Assessment of the Contribution of Industrial Policies to the Economic Growth: Experience from Tanzania

by

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Abstract

In Tanzania literature evidence revealed that industrial policies have not been adequately implemented which resulted in failure in achieving economic development desired goals. However the contributions of industrial policies to the economic growth of Tanzania have never been investigated. The present study is focusing on evaluating the contribution of industrial policies to the economic growth during the period from 1996 to 2015 in Tanzania. To accomplish the study's objectives I used a simple regression model to evaluate the contribution of industrial policies to the economic growth during the period from 1996 to 2015 in Tanzania. Time series data during the period from 1996 to 2015 from the World Bank were used by the study. On evaluating the contribution of industrial policies to economic growth the study assumes industrial policies to be represented by economic openness as the independent variable while Gross Domestic Product (GDP) and Industrial Gross Domestic Product (GDP) to be dependent variables of the study. The findings of the study in actual fact were interesting. The findings of the study revealed that there is a positive and significant relationship between economic openness and Gross Domestic Product (GDP), while the relationship between economic openness and industrial GDP is negative and meaningless. The meaning is industrial policies significantly contributed to Tanzania economic growth however failure to contribute to the industrial sector Gross Domestic Product during the period from 1996 to 2015 in Tanzania.

Key Words: Tanzania; Industrial Policies; and Economic Growth.

Introduction:

Industrialization meanings have been clarified as the main instruments which generate and provide jobs to the peoples; in addition to that industrialization plays a big role in the generation and increasing of the income, and eventually the sustainable economic development and prosperity of the country. Wangwe et al, (2019) clearly defined industrialization as, "Industrialisation is critical for job creation, income generation and sustainable long-run development."

Industrial Policies among the government policies have been identified as the serious delicate area of policies in aspect of design, construction, implementation and pushing its outcome to the private sector and society at large. This serious weakness necessitates these

policies to be undertaken with extra attention from designing to the implementation level aiming to achieve the desired goals within the time frame. Wangwe et al, (2019), clarified this weakness of the industrial policies in detail, stated that, "Industrial policy is an important but very delicate area of public policy due to the challenges of design and implementation of an industrial plan and the importance of integrating the interests of both society and the private sector."

Evidence shows that in developing economies many countries failed to achieve rapid industrial development with the only exception to Asian miracles. These failures lead the researchers and policy makers to recall and take into account the policies agenda in particular industrial policies to guide and pilot the industrial activities. Higuchi & Shimada, (2019) in detail insisted that, "Industrial policy has received renewed interest among researchers and policy makers in recent years because of failed industrial development in the developing world, the only exception being the Asian experiences."

Recently Tanzania is implementing the industrialization agenda to rapidly push forward the economic development of the country. In particular literature suggested that to achieve the desired goals in an efficient and effective way the priority should be given to the policies created to pilot the whole development process. Msami & Wangwe (2016) clarified that, "The current development agenda, however, has brought industrial development back to be one of the policy priorities."

Significance of the Study:

Having recent literature the present study will generate new knowledge which will manifest clearly the contribution of the industrial policies to the economic growth during the period from 1996 to 2015 in Tanzania.

Research Problem and Objective:

Literature identified that the serious challenge of the Tanzania industrial policies is the lack of substantial implementation within the respective timeframe to achieve the planned goals. With this regard it has been suggested that policy actors particularly implementations have to take serious measures and efforts to implement the industrial policies with respect to the time scheduled to achieve the expected goals. The Citizen, (2016) clarified the matter, stating that, "Some of these policies were weak and some strong but the main problem, as so often pointed out by academicians, has been inadequate implementation to achieve the desired results."

Despite the literature evidence that industrial policies in Tanzania were not properly implemented and the desired goals of economic development have never been obtained. No studies have been undertaken to evaluate the contributions of industrial policies to the economic growth of Tanzania.

Objective:

The present study is focusing on evaluating the contribution of industrial policies to the economic growth during the period from 1996 to 2015 in Tanzania.

Literature Review:

Industrialization meanings have been clarified as the main instruments which generate and provide jobs to the peoples; in addition to that industrialization plays a big role in the generation and increasing of the income, and eventually the sustainable economic development

and prosperity of the country. Wangwe et al, (2019) clearly defined industrialization as, "Industrialisation is critical for job creation, income generation and sustainable long-run development."

