Determinants of foreign direct investment (FDI) in Zimbabwe: What factors matter?

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ABSTRACT

The role played by FDI as a source of capital which augments domestic savings is attracting close attention in all developing countries. Whilst FDI inflows to Sub-Saharan Africa have increased significantly, Zimbabwe has not benefited from this boom. The main motivation of the paper is to respond to the question: What factors matter most in attracting adequate FDI inflows to Zimbabwe? An understanding of these factors will assist Zimbabwean policy makers to construct and implement strategies for FDI attraction and solve current challenges of abject poverty, low industrial productivity, high unemployment and lethargic economic growth. Adequate FDI inflows generate employment opportunities, augments domestic foreign exchange reserves, upsurges positive technological externalities and human capital skills. To accomplish the goal, the study relies on a mixed methodology involving cross-section study and also employs a multivariate regression equation using annual time series data over a 31-year period (1980 to 2011). Estimation and survey results suggest that gross fixed capital formation, inflation, trade openness, corruption, political instability, poor governance, weak export competitiveness and inconsistent government policies hinder FDI inflows to Zimbabwe. The study recommends that Zimbabwe overhaul its macroeconomic policies in order to create a stable and hospitable investment climate that fosters export competitiveness, trade openness and domestic capital formation. In addition, the country should adopt sound economic policies that minimises country risk, political instability and corruption in order to attract adequate FDI inflows.

Keywords: Zimbabwe, FDI, trade openness, economic growth
INTRODUCTION AND BACKGROUND

After independence in 1980, Zimbabwe maintained macroeconomic controls and import substitution policies inherited from the Rhodesian government. It also introduced redistributive strategies that compelled a large public sector and increased public spending on health, infrastructure and other social welfare programs. The immediate post-independence period was greeted with remarkably high economic growth rates averaging 10.2 percent per annum. The growth was driven by exogenous factors like firming up of metal prices, lifting of international trade embargo, good world market conditions and opening up of external markets which promoted export growth. Though, low FDI inflows, low levels of domestic capital formation and foreign exchange scarcity has always been a major hamstring on inflows of FDI since Unilateral Declaration of Independence in 1963 (UNCTAD, 2014; Malumisa, 2013 Jenkins, 1998).

During the pre-independence era, the country was unable to build modern productive capital stock due to the trade embargo and economic sanctions and thus at independence the country inherited costly and obsolete plants (Dailami and Walton, 1992). The use of old technology increased labour-augmentation inefficiencies and eroded the manufacturing sector’s cost competitiveness. The economy approached an early steady state from the late 1980s. A cocktail of frequent droughts, weakened trade terms, reliance on primary commodity exports, high external and domestic debt later fuelled FDI decline from 1983 to 1990. Scarcity foreign currency was allocated inefficiently and introduced market imperfections and uncertainties which further depressed FDI levels. To manage the incipient economic crisis and arrest deteriorating living standards, Zimbabwe came under mounting pressure from International Monetary Fund (IMF) and World Bank (WB) to liberalise the economy in 1990. The Government introduced Economic Structural Adjustment Programme (ESAP) in 1991 and abandoned command economy driven by Marxist-Socialist policies. The aims of ESAP were to shift from command to an open economy, foster export driven growth by liberalising foreign trade, exchange control, pricing and monetary system. In addition, the government introduced market driven interest rates, tariffs, tax and export rebates. The Zimbabwe Investment Centre (ZIC) was established as a one stop shop for FDI mobilisation.

By the end of 1995, ESAP was abandoned amid exacerbation of national inequalities and general economic hardship. Real wages declined, unemployment increased and fermented political and economic instability. The reforms failed because Zimbabwe cut public spending in investment enabling infrastructure like energy and transport systems. Furthermore, the combined result of fiscal stabilisation through reduction in government agricultural input services and the introduction of limited and more expensive lines of credit led to severe decline in agricultural productivity (WB, 2010). Trade liberalisation exposed manufacturing companies using obsolete technologies to foreign competition. In addition, ESAP was perceived by the populace as donor driven and externally imposed and therefore lacked credibility and domestic constituency to sustain them (WB, 2012).

The reforms failed to induce more rapid FDI growth and resultant fixed capital accumulation in the private sector that was needed to increase productivity and output growth. The Zimbabwe Investment Centre (ZIC) which was purportedly created to facilitate FDI was used as a strainer mechanism that enabled the government to block or restructure FDI proposals deemed incongruent with national strategic goals of indigenising foreign companies (UNDP, 2008). After the failure of ESAP socio-political instability fermented and the government became increasing interventionist. The government re-introduced financial repression and macroeconomic controls on price of basic goods and wages. Approval of foreign investors’ proposals took upwards of six months. There were restrictions on repatriation of profits and companies stalled on technological progress. FDI as a percentage
of GDP declined from an average of 15 percent in the 1995-2000 periods to 4 percent from 2000 to 2009. GFCF declined from an average of 23 percent to 2 percent in 2010. According to RBZ, (2011), the savings-GDP ratio declined from 28 percent in 1995 to 5 percent in 2008. Consequently, economic performance was constrained by an overvalued exchange rate, price and wage controls, investment controls, and other supply-side bottlenecks like shortage of inventory, energy and working capital.

