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Industrial Policies and Role of Industrialization in Socio-Economic Transformation and Achieving SDGs

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Industrial Policies and Role of Industrialization in Socio-Economic Transformation and Achieving SDGs

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ABSTRACT

Industrialization inevitably plays central role in development agenda as it drives export growth and employment in developing countries. Despite the importance of industrialization; the performance of manufacturing sector in East African economies have remained low as demonstrated by its share in gross domestic products and employment. This paper creates insights on the case for manufacturing sector based on two complementary views: First, at low levels of development manufacturing accelerates economic growth. Second, countries exporting high value goods gain more from international trade relative to commodity exporting countries. The paper contextualizes role of manufacturing in Sustainable Development Goal (SDG) targets by taking comparative historical views of East African countries including Kenya and Tanzania with those of newly industrialized countries in East Asia - Korea and Malaysia. The insights of the paper are based on review of literature and policies, enriched by available secondary data. The paper concludes that, first, manufacturing sector is imperative for the East African economies' growth agenda and realization of the SDGs. Second, resuscitation of manufacturing sector requires strategic approach that combines investment policies, trade policies, infrastructure development, bridging skills gap, and technology adoption through linkages with foreign firms and improvements in domestic research and development capacity.

1.0 INTRODUCTION

1.1 Background and Context of the Study

The goal of this paper is to create insights on roles of industrialization in socio-economic transformation and realization of Sustainable Development Goals (SDGs) using review of historical performances of Kenya and Tanzania in comparison to newly industrial economies in East Asia – Korea and Malaysia. Industrialization is defined as sustained structural transformation of a traditional economy into a modern economy characterized by high productivity activities in manufacturing (Szirmai, Naudé, & Alcorta, 2013). Industrial sector encompass wide activities including manufacturing, mining and quarrying, construction and utilities – electricity, water and gas (Söderbom, 2012). At the core of industrialization agenda is a vibrant manufacturing sector for value addition and export sophistication. The catalytic role of manufacturing sector is anchored on its strong linkages with other sectors, high correlation with per capita income growth, and opportunities for capital accumulation to drive growth (Szirmai, 2013). The manufacturing sector therefore holds the promise of transforming developing countries into middle income economies. More critically, the sector has the potential to create job opportunities for unemployed youths (e.g. accounting for 35.4% and 35.1% of the population in Kenya and Tanzania, respectively¹) that increasingly join the job market and faces relatively high unemployment rate². Failure to create job opportunities creates risks of losing demographic dividends associated with a relatively growing large youth population. The governments in developing countries, EAC included, have prioritized interventions to promote industrial development and address poverty and unemployment challenges. Evidently Kenya’s Vision 2030 and Tanzania’s Development Vision 2025 are anchored on industrial transformation agenda with the goal of increasing the countries’ productivity, employment and exports.

A shift from commodity exports to high value manufactures accelerates per capita income growth, acting as an engine for catch-up of low income countries to developed economies. The 10 percent and about 7% manufacturing contribution to GDP in Kenya and Tanzania lag behind those of Malaysia and Korea at 23 percent and 30 percent, respectively. These differentials reveal a contrasting development narrative of Kenya and Tanzania on one hand, and Korea and Malaysia on the other hand that were contemporaries in the 1960s. Malaysia and Korea aggressively pursued an export strategy that was anchored on the manufacturing sector. In contrast, Kenya and

¹ Youth here is defined as those 15-34 years. Source: Kenya National Bureau of Statistics Statistical Abstract, 2015; and Tanzania National Bureau of Statistics

² In Kenya, youth unemployment rate is double the national unemployment rate (National Economic and Social Council, 2011)

Tanzania delayed in shifting from protective import substitution policy to high value manufacturing export-led growth. Over the last fifty years Korea and Malaysia realized remarkable GDP per capita compound growth rates of 12 percent and 7 percent respectively, compared to Kenya at 5%.