Industrial Policies among the government policies have been identified as the serious delicate area of policies in aspect of design, construction, implementation and pushing its outcome to the private sector and society at large. This serious weakness necessitates these policies to be undertaken with extra attention from designing to the implementation level aiming to achieve the desired goals within the time frame. Wangwe et al, (2019), clarified this weakness of the industrial policies in detail, stated that, "Industrial policy is an important but very delicate area of public policy due to the challenges of design and implementation of an industrial plan and the importance of integrating the interests of both society and the private sector."

Recently Tanzania is implementing the industrialization agenda to rapidly push forward the economic development of the country. In particular literature suggested that to achieve the desired goals in an efficient and effective way the priority should be given to the policies created to pilot the whole development process. Msami & Wangwe, (2016) clarified that, "The current development agenda, however, has brought industrial development back to be one of the policy priorities."

Tanzania towards transforming the country from agriculture dependence to industry dependence and achieve middle income status by the year of 2025, identify that industrialisation is the main vehicle and priority policy area to be the core and key driver for economic development. Kweka (2018), in his industrialization article argued that, "As Tanzania gears towards its vision of becoming a middle-income economy by 2025, the National Five-Year Development Plan 2016/17–2020/21 (FYDP II), published in 2016, identifies industrialisation as the main policy objective and key driver of economic transformation."

The Tanzania Government, under President John P Magufuli, identifies industrialisation as the main and top agenda of economic development aiming to transform the economy and country to achieve the middle status income by the year of 2025. Kweka (2018) highlights the matter and insists that, "Industrialisation has been the main policy agenda for the 5th Phase Government, and is considered pivotal to realising Tanzania's ambition to become a middle-income economy by 2025."

In Tanzania literature evidence suggested that on the way to implement the industrialization agenda with the efforts done to construct the industrial policies since the year of 1996, the progress for the core developments projects remain slow and very limited which eventually subject to fail to achieve the desired goals with respective time frame scheduled. This serious challenge of policy implementation has been identified by Kweka (2018) as he argued that, "Despite the above policy initiatives, actual progress in implementing the identified projects remains limited."

Literature identified that the serious challenge of the Tanzania industrial policies is the lack of substantial implementation within the respective timeframe to achieve the planned goals. With this regard it has been suggested that policy actors particularly implementations have to take serious measures and efforts to implement the industrial policies with respect to the time scheduled to achieve the expected goals. The Citizen, (2016) clarified the matter, stating that, "Some of these policies were weak and some strong but the main problem, as so often pointed out by academicians, has been inadequate implementation to achieve the desired results."

For the industrial policies to be very successful and achieve its desired objectives it has to be designed, constructed and linked to the energy policies, this in particular has to be done to the

developing countries such as Tanzania. Gussa et al, (2018) elaborating clearly that, "Successful industrial policies need to be accompanied by reliable energy policies."

To achieve the industrialisation agenda it has been suggested that the Agriculture sector and rural areas must be given the top priority and transformed. The meaning is for the sustainable running of the industries, the agriculture raw materials is essential which will result in the final goods in industrial production. Thus, agriculture transformation will lead to the substantial availability of raw material for the industries. Wangwe (2018) suggested that, "Agricultural and rural transformation: Villagization perceived as good for production including village and rural industrialization and social provision."

Tanzania Government during the third presidential term under the excellence president Benjamin William Mkapa initiated and launched the Industrial policies aiming to pilot the manufacturing sector towards the industrialization agenda and rapidly transforming the economy and country to the middle income status. Tanzania report (2011), reported that, "The Sustainable Industrial Development Policy 1996-2020 (SIDP) was launched during the second half of the 1990s, replacing the Basic Industry Strategy (BIS) which had expired in 1995."

Evidence shows that in developing economies many countries failed to achieve rapid industrial development with the only exception to Asian miracles. These failures lead the researchers and policy makers to recall and take into account the policies agenda in particular industrial policies to guide and pilot the industrial activities. Higuchi & Shimada, (2019) in detail insisted that, "Industrial policy has received renewed interest among researchers and policy makers in recent years because of failed industrial development in the developing world, the only exception being the Asian experiences."

Literature evidence suggested Tanzania must transform the Agriculture sector to the extent that the contribution of the sector to the Gross Domestic Product must reach at least the 6% of the total GDP, having that amount of contribution from the agriculture sector Tanzania can easily achieve the industrialization journey and eventually ranked the middle income status country. Tanzania Report, (2015), "For the country to reach a middle-income status by 2025, agriculture must achieve an annual GDP growth rate of six percent as described in FFYD, MKUKUTA II."

