbabwe can be sustained through the adoption of policies that lessen the impact of capital flight. These include; drought mitigation measures and tax incentives that promote gross domestic investment.

Keywords: capital flight, economic growth, ordinary least squares, Zimbabwe

1. INTRODUCTION

Capital flight is a subject that has received a lot of attention from academics, especially in the field of Development Economics. While there are several definitions, some define it as all capital that flees irrespective of the motive (Kindleberger, 1987), while Gurasova (2009) defines it as a net illegal outflow of capital from a country of interest (mostly a developing nation). One of the simplified motive-driven definitions was given by Schneider (2003) who defined it as an outflow of resident capital from a country in response to economic and political risks in the domestic economies.

From these definitions, it can be seen that push rather than pull factors are the main determinants of capital flight. The major causes of capital flight can be economic and/or political, which include large public sector deficits, accelerating inflation, slowing economic growth, rising taxes and political instability. While some studies have found capital flight as negatively impacting on economic growth, others have found it otherwise. Ajilore (2010) identified two negative effects of capital flight. Firstly, capital is scarce in the developing world and capital flight contributes to worsening the capital scarcity problem. In addition, it also restricts the capacity and ability of affected countries to mobilise domestic resources and access foreign capital necessary to finance economic growth and development. Secondly, capital flight can lead to negative feedback because of the resulting tightening of capital constraints. Cerven’ a (2006) and Gurasova (2009) also found out that higher levels of capital flight slow down economic growth using cross-country studies. Similar results were found in single country studies by Ajayi (2012); Edeme and Samson (2012) both in Nigeria, as well as Njimant (2008) in Cameroon. On the contrary, Zakeree et al. (2012) found capital flight to have a positive effect on economic growth.

Theoretically, the Investment Diversion Hypothesis asserts that capital flight drives away foreign direct investment leading to low savings, low domestic investment and a decline in economic growth. The Debt Overhang Hypothesis accentuates that huge external debt is motivation enough for residents to keep their resources abroad in support of the Investment Diversion Hypothesis. This creates a fiscal gap which in turn, filled by external borrowing thus creating a vicious cycle of external debt and capital flight. According to the Tax Depressing Thesis, an increase in capital flight reduces government tax base thereby reducing resources to finance growth and development. This suggests that capital flight negatively impacts growth and development of a nation.

Increased capital flight during the crisis period of 1998 to 2008, resulted in Zimbabwe being classified as one of the most affected countries in Africa (Africa Development Bank, 2012). Despite the increased capital flight over the recent period, no study has been done to quantify the impact of capital flight on economic growth. Makochekewa (2007) carried out a capital flight study in Zimbabwe and found external debt, foreign direct investment inflows and foreign reverses to be the major causes of capital flight. The focus of
his study was, however, on the determinants of capital flight and not on its impact on growth. Therefore, the
principal objective of this study is to determine the impact of capital flight on economic growth in Zimbabwe
for the period 1980 to 2010, using ordinary least squares (OLS) methodology.

2. DATA AND METHODOLOGY

Secondary time series annual data for the period 1980 to 2010, were used in the empirical analysis. All the
data used were obtained from the World Bank (WB) (2012) except for capital flight which were obtained
from Boyce and Ndikumana (2012).

The study employed the ordinary least squares (OLS) technique to investigate the impact of capital flight on
economic growth. This was done after testing the variables in the model for a unit root using the Augmented
Dickey-Fuller (ADF) test to avoid spurious regression. This study follows Gusarova (2009) and the model
which was estimated is shown in Equation 1:

\[ RGDPP_t = \alpha_0 + \alpha_1 \text{CAPF}_{t-1} + \alpha_2 \text{CAPF}_{t-2} + \alpha_3 \text{GDI}_t + \alpha_4 \text{GFCF}_t + \epsilon_t \]

Where \( RGDPP_t \) is Real Gross Domestic Product per capita; \( \text{CAPF}_t \) is Capital flight the current period; \( \text{CAPF}_{t-1} \)
is Capital flight at 1 lag; \( \text{CAPF}_{t-2} \) is Capital flight at 2 lags; \( \text{GDI} \) is Gross Domestic investment; \( \text{GFCF} \) is
General Government Final Consumption; \( \text{DROUGHT} \) is a dummy variable to capture the effects of drought;
\( \alpha \)'s are parameters to be estimated and \( \epsilon_t \) is the error term assumed to be stationary and independently
distributed.

The dependent variable, economic growth, was proxied by real gross domestic product per capita. The capital
flight variable was expressed as a percentage of gross domestic product. The model also included one-year
and two-year lagged variables of capital flight. We expected all three variables to have negative coefficients.
Gross Domestic Investment captures government and private investment and was expressed as a percentage
of GDP. A positive coefficient was expected for this variable. General Government Final Consumption was
expressed as a percentage of GDP. Since government consumption has a positive effect on economic growth,
we expected the sign of the coefficient to be positive. Drought is a dummy variable which took a value of 1
relationship between drought and economic growth.

3. ESTIMATION AND DISCUSSION OF RESULTS

Before estimating the model, stationarity tests were conducted using the ADF test. As shown in Table 1, all
variables except GFCF are stationary. \( RGDPP \) is stationary at the 5 percent level of significance while \( \text{CAPF} \),
\( \text{CAPF} (-1) \), \( \text{CAPF} (-2) \), \( \text{GDI} \), \( \text{DGFCF} \) and \( \text{DROUGHT} \) are stationary at the 1 percent level. \( \text{GFCF} \) was then
differenced once and became stationary at the 1 percent level. The results of the estimated model are presented
in Table 2.

