

FDI SPILLOVERS IN TANZANIA MANUFACTURING SECTOR

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The Content of Discussion

- Introduction
- Overview of FDI
- Manufacturing Sector and FDI
- Literature Review (Theoretical and Empirical issues)
- Methodology
- Findings
- Conclusion and recommendations

Introduction

- Independence in 1961; Arusha Declaration in 1967
- 1980s and 1990s adoption of SAP
- 1996 launch of Sustainable Industrial Development Policy (SIDP) 1996-2020
- 1997 the Tanzania Investment Act and establishment of Tanzania Investment Centre
- 1990 to 2011 the overall GDP growth and GDP Per capital performances in Tanzania is positive
- The real GDP average growth rate of 6.9 percent 2001 to 2011.

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- Growth slowed down in 2009 to 6.0 percent, lower than 7.4 percent recorded in 2008. Bounced back to 7.0 percent in 2010 and slowed down again in 2011 to 6.4 percent
- 1999-2007, annual inflation averaging at 5.8 percent; 2008 and 2009, inflation reached double digits of 10.3 percent and 12.1. Average eased to 5.5 percent in 2010 and picked up again to double digit of 12.7 percent in 2011.
- Why this paper? Many countries rely on the expectation of technology transfer despite externalities and market imperfection to justify incentives packages given to foreign investors.

Overview of FDI

- Global and Africa FDI shows a consistent growth, while the FDI flow into Tanzania has a mixed growth trend

FDI inflows (in billions of USD), 2005 – 2008

Description	2005	2006	2007	2008	2009	2010	2011
Global	916.0	1,306.0	2,099.9	1,770.8	1,210	1,380	1,606
Africa	31.0	36.1	63.1	72.2	52.6	43.1	42.1
Tanzania	0.9	0.4	0.5	1.2	0.9	1.0	1.1

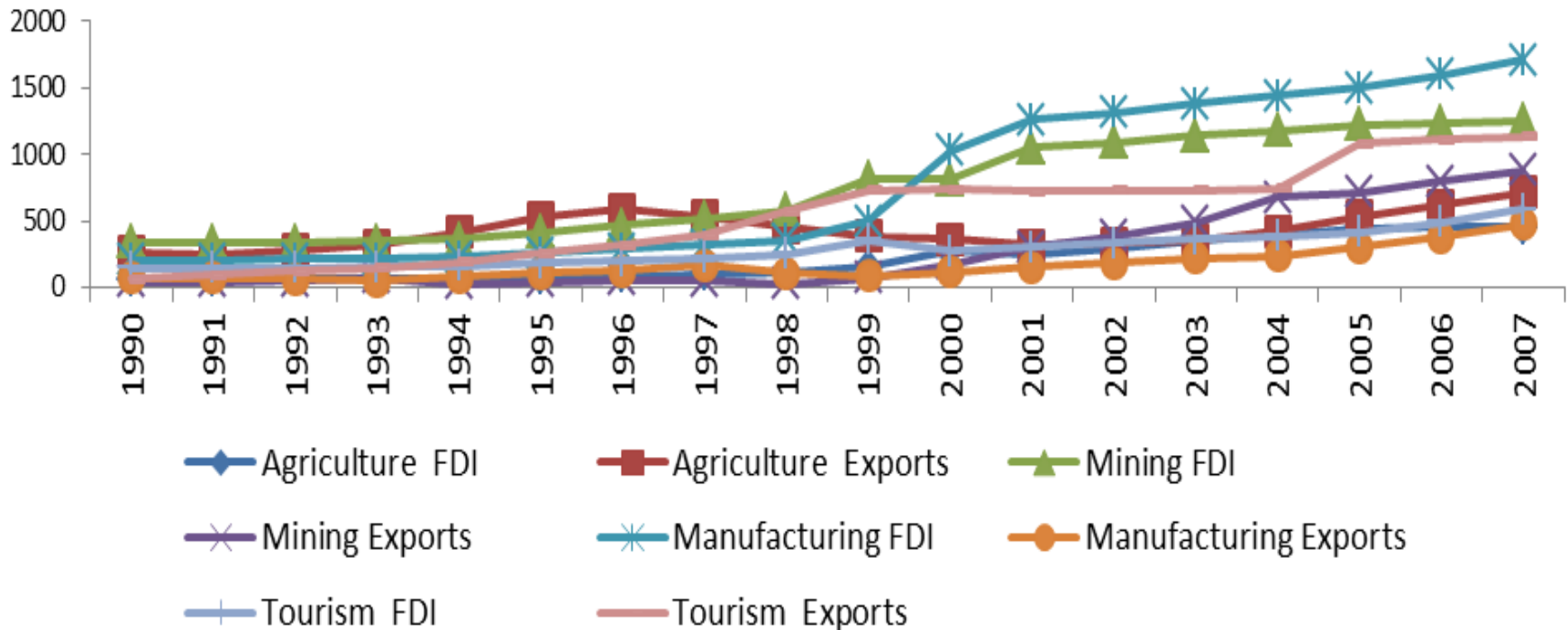
- Tanzania took the lead in attracting FDI in the East African region in 2011, attracting the record of \$1.1 billion equivalent to (TSh1.76 trillion).
- The FDI flows originates from the United Kingdom (23%), India and Kenya each with 15 per cent; Netherlands (10%), China (10%), USA (10%), South Africa (7%), Canada (5%), Germany (3%), and Oman (2%)
- Types of FDI; **Market-seeking FDI** (beer, cement, sugar etc), **Export-oriented FDI** (Mining and textile); **FDI in infrastructure and utilities** (energy, port, telecommunication etc); ownership by Tanzanians, by foreign nationals or by Joint Venture

