IOSR Journal of Economics and Finance (IOSR-JEF)
e-ISSN: 2321-5933, p-ISSN: 2321-5925.Volume 12, Issue 6 Ser. V (Nov. – Dec. 2021), PP 24-32
www.iosrjournals.org

National Savings Capital Formation and Manufacturing Value Addition in Kenya: A Casualty Study National Savings

FCPA Owen Koimburi
Research Director Afrima Research
PO Box 15324 00509 Langata , Kenya:

Abstract
Industrialization is a key component of the matrix that holds the potential of transforming developing countries into newly industrialized nations. The manufacturing sector in the economy holds the key to raising some key macroeconomic goals of wealth creation and the reduction of unemployment, and this creates a value addition where the finished product commands a higher market price in the world market. This study uses multivariate regression analysis using two variables, namely, gross national savings growth rate and capital formation increase to evaluate their individual and combined impact on the manufacturing sector between 2005 and 2018 in Kenya using panel data generated by the World Bank. Regression analysis is a useful statistical method that can be leveraged across economies to determine the degree to which two or more independent variables influence one dependent variable. Using IBM SPSS 26, the paper experiment used the Manufacturing Values Addition MANF as the outcome variable and the two macro-economic variables Gross National Savings GSAV and gross capital formation GCAF as the predictor variables. The results indicated that the model fit at R^2 was .767 which at 76.7%. The correlations at .638 and .473 show that the two predictor variables are fairly well correlated, while the tolerance levels of .966 show little multicollinearity for the two predictor variables. The findings make recommendations that the Government to put in place policies to encourage savings to increase to at least 10 % of GDP through incentives amongst savers and banks. This will boost capital formation and reduce external development loans.

Key words: ***Manufacturing Values addition. Gross National savings, and Capital Formation***

Date of Submission: 02-12-2021 Date of Acceptance: 17-12-2021

Plain Language Statement

The manufacturing sector is key to economic growth. This study sought to establish their relationship between two variables: National Savings, Capital Formation on one hand and Manufacturing Value Addition variable on the other hand, in Kenya between 2005 and 2018 using World Bank baseline figures in a regression graphic model. The results were that the two variables had a positive effect on manufacturing value addition with the national savings playing a major role. This information is important for planning and policy making. This model can be used to draw up an equation to predict contribution of the Manufacturing Sector in the economic growth of the country.

I. Introduction

National Savings

A high national savings growth increases the volume of developmental capital and translates to high economic growth. Ribaj and Mexhuani (2021) observe that countries that have a relatively high savings rate are less likely to depend on foreign direct investment. This results in a significant decrease in the risk from volatile foreign exchange. As positive savings contribute to plough-back of income, a higher saving rate will therefore culminate in an enhanced level of fixed capital, which enables the economy to produce more goods and services. Feyissa and Gebbisa (2021) investigated the relationship between savings and economic growth in Pakistan, employing the Dynamic Ordinary Least Squares (DOLS). The test found that there is indeed a significant relationship between domestic investment and economic growth in that country. Abasimi and Martin (2018) investigated the determinants of national savings by employing the Auto Regressive Distributed Lag (ARDL) model in Ghana, Togo, Burkina Faso, and Cote d'Ivore over the years 1997–2016. The empirical results established that in the long-run income, and terms of trade have a positive significant impact on savings, Gros domestic product, and per capita.

Capital Formation

Due to slow industrialization, most African economies lack the capital necessary for the production Lack of this slows down production, which is a key driver of economic growth. Private investment has a significant positive association with economic growth. Ngo and Amoa (2020) in his paper studied the effect of official Development Assistance on capital formation and on the economic growth of the CEMAC subregion. This study drew inspiration from the endogenous growth model on the data collected from the World Bank development indicators. The estimation technique used in this study is a generalized least-squares estimation technique. The results show that official Development Assistance has a significant positive association with economic growth.