The external debt profile worsened and accumulated arrears rose to US$6 billion in 2011 (WB, 2012). Money supply growth increased and inflation rose to world record of 231 million percent in 2007. The hyperinflation was driven by the central bank seigniorage, quasi-fiscal operations and general economic mismanagement. Disparate sovereign risk and huge intermediation spreads in the loanable funds market curtailed FDI growth and the ability of Zimbabwe’s ability to borrow externally. Unprecedented financial disintermediation ensued as foreign investors sought to mitigate credit, uncertainty, political and country risks. Most indigenously owned banks collapsed under the weight of illiquidity and poor corporate governance. Low output prices of easily- available imported manufactured inputs from China, South Africa and Botswana flooded the market and out-competed locally manufactured goods. Capacity utilisation of local manufacturing firms reduced from 100 percent to 10 percent due to high production costs and hyperinflation. Rapid decline of the economy characterised by severe declines in agricultural and industrial productivity, informalisation of labour, unofficial dollarization of economic transactions and growing hyperinflation imploded into full-blown crisis in 1998. In 2009, Zimbabwe became the first country in Africa to abandon its own currency by adopting the US$ as its transactional currency.

Outline of FDI inflows to Zimbabwe

According to UNCTAD (2010), in absolute terms FDI flows to the Sub-Sahara African region have increased since the start of 1990s. The value of FDI to the region rose from US$36.7 billion in 1990 to a level of US$108.5 billion in 2000, and stood at US$336.8 billion as at 2008 (WB, 2009). However, Zimbabwe has not benefited from the FDI inflows into the region. In fact, out of the total inward stock of FDI to sub-Saharan region, Zimbabwe only attracted US$1.4 billion or less than one percent of the total for Sub-Saharan Africa (UNCTAD, 2014). FDI in Zimbabwe stagnated at US$400 million between 2010 and 2013 (GOZ, 2014). This figure pales into inconsequentiality compared to Southern African comparatives like Mozambique which received US$5.9 billion in 2013, South Africa and Zambia which attracted US$8.1 billion and US$1.8 billion respectively (RBZ, 2014).

Zimbabwe is ranked 170 out of 189 in the world on the World Bank’s ease of doing business scale in 2014 whilst its major competitors, South Africa is ranked 43, Botswana 56 and Zambia 86 (WB, 2014). Since dollarization in 2009, investment has averaged only 17% of GDP whereas an investment rate of at least 30% of GDP is needed for economic growth (WB, 2013). According to Clarke (1980), at independence foreign capital constituted 70 percent of the total capital stock and FDI dominated foreign capital inflows. Zimbabwe’s FDI inflows is in the range of war-torn countries like Burundi, Central African Republic and Libya yet the country is not at war.

In increasingly integrated economy, multinational companies (MNCS) make FDI decisions on strategic criteria such as market size and growth, location attractions in terms of geography, natural resource endowments, human capital level of skills, the availability of low-wage labour, political stability and a country’s suitability as an export platform or as a sit for off-shoring (Dunning, 1980, 1981; Sikwila, 2015; Sethi et al 2003). Zimbabwe’s weak
FDI performance since the 1980’s is both incomprehensible and perplexing since it possesses most of these endowments.

The low FDI trends are not consistent with the country’s potential, human capital development and its vast natural resource endowments which are mature for exploitation by resource-seeking investors. The paper therefore seeks to identify and explain policy factors that either hinder or stimulate FDI inflows and ensure Zimbabwe’ economic growth. The dominant problem is that the country has received low levels of FDI inflows between 1980 and 2011 yet FDI provides the much needed capital for investment and economic growth. The country is failing to attract high levels of FDI inflows needed to clear the huge budgetary deficit, extinguish external debt arrears and improve industrial productivity. Unemployment is now at 80 percent with the whole economy operating in the informal market (World Bank, 2011).

The study seeks answers to the following questions: What are the impact of GDP, trade openness, exports, inflation, gross capital formation on FDI inflows into Zimbabwe? What factors matter in boosting FDI inflows to Zimbabwe? The study is significant given Zimbabwe’s low share of world trade, low FDI, unpredictable foreign aid inflows and overall economic decline. FDI inflows offer the only tangible channel to stimulate economic growth and improve Zimbabwe living standards. FDI influences technological progress, improves employment generation, productivity improvement and consequently leads to economic growth (Blomstrom and Kokko; 1999; Faini and de Mello, 1997). FDI also plays the pivotal roles of filling in domestic savings, foreign exchange, export returns, and tax revenue gaps (Faini and de Mello, 1997; Frimpong and Oteng-Abyie, 2006).