Despite the implementation of the industrial policies since the year of 1996 Tanzania manufacturing sector showed less productivity and stayed behind the history of success to the country. John, (2016) to insist the matter, argued that, "A sector that has been largely absent from the Tanzania success story is industry."

Literature suggested that with proper implementation of the industrialization agenda it could eventually transform the agriculture society and easily achieve the final goal of Tanzania's economic development of being a middle income status country by the end of 2025. Unido Report (2012) reported that, "evidence not only indicates that industrialization is linked to economic growth, but that manufacturing can also play a catalytic role in transforming the economic structure of agrarian societies."

The Tanzania Government recognizes the Agriculture sector as the most vital towards its industrialization agenda and achieving rapidly economic development and becoming the middle income status by the year of 2025 as planned. The World Bank Report (2019) reported that, "The government recognizes agriculture as central to realizing its objectives of socio economic development."

Methodology:

The present study is focusing on evaluating the contribution of industrial policies to the economic growth during the period from 1996 to 2015 in Tanzania. To accomplish the study's objectives I used a simple regression model to evaluate the contribution of industrial policies to the economic growth during the period from 1996 to 2015 in Tanzania. Time series data during the period from 1996 to 2015 from the World Bank were used by the study. On evaluating the contribution of industrial policies to economic growth the study assumes industrial policies to be represented by economic openness as the independent variable while Gross Domestic Product (GDP) and Industrial Gross Domestic Product (GDP) to be dependent variables of the study.

The study used the following equations to evaluate the contribution of industrial policies to the economic growth & Industrial Gross Domestic Product:

$\ln Y_t = \alpha_0 + \beta_1\, EOI_t + e_{1t}$ ……………………….…………….(1) Where, $\ln Y$ is the natural log of Dependent Variable, EOI (economic openness index) is economic openness index. The α_0 is constant, and β_1, is a coefficient parameter.

The Contribution of industrial policy on the Tanzania GDP is estimated by: $\ln TzGDP_t = \alpha_0 + \beta_1\, EOI_t + e_{2t}$ …………………….…….…………. (2) Where, $\ln TzGDP$ is the natural log of Tz GDP.

The Contribution of industrial policy on the Tanzania Industrial GDP is estimated by: $\ln TzIndGDP_t = \alpha_0 + \beta_1\, EOI_t + e_{3t}$ …………………………….…………….… (3) Where, $\ln TzIndGDP$ is the natural log of Tanzania Industrial GDP.

Research design:

To analyse the contribution of the industrial policies to the economic growth of Tanzania the study applied the descriptive and analytical research design.

Empirical Results and Discussion:

Relationship between Industrial Policies and Macro-Economic Variables:

On evaluating the contribution of industrial policies to economic growth the study assumes industrial policies to be represented by economic openness as the independent variable while Gross Domestic Product (GDP) and Industrial Gross Domestic Product (GDP) to be dependent variables of the study.

Contribution of Industrial Policies to the Gross Domestic Product (GDP) during the Period from 1996 to 2015 in Tanzania:

The regression results revealed that there is a positive and significant relationship between the economic openness and the economic growth during the period from 1996 to 2015 in Tanzania. The meaning is industrial policies significantly contributed to the economic growth of Tanzania during the period from 1996 to 2015 (Table 1).

Table 1 Regression between the Economic Openness and the Economic Growth (GDP) during the period from 1996 to 2015 in Tanzania[1]

Dependent Variable: Gross Domestic Product (GDP)

VARIABLES	COEFFICIENT	STD DEVIATION	T-STATISTIC	PROBABILITY
EOI	0.15	0.2591	0.5770	0
C	1.2053		2.552	0
R-SQUARED	0.01938			
ADJUSTED R-SQUARE	-0.05595			
S.E.OF REGRESSION	0.3109			
INCLUDED OBSERVATION-20				

Appendix 1

Data Figure for Tanzania Economic Openness Index, GDP and Industrial GDP for the period 1996 to 2015[2]

YEAR	EOI	GDP	IND GDP
1996	51.881	4.544	6.75
1997	41.908	3.525	6.278
1998	25.936	3.709	10.983
1999	25.013	4.864	10.225
2000	23.981	4.521	9.858
2001	28.021	6.071	9.466
2002	27.49	7.093	9.367
2003	30.438	6.673	9.376
2004	33.598	7.504	9.19
2005	36.959	7.476	9.027
2006	42.768	6.532	8.821
2007	48.058	6.769	8.817
2008	49.027	5.686	8.745
2009	43.533	5.269	8.667
2010	47.64	6.337	8.666
2011	56.166	7.672	9.549
2012	54.37	4.5	9.438
2013	48.631	6.782	9.111
2014	45.356	6.732	9.12
2015	40.758	6.161	7.856