Low industrial transformation for Kenya and Tanzania reflects the broader challenges faced by many countries in Sub-Saharan Africa which are facing deindustrialization challenges (Ajakaiye & Page, 2012; Page, 2012). In Kenya, share of manufacturing in GDP has declined from 11.3% in 2010 to 10.0% in 2014 (Kenya National Bureau of Statistics , 2015) while for Tanzania it has declined from 6.9% to 5.6% over the same period (National Bureau of Statistics , 2015). The observed trends in performance of manufacturing raise policy concerns on the envisaged high and sustained economic growth of the two countries.

In September 2015 the world leaders committed to the new Global Sustainable Goals (SDGs) comprising of 17 goals and 169 targets (United Nations, 2015). The SDG goals aim to balance three dimensions of sustainable development: The economic, social and environmental. Economic sustainability entails broader capability of economic system to achieve sustained improvements in indicators such as incomes and employment. Social sustainability entails equity in economic performance with regards to social outcomes, while environmental sustainability involves capacity to preserve resource supply. Within the three dimensions of sustainable development, SDGs aims to address the twin policy goals of extreme poverty and employment creation. Among the SDG goals, the following are of paramount relevance to manufacturing sector in terms of policy outcomes.

- SDG.1 specifically aims to address extreme poverty (defined as people living on US\$1.25 per day) and cut by half the proportion of people living in poverty in all its dimensions.
- SDG.8 targets to realize sustained per capita economic growth with at least 7% GDP growth in least developed countries. In addition SDG8 targets to achieve higher levels of economic productivity, diversification and high value addition. The Goal also calls for policies that promote value addition in labour intensive sectors, and substantially reduce proportion of unemployed youth.
- SDG.9 targets to significantly raise industry's share of employment and GDP, doubling share in least developed countries.
- SDG.10 targets to sustain and achieve income growth of the bottom 40% of the population at a rate higher than the national average.

It should be noted that SDGs emphasizes enabling policies for growth of industries such as efficient uses of resources in consumption and production, access to affordable energy and finance, technological upgrading and innovation. The focus of this paper,

however, is to create insights on importance of manufacturing sector in realization of the targets highlighted in SDGs 1, 8, 9 and 10, and lessons that can be learnt from newly industrialized aspirator countries.

1.2 Research Objectives

- i. To highlight theoretical and empirical evidence of the role of manufacturing sector in employment and economic growth;
- ii. To review industrial policies for Kenya and Tanzania and contrast with those of Malaysia and Korea;
- iii. To draw lessons for Kenya and Tanzania in realization of targets anchored in SDGs 1, 8, 9 and 10.

2.0 METHODOLOGY

The paper utilizes review of theoretical and empirical literature, corroborated by insights from available secondary data. It breaks down the industrial policies into four phases 9060s-1970s, 1980s, 1990s and 2000s; comparing manufacturing performance with economic growth and employment over the four phases. The four phases identified was informed by the desire to have periods of coherent policies. Identification of coherent policies can be determined either by looking at objectives and plans or by examining the use of the policy instruments (Engelen, Szirmai, & Lapperre, 2001). A flow with the first approach is that sometimes policies may not be actually implemented (Engelen, Szirmai, & Lapperre, 2001). This study combines the two approaches. The choice of aspirator countries (Korea and Malaysia) was informed by the fact that the four countries (Kenya, Tanzania, Korea and Malaysia) were almost contemporaries in mid 1960s. While Kenya and Tanzania have experienced stagnation, and even decline recently with regards to industrialization; Korea and Malaysia on the other hand have more than doubled manufacturing contribution to GDP over the last fifty years. The contrasting performances make it interesting to assess the industrial policies of these countries in the context of performance and contribution of manufacturing sector.