Manufacturing Sector and FDI

- Tanzania's manufacturing sector dates back in the 1950s i.e raw materials
- Three trade regimes as a strategy for industrial development i.e Arusha declaration 5-6 years after independence (private sector), Post-Arusha declaration 1967-1980 was divided into two distinct periods 1967 and post 1967 it encouraged investment and government provided financial support
- 1999 Tanzania Government launched the National Development Vision 2025
- Manufacturing sector into six zones; the Northern zone, the Lake Zone, the Southern zone, the Western zone, the Central zone and the Coastal zone.

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- Green field investment, merger and acquisitions are the major entry modes of FDI inflows in manufacturing sector in Tanzania
- Manufacturing leads the pack in terms of total FDI stock but trails the other sectors in terms of export values



Literature Review

- **Theoretical Issues:** Dependency Theory; Industrial Organization Theory includes both tangible and intangible (eclectic model {FDI=OLI}, Interest on capital model and Gravity Model)
- Positive productivity spillover effects ;specific assets such as knowledge, technology advancements, organization, marketing and managerial skills
- FDI spillovers in a host country is a result of either horizontal or vertical linkages.
- Minimum threshold level of development in education, technology, infrastructure, financial markets and health for FDI to occur
- Transferring technology spillover to local firms for economic growth;
 - Imitation/demonstration;
 - competitive pressure
 - purchasing intermediate inputs
 - training employees
 - backward and forward linkages with domestic firms

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- Empirical Review:

- Cross sectional and panel data are widely used in explaining the spillover effects
- Kokko et al, (2003) and Moran et al, (2006) found that FDI spillover effects are not automatic and have provided conflicting evidence of their effects
- Teece (1977) found that apart from employment generation and capital formation, FDI may lead to technology transfer to local firms
- Aitken and Harrison (1999), negative and positive spillover effects were present
- Barrios (2000) positive spillover correlation between labour productivity and FDI presence
- Mucchielli and Jabbour (2004) found that technology transfer can occur between local and foreign firms. Spillovers are within a particular industry (i.e. intra-industry), they lead to an expansion of local industries whereas when spillovers occur across industries (i.e. inter-industry) they lead to lower marginal costs of production

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- Muccchilli and Jabbour (2004) find positive backward linkages in technology spillovers
- Sasidharan (2006) no any evidence of horizontal but negative vertical technology spillover
- Goran (2003) in Croatian found that FDI has positive externalities and significantly affect exports
- Haddad and Harrison,(1993) negative association btw FDI and Productivity in Morocco