The paper differs from current studies in the following areas. Most studies on FDI in Africa focus on macro determinants of FDI using quantitative empirical data only (see Sawyer & Sprinkle, 2006; Anyanwu, 2011; Sikwila, 2015; Frimpong and Oteng-Abyie, 2006; Chinyere and Ugochukwu, 2013; Ahiwodzi and Tsoirhe, 2013; Manda, 2014; Orji and Mba, 2010; Ochial and Mukasa, 2012). This study departs from such approach by incorporating richer cross-sectional data to triangulate empirical findings. In addition, most studies on investment in Zimbabwe tended to focus largely on private and public investment and effect on economic growth (see Manda, 2014; Bayai et al, 2013; Malumisa, 2013; Muyambari, 2013; Jechche, 2010; Mutenyo, 2008; Jenkins, 1998; Dailami and Walton, 1992). This study following the pioneering study of Sikwila (2015) focuses only on the factors that influences FDI inflows into Zimbabwe. The article is made up of five sections: section one is the introduction and explains the problem of FDI in Zimbabwe. Section two covers theoretical consideration and empirical literature; Section three presents the methodological framework. Findings and discussions are on section four whilst section five is concerned with the conclusions and recommendation.

LITERATURE REVIEW

FDI could be defined as an investment that is made to acquire a lasting interest in an enterprises or country operating in an economy other than that of an investor, the investor’s purpose being to have an effective voice in the management of the enterprise resident in the other economy (IMF, 1977). A popular theoretical framework for FDI is the eclectic paradigm (Dunning, 1977; 1980, 1993, 2001) incorporating the pioneering work of Hymer (1976) and Vernon (1966). According to Dunning (1977), firms invest abroad to look for Ownership, Location and Internalisation advantages. The ownership-specific advantages arise from intangible knowledge based assets which encompasses property rights, product innovations, process enhancements, marketing and managerial skills, patents and expertise that allow a firm to compete with others in the markets it serves regardless of the
disadvantages of being foreign (Dunning, 1993). The Location specific FDI can be divided into two categories, the hierarchical- related advantages and network-related advantages (Dunning, 1995). The hierarchical advantages include availability of cheap labour, managerial skills, investment incentives and disincentives, quality, productivity, plant economies of scale, natural resources endowments, trade barriers that restrict imports and gains in trade costs make the chosen foreign country attractive for FDI (Dunning, 2001).

The internalisation or network related advantages arise from exploiting imperfections in external markets, and reduction of state-generated imperfections such as tariffs, foreign exchange controls and subsidies (Vernon, 1966; Dunning, 2001). Foreign investors seek resources, markets, efficiency and strategic assets in most developing countries like Zimbabwe. Resource seeking firms invest to address issues like raw materials, labour force and physical infrastructure issues. According to Aisedu (2002; Sikwila, 2015) low income countries in Southern Africa might attract little of this kind of FDI. Efficiency-seeking firms want to take advantage of lower labour costs, low production costs and take advantage of trade liberalisation in developing countries like Zimbabwe. Strategic-asset seeking firms want to access research and development, innovation and advanced technology. This type of investment is rare in most developing countries as levels of research and development are very low due to domestic financial constraints. According to Sikwila (2015), in less developed countries resource-seeking firms look for minerals such as diamonds and gold in Zimbabwe and Botswana, timber in DRC, timber and efficiencies and skilled labour in South Africa.

**Empirical Literature**

Studies on FDI inflows in developing countries take four different constructs. The first construct classifies determinants of FDI in terms of pull and push factors. These studies largely focus on analysing the determinants that are endogenous to foreign multinational firms such as the size of the firm, export competitiveness, interest rate, exchange rate, inflation rate and other structural and cyclical conditions. The factors pull or push FDI. The studies investigate what pulls a firm to become a foreign investor and cite examples of positive externalities to domestic firms (see Anyanwu, 2011; Blomstrom and Kokko, 1998; Quattara (2005); Kandiero et al, 2006; Rodrik, 1998; Gorg and Greenway, 2004; Mateev, 2009; Fernandez-Arias, 1996 and Gottschalk, 2001), Fedderke and Romm, 2006). Most of these studies have produced unambiguous conclusions. For instance, Borensztein et al (1998) find indication that FDI inflows actually crowds in domestic investment, but their results are not robust. However, Udomkerdmongkol and Morrissey (2008) investigated the effect of FDI on private investment in thirteen Latin American countries, eight Caribbean countries, eight Asian countries, ten European transition countries and five African countries controlling for political regime for developing regions. The study shows that FDI tends to crowd out domestic private investment and this crowding out effect is greater in countries with high governance scores and lower in Latin America compared to Asia, Europe and Africa. Wood (2015), argues, the effects of FDI are broadly similar to those of domestic institutional finance in that the both tend to increase domestic investment because they expand the pool of financial savings. Similarly, Caves (1966) observes that FDI has positive spill overs in the domestic market through transfer of modern technology, managerial skills, introduction of new processes and value chain efficiencies.

