Role of Human Development and Governance in Foreign Direct Investment in the Post Reform Era: *The Case of Tanzania*

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ABSTRACT

Along with Sub-Saharan Africa (SSA), Tanzania also went through "lost decades" and started reviving its growth in the early 2000s; partly because of a relatively outward looking trade policy started in the mid-1980s, and improved foreign direct investment (FDI) inflows that grew nearly six-fold over the past decade. The largest inflows of FDI in the recent years are either in sectors with comparative advantage, such as, natural resources and agriculture or where there is need for investment, and returns are high– for example, manufacturing sector. Either developed countries or developing countries from SSA are important source of FDI in Tanzania, which next may focus to attract more FDI from emerging economies such as China, India, and Malaysia as her neighbors have done. The estimation results obtained from Auto regressive distributed lag (ARDL) approach of cointegration for annual time series data for the period of 1988 to 2013 suggest that there is, for instance, a link between FDI and educations indicating better education achievements help absorb the benefits of FDI better. Other important determinant of FDI inflows, based on our dynamic model analysis are GDP growth and labor force growth. Contrary to the perceived view, Tanzania seems unable to take the advantage of trade reform on FDI inflows. The results also suggest the natural resources rent has a positive impact only in the short-run.

Keywords: Foreign Direct Investment, International Investment, International Business, Finance integration

JEL Classification code: F2, F21, F23, F36

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1.0 INTRODUCTION

Foreign direct investment (FDI), the cross-border capital flow from country to country-particularly into developing countries, is well known contributors of economic development in this era of globalization. In the past three decades, countries are focusing on various issues of reform adopting outward looking economic policies. Tanzania, a developing country in East Africa, also entered into the reform era since 1986, however in slow pace, and became open since 1995. In Tanzania, FDI has contributed to economic growth via different dimensions, such as, creating more employment and providing stable inflation in the last decade (Bank of Tanzania, 2012). The FDI inflows, also an indicator of the expansion of the supply side of economy has increased substantially to above US$1800 million in 2013, positioning her in one of the leading East African countries for this flow in the recent years (UNTAD, 2012). However, the growth of FDI inflows is slower, even compare to overall East Africa region even in the post reform era.

Despite this increased FDI inflows in the volume, if we look at the share of FDI in gross domestic product (GDP) of Tanzania. This share has not increased that impressively, indicating that there is an ample room to improve in FDI sector. Generally, policy makers have a perception that trade policies, human development and the quality of institution are crucial players to absorb the FDI and to accelerate the economic growth in a country. The role of these important economic variables needs a systematic discussion in the Tanzanian context.

The literature on FDI suggests a two-way link between FDI and human development. First link is from FDI to human development via better education, healthcare and information system. Second, at the same time, better education and health achievements can help absorb FDI better in the country in many ways (Javorcik, Özden *et al.*, 2011). All else equal, links between FDI and development is stronger when host countries have good physical infrastructure, well-functioning institutions with the quality governance, and an educated work force.

Tanzania stands as one of the best performers of the Sub Saharan Africa (SSA) region in terms of education and health outcomes between 2000 and 2010 also is on track to achieve the millennium development goal of universal primary education, and notably this is the period when FDI has increased substantially with some fluctuations. However, the level of tertiary education has not been fostered that substantially. The FDI inflows to Education sector is not that impressive in Tanzania, even it has a very supportive environment, and regulatory framework, and above secondary level seems to be underfunded (World Bank, 2010, and Ministry of Education and Vocational Training, 2012).

Despite being the hot topic in the literature, the contribution of the quality of governance has not got attention in Tanzania. In addition, from a brief literature survey, we found that the drivers of FDI inflows into Tanzania have not been analyzed systematically in the literature. Thus, the purpose of this paper is to shed some light on the determinants of FDI in the Tanzanian context. We aim to systematically analyze these determinants using state of the art estimation technique for time series data, focusing on the role of human development and institutions in FDI inflows in the reform era.

Our estimated results suggest that investing human development contributes to absorb more FDI in the countries, but the need is to improve the quality of governance and develop the suitable policy to get the benefits from the trade reforms. Based on econometric analysis, we suggest that one way of improving the FDI inflows could be to focus on attracting the FDI from emerging developing economies such as Brazil, Russia, India, China and South Africa (BRICS). This flow could help not only to increase the flows but also to improve the South-south linkage and to transfer the reasonably cheaper technology.

The paper is structured in six sections. In Section 2, we highlight the Tanzania's position in East Africa in terms of FDI to ensuing the analysis. In Section 3, we present the overview of FDI in Tanzania with detail o trends and patterns. Section 4 is focused to discuss model, variables and data. In Section 5, we present the results and discuss them with economic analysis. In the final Section, we present a brief conclusion with some policy inferences.