3.0 RESULTS AND DISCUSSIONS

3.1 Theoretical and Empirical Evidence of Role of Manufacturing

In recent years role of manufacturing in economic growth and developed has been questioned, owing to predominance of services in advanced economies and support of service sectors in industrial process (Szirmai, 2013). Theoretical argument for manufacturing is based, at least, on three arguments. First, manufacturing provides opportunities for physical capital accumulation compared to agriculture and service sectors (Szirmai, 2013). Capital accumulation is an important source of growth as evident from newly industrialized countries in Asia (Nelson & Pack, 1999). Second, manufacturing has higher backward and forward linkages with other sectors of the economy, making it attractive to induce higher multiplier effects (Szirmai, 2013). Third, the income threshold model postulates that as incomes rise and reach a certain threshold, demand for manufactured goods increases (Perloff, 2014). Following Engel's law that with rising incomes share of household expenditures on food declines, an economy would benefit more by producing high value manufactures. Moreover, failure to industrialize may see a country resort to increased importations of manufactured goods to satisfy domestic demand.

Recent empirical literature supports the view that manufacturing accelerates economic growth and development, especially in low income countries. In export markets, evidence shows that countries exporting goods associated with higher productivity levels experience accelerated growth even after controlling for other variables such as human capital, initial income per capita and country time-invariant characteristics (Hausman, Hwang, & Rodrik, 2007). Empirical evidence from East Asia demonstrates that manufacturing is an engine of growth in developing countries compared to advanced economies (Fagerberg & Verspagen). Similarly manufacturing is a key driver of employment and poverty reduction especially at early stages of development through expansion of labour intensive industries (Lavopa & Szirmai, 2012). Evidence further shows that there exists interaction between manufacturing and education, with contribution of manufacturing being relatively higher in countries with higher levels of education (Szirmai & Verspagen, 2015) which can be interpreted as gains from absorptive capacity.

3.2 Comparative Industrial Policies and Manufacturing Sector Performance for Kenya, Tanzania, Malaysia and Korea

The term industrial policy can be defined as policy interventions intended to affect resource allocation in favour of the industry, especially manufacturing (Weiss, 2013). It entails both the broader blueprint guiding the direction the governments intends to pursue, as well as specific instruments to realize the goals of the blueprint. The policy instruments can be in form of fiscal interventions (e.g. tax and public expenditure) or non-fiscal instruments. The theoretical basis for industrial policy is anchored on two facets of arguments (Weiss, 2013): To address market failure such as externalities, lack of information, monopolization or social barriers; or to realize the unique role of manufacturing in accelerating growth especially at early stages of development.

Table 1: Comparative Industrial Policy Regimes: Kenya, Tanzania, Korea and Malaysia