[1] Source: Appendix 3

[2] Source: World Bank Database

Appendix 2

Natural Logarithms For: Economic Openness Index, GDP and Industrial GDP [3]

YEAR	N/L-EOI-X	N/L-GDP-Y	N/L-IND GDP-Y
1996	3.949	1.51	1.91
1997	3.735	1.26	1.84
1998	3.257	1.31	2.4
1999	3.219	1.58	2.32
2000	3.177	1.509	2.29
2001	3.33	1.8	2.25
2002	3.31	1.959	2.24
2003	3.4157	1.898	2.23
2004	3.514	2.015	2.22
2005	3.6098	2.011	2.2
2006	3.756	1.876	2.18
2007	3.87	1.91	2.18
2008	3.89	1.74	2.17
2009	3.77	1.66	2.16
2010	3.86	1.85	2.16
2011	4.028	2.04	2.26
2012	3.995	1.5	2.24
2013	3.88	1.91	2.2
2014	3.81	1.91	2.2
2015	3.71	1.82	2.06

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[3] Source: Computation of Natural Logarithm from Appendix 1, Originally World Bank Database

Appendix 3

Regression Calculations for Tanzania GDP based on Natural Logarithms Calculations figures from Appendix Number 2. Relationship between Natural Log Economic Openness (x) and Natural Log Tanzania GDP (Y)[4]

YEAR	EOI-(X)	GDP-(Y)	X²	Y²	XY
1996	3.949	1.51	15.594601	2.2801	5.96299
1997	3.735	1.26	13.950225	1.5876	4.7061
1998	3.257	1.31	10.608049	1.7161	4.26667
1999	3.219	1.58	10.361961	2.4964	5.08602
2000	3.177	1.509	10.093329	2.277081	4.794093
2001	3.33	1.8	11.0889	3.24	5.994
2002	3.31	1.959	10.9561	3.837681	6.48429
2003	3.4157	1.898	11.66700649	3.602404	6.4829986
2004	3.514	2.015	12.348196	4.602404	7.08071
2005	3.6098	2.011	13.03065604	4.044121	7.2593078
2006	3.756	1.876	14.107536	3.519376	7.046256
2007	3.87	1.91	14.9769	3.6481	7.3917
2008	3.89	1.74	15.1321	3.0276	6.7686
2009	3.77	1.66	14.2129	2.7556	6.2582
2010	3.86	1.85	14.8996	3.4225	7.141
2011	4.028	2.04	16.224784	4.1616	8.21712
2012	3.995	1.5	15.960025	2.25	5.9925
2013	3.88	1.91	15.0544	3.6481	7.4108
2014	3.81	1.91	14.5161	3.6481	7.2771
2015	3.71	1.82	13.7641	3.3124	6.7522
TOTAL	73.0855	35.068	268.5474685	63.077267	128.3726554

Contribution of Industrial Policies to the Industrial Gross Domestic Product (GDP) during the Period from 1996 to 2015 in Tanzania:

The regression results revealed that there is a negative and meaningless relationship between the economic openness and the industrial Gross Domestic Product (GDP) during the period from 1996 to 2015 in Tanzania. That means industrial policies had no contribution to the industrial Gross Domestic Product during the period from 1996 to 2015 in Tanzania (Table 2).

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[4] Source: World Bank (2019)

Table 2: Regression between Economic Openness and Tanzania Industrial GDP during 1996-2015[5]

Dependent Variable: Industrial Gross Domestic Product (GDP)

VARIABLES	COEFFICIENT	STD DEVIATION	T-STATISTIC	PROBABILITY
EOI	-0.2361	1.7267	-0.1367	0
C	1.3		-2.552	0
R-SQUARED	0.2590			
ADJUSTED R-SQUARE	-0.1264			
S.E.OF REGRESSION	2.072			
INCLUDED OBSERVATION 20				

Appendix 4

Regression Calculations for Industrial GDP based on Natural Logarithms Calculations figures from Appendix 2. Relationship between Natural Log Economic Openness (x) and Natural Log Industrial GDP (Y) [6]