1.1 Positioning Tanzania in the East Africa

FDI inflows to Eastern Africa has grown nearly 10-fold since 2000, that is, from about US$1468 million to US$14592 million in 2013, with consistently increasing rate over the period. In terms of value, the highest increased of FDI flows was for Mozambique, which reached to US$5935 million in 2013, from US$139 million in 2000. As at 2013, Tanzania received the second highest amount for FDI followed by Zambia and Uganda. FDI inflows into Tanzania increased from 2% of total inflows of East Africa in 1988, reached to 36% in 2005, and then remained 13% consistently from 2011 to 2013. Tanzania was recorded as the highest recipient of FDI in 1996, 2000, 2005, and 2010 among the selected years. In 2011, the FDI inflows to Tanzania declined substantially (almost one-third) compared to that of previous year (Table 1).

Table 1: FDI inflows into Eastern-Africa, US$ million at current prices

	1988	1996	2000	2005	2010	2011	2012	2013
Burundi	1	0	12	1	1	3	1	7
Comoros	4	1	0	1	8	23	10	14
Djibouti	1	3	3	22	27	78	110	286
Eritrea	_	37	28	1	91	39	41	44
Ethiopia	_	22	135	265	288	627	279	953
Kenya	0	11	111	21	178	335	259	514
Madagascar	3	10	83	86	808	810	812	838
Malawi	17	16	40	140	97	129	129	118
Mauritius	24	37	277	42	430	433	589	259
Mozambique	5	73	139	108	1018	2663	5629	5935
Rwanda	21	2	8	8	42	106	160	111
Seychelles	23	29	24	86	211	207	166	178
Somalia	-43	1	0	24	112	102	107	107
South Sudan	_	_	_	_	_	_	_	_
Uganda	5	122	181	380	544	894	1205	1146
Tanzania	4	149	282	936	1813	1229	1800	1872
Zambia	93	117	122	357	1729	1108	1732	1811
Zimbabwe	19	81	23	103	166	387	400	400
East African countries	**176**	**708**	**1468**	**2579**	**7564**	**9174**	**13429**	**14592**
Share of Tanzania	**2**	**21**	**19**	**36**	**24**	**13**	**13**	**13**
Max. recipient country	*Zam.*	*Tan.*	*Tan.*	*Tan.*	*Tan.*	*Moz.*	*Moz.*	*Moz.*

Note: "-" refers that the data are not available. Max.=Maximum Zam.=Zambia, Tan.=Tanzania, Moz.=Mozambique

Source: (UNCTAD, 2014; and World Bank, 2014).

East African countries are diverse in the contribution of FDI inflows in their economies. Only seven out of 18 East African countries have a share of more than 5% net FDI inflows of their GDP (four years' average, 2010-2013). Tanzania is one of those seven countries with average of 6.21%. Mozambique had the highest rate followed by Seychelles, Djibouti, Madagascar, Zambia, Tanzania and Uganda. Rest countries have lower than 5% average for this period. In case of Tanzania, the net FDI inflows as a percent of GDP was maximum in 2010, but still it was less than 10% (Table 2). In the case of Tanzania, the share of FDI inflows to GDP has not increased as

expected. This indicates that there are rooms to improve the FDI inflows as the size of the economy increases.