Methodology

- Analytical framework is developed from Jordaan (2003) and Tong et al, (2004) models
- The framework uses domestic productivity to capture FDI spillover effects in domestic firms
- The production function is given as

$$Q = f(K; L; X; Z)$$

- Z assumes domestic productivity to be a function of technology.
- The concentration of foreign presence (X) makes transfer of technology easier and it enables firms to interact and make use of locational advantages. It is measured by Herfindahl index

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- Below 0.01 (or 100) indicates a highly competitive; below 0.15 (or 1,500) indicates an unconcentrated index; between 0.15 to 0.25 (or 1,500 to 2,500) indicates moderate concentration; and above 0.25 (above 2,500) indicates high concentration
- Factors which affect productivity; such as presence of foreign capital, the degree of concentration, economies of scale, capital intensity and the availability of skilled labour
- Hypotheses
 - H1: FDI inflows have improved domestic manufacturing firms productivity*
 - H2: Domestic firms benefit from technology spillovers at both vertical and horizontal.*

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- Source of data: MIT Annual Industrial survey 2007,356 establishments, 23 regions
- Model for estimation is given as follows;

$$\text{Log}Q_i = \beta_0 + \beta_1 \text{Log}FDI_i + \beta_2 \log K_i + \beta_3 \log L_i + \beta_4 \text{Log}HH_i + \beta_5 \text{Log}V_i + \beta_6 \text{Log}H_i + \beta_7 \text{Log}S_i + \varepsilon_i$$

Findings

- Positive correlation between labour productivity and horizontal spillover; vertical spillover; economies of scale; capital intensity; and skilled labour
- FDI ratio and the Herfindahl index show negative correlations with labour productivity

Table 6: Correlation Coefficients for the Variables

	LogQ	LogFDI	LogH	LogV	LogHH	LogS	LogK	LogL
LogQ	1.00							
LogFDI	-0.05	1.00						
LogH	0.22	0.22	1.00					
LogV	0.20	0.17	0.77	1.00				
LogHH	-0.02	-0.08	0.16	0.16	1.00			
LogS	0.38	0.15	0.64	0.74	0.02	1.00		
LogK	0.07	-0.04	0.08	0.11	-0.03	0.13	1.00	
LogL	0.22	0.01	0.02	0.03	0.07	0.05	0.08	1.00

Source: Author computation from MITM data, 2007

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- R^2 value of 0.68 suggests that about 68 percent of the variations in domestic productivity are explained by the specified set of explanatory variables

Estimation results for Heteroskedasticity-corrected estimates model

Variable	Coefficient	Std. Error	t-statistic	p-value
Const	-0.515823	0.215816	-2.3901	0.01935**
LogFDI	-0.432111	0.139616	-3.0950	0.00277***
LogK	0.23767	0.0724785	3.2792	0.00158***
LogL	0.385748	0.0921588	4.1857	0.00008***
LogHH	0.0493654	0.176392	0.2799	0.78035
LogV	-0.400169	0.209545	-1.9097	0.05999*
LogH	0.335506	0.148303	2.2623	0.02657**
LogS	0.581113	0.245775	2.3644	0.02065**

Source: computed from the data

Dependent Variable: LogQ (83 observations)

Conclusion

- Summary of the study
- The position that FDI have beneficial effects on local firms and the economy at large in Tanzania is no longer an area of controversy.
- The current debate is how to make FDI spillover effects occur to all manufacturing firms and foster economic growth

Recommendations

- The government should strengthen collaboration with the investors so as to improve education sector in enhancing skills and immense contribution in trade and investment, including absorption of new technology brought by FDI
- Continuing rehabilitating Dar es Salaam port infrastructures including modernization of port security especially in cargo handling
- The government should ensure a win- win situation for the partnerships with Investors is in place;
- Policies, rules and regulations should be observed when granting investment permits to investors upon proving satisfactory financial capacity required for investment;

THANK YOU FOR YOUR KIND ATTENTION