The second construct examines the FDI drivers that are exogenous to investors (see Lall et al,2003; Manda, 2014; Marr, 1997; Nguyen et al, 2012).They classify FDI factors using: (a) supply-side factors which include skilled labour, inflation, research and development, availability of raw materials and physical infrastructure, (b) demand-side determinants which
include host country economic and social variables like interest rates, tax and tariff levels, market size and potential wage rates, income distribution, human capital, cost differentials, exchange rates, fiscal policies, trade terms and indigenous empowerment policies and (c) institutional factors that include intellectual property rights, transaction costs, political risk, corruption and bureaucracy, indigenisation policies, perception of political instability, property rights, governance (see; Tsai, 1994; Gwenghamo, 1998; Loree and Fuisinger, 1998; Onyeiwu, 2004).

The third theme consider FDI determinants as consisting of three basic economic factors (1) trade (2) the exchange market policies and (3) the investment climate (Harms and Lutz, 2006); Sekkat et al (2007); Froot and Stein, 1991; Wheeler and Mody, 1992; Borensztein et al 1997). The last group examines FDI in terms of uncertainty, irreversibility and timing. They posit that foreign investors who invest in fixed capital considers uncertainties such as political instability, property confiscation and risks of government policy reversals on investment decisions once done. The researchers opine that is difficult to reverse fixed investment without incurring substantial costs (see Leefmans, 2011; Pindyck, 1991); Acosta and Loza, 2005; Caballero 1993; Dixit; 1992; Serven, 1987).

According to Pigato (2005) two anchors that influence FDI are inflation autonomy and exchange rate variability. Asiedu (2002), Onyeiwu & Shrestha (2004) and Schneider & Frey (1985), find inflation having a negative significant effect on FDI. However, Sayek (2009) Coskun (2001) demonstrated that increased domestic inflation rate increases foreign investment via changes in the intertemporal consumption pattern of the agent and that inflation on current consumption reduces the cost of FDI. Factors such as the target country’s market size, income level, trade openness, gross capital formation, market growth rate, inflation rates and current account positions and socio-economic factors namely political stability and quality of infrastructure have been identified as major determinants of FDI (Thomas et al 2005; Wint & Williams, 2002); Yartey and Adjasi (2007). Asiedu, (2001).

Ancharaz (2003) finds a positive effect on FDI inflows with lagged GDP for the full sample of non-Saharan African countries, but an insignificant effect for the Sub-Saharan African sample. Gastanaga et al (1998) found positive significant effect of GDP on FDI. Athukorala (1995), used lagged FDI observing that investment in one period requires investment in later periods either to finish a project, to improve on investment or to expand capacity. Moosa and Çardak (2006) applied extreme bounds analysis to a cross-sectional sample encompassing data on 138 countries. They find that developing countries with large economies, a high degree of openness and low country risk tend to be more successful than others in attracting FDI. Ramirez (2006) Ang (2008), Onyeiwu and Shrestha (2004), and Asiedu (2002), found statistically significantly positive relationship between FDI and market size, wage differential, and trade openness as well. Political instability was found to negatively impact on FDI inflows (Agarwal, 1980).

However, the empirical evidence on political instability has been mixed. Surveys conducted on political instability have come up with mixed results. Haussmann et al (2000) Jaspersen et al, 2000 found that in developing countries, political instability did not have significant relations with FDI. Bakare (2011) using cross country studies, found a negative correlation between FDI and political instability whereas Kobrin (1978) could find no such relationship. Agodo (1978) found political instability to have a statistically significant influence on investments by 33 US firms operating in 20 African countries. Kravis and Lipsey (1982); Culem (1988); and Edwards (1990) find a strong positive effect of trade openness on FDI and Schmitz and Bieri (1992) obtain a weak positive link.

Lederman et al (2010) used international data and a macro-data set of firms in 13 Southern African Developing countries (SADCs) to investigate the determinants of FDI in the region find trade openness, GDP and labour costs significant factors explaining FDI
inflows. The low integration of Africa into the global economy, high degree of barriers to trade and foreign investment is a major constraint to boosting FDI to the region (Aseidu, 2002; Bhattacharya, et al, 1997). Morrisset (2000) conurs that there is a positive relationship between openness and FDI flows to Africa. Bernde-Ndebende (2002) found that FDI liberalisation as among the most dominant long-run determinants of FDI in Africa. Aseidu, (2003) agrees, investment restrictions deter FDI flows in Africa. Excessive market regulations such as domestic investment policies on profit repatriation and on entry into some sectors of the economy were not conducive to the attraction of FDI in Africa (Basua and Srinivasan (2002).

Cheap quality labour which lowers production costs influences FDI in most Africa countries (Schneider and Frey, 1985; Elhimare, 2010). According to Pigato (2005) highly educated labour force is able to learn and adopt new technologies faster with minimum cost of retraining. Alfaro et al. (2008) find that better local financial conditions stimulated by adequate gross fixed capital formation (GFCF) not only attract foreign companies but also allow host economies to maximize the benefits of foreign investments. Similarly, Lee and Chang (2009) provide evidence that the relationship between FDI and GFCF is endogenously influenced by the development of the domestic financial sector. Morrisset (2000) provide evidence that GFCF has a positive impact on FDI flows to Africa.