Table 2: Net FDI inflows (% of GDP) in East African Countries

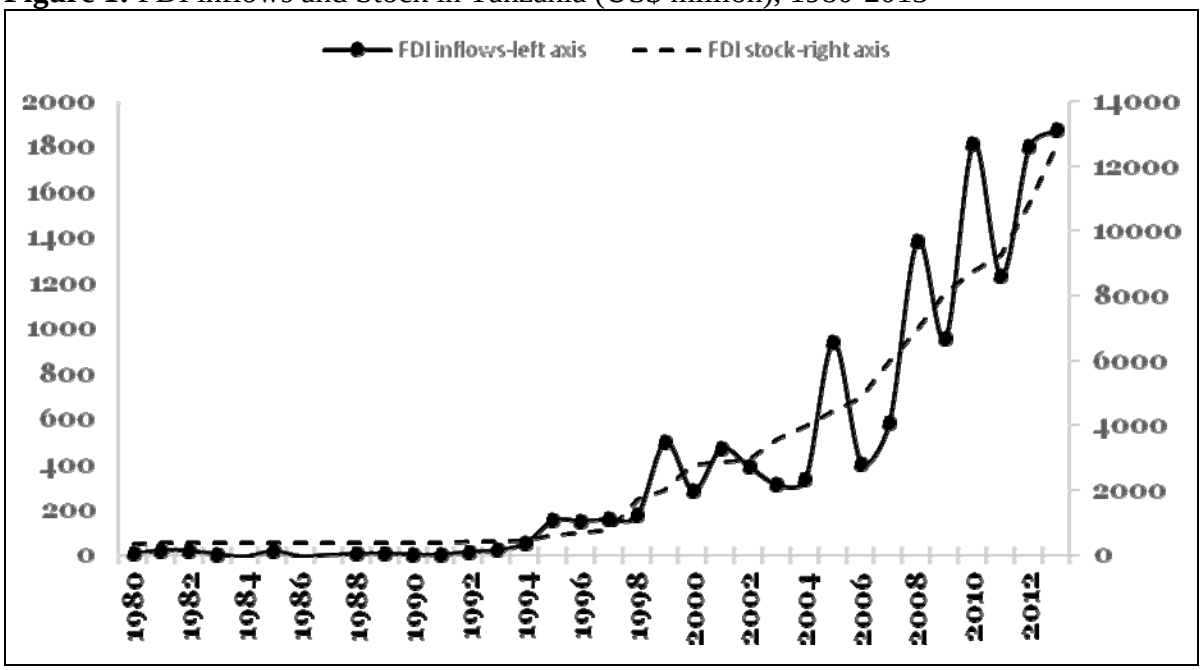
	1988	1996	2000	2005	2010	2011	2012	2013	
Burundi	0.11	0.00	1.34	0.05	0.04	0.14	0.02	0.25	0.11*
Comoros	1.82	0.22	0.05	0.14	1.54	3.78	1.74	2.12	2.29
Djibouti	-	0.66	0.60	3.13	3.23	6.38	8.13	19.64	9.34
Eritrea	-	5.29	3.95	0.13	4.30	1.50	1.34	1.27	2.10
Ethiopia	-	0.26	1.66	2.18	0.98	2.00	0.65	2.03	1.42
Kenya	0.00	0.90	0.87	0.11	0.55	0.98	0.64	1.17	0.83
Madagascar	0.12	0.25	2.14	1.70	9.28	8.22	8.22	7.76	8.37
Malawi	1.26	0.69	1.49	5.07	1.80	2.29	3.05	3.20	2.58
Mauritius	1.11	0.83	5.80	0.66	4.42	3.85	5.15	2.17	3.90
Mozambique	0.21	2.24	3.23	1.86	13.57	29.05	39.20	42.11	30.98
Rwanda	0.88	0.16	0.48	0.31	0.75	1.66	2.24	1.49	1.53
Seychelles	8.17	5.77	3.96	9.34	16.42	11.20	15.43	14.01	14.26
Somalia	-4.18	-	-	-	-	-	-	-	-
South Sudan	-	-	-	-	-	-	-	-	-
Uganda	0.07	2.00	2.59	4.21	3.39	5.77	6.02	5.33	5.13
Tanzania	0.07	2.31	4.55	6.62	8.03	5.15	6.04	5.64	6.21
Zambia	2.50	3.58	3.74	4.97	10.68	5.77	5.18	8.09	7.43
Zimbabwe	-0.23	0.95	0.35	1.79	1.75	3.53	3.20	3.12	2.90

Note: "-" refers that the data are not available. *Average 2010-2013.
Source: (UNCTAD 2014; World 2014).

1.2 Overview of FDI in Tanzania

FDI in Tanzania has strong upward trend since mid-1990s.Both FDI inflows and FDI stock have increased substantially since 1995 when the country became fully open (Paudel, 2014). The FDI inflows increased to almost 13 fold from about US$148 million in 1996 to US$1872 million in 2013. During the past decade, FDI inflows have been increased by six-fold. There are some fluctuations of FDI flows, particularly, heavy down flow in FDI was recorded in 2006-2007 but the good news was quickly picked up in 2008. On the other hand, the FDI stock has much impressive upward trend, i.e., about 19 fold increment on the same period, that is, from US$681 million to US$12715 million. More than the FDI inflows, naturally, FDI stock has smoother pattern of upward trend and has consistently been increased since the mid-1990s with some fluctuation in their growth rates (Figure 1).

Figure 1: FDI inflows and Stock in Tanzania (US$ million), 1980-2013



Source: Author's calculation based on, UNCTAD (2014).

Tanzania largely benefited from outward looking economic policies. The growth experience of the country in the recent decades indicates that FDI has contributed to improve the quality of education and health outcomes, as well as infrastructure, in Tanzania. Particularly, since 1995 when country became open judged by (Sachs and Warner, 1995) criteria, both FDI inflows and economic growth picked up the momentum (Bank of Tanzania, 2001, UNCTAD, 2014, and World Bank, 2014). These policy reforms resulted to increase the FDI substantially (Bank of Tanzania, 2009, Mboya, 2009).

Data for FDI inflows into Tanzania by source country and economic sector are not available for longer period. Appropriate structure of the data to foster the analysis of various issues of policy sectors would have been to record them in three dimensions, i.e., by source country, sector and time (at least annually). Tanzania started this practice since 2008 (making data available from 2009) for FDI inflows and stock and the data for 2013 are still in the process.[1] Depending on the data length, if we analyze the FDI inflows by source country for the period 1999-2012, following points emerge.

Tanzania hosts FDI from a diverse range of source countries. In 2010, Tanzania hosted FDI from 32 countries, and this number increased to 43 in 2012.Tanzania received about 97% of FDI inflows from top 15 countries. The heavy fluctuation was found for Barbados which was down to 9th position in 2012 from the first position in 2010. This is mainly because of the heavy negative inflows in mining and quarrying sector from Barbados. Some reports, for example, (Business Monitor Store, 2010) indicate that the Tanzania's mining sector may remain relatively uncompetitive due to high taxes imposed on the sector. Tanzania needs to be aware about the potential down shade in other sectors too. Notably, the investment from other countries in this sector has declined. However, there are some cases of increased investment in this sector from other countries.