Period	Kenya	Tanzania	Korea	Malaysia
1960s-1970s	<p>Import substitution policy with most investments directed to protected industries such as footwear, leather, cement, rubber, soft drinks, paints and industrial chemicals (Bigsten, Kimuyu, & Söderbom, 2010). The interventions distorted industrial development by creating excess capacity, low efficiency and inability to penetrate export market. High compliance costs were introduced in 1970s to mitigate foreign exchange crisis, resulting to reduction in exports and emergence of informal manufacturing.</p>	<p>Import substitution strategy with granting of tariff protections and guarantees against nationalization (through Foreign Investment Act, 1963) to attract foreign investors. The focus was on first-stage import substitution, basically production of consumer goods (Engelen, Szirmai, & Lapperre, 2001). Other policy instruments used include access to industrial land, guarantee for repatriation of capital & accelerated depreciation allowances (Wange & Bagachwa), import licenses & quotas (Ndulu & Semboja, 1994) Heavy reliance on foreign aid to finance manufacturing capital expenditures from 4% in early 1970s to more than 1/3 in late 1970s (Engelen, Szirmai, & Lapperre, 2001)</p>	<p>Initial export take-off</p> <ul style="list-style-type: none"> - Policies favoured exports generally without sectoral biases. - Credit allocations favoured exporters. - In 1970S heavy and chemical industry were selectively pursued through subsidized credit and selective protection. 	<p>A combination of trade and investment policies were used (Yean & Heng, 2011) including free trade zones to attract FDI combined with sustained increase in tariffs (with firms in FTZs allowed to import duty free intermediate and capital goods). Additionally constraints on foreign equity were relaxed for firms exporting at least 80% of their outputs. With import substitution and export promotion strategies EPZs were established in 1970s. Private sector led growth remained the focus during this period (Yean & Heng, 2011).</p>
1980s	<p>Structural adjustments programs were initiated to address distortionary effects of 1960s & 1970s and encourage exports.</p>	<p>Partial trade liberalization Foreign aid inflows started to diminish Overvalued exchange rate & price controls resulted to high effective rates of protection. Export rebate was introduced in 1981 to serve as export subsidy; in addition to presidential award for best exporter (Engelen, Szirmai, & Lapperre, 2001). Introduction of own funds import scheme to allow citizens obtain</p>	<p>Gradual trade liberalization and easing of credit selectivity</p>	<p>Focus on heavy industries, exports and public investments. Heavy industries were (iron, steel, transport equipment, general engineering and petrochemicals) were launched through government-foreign multinationals. To protect local infant industries non-tariff (import quotas, import licenses) and tariffs were used (Yean & Heng, 2011).</p>

		foreign exchange without using official foreign exchange Price control of imported products is reduced		
1990s	Market liberalization with further removal of administrative controls to protect local industries (Bigsten, Kimuyu, & Söderbom, 2010).	Continued liberalization, export promotion & growth of private sector National Investment (Promotion & Protection) Act, 1990 recognized importance of private sector through privatization, tax holidays, customs duty exemptions, constitutional safeguards against expropriation and guarantees against nationalization (Engelen, Szirmai, & Lapperre, 2001). In 1996 Sustainable Industrial Development Policy for Tanzania 2020 began to be implemented (SIDP2020). The plan targeted employment creation, economic transformation.	Trade liberalization and shift to high technology exports	Shift from production to knowledge based economy. The focus moved to promotion of ICT through Multimedia Super Corridor (MSC). Policy instruments used included incentives for foreign equity, tax incentives to pioneer companies, duty free importation for MSC firms, and competitive IT infrastructure (Yean & Heng, 2011). Science and technology was made a national priority through the launch of National Action Plan for Industrial Technology Development. R&D, and growth of SMEs were prioritized through establishment of industrial research institutions and Small and Medium Industries Development Corporation (Yean & Heng, 2011), respectively. Policy priority was also given to linkages between SMEs and multinational corporations.
2000s	Going beyond market liberalization: Investment climate (institutional, policy and regulatory environment in which firms operate) ³ became the focus of the policy to drive private sector growth. Policies developed include: - Poverty Reduction Strategy Paper (PRSP) 2001-2004 - Economic Recovery Strategy for	Export growth and enhanced productivity Development Vision 2025 with the goal of transforming to semi-industrialized economy by 2025. Export Promotion Act was enacted in 2002 to attract and promote investments in export oriented industries.	Continued focus on knowledge intensive industries and high tech exports.	Continuation of knowledge based industrial growth with focus on electrical and electronics. The Economic Transformation Program, launched in 2010 prioritizes three manufacturing sub-sectors: electrical and electronics, palm oil and refined petroleum products.