Ang (2008), Aseidu (2006), and Onyeiwu and Shrestha (2004) find the relationship between the level of infrastructure development and FDI flows significantly positive. Marr (1997) argues that the prevalence of poor infrastructure due to low government fixed expenditure (GFCE) on road infrastructure, energy and telecommunications systems deters FDI. Aseidu (2002) avers that poor infrastructure reduces the productivity of investments thereby discouraging inflows. Boboye and Ojo (2012) using OLS regression investigated the effects of external debt burden on both economic growth and FDI for 27 years in Nigerian economy. They observe a positive relationship between FDI and debt service payment, external reserves and interest rate.

According to Serven (1993), changes in uncertainty have a strong impact on aggregate investment. Pindyck (1991) concur, uncertainty about future business conditions depress FDI in fixed capital. Similarly, Wijnbergen (1985) pointed that irreversibility of investment decisions is important to foreign investors. Bigsten et al. (2005) agrees, most developing countries suffer from unpredictable inflation and high relative price variability which in turn depresses FDI by efficient-seeking foreign investors. Jenkins (1998) constructed a two-step Engle-Granger approach to deal with non-stationary variables and estimated a model of investment in Zimbabwe using annual data for the period 1969-1990. The results show that in the long run, investment is constrained by the availability of finance, especially retained profits, and that it has been deterred by the external debt-to-GDP ratio.

METHODOLOGY

Theoretical Model Framework

Following the conventional practice in the empirical literature on FDI determinants a multiple regression model has been adopted (see for example, Hill, 2007, Kim, 2010; Aseidu, 2002; Sikwila, 2015; Jenkins, 1998, Bayai and Nyangara, 2013; Dailami and Walton, 1992). All the variables included in the regression model are guided by empirical literature and theoretical considerations. Secondary data was obtained from the World Bank database (2014). Survey data was collected using structured interview from a sample of executives managing listed companies in Zimbabwe.
General Equation

Bernake et al (1988) carried out non-nested specification tests of time series investment models and found out that the accelerator and neoclassical model are the best for FDI modelling in developing countries. Therefore, the study follows Clark, 1917; Hicks (1951) accelerator theory, and also to a small extent the neoclassical theory of investment. As per Jørgensen’s (1963) price variables r and s are assumed to be fixed constants giving the user cost of capital equation \( C = s(\delta + r - \frac{\partial z}{\partial t})/s \) (1), the equation after transformation reduces to \( CK^* = \phi Y_t \ldots \) (2), where \( CK^* \) is the optimal capital stock, \( Y_t \) is output. An increase in output stock leads to proportional increase in capital stock. Investment in any period will therefore depend on the growth of output (Eklund, 2013). Therefore \( I = \phi \dot{Y} \) (3) Zimbabwe is a small, fairly open and developing country with low capital formation due to low disposable incomes. All income is spent on basic foodstuffs. Therefore, mobilisation of adequate domestic savings needed for domestic investment, requires initially large injections of FDI inflows in the form of MNEs investing in productive sector in order to supplement domestic savings. The desired capital stock thus consists of two components \( CK^* = K_{di} + K_{fdi} \ldots \) (4) that is domestic investment (DI) and FDI. Assuming output, a function of stocks, capital, labour and productivity but specifying separately domestic and foreign capital using a neo classical Cobb-Douglas production function the model takes the form of \( Y_t = A_t K_{di}^\alpha K_{fdi}^\beta L^\gamma \ldots \) (5), where \( Y \) is the flow of output (GDP), \( K_{di}, K_{fdi} \) represent domestic and FDI, \( L \) is labour. \( A \) is the total factor productivity which explains output growth that is not accounted for by the growth in factors of the specified production (5). Linearizing (5) by taking natural logs, we get \( \ln Y_t = \ln A_t + \alpha \ln K_{di} + \beta \ln K_{fdi} + \gamma \ln L \) (6) and differentiating (6) with respect to time the model becomes \( Y_t = a_t + \alpha K_{di} + \beta K_{fdi} + \gamma L_t \ldots \) (7), where \( a_t \) represents growth rate of domestic capital stock due to FDI and \( \beta \) represents FDI growth rate. \( \alpha, \beta \) and \( \gamma \) represent elasticity of output, domestic investment and foreign capital and labour respectively. Proxying \( K_{di} \) and \( K_{fdi} \) by DI to GDP and FDI to GDP a functional model in the form is adopted:

\[
\frac{FDI}{GDP} = f (EXTG, EXP_{t-1}, GDP_{t-1}, GFCE, GFCF, TOPEN, INF) \ldots \) (8). DI is assumed to be determined by a number of factors operating in the economy. The study suggests an expanded linear regression model of the form:

\[
FDI_t = \beta_0 + \beta_1 EXTG_t + \beta_2 EXP_{t-1} + \beta_3 GDP_{t-1} + \beta_4 GFCE_t + \beta_5 GFCF_t + \beta_6 TOPEN_t + \beta_7 INF_t + \mu_t
\]

It is expected \( \beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6 \) are all elasticity parameters greater than zero whilst \( \beta_7 \) is semi-elastic parameter.