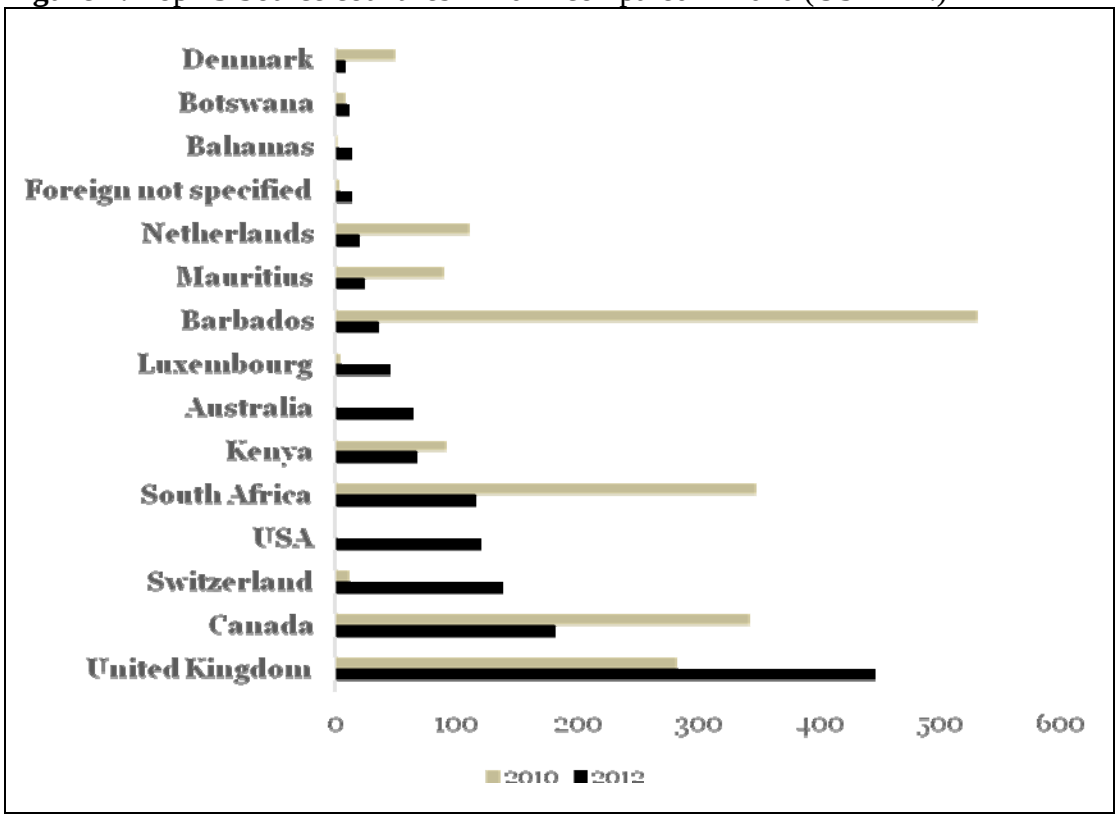
The FDI inflows into Tanzania has increased from the countries, such as, United Kingdom, Switzerland, USA, Australia, Luxembourg, Botswana and Bahamas. Inforum (2014) mentions that largest projects have been orginated mainly from Canada, and it seems consistency with Figure 2 as it is the second largest source country in terms of FDI volume. The rest countries' contribution, as

[1] Based on the discussion with the authorities of Bank of Tanzania.

shown in the Figure 2, has declined in 2012 compared to that of 2010. United Kingdom, Canada, Switzerland, USA, South Africa, Kenya, Australia, Luxembourg, Barbados, and Mauritius are top 10 source countries in 2012. India and China as source country stand on 23rd and 26th position respectively. Surprisingly, both China and India, major emerging countries to invest in SSA region, are not the key players in the context of Tanzania.

The emerging developing countries, such as BRICS plus Malaysia, are the major representative of the rise of the South-South FDI flows after the 2000s. These countries are not only major recipients of FDI but also large providers. This dual role of recipient and provider is played prominently by South Africa in the region. The outflows from BRICS increased from about US$7 billion in 2000 to US$145 billion in 2012 in the world economy, accounting for close to 25% of inflows into SSA. Thus, FDI flows from BRICS countries' needs special attention from Tanzania, which may explore the opportunity to improve the inflows in more sustainable way. Their flows are important not only because the traditional OECD sources of FDI are diminishing, but they also have the potential to forge better linkages with local firms and industries in various ways, for example, use labour more intensively and facilitate the transfer of low-cost and more adaptable technologies. Unfortunately, other than South Africa, not other BRICS countries are the key player in case of Tanzania (Figure 2). The data from Tanzania indicate that major FDI inflows come from either developed countries or from SSA region.

Figure 2: Top 15 Source countries in 2012 compared in 2010 (USD mil.)



Source: Author's calculation based on (Bank of Tanzania (2012).