YEAR	EOI-X	IND GDP-Y	X²	Y²	XY
1996	3.949	1.91	15.594601	3.6481	7.54259
1997	3.735	1.84	13.950225	3.3856	6.8724
1998	3.257	2.4	10.608049	5.76	7.8168
1999	3.219	2.32	10.361961	5.3824	7.46808
2000	3.177	2.29	10.093329	5.2441	7.27533
2001	3.33	2.25	11.0889	5.0625	7.4925
2002	3.31	2.24	10.9561	5.0176	7.4144
2003	3.4157	2.23	11.66700649	4.9729	7.617011
2004	3.514	2.22	12.348196	4.9284	7.80108
2005	3.6098	2.2	13.03065604	4.84	7.94156
2006	3.756	2.18	14.107536	4.7524	8.18808
2007	3.87	2.18	14.9769	4.7524	8.4366
2008	3.89	2.17	15.1321	4.7089	8.4413
2009	3.77	2.16	14.2129	4.6656	8.1432
2010	3.86	2.16	14.8996	4.6656	8.3376
2011	4.028	2.26	16.224784	5.1076	9.10328
2012	3.995	2.24	15.960025	5.0176	8.9488
2013	3.88	2.2	15.0544	4.84	8.536
2014	3.81	2.2	14.5161	4.84	8.382
2015	3.71	2.06	13.7641	4.2436	7.6426
TOTAL	73.0855	43.71	268.5474685	95.8353	159.401211

[5] Source: Appendix 4

[6] Source: World Bank (2019)

Summary of the Findings:

The findings of the study revealed that there is a positive and significant relationship between economic openness and Gross Domestic Product (GDP), while the relationship between economic openness and industrial GDP is negative and meaningless. The meaning is industrial policies significantly contributed to Tanzania economic growth however failure to contribute to the industrial sector Gross Domestic Product during the period from 1996 to 2015 in Tanzania.

Conclusions:

The present study is focusing on evaluating the contribution of industrial policies to the economic growth during the period from 1996 to 2015 in Tanzania.
Having recent literature the present study will generate new knowledge which will manifest clearly the contribution of the industrial policies to the economic growth during the period from 1996 to 2015 in Tanzania.

The findings of the study revealed that there is a positive and significant relationship between economic openness and Gross Domestic Product (GDP), while the relationship between economic openness and industrial GDP is negative and meaningless. The meaning is industrial policies significantly contributed to Tanzania economic growth however failure to contribute to the industrial sector Gross Domestic Product during the period from 1996 to 2015 in Tanzania.

References

Gussai. S, Bitrina. D, & Hezron. M, (2018). Energy Policy for Industrialisation Tanzanian's Big Development Challenge. Research That Matters, Development That Works. Global Dev.

Higuchi. Y, & Shimada. G, (2019). Industrial Policy, Industrial Development, and Structural Transformation in Asia and Africa. Paths to the Emerging State in Asia and Africa - pp. 195 - 218.

John M. (2016): Industry in Tanzania: Performance, prospects, and public policy, WIDER Working Paper, No. 2016/5, ISBN 978-92-9256-048-5, The United Nations University World Institute for Development Economics.

Kweka. J, (2018). Monitoring Policies to Support Industrialization in Tanzania. An Update and Policy Recommendations. Supporting Economic Transformation (SET).

Msami. J, & Wangwe. S, (2016). Industrial Development in Tanzania. Manufacturing Transformation: Comparative Studies Of Industrial Development In Africa And Emerging Asia.

Tanzania Report (2011). Integrated Industrial Development Strategy 2025. Ministry Of Industry And Trade - United Republic Of Tanzania- December, 2011.

Tanzania Report, (2015). Agricultural Sector Development Strategy- 11 (2015/2016) - (2024/2025). United Republic Of Tanzania.

The Citizen, (2016). Industrial Policy Execution Tanzania's Big Challenge. Wednesday, May, 2016.

Unido Report, (2012). Tanzania Industrial Competitiveness Report 2012. United Nations Industrial Development.- Tanzania.

Wangwe. S, (2018). Industrialization For Inclusive Development In Tanzania - Lessons From Experience. 2018 Annual Congress - Economic Society of Tanzania.

Wangwe. S. M, Guadagno. F, & Castro. A, (2019). Industrial Policies in the Tanzania Agro-Processing Industry: Challenges and Policies Responses. International Growth Centre (IGC).

World Bank Report (2019). Transforming Agriculture. Realizing the Potential of Agriculture for Inclusive Growth and Poverty Reduction. Tanzania Economic Update. World Bank Group.