FDI_t -Foreign direct investment growth at a time t

EXTG_t - External debt at time t

GFCE_t - Gross fixed capital formation at time t which measures capital accumulation in Zimbabwe

GFCF_t - Gross fixed capital expenditure at time t, a proxy for public expenditure in Zimbabwe

GDP_{t-1} - lagged GDP a proxy for economic growth.

TOPEN_t - Trade openness measured by Imports plus exports as a percentage of GDP

INF_t - Inflation a proxy for macroeconomic stability

\( \mu_t \) error term

Both liner and logarithmic specifications were experimented on but adopted the linear form because unlike logarithmic form, it gave superior performance in terms of explanatory power and general significance. The use of OLS is due to the fact that it has the advantages such as consistency, unbiasedness, minimum variance and sufficiency and also reduces the error sum of square.
**Description of variables**

**External debt**

External debt stocks are measured as a percentage of GDP. It usually represents the restrictions for external credit in investment financing in many developing countries (Bayai and Nyangara, 2013). External Debt incurred to improve infrastructure such as roads, energy and telecommunications systems motivates FDI inflows for market seeking FDI which has not been the case for Zimbabwe. External debt has been incurred to finance non-productive consumption. Therefore, the high external debt imply uncertainty in current macroeconomic policies and the likelihood of balance of payment crises, thus the ratio of external debt to GDP is expected to carry a negative coefficient and unlikely to influence FDI inflows. (Gwenhamo, 2009; Maddala, 1992).

**Exports**

An export-oriented economy like Zimbabwe is assumed to have a positive influence on the inflow of FDI. Exports open the avenues for future exportation of excess output by resource seeking MNCs (Haq, 2012); (Njong and Tchakounté, 2011). The inclusion of this variable as lagged export is justified by the fact that Zimbabwe is a landlocked country with few credit lines. There is therefore a long variable time lag from the date of exports, shipment, to arrival at destination and receipt of payment thus current year exports are expected to influence FDI one year later. Lagged exports are expected to be statistically significant and bear a positive sign.

**GDP**

GDP is used to capture the supply capacity or market size of the economy. FDI is associated with economic growth through the accelerator effect which makes investment a liner proportion of changes in GDP (; Hicks 1917, Jorgenson, 1963; Quattrara, 2000). Technological progress, human capital development through transfer of managerial skills to developing countries all boosts GDP (Greene and Villanueva, 1991; Quattrara, 2000; Jorgenson, 1963). GDP is included in this study as lagged because the value of current GDP will not affect the FDI immediately during one period, but will lag over several periods. Previous studies have proxy for market size either with real or real lagged GDP (see Faini and de Melo, (1990); Wheeler and Mody (1992); Kim (2010); Jenkins (998) and Aseidu (2002). In addition, Serven (1993) recommends use of lagged GDP as preferred to current GDP in order to reduce simultaneity. Assuming an accelerator hypothesis, priori expectation sign of GDP is expected to be positive suggesting that both market and resource-seeking foreign firms consider Zimbabwe market as replete with natural resource endowments and therefore attract FDI.

**Government fixed capital expenditure (GFCE)**

The Hirschman-type permissive public investment is assumed to operate in Zimbabwe where public investments in social and economic infrastructure are planned to complement directly productive private investment and boost FDI inflows. GFCE is measured as a percentage of rGDP. This variable is widely used and is expected to have a positive sign because a large size of government expenditure in good infrastructure like telecommunications, water, road and energy systems increases the productivity of

**Government fixed capital formation (GFCF)**

GFCF refers to the ratio of present income saved and invested in order to supplement future output and income. It originates from acquisition of productive capital goods like bridges and telecommunication systems which form the physical capital of a nation. GFCF determines the national capacity to produce which in turn affects economic growth (Ugochukwu and Chinyere, 2013; Ghura, 1997). In this study GFCF is measured as the total of gross public domestic investment plus gross private domestic investment, all as a percentage of GDP. GFCF is important in FDI decisions because it affects the cost structure of investment projects. Higher domestic credit to the private sector also implies abundance of domestic capital formation reducing the need for FDI (Kinda, 2010; McAleesee, 2004). Capital formation in developing countries like Zimbabwe are low due to small domestic consumer markets limited by low levels of household disposable incomes, a narrow productive base, and a large established informal sector, all of which are factors that constrain the rate of growth of GFCF and economic activity (UNCTAD, 2014; Khan and Reinhart, 1990). Thus GFCF is expected to be negative indicating that a low GFCF hinders FDI to Zimbabwe.