Bank of Tanzania (BoT) broadly records the data in 16 sub-sectors since 2009. These data indicate that Mining and Quarrying is the main sector of attraction for FDI in Tanzania.[2] The net

[2] These sectors are Accommodation and food service, Agriculture, forestry and fishing, Arts, entertainment and recreation, Construction, Education, Electricity, gas, steam and air conditioning supply, Financial and insurance activities, Human health and social work, information and communication, Manufacturing, Mining and quarrying,

inflows of FDI remained fluctuated. As of 2012, the highest amount of net inflows of FDI was recorded for Mining and Quarrying-US$445 million, followed by US$404 million for Electricity, gas, steam and air conditioning supply, US$358 million for Manufacturing, US$117 million for Financial and Insurance activities, and US$113 million for transportation and storage (Table 3). The growth of net FDI inflows to manufacturing sector seems very impressive, which has increased to more than 5-fold in just 3 years. Despite being the main contributor of Tanzanian national economy, Agriculture, forestry and fishing sector has negative net inflows of about US$4.5 million. Similarly, information and communication sector's net inflows have the highest amount of negative inflows of about US$101 million in same year. The country needs to be aware about the potential negative impact in this sector that has been pointed in (Business Monitor Store, 2014). Also, the performance of this sector has declined consistently since 2006, from 40% to below 5% in 2008 (Bank of Tanzania, 2009).

Table 3: Sectoral position of net FDI inflows in 2012

Economic Sectors	Net FDI inflows USD	Rank
Accommodation and food service	23033358.03	6
Agriculture, forestry and fishing	-4575662.08	14
Arts, entertainment and rec.	335080.08	12
Construction	-13457249.18	15
Education	411718.56	11
Electricity, gas, steam and air	403791271.5	2
Financial and insurance activities	116663842.2	4
Human Health and social work	1148173.48	10
Information and communication	-101467853	17
Manufacturing	357787514.6	3
Mining and quarrying	445745136.5	1
Other service activities	1275032.46	9
Professional, scientific....	13207268.8	8
Public administration and def.	0	13
Real estate activities	16679833.25	7
Transportation and storage	112641834.5	5
Wholesale and retail trade,....	-19840518.33	16

Source: Unpublished data from Bank of Tanzania, see appendix A for details for "…" items.

Over the past decade, number of FDI Greenfield projects grown by 3-fold, but employment and investment largely remained stagnant. Table 4 shows the number of FDI Greenfield projects with the number of employment created and amount of investment. These data show that the number of Greenfield projects increased to 24 in 2013 from just seven in 2003. However, numbers of employment created and investment both have decreased nominally. This situation indicates that the average size of FDI projects over the period has declined or has stagnant. For the Greenfield projects, year 2011 was special due to the high number of entrants with the highest number of employment creation and investment.

Professional and scientific, Public administration and defense, Real estate activities, Transportation and storage and Wholesale and retail trade.

The sectors of FDI Greenfield projects are narrowly diversified, with intensive focus on financial services. Out of 24 Greenfield projects, total of 9 projects were invested in financial services, followed by 4 in communication, 2 in Business services, 1 each in Textiles; Food & Tobacco; Coal, oil and Natural gas; Medical Devices; Building & construction Materials; Rubber; Industrial Machinery, Equipment & Tools; Leisure &Entertainment; and Business Machines & Equipment. A notable point is that Tanzania has restriction on media and financial services, i.e., allows only 70% and 77% foreign equity respectively, and these are only two sectors Tanzania does not allow 100% foreign equity (World Bank, 2010). [3] Despite of easy provision for FDI in the education sector, none of the Greenfield projects are directly related with this sector.

If we look at regional distribution of FDI inflows, Dar es Salaam is the most attractive region for FDI inflows in the country. Over 50% of FDI inflows come to Dar es Salaam region followed by Shinyanga about 13% and Mwanza about 10%. Land acquisition, infrastructure and endowment are the major reasons to be the attraction of FDI inflows into these regions (Bank of Tanzania, 2009).

Table 4: Greenfield projects-employment creation and investment, 2003-2013

Year	Number of greenfield projects	Employment created	Investment US$ mil.
2003	7	1953	1056
2004	6	3143	1272
2005	11	6165	1672
2006	7	1971	290
2007	6	756	336
2008	19	3397	2258
2009	12	1055	437
2010	25	2528	874
2011	35	7497	3097
2012	31	2066	1186
2013	24	1860	841

Source: Inforum (2014).

2.0 METHODOLOG

2.1 Model and Data Variables

In this section, we estimate the FDI inflows into Tanzania using the Auto-regressive Distributed Lag Model (ARDL) approach to cointegration using annual data from 1988 to 2013 as mentioned in equation (1). The ARDL modeling approach developed by Pesaran and Shin, 1997 and Pesaran, Shine *et al.* (2001) have numerous advantages, such as, it can be applied irrespective of whether the regressors are I(0) or I(1), as is the case in this study. This method is widely used to analyse the contegration relationship among the numerous economic variables. The bound testing procedure is a more efficient and credible approach for determining cointegrating relationships in small samples, and it facilitates to detect both short-run and long-run relationship among the variables (Ghatak and Siddiki, 2001).