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1 All tests and estimations were carried out using Eviews version 7.
Table 1: Results of the Unit Root Test

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF Prob Level</th>
<th>ADF Prob First Difference</th>
<th>Order of Integration</th>
<th>Level of Stationarity</th>
</tr>
</thead>
<tbody>
<tr>
<td>RGDPP</td>
<td>0.0126</td>
<td>...</td>
<td>zero</td>
<td>**</td>
</tr>
<tr>
<td>CAPF</td>
<td>0.0000</td>
<td>...</td>
<td>zero</td>
<td>**</td>
</tr>
<tr>
<td>CAPF (-1)</td>
<td>0.0000</td>
<td>...</td>
<td>zero</td>
<td>***</td>
</tr>
<tr>
<td>CAPF (-2)</td>
<td>0.0009</td>
<td>...</td>
<td>zero</td>
<td>***</td>
</tr>
<tr>
<td>GDI</td>
<td>0.0090</td>
<td>...</td>
<td>zero</td>
<td>***</td>
</tr>
<tr>
<td>GFCF</td>
<td>0.2425</td>
<td>0.0000</td>
<td>one</td>
<td>***</td>
</tr>
</tbody>
</table>

** implies stationarity at 5%, and *** implies stationarity at 1%.

Table 2: Regression Results: Dependent Variable: RGDPP

Dependent Variable: RGDPP  
Method: Least Squares  
Date: 05/06/13 Time: 18:23  
Sample (adjusted): 1981 2010  
Included observations: 30 after adjustments

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-8.553279</td>
<td>2.167921</td>
<td>-3.945383</td>
<td>0.0006</td>
</tr>
<tr>
<td>CAPF</td>
<td>2.032746</td>
<td>4.069451</td>
<td>0.499531</td>
<td>0.6222</td>
</tr>
<tr>
<td>CAPF (-1)</td>
<td>-0.469634</td>
<td>4.344531</td>
<td>-0.108098</td>
<td>0.9149</td>
</tr>
<tr>
<td>CAPF (-2)</td>
<td>-10.99452</td>
<td>5.001722</td>
<td>-2.198147</td>
<td>0.0383</td>
</tr>
<tr>
<td>GDI</td>
<td>0.668875</td>
<td>0.129868</td>
<td>5.150433</td>
<td>0.0000</td>
</tr>
<tr>
<td>DGFCEF</td>
<td>0.257190</td>
<td>0.181918</td>
<td>1.413768</td>
<td>0.1708</td>
</tr>
<tr>
<td>DROUGHT</td>
<td>-5.149137</td>
<td>1.860835</td>
<td>-2.767111</td>
<td>0.0110</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.640659</td>
<td>Mean dependent var</td>
<td>-1.256868</td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.546918</td>
<td>S.D. dependent var</td>
<td>6.581414</td>
<td></td>
</tr>
<tr>
<td>S.E. of regression</td>
<td>4.430037</td>
<td>Akaike info criterion</td>
<td>6.015657</td>
<td></td>
</tr>
<tr>
<td>Sum squared resid</td>
<td>451.3803</td>
<td>Schwarz criterion</td>
<td>6.342603</td>
<td></td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-83.23485</td>
<td>Hannan-Quinn criter.</td>
<td>6.120249</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>6.834357</td>
<td>Durbin-Watson stat</td>
<td>2.537353</td>
<td></td>
</tr>
<tr>
<td>Prob (F-statistic)</td>
<td>0.000293</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 2, R-squared is 0.640659 while the adjusted R-squared is 0.546918. This R-squared shows that about 64% of the variations in economic growth are explained by combined variations in the regressors. Furthermore, the F-test probability value is 0.000293, which is less than 0.01 with an F-statistic of 6.834357, implying that at least one of the independent variables is a determinant of economic growth. The Durbin-Watson calculated value obtained is 2.537353 and the region of no autocorrelation as [1.707, 2.293] at 1% level. The inconclusive region is [2.293; 3.188]. Therefore, there is inconclusive evidence regarding the presence or absence of negative first-order serial correlation (Gujarati, 2004).

Current-period capital flight and one-period lagged capital flight were both statistically insignificant. However, the coefficient of the two-period lagged capital flight was negative and statistically significant at the 5 percent level. A dollar lost now due to capital flight will result in the country losing $11 worth of GDP per capita in two years time. This implies that the negative impact of capital flight on economic growth is not immediate in Zimbabwe but manifests itself after two years. This result leads to the acceptance of the hypothesis that capital flight negatively affects economic growth. This finding is in line with the Investment Diversion
Theory, Debt Overhang Hypothesis and the Tax Depressing Hypothesis. It is also consistent with empirical findings by Njiimanted (2008), Gusarova (2009) and Ajayi (2012). Gross Domestic Investment was found to be positive and statistically significant at the 1 percent level. This shows that increased domestic investment leads to increased economic growth. Drought was found to be negative and significant at the 5 percent level. Continued drought results in a fall in economic growth for Zimbabwe. General Government Final Consumption was found to be statistically insignificant.

4. SUMMARY AND POLICY RECOMMENDATIONS
The study investigated the impact of capital flight on economic growth in Zimbabwe for the period 1980 to 2010, using ordinary least square technique (OLS). The results of OLS show that two-period lagged capital flight, gross domestic investment and drought are statistically significant. General Government Final Consumption, current-period capital flight and one-period lagged capital flight are insignificant. The model estimated passed all other model diagnostic tests. The econometric evidence shows that capital flight negatively affects economic growth. We however observed that this negative impact is not immediate in the case of Zimbabwe but manifests itself after two years.

From our findings, we recommend the adoption of policies that lessen the negative impact of capital flight. These include tax incentives that promote gross domestic investment and the adoption of drought mitigation measures such as irrigation development and conservation agriculture.

References
World Bank (2012): World Development Indicators.