³ (Bigsten, Kimuyu, & Söderbom, 2010)

	<p>Wealth Creation and Employment 2003-2007 (ERS)</p> <ul style="list-style-type: none"> - Vision 2030: To create robust, diversified & competitive manufacturing sector in three thrusts: boost local production, export expansion, and exploit market niches. - Kenya Industrialization Policy Framework 2012-2030 - Kenya Industrial Transformation Program: Identified five point strategies: sector specific flagship projects (leather, textile & apparel, agro-processing); Development of SMEs; Enabling environment (industrial parks, technical skills, infrastructure development); Industrial development fund; and Ministerial Delivery Unit. 	<p>In 2010 Integrated Industrial Development Strategy 2025 was adopted with focus on competitive business environment. The policy targets six sub-sectors: leather, textiles, agro-processing, chemicals, fertilizer, light machinery, iron and steel.</p>		
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It should be noted that policy instruments used across the countries differ by the period, as shown in Table 1. Import substitution strategy, the dominant policy used in 1960s-1970s basically used policy instruments such as tariffs, import quotas, import licenses, exchange rate appreciation, export taxes, export licensing, and export duties while export promotion strategy relied on policy instruments such as tax concessions, export credits, foreign exchange retention, export subsidies, export processing zones, and real exchange rate depreciation (Engelen, Szirmai, & Lapperre, 2001).

Table 2 shows comparative manufacturing sector performance for the countries reviewed. Strikingly, although Kenya and Korea were almost at par in 1965 with regards to both share of manufacturing in GDP and GDP per capita, they highly contrast during the period 2000s. Korea's GDP per capita in 2000s is twenty five times that of Kenya. If compared by single years GDP per capita in 2014 for Korea is about 20.5 times that of Kenya.

Between 1965 and 2014 share of manufacturing in GDP has marginally declined while those of Korea and Malaysia have both more than doubled. The contrasting performances of the countries are anchored on

different industrial policies pursued. A number of lessons can be learnt from the different phases of industrial policies and the results shown in Table 2. First, export oriented manufacturing with incentives that are tied to performance is imperative. Second, industrial policies should be undertaken in light of trade, investments, labour policies and human capital development. Third, uptake of technology through FDI, R&D policies, and linkages between SMEs and large enterprises (especially foreign firms) is critical. This is particularly imperative given that most of the industrial enterprises in Sub-Saharan Africa, Kenya and Tanzania included are small.

Table 2: Comparative Manufacturing Share in GDP and GDP Per Capita (Current US\$)⁴

	Kenya	Korea Republic	Malaysia	Tanzania
1965 Manufacturing Share in GDP (%)	11.5	14.3	10.2	n.a.
1965 GDP Per Capita (US\$)	105.0	105.1	308.9	n.a.
1965-1970s: Manufacturing Share in GDP (%)	11.7	18.7	15.7	n.a.
1965-1970s: GDP Per Capita (US\$)	203.7	582.4	645.8	n.a.
1980s Manufacturing Share in GDP (%)	12.0	25.4	20.7	n.a.
1980s GDP Per Capita (US\$)	366.4	3,031.5	1,948.3	n.a.
1990s Manufacturing Share in GDP (%)	11.5	24.8	27.0	8.3
1990s GDP Per Capita (US\$)	363.7	9,802.4	3,550.0	210.3
2000s Manufacturing Share in GDP (%)	12.3	29.0	26.3	8.0
2000s GDP Per Capita (US\$): 2000-2014	794.4	19,490.2	7,252.1	567.9
2014 Manufacturing Share in GDP (%)	11.1	30.3	22.9	6.1
2014 GDP per capita (US\$)	1,358	27,790	11,307	955