The econometric model is guided by Blonigen and Piger, (2014) and Cevis and Camurdan (2007), and modified with reference to other works in the literature, such as, Wash and Yu (2010). The augmentation of the model and the selection of econometric method is based on the availability and structure of the data.

[3] These information were updated till 2013 using relevant information from Bank of Tanzania and Tanzania Chamber of Commerce Industry and Agriculture.

$$\Delta LFDI_t = \propto_0 + \sum_{i=1}^{p} \beta_i LFDI_{t-1} + \sum_{i=1}^{p} \delta_i GDPGROWTH_{t-1} + \sum_{i=1}^{p} \phi_i INFLATION_{t-1} + \sum_{i=1}^{p} \varphi_i LFGROWTH_{t-1} + \sum_{i=1}^{p} \theta_i GDPPCGROWTH_{t-1} + \sum_{i=1}^{p} \pi_i EDUCATION_{t-1} + \sum_{i=1}^{p} \tau_i GOVERNANCE_{t-1} + \sum_{i=1}^{p} \psi_i REFORM_{t-1} + \sum_{i=1}^{p} \omega_i NATRESOURCE_{t-1} + \gamma_1 LFDI_{t-1} + \gamma_2 GDPGROWTH_{t-1} + \gamma_3 INFLATION_{t-1} + \gamma_4 LFGROWTH_{t-1} + \gamma_5 GDPPCGROWTH_{t-1} + \gamma_6 EDUCATION_{t-1} + \gamma_7 GOVERNANCE_{t-1} + \gamma_8 REFORM_{t-1} + \gamma_9 NATRESOURCE_{t-1} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots (1)$$

The variables in Equation (1) and their expected signs based on the literature are: FDI: Annual FDI inflows into Tanzania; in US$ nominal values following Anderson and van Wincoop (2003) and Balwin and Taglioni (2006); GDPGROWTH: Tanzania's real GDP growth rate to capture the growth in the size of economy. Expected sign: positive, as the growing economy absorbs more FDI; INFLATION: The annual inflation rate calculated based on GDP deflator to proxy the price level change in the economy. Expected sign: negative, as the inflation refers to potential macroeconomic risk in the country; LFGROWTH: The growth rate of Tanzanian total labor force growth rate. Expected sign: positive, as the higher labor force growth creates the more favorable situation for FDI lowering wage rate and enhancing the other supply side capacity; GDPPCGROWTH: Tanzania's per capita GDP growth as a proxy of infrastructure. The growth of per capita GDP refers to increasing capacity of economy to invest in infrastructure and further growth and FDI absorption potential. Thus, expected sign is positive; EDUCATION: Growth in secondary school enrolment to capture the human development effect as a proxy of education that contributes positively in human development. Expected sign: positive; GOVERNANCE: The quality of governance is proxied by the control of corruption variable as developed in Kaufmann, Kraay et al. (2010). We use only one variable noting the serial correlation problems with others indicators of Kraay et al. (2010). Expected sign: positive; REFORM: This is trade reform captured with the Tanzania's import tariff rate (%), applied, weighted mean for all products. If reducing Tanzanian tariff rates promotes Tanzania's exports as postulated by the Lerner (1936) symmetry theorem, which suggests that import tariffs act as an export tax by reducing the relative profitability of exporting compared to selling in the domestic market. Thus, attracts more FDI. Expected sign: negative; and NATRESOURCES: The natural resources rent as percentage of GDP is used to capture the endowment effect, which attracts the FDI in the sector, particularly mining and mineral resources sector. Expected sign: positive/negative. This sign can be negative in case of prevailing the Dutch disease type of effect.

The quality of data is always fundamental issue for a quality research, without which the better policy inference is not possible. The data and their quality are major obstacle for the quality research in most of the developing countries contexts. Tanzania also has this feature in terms of data. This situation is clearly reflected in Ministry of Industry and Trade (2010) that suggests that one of the objectives of the government is to upgrade and modernize the approach to data collection, processing, dissemination and storage of quality statistics.

In the context of many developing countries like Tanzania, cross-country data on FDI that are simultaneously disaggregated by source-country and sector are not available. In fact, they are not recorded in that way. Fortunately, Tanzania has started to record those data since 2009 redefining the economic sectors. But these data are not easily available to the researchers, and the series are short for any meaningful econometric analysis. Therefore, we rely on time series data. Thus, this study attempts to use the data from credible online sources, namely UNCTAD, World Bank, and national governments to present as complete as possible on trends and patterns of FDI inflows into Tanzania.

For the econometric analysis, this study uses annual data of Tanzania for the period of 1988-2013. The quality data problem has several problems as explained in Edwards (2014). The data for FDI inflows in nominal US$ are collected from UNCTAD database. The data for GDPGROWTH,INFLATION, LFGROWTH, GDPPCGROWTH, REFORM and NATRESOURCE are collected from the World Development Indicator. Similarly, the data for EDUCATION and GOVERNANCE are collected from education data statistics database and worldwide governance indicators database of the World Bank.