**Trade openness (TOPEN)**

Trade openness is the ratio of imports plus exports to GDP and is used to measure trade openness and trade restrictions (see Aisedu, 2002; Gastanga et al, 1998; Quattara, 2000; Sawyer and Sprinkler, 2006; Mulambo and Oshikoya, 1999). In Zimbabwe investors are likely to be marketing-seeking so less trade openness is likely to positively impact on FDI. A probable reason for that is the hypothesis of “tariff jumping” where foreign investors seeking markets may elect to set up subsidiaries in host countries if it proves restrictive to export their products into the country (Edwards, 1990, Gastanga et al, 1998; Hausmann and Fernandez-Arius, 2000; Anyanwu, 2012; Elbadawi and Mwega, 1997) and Aisedu, 2002). However, export-oriented MNES may seek to set subsidiaries in more open economies because trade restrictions are usually accompanied by market imperfections and high transaction costs. Empirical literature has different results of the impact of trade openness, the expected sign of TOPEN in indeterminate.

**Inflation (INF)**

Inflation is used as an indicator of macroeconomic instability and high uncertainty and investment risk (Blomstrom and Kokko, 1998). In a study of 23 African countries on the impact of inflation on investment, Greene and Villanueva (1991) finds higher inflation having a negative effect on FDI. Low inflation and appropriate pricing of capital and labour creates an enabling foreign direct investment climate. Whilst Zimbabwe had record inflation between 2007 and 2008, inflation has since come down to close to one percent. Inflation is expected to have a negative sign indicating that a low inflation fosters FDI attraction.

The following tests were carried out in order to improve on the robustness of the findings and avoid estimating a spurious regression; stationarity tests using the Augmented Dickey Fuller (ADF) test; the existence of heteroscedasticity employing, Breusch – Pagan
RESULTS AND DISCUSSION

Stationarity

All the probability value of ADF statistic were compared to 0.01, 0.05 and 0.1 and any probability value of a variable below these three values was considered to be stationary. As per Appendix A, all variables except FD1-1 and DGP-1 were stationery at 1% level of significance level. FD1-1 and DGP-1 were stationery at 5% level of significance. After first differencing, external debt stocks EXTG, Government final consumption expenditure GFCF, trade openness DTOPEN, lagged export DEXP-1 and GFCF became stationery at 1% level of significance and integrated of order 1. Appendix B for multicollinearity test show that all the absolute partial correlation coefficients are less than 0.8 implying that there is no multicollinearity among the variables. The highest relationship that is close to collinearity is that between EXP-1 and TOPEN which is 0.780882. This indicates that all explanatory and explained variables do not move together in systematic ways and thus individual effects on the explained variable have been isolated.

Results of the regression model are shown in Appendix C. The coefficient of government fixed capital formation (GFCF) was found to be positive and statistically significant at 1% level of significance. The coefficient of GFCF is 12, 16788 implying that a unit increase in GFCF lead to an increase in FDI by 1216%. The results suggest that capital formation stimulates by domestic financial developments, sound banking regulations and ability to secure lines of credit by the banking sector is a strong prerequisite for FDI investment climate. Trade Openness was found to be positive statistically significant at 10% level of significance. The results are consistent with literature findings which confirm positive correlation between trade openness and FDI suggesting that economies in which trade is important have relatively higher FDI (see Anyanwu, 2012; Asiedu, 2002; Nguyen, 2012; Sikwila, 2015; Edwards, 1990; Gastanga et al, 1998).

Inflation was found to be negative and significant at 10% level indicating that a stable macroeconomic characterised by low inflation promotes FDI. This result confirms earlier studies by Ajayi (2006); Anyanwu (2006, 2012) that indicates the importance of having low inflationary environment as a precursor to building confidence for potential foreign investors. Our empirical investigation does not confirm lagged GDP, external debt, government expenditure and lagged exports as major determinants of FDI. This was probably due to low manufacturing capacity utilisation, the small size of Zimbabwean economy and the protracted recession that led foreign investors to postpone investment until economic recovery. In addition, most government expenditures were likely consumptive and not in productive assets that complement FDI. The R-Squared is 0.577738 showing that 58% of the variations in FDI can be explained by the combinations of variations in the regressors as used in the model. The Durbin-Watson statistic of 1.838892 shows that there is no autocorrelation. The F-statistic test probability, 0.002786 is less than 0.05 with an F-statistic of 4.495506 implying that the whole model is valid at 1% levels of significance.

Survey results

From the survey it was revealed by 80 percent of the respondents that good investment climate characterised by tax break concessions, rebates and capital allowances signal a country’s welcoming attitude toward FDI and the overall business and investment
environment. Most respondents cited policy inconsistency, unfriendly regulatory environment, corruption, weak governance and poor infrastructure hindering FDI. The findings confirm Djankov et al (2000) who finds that whilst it takes 30 days to get investment permission in most SADC countries at an average cost of 36, 7 % of GDP per capita, in Zimbabwe it takes on average of 59 days to get investment permission at any average cost of 58.5%. To triangulate empirical findings respondents were asked to rank severity of FDI determinants and results are shown in Appendix D. Trade openness, GDP and exports competitiveness were found to have a severe impact on FDI inflows whilst export competitiveness was found to have the minimum impact on FDI. Appropriate policies that improve trade openness, domestic demand, inflation, lowers corruption and government debt were expected to positively influence investor’s perception and attract FDI into the country.