Source: World Bank database

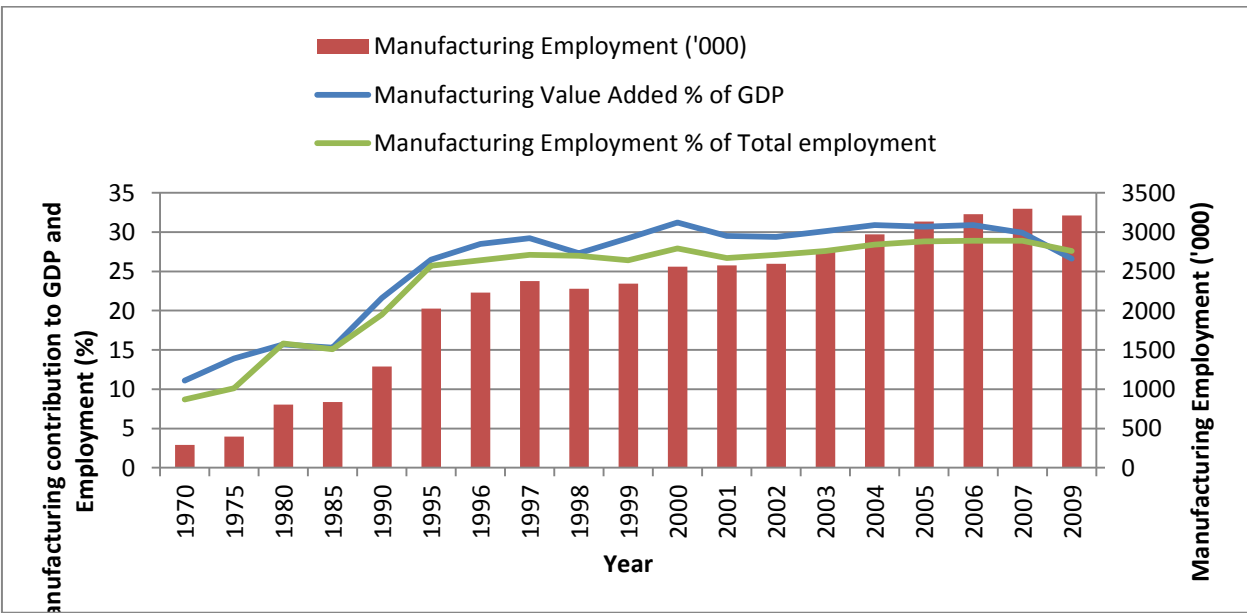
n.a. means data not available

To gain some insights on role of manufacturing in employment, available secondary data for Malaysia is utilized (See Figure 1). First it is noticeable that shares of manufacturing in GDP and employment demonstrate similar trends. Second, the period 1990-1997 demonstrates relatively highest levels of growth with regards to both contribution to GDP and employment. Linking this with results in Table 1 (Policy phases) we observe that the

⁴ The statistics are arithmetic averages for the periods given

period coincides with the shift from government-driven economy to private sector led growth phase. This reflects importance of private sector-led growth both in terms of manufacturing GDP and contribution to employment. The slump observed in 1997-1998 coincides with the Asian financial crisis which may have affected investments and demand. The period 2000s (especially 2000-2006) is characterized by stagnation in terms of both manufacturing share in GDP and employment. In 2007-2009 external factors (global financial crisis) may have compounded the stagnation problem. In terms of policy phase (Table 1), it was the continuation of knowledge based industrial growth with focus on electrical and electronics (E&E). The E&E however faces some challenges such as higher share of intermediate imports weaker backward linkages which increases its linkages with the global economy (Yean & Heng, 2011). This also makes the sector prone to external shocks. Generally the trends observed in Figure 1 also reflect empirical support that role of manufacturing in economic development diminishes at advanced development levels.