The sources for the data used for descriptive analysis are given in the relevant places, i.e., as a notes in the tables and figures. As we intend to analyze the FDI inflows using the data for possible longer series, we face setback from some important variables, such as, wage rate, wholesale price index, governance quality index, and infrastructure and education statistics. Thus, we had to rely on alternative measures with short series, which were extrapolated back until 1988.

3.0 FINDINGS

The procedure involves to satisfy a priory condition for ARDL, which is all the variables must be either I(0) or I(1). This condition has been satisfied (see Table 5 and Table 6). As in Tables, per capita GDP growth is I(0) and rest of the variables are I(1) suggesting us to use ARDL approach to cointegration. The ARDL is the most appropriate method in this situation, i.e., when there is the mixture of I(0) and I(1) variables.

Table 5: Unit root tests on levels

Variables	*With constant*		*With constant and trend*	
	ADF	*PP*	*ADF*	*PP*
FDI (log)	-1.63	-1.29	-2.53	-2.66
GDP growth (%)	-1.68	-1.66	-2.71	-2.69
Inflation (%)	-1.39	-1.33	-2.09	-2.07
Labour force growth (%)	-1.39	-1.32	-1.73	-1.72
Per capita GDP growth (%)	-3.66***	-3.65**	-3.65**	-3.67**
Education enrolment growth (%)	-2.37	-2.28	-2.48	-2.41
Governance (index)	-1.48	-1.59	-1.52	-1.67
Trade reform (%)	-1.30	-1.35	-3.30	-1.86
Natural resources rent (% of GDP)	-1.44	-1.49	-1.46	-1.41
Critical Value @ 5 percentage Level	**-2.99**	**-2.99**	**-3.61**	**-3.61**

*Note: *, ** and *** indicate the Stationary at 10%, 5% and 1% level of significance*

Table 6: Unit root tests on first difference

Variables	*With constant*		*With constant and trend*	
	ADF	*PP*	*ADF*	*PP*
FDI (log)	-3.73**	-6.67***	-5.56***	-6.83***
GDP growth (%)	-6.21***	-6.00***	-6.21***	-5.97***
Inflation (%)	-5.15***	-5.69***	-5.09***	-6.37***
Labour force growth (%)	-4.03***	-3.99***	-3.98**	-3.89**
Per capita GDP growth (%)	-	-	-	-

Education enrolment growth (%)	-6.67***	-6.66***	-6.52***	-6.52***
Governance (index)	-5.06***	-5.06***	-4.96***	-4.96***
Trade reform (%)	-4.31***	-4.01***	-4.19**	-3.93**
Natural resources rent (% of GDP)	-5.54***	-5.55***	-5.49***	-5.49***
Critical Value @ 5 percentage Level	**-2.99**	**-2.99**	**-3.63**	**-3.62**

Note: *, ** and *** indicate the Stationary at 10%, 5% and 1% level of significance

Then, the process involves estimating the long-run relationship between the FDI, dependent variable, and independent variables, the relevant economic determinants of FDI. The first step is to run estimation and detect whether the long run relationship exists using Wald test-coefficient restriction and fin F test. The parameters γ_i where $i = 1,2,...,k$ are the corresponding long-run multipliers, while the parameters $\beta_i, \delta_i, \phi_i, \varphi_i, \theta_i, \pi_i, \tau_i, \psi_i, \omega_i$ are the short-run dynamic coefficients of the underlying ARDL model. The null hypothesis of no cointegration amongst the variables is tested against the alternative.

The F-test critical values are tabulated by Pesaran, Shin *et al.* (2001). We estimate the model to find out the long and short-run coefficients applying the Schwartz-Bayesian Criteria (SBC) lag specification, considering the relatively small sample of data. One important note here is that we started estimating the full model as in equation (1) and found the F-statistics 7.40 at 5% level of significance which is higher than the upper bound of Pesaran, Shin *et. al.* for 8 degree of freedom estimated with a constant and a trend with critical value of 2.60. We have followed a complete set of procedures as explained in Paudel & Jayanthakumaran (2009). This confirms the long-run relationship among the variables. Then, we applied general to specific procedures that eliminates statistically not significant variables based on 5% level of significance.

The empirical results in Table 7 shows the results for final model estimated employing general to specific procedures for both long-run and short-run. The left panel of the Table presents the long-run results, which show that GDP growth (GDPGROWTH) has a significant effect on FDI inflows, indicating that a one percent increase in GDP is associated with 0.77 percent increase in FDI inflows in the long run, holding other variables constant in the model.[4]

The inflation (INFLATION) has a negative impact of 0.11 percent in FDI inflows. The labor force growth (LFGROWTH) has a highly statistically significant association with FDI inflows indicating that a one percent increase in the labor force results to increase the FDI inflows by about 5 percent, holding other variables constant in the model.

