

## Manufacturing Sector Employment and Imports in Nigeria

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**Abstract:** This study examined the impact of Nigeria's import on the manufacturing sector employment. The Generalized Methods of Moments (GMM) estimation technique was adopted to estimate the model. The framework of the study was anchored on the more recent study of Felbermayr et al (2011). The results revealed that a 1% increase in import caused employment in the manufacturing sector to decline by 6%. 1% increase in inward Foreign Direct Investment (FDI) increased employment by 2.1% whereas a 1% improvement in the Growth Rate of GDP (GRGDP) increased employment rate by 8%. In addition, a 1% increase in Per Capita GDP (PCGDP) increased employment rate by 7%. Markedly, it was discovered that a 1% increase in POP caused employment rate to decline by 4%. The Hansen J-test was not significant, implying that the instruments used in the GMM were valid.

**Keywords:** Manufacturing, Employment, Imports.

### INTRODUCTION

The development prospects of developing countries in this twenty-first century depend on a type of manufacturing growth that can deliver high quality employment, which is aligned with the international division of labour, and which would not take place in autarky [1]. The importance of the manufacturing sector in any development process goes far beyond its direct contribution to national product and employment. Manufacturing is a global business that reinforces all economic activities. Naudé and Szirmai [1] noted that manufacturing development remains relevant for poor countries trying to catch up with more advanced economies and to provide increasing standards of living for their populations. The need for such 'industrialization' remains, more daunting now than ever before. For instance, Naudé and Szirmai [1] agreed that the rise of China as a workplace of the world makes it harder for late industrializers to enter markets for manufactured products. Jobless growth in manufacturing, in their view, may contribute to unemployment and social tensions. Manufacturing presents special opportunities for reaping economies of scale, technological progress and learning, profiting from spill overs to other sectors of the economy and providing job opportunities for the different levels of the labour. This is not to assert that the other sectors such as services and agriculture are not important in the development process.

For people to have a normal life, employment is important. Employment improves people's well-

being. Work often boosts a person's morale integrity. An employed person has the ability to enhance and develop his or her skills and learn moral values such as teamwork and cooperation. It also gives the person self-confidence especially when socializing with other people. Further, three decent meals a day, accommodation and other essential things such as clothes, shoes require income mainly earned from being employed. This is most especially if a person has to provide for his or her family. To enjoy good quality education, the sponsor of such education needs to be employed first to be able to have the means to pay for the required expenses. Productive employment and decent work are the key routes out of poverty and by extension crucial for achieving sustainable development.

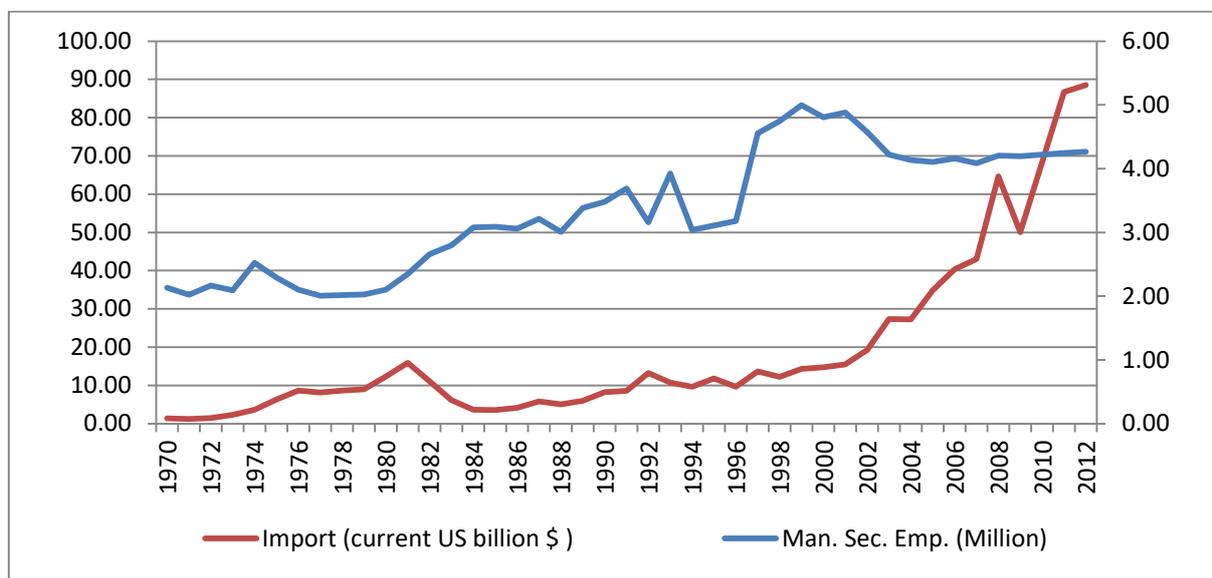
One of the most common rationales for trade barriers is to protect domestic employment. Foreign imports provide competition with domestic production. To the extent that domestic consumers purchase imports rather than domestic production, domestic production declines and so too does domestic employment. It follows then that barriers that restrict imports prevent the reduction of domestic production and domestic employment.