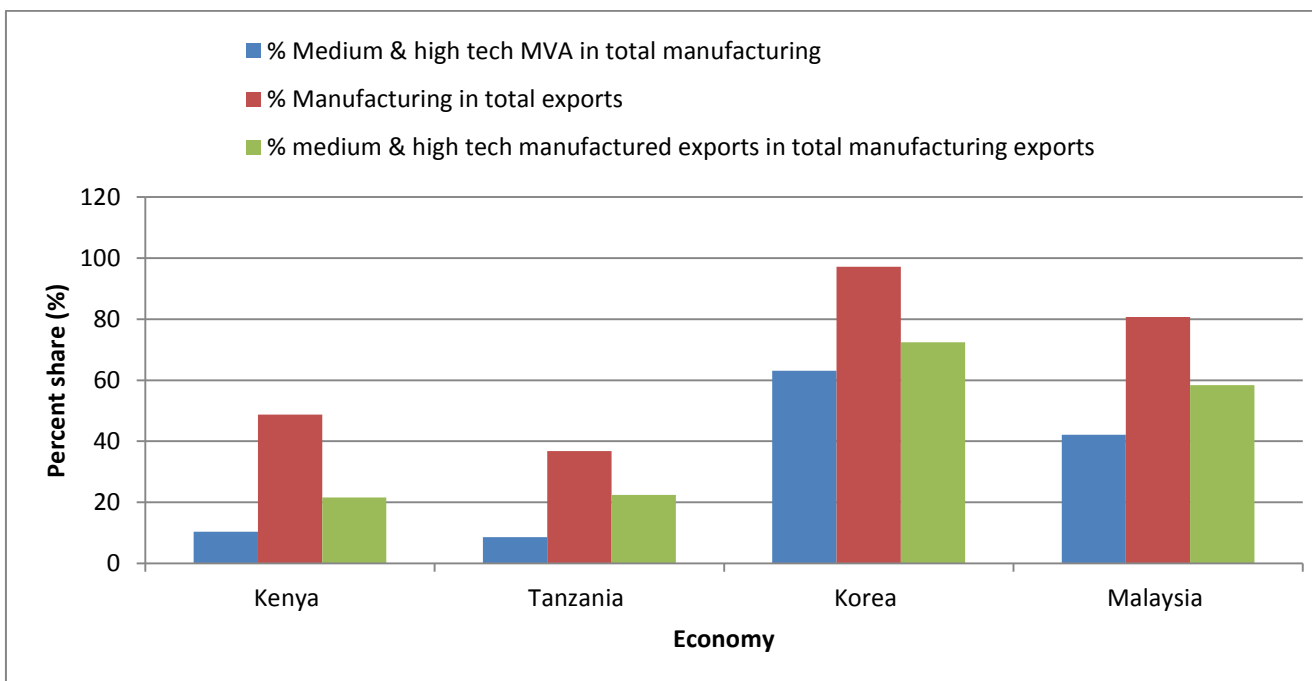
Figure 1: Malaysian Manufacturing Contributions to Employment and GDP



Data source: Yean and Heng (2011)

Empirical evidence shows that countries that produce and export more sophisticated products demonstrate higher growth rates (Hausman, Hwang, & Rodrik, 2007). Using available secondary data (United Nations Industrial Development Organization, 2015), comparison is drawn using Figure 2. Both Kenya and Tanzania are characterized by low share of medium and high tech manufacturing value added (10.4% and 8.6%, respectively) compared to Malaysia (42.1%) and Korea (63.1%). Similarly, both Kenya and Tanzania are characterized by low share of medium and high tech manufactured exports in total manufacturing exports (21.6% and 22.4%, respectively, compared to Malaysia (58.4%) and Korea (72.4%). Given that gains from trade improves with quality of exports (Hausman, Hwang, & Rodrik, 2007), policies in countries such as Kenya and Tanzania should target strategies for shifting towards high tech manufactures.

Figure 2: Comparative Shares of Manufactured Products in Exports and Performances in Terms of Medium and High Tech Manufactures; 2013



Data Source: United Nations Industrial Development Organization, UNIDO (2015)

4.0 CONCLUSION

This paper has shown that manufacturing acts as the engine of growth, particularly at low levels of development. Moreover, human capital enhances gains from manufacturing. The SDG goals, anchored on the three pillars of economic sustainability, environmental sustainability and social sustainability underscores the need to address poverty and unemployment in developing countries. It sets ambitious targets of doubling industrial contribution to GDP and employment. Lessons from newly industrialized countries demonstrates importance of private-sector led industrial agenda and employing strategic approach of addressing investments, trade, human capital and technology adoption as a strategy to have a vibrant industrial sector.

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