The role of education (EDUCATION) is statistically significant to the FDI inflows explaining that one percent increase in the education level causes to increase the FDI inflows by 0.12 percent. Surprisingly, the results for per capita GDP growth (GDPPCGROWTH) and governance quality (GOVERNANCE) have negative signs against our expectation. These results indicate that infrastructure and governance quality aspects of Tanzania have not contributed positively to increase the FDI inflows in the country. Thus, in this context, the policy makers need to be aware with the negative impacts of these variables for FDI flows in the long-run. These results suggest that the quality of governance such as control of corruption remains a major concern for foreign investors, consistent with the explanation of the U.S. Department of State (2014).

[4] As we have estimated the dynamic model, the real coefficient for the variables is calculated as: estimated coefficient of independent variable/estimated coefficient of lag dependent variable. In this case, for example the real coefficient for GDPGROWTH=-0.47/-0.61=0.77.

The improved infrastructure seems unable to attract FDI due to lack of proper policies. Similarly, trade reform (REFORM) has positive sign, against our expectation, indicating high tariffs on import which contributes more FDI in the country. This indicates that the trade reform policy have not been followed by other suitable policies.

The short-run results (right panel of Table 7) show that, among the selected variables, very few have statistically significant impact in the FDI inflows in the short-run. Unlike in the long-run, the labor force growth has a significant negative impact on FDI inflows in the short-run by about five percent. The education variable has negative association with FDI inflows in the short-run but the coefficient is smaller compared to that of long-run. It seems reasonable that in the short run, the investment in education does not contribute to absorb short run, because it is a long run phenomenon. The natural resources rent (NATRESOURCE) has a statistically highly significant association with the FDI inflows in the short-run. This variable does not have such impact in the long-run as suggested in the results.

Table 7: Long run and short run estimation employing general to specific procedures

Long-run coefficients ARDL (1,1,1,1,1,1,1) selected lags based on SBC, *dependent variable LFDI*			Short-run coefficients ARDL (1,1,1,1,1,1,1) selected lags based on SBC, dependent variable $\Delta LFDI$		
Regressor	*Coefficient*	*t-Statistics*	*Regressor*	*Coefficient*	*t-Statistics*
LFDIt-1	-0.61***	-21.41	LFDIt-1	-0.61***	-21.41
GDPGROWTH	-0.47***	-6.42	ΔGDPGROWTH	-	
INFLATION	0.06**	2.61	ΔINFLATION	-	
LFGROWTH	-3.05***	-8.39	ΔLFGROWTH	3.03***	6.51
GDPPCGROWTH	0.06***	4.67	ΔGDPPCGROWTH	-	
EDUCATION	-0.07***	-6.62	ΔEDUCATION	0.04***	5.27
GOVERNANCE	3.90***	7.62	ΔGOVERNANCE	-	
REFORM	-0.41***	-12.29	ΔREFORM	-	
NATRESOURCE	-		ΔNATRESOURCE	-0.40***	-9.12

Note: *, ** and *** indicate the Stationary at 10%, 5% and 1% level of significance. "-"refers to that the variables were dropped when applied general to specific procedures and do not have the statistically significant impact.

4.0 CONCLUSION

Along with Sub-Saharan Africa (SSA), Tanzania also went through "lost decades" and started reviving its growth in the early 2000s, partly because of a relatively outward looking trade policy started in the mid-1980s, and improved FDI inflows. In Tanzania, FDI inflows grew nearly six-fold over the past decade; and it has been less volatile than the trends world-wide. The largest inflows in the recent years are either in sectors with comparative advantage, such as, natural resources and agriculture or where there is a need for investment and returns are high, for example, manufacturing sector. Either developed countries or developing countries from SSA are important source of FDI in Tanzania, which next may focus to attract more FDI from emerging economies, such as, China, India, and Malaysia as her neighbors have done, as this will help Tanzania to forge a linkage of cheap and suitable technology and generate employment in the long run.

One immediate action at the national or inter-governmental level could be to share the data collected by national investment agencies (Bank of Tanzania, Tanzania Investment Centre and National Bureau of Statistics) to other ministries and online database. BoT, NBS and TIC have very systematic questionnaire to collect FDI data from individual firms, and mostly collected more in more responsible manner in the recent years. The BoT authorities did not want to share the questionnaire due to regulatory and secrecy framework they follow, but allowed me to have a quick look the questionnaire. As agreed with them to have a quick look on the questionnaires, our

research ethics does not allow us to mention exact questions here even we remember some questions. Basically the collected information from the questionnaire are related with the detail individual projects, their nature of investment, the ratio of domestic capital to FDI in the firms, firm's working areas and related economic sectors and so on.

The estimation results find that there is, for instance, a link between FDI and educations indicating better education achievements help absorb the benefits of FDI better. Other important determinants of FDI inflows, based on our dynamic model and the data limitation, are GDP growth and labor force growth in the long-run. On the negative side, inflation and the quality of governance are identified. The results suggest that the governing system has not been able to support adequately to the FDI inflows. It might be due to lack of policy and governance procedures, the reduction of tariff rates have not contributed to attract FDI.

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