This study therefore examined the impacts of Nigeria's imports on its manufacturing sector employment. In Nigeria, the growth of employment in manufacturing has been slowing down under the influence of a number of factors – economic and non-

economic. Obviously, industrial development is no longer able to absorb large increases in labour supply. From a policy standpoint, this at least requires an empirical examination of the relationships between the employment in manufacturing and Nigeria's import, hence, the need for this paper. The remainder of this paper is structured as follows. This introductory section is followed by section two which profiles issues on Nigeria's imports and the manufacturing sector employment. Section three focuses on the review of related literature. The theoretical framework and methodology are presented in section four whereas section five presents the empirical analysis. Section six, is on the conclusion and policy lessons emanating from the study.

**PROFILE OF NIGERIA'S IMPORTS AND MANUFACTURING SECTOR EMPLOYMENT**

The trend analysis of Nigeria's imports and manufacturing sector employment is quite revealing. The Nigeria's imports, except in few instances, could be described as a consistent rising trajectory. From its 1.41 billion US\$ in 1970, it rose to 12.32 billion US\$ in 1980. By 1982, it nosedived to 11.10 billion US\$ and even became steeper in 1985 when it assumed the value of 3.53 billion US\$. In 1992, it reverted to a high value of 13.25 billion US\$ before trending downwards again. Markedly, except for minor drops witnessed in imports value in 2004 and 2009, one could conclude that it rose consistently from 1999 to 2012. On the other hand, manufacturing sector employment in Nigeria is replete with stochastic process. It got to 3 million for the first time in 1984 and hovered within 3.01 million and 3.18 million from 1984 to 1996. In 1997, manufacturing sector employment became 4.56 million and then ranged from 4.08 million to 5 million between 1997 and 2012 (Figure 1).



**Fig- 1: The trend analysis of Nigeria's imports and manufacturing sector employment**  
 Source: Author's initiative with data obtained from WDI (2013) and NBS (2013).

**REVIEW OF RELATED LITERATURE**

The literature on the local labour market effects of import on domestic employment is large and quickly growing; the review done in this study cannot be but a very incomplete list of the existing literature. The empirical results emanating from such studies are mixed. Currie and Harisson [2] and Revenga [3] analyzed the cases of Morocco and Mexico respectively, and detected a modest impact of tariff and non-tariff reductions on employment. The lack of employment response, according to them, is largely attributed to the context of imperfect competition. To them, in Morocco, such as in many other developing countries, few players and high barriers to entry characterize some sectors. Adjustment to trade reform in such a context is likely to occur through a reduction

of profit margins or a productivity improvement. In the same vein, Hanson and Harisson[2] examined the changes in wages and employment of skilled and unskilled workers in Mexico in response to trade liberalization. They found little effect on total employment, but significant increase in the skilled workers' relative wages.

Heoa and Miri [4] investigated the impact of import competition on job displacement in Korean manufacturing industries. Using a regression model for the period of 1993–2003, they found that import competition raises the job displacement rate in the Korean manufacturing sector but the elasticity is negligible in its magnitude. Worker characteristics, such as gender, age, job tenure, and education level, proved

to be significant in determining the displacement rate. Characteristics of displaced workers in high import-competing industries were also investigated based on their survey data.

Felbermayr et al [5] documented a robust empirical regularity. Their study showed that in the long-run, higher trade openness is associated with a lower structural rate of unemployment. They established this fact using: (i) panel data from 20 OECD countries, (ii) cross-sectional data on a larger set of countries. They use the time structure of the panel data to control for unobserved heterogeneity, whereas the cross-sectional data enable them to instrument openness by its geographical component. In both setups, the authors purge the data from business cycle effects, host of institutional and geographical variables, and control for within-country trade. According to them, the main finding of the study is robust to various definitions of unemployment rates and openness measures. Their preferred specification suggests that a 10% increase in total trade openness reduces aggregate unemployment by about three quarters of one percentage point.