CONCLUSION AND POLICY RECOMMENDATIONS

The paper examines factors responsible for low FDI inflows in Zimbabwe. The results indicate that inflation, trade openness, and gross capital formation should be prioritised in order to enhance FDI inflows. Policies reducing the impact of institutional factors like corruption, weak governance and perceived political risk that inhibit FDI attraction are equally important and need to be implemented. Because FDI requires long term commitment involving huge sunk costs and capital outlay, issues of uncertainties, country risks, initial investment recoupments, policy consistencies and credibility must be considered in policy formulation. The study has three policy implications for FDI attraction, First, Zimbabwe should create a hospitable investment climate by reducing corruption, uncertainties, poor governance and policy inconsistencies. These variables coupled with irreversible nature of most foreign investment makes Zimbabwe risky to foreign investors. Second, Zimbabwe should vigorously pursue further opening of its economy in order to create global linkages and synergies that are a prerequisite for FDI attraction. Third, policies that foster savings, safeguard property rights, minimises barriers to international trade, lower inflation, and creates minimal regulatory barriers are likely to encourage domestic capital formation a strong prerequisite for FDI attraction in Zimbabwe.

APPENDICES

Appendix A: Results of the Unit Root Test

<table>
<thead>
<tr>
<th>Variables</th>
<th>t-ADF</th>
<th>Critical-1%</th>
<th>Critical-5%</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEXP</td>
<td>-6.292453</td>
<td>-2.6444302</td>
<td>-1.952473</td>
<td>I(1)</td>
</tr>
<tr>
<td>DEXTG</td>
<td>-4.468422</td>
<td>-2.644302</td>
<td>-1.952473</td>
<td>I(1)</td>
</tr>
<tr>
<td>DFDL</td>
<td>-2.779662</td>
<td>-2.641672</td>
<td>-1.952066</td>
<td>I(1)</td>
</tr>
<tr>
<td>DGDP</td>
<td>-3.652383</td>
<td>-2.644302</td>
<td>-1.952473</td>
<td>I(1)</td>
</tr>
<tr>
<td>DGFCF</td>
<td>-5.718816</td>
<td>-2.644302</td>
<td>-1.952473</td>
<td>I(1)</td>
</tr>
<tr>
<td>DTOPEN</td>
<td>-6.825073</td>
<td>-2.644302</td>
<td>-1.952473</td>
<td>I(1)</td>
</tr>
<tr>
<td>INF</td>
<td>-4.011155</td>
<td>-2.641672</td>
<td>-1.952066</td>
<td>I(0)</td>
</tr>
</tbody>
</table>

Source: Own Computation
Appendix B: Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>EXP_1</th>
<th>GDP_1</th>
<th>GFCE</th>
<th>GFCF</th>
<th>INF</th>
<th>TOPEN</th>
<th>EXTG</th>
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</thead>
<tbody>
<tr>
<td>EXP_1</td>
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<tr>
<td>GDP_1</td>
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<td>1.0000</td>
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<tr>
<td>GFCE</td>
<td>-0.29</td>
<td>0.1523</td>
<td>1.0000</td>
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<td></td>
</tr>
<tr>
<td>GFCF</td>
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<td>0.0610</td>
<td>0.4748</td>
<td>1.0000</td>
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<td></td>
</tr>
<tr>
<td>INF</td>
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<td>-0.01</td>
<td>-0.3</td>
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<td></td>
</tr>
<tr>
<td>TOPEN</td>
<td>0.78</td>
<td>-0.31</td>
<td>-0.28</td>
<td>-0.14</td>
<td>0.221</td>
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<tr>
<td>EXTG</td>
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<td>0.171</td>
<td>-0.57</td>
<td>-0.44</td>
<td>0.138</td>
<td>0.742</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Source: own computation

Appendix C: Regression Output

Dependent Variable: DFDI
Method: Least Squares

Sample (adjusted): 1981 2011
Included observations: 31 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>DEXP_1</td>
<td>4.388298</td>
<td>2.999978</td>
<td>1.462777</td>
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<td>DEXTG</td>
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<tr>
<td>DGDP_1</td>
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<tr>
<td>DGFCF</td>
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</tr>
<tr>
<td>DGFCF</td>
<td>12.16788</td>
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<td>0.0004</td>
</tr>
<tr>
<td>DTOPEN</td>
<td>248.5696</td>
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<td>1.739900</td>
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<tr>
<td>INF</td>
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<td>C</td>
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<td>15.31882</td>
<td>0.257938</td>
<td>0.7987</td>
</tr>
</tbody>
</table>

R-squared 0.577738
Adjusted R-squared 0.449223
F-statistic 4.49506 Durbin-Watson stat 1.838897
Prob. (F-statistic) 0.002786

Source: Own Computation

Appendix D: Survey results
REFERENCES


IMF (2005). Zimbabwe: 2005 Article IV Consultation – Staff Report; Public Information Notice on the Executive Board Discussion; and Statement by the Authorities of Zimbabwe; Country No 05/360.


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