Autor et al [6] analysed the effect of rising Chinese import competition between 1990 and 2007 on U.S. local labour markets, exploiting cross-market variation in import exposure stemming from initial differences in industry specialization and instrumenting for U.S. imports using changes in Chinese imports by other high-income countries. They found that rising imports cause higher unemployment, lower labour force participation, and reduced wages in local labour markets that house import competing manufacturing industries. In their main specification, import competition explains one-quarter of the contemporaneous aggregate decline in U.S. manufacturing employment. The equally discovered that transfer benefits payments for unemployment, disability, retirement, and healthcare also rise sharply in more trade-exposed labour markets.

Akkuş [7] evaluated the effects of import competition on employment and wages in the 18 sectors of Turkish manufacturing industry using panel data methodology over the 2003-2011 period. The industry import unit value indexes were used in order to measure import competition for the industries. His estimation results of two stages squares method suggest that changes in import values have a significant effect on employment in the sectors of manufacturing industry. However, his study did not find any significant relationship between import competition and industry wages.

## THEORETICAL FRAMEWORK AND METHODOLOGY

A number of theories have attempted to explain the impacts of trade on employment. Brecher [8] who introduced minimum wage into a two sector, two factors and two countries' Heckscher-Ohlin model demonstrated that trade leads to reduced employment in the capital-abundant country, while the labour-abundant country with perfect labour markets benefits from higher wages without the prevalence of unemployment. The new trade models led by Krugman [9] hypothesize that trade increases employment in industrialised countries and lowers it in developing countries. In specific, this study is anchored on the more recent study of Felbermayr et al [5]. The reasons for this choice is twofold; i) the study accounts for structural changes that might affect employment rate and ii) it is sensitive to the long-run effects of likely factors that impact employment.

### METHODOLOGY

#### Model Specification

In the light of the framework, the model of this study follows Felbermayr et al [5] and is presented thus;

$$MAEM_t = \alpha + \lambda FDI_t + \delta IMPORT_t + \phi GRGDP_t + \theta PCGDP_t + \gamma POP_t + \xi$$

Where  $MAEM_t$  is the manufacturing sector employment rate,  $FDI$  is the net inflow of foreign direct investment,  $IMPORT_t$  is the Nigeria's imports,  $GRGDP$  represents growth rate of GDP and  $PCGDP$  is the per capita GDP while  $POP$  is the population.

#### Estimation Technique:

The Generalized Methods of Moment (GMM) was used to estimate the equation. Given the inter-relatedness of some of the variables, a case of endogeneity problem was suspected and as such instrumental variables became pragmatic after their validation using the Hansen J-test. The Wu-Hausman F test and Durbin-Wu-Hausman chi-square (DWH) tests of endogeneity was as well carried out. Data for this paper spans 1970 to 2012 and they were obtained from the World Development Indicator (WDI) 2013.

### EMPIRICAL ANALYSIS/RESULTS

The GMM results are presented in Table 1. The Hansen J-test was not significant, implying the instruments used in the GMM were valid. The key variable of interest to this study, Nigeria's import, has negative and significant impact on Nigeria's manufacturing sector employment. Precisely, a unit increase in import causes employment in the manufacturing sector to decline by 6%. This result is in tandem with the Krugman [9] postulation that trade increases unemployment in developing countries.

**Table 1: The GMM result**

Variable	Estimates
FDI	0.0212* (0.0132)
IMPORT	-0.0603*** (0.0302)
GRGDP	0.0855* (0.0628)
PCGDP	0.0769** (0.0408)
POP	-0.0461** (0.1665)
<b>Hassan test</b>	
<b>Chi-square (27) = 24.89</b>	
<b>P-value = 0.4761</b>	
<b>Note</b>	
<b>Standard Errors = ()</b>	
<b>*** denotes 1% significance level; ** denotes 5% significance level; * denotes 10% significance level.</b>	

The results further indicated that FDI has positive impact on employment, although the impact was slightly significant. This implies that if inward FDI increases by 1%, employment will increase by 2.1%. A 1% improvement in the GRGDP increases employment rate by 8%. In addition, a 1% increase in PCGDP increases employment rate by 7%. Similarly, it was discovered that POP rate negatively relate with unemployment rate in Nigeria. The empirical result shows that a 1% increase in POP decreases employment rate by 4%.

## CONCLUSION AND POLICY LESSONS

This study examined the impact Nigeria's import on the manufacturing sector employment rate. The GMM analysis was adopted to estimate the model. The results revealed that Nigeria's import reduced its employment rate. The findings of this study elicit a number of policy implications. First, Nigeria needs to intensify efforts in enhancing domestic productions. To achieve this, it has to close the existing infrastructural deficit and improve on the general macroeconomic environment. Multinationals companies should be encouraged to carry out their production activities in Nigeria. Through this uncomplicated process, employment would be stimulated in the manufacturing sector and beyond. The crusade on buy made in Nigeria goods should be intensified.

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