Poor economic policies, as well as weak laws and misuse of public and private resources, have always acted against the growth of purchasing power parity in many developing nations. Inefficiencies in the production process as well as the high cost of production, largely due to comparatively high energy costs, as well as the dilapidated infrastructure, have made Kenya less competitive in the East African region and globally. This largely informed the country's blueprint of economic take-off Vision 2030's pillar of industrialization as a pillar for the new economic agenda. Kenya's slow industrialization has had a knock-on effect on other aspects of the economy. Global economy and digitalization in international trade are growing at a very fast pace, and digital platforms are becoming a key area for global trade (Ahmedov 2020).

Manufacturing sector

The role of the manufacturing sector in Kenya's Vision 2030 is to create employment and wealth, and the sector's overall goal in the Medium-Term Plan is to increase its contribution to the GDP by at least 10% per annum. The structural transformation of a traditional economy dominated by primary activities into a modern economy where high- productivity activities in manufacturing assume an important role in the national development matrix in both developed and developing economies Naude (2018). Being a resource-based human endeavor, its challenges include availability of high technology, availability of raw materials, reliability of specialized personnel, a shrinking global economy, expensive capital due to financial liberalization, and a raft of tariffs, and patents and trademarks regulatory environment. Signe (2018) argues that while different countries may employ different policy solutions, manufacturing and industrial development will be central to Africa's ability to meet her development goals and objectives, especially in poverty alleviation, and in fulfillment of the Sustainable Development Goals Africa Union's agenda 2063. According to Newman et al. (2016), in their book on meeting the challenges of industrialization opine that Africa, and the development partners will need fresh thinking and wisdom in order to come up with policies that speak to Africa's industrialization needs and economic growth strategies.

Capital formation theory

Adam Smith is considered the father of economics arising from the ideas espoused in his well-known book "an inquiry into the nature and causes of wealth of nations' written in 1776, and which has tremendously affected the thinking about economic growth and development of nations. In his contribution to economic thought, Adam Smith advocated a laissez faire model of policy where there was little government interference in economic activities and where the individual was the centrepiece of economic decision-making and enterprise development. In addition, Adam Smith advocated free trade among nations of the world, as well as recommending international specialization to increase the income of nations. Adam Smith's work seems to have reached maturity in the 18th century through the works of Ricardo, and Mill who both wrote on the classical economics theory that informed the capital formation wherein that were expected to increase profits and, as a result, bring about an increase in investment, which adds to the existing stock of capital.

If Smith is considered the father of economics, John Keynes is one of the founding fathers of macroeconomics. Some of the concepts of modern macroeconomics had been espoused by earlier economists and scholars such as Irving Fisher and Knut Wicksell in the late 19th and early 20th centuries. Keynes's masterpiece "the general theory of employment interest and money" in 1936 main argument was the inherent instability of a country that includes inflation, purchasing power parity, money supply, government expenditure, and exchange rates of the domestic currency. However, previous schools of thought concentrated on the equilibrium of the domestic economy microeconomics and its champions focused more on the interaction of the domestic economic parameters with the ever-changing international aggregates.

Economic growth theory

The new economic theory is an economic idea based on the premise that humans desire and unlimited desires want to foster ever-increasing productivity and economic growth. It argues that real domestic growth GDP per capita will perpetually grow because of the unfired pursuit of profits. Classical growth theory posits that a country's economic growth will decrease with an expanded population and limited resources. This postulation is based on the implication of the classical economic growth model school of thought, which is

based on the idea that real GDP growth is inevitably followed by population explosion, which would limit national resources, consequently lowering real GDP. Boldeanu and Constantinescu (2015) indicate that the determinants of economic growth are interrelated factors and fall under the following: natural resources, capital goods, human resources, and technology. All of them have a direct effect on the value of the goods and services supplied. Developing countries have the potential to grow at a faster rate than developed countries because of diminishing returns in capital, particularly capital and labor. Furthermore, poorer countries can replicate production and technological processes in developed countries (Upreti, 2015).

Savings theory

During a year, the actual investment is larger than the actual savings, and the incomes rises due to a multiplier effect. At a higher level of income, more is saved and therefore Intended savings might become equal to intended investment, but due to additional income, reinvested income might still rise. On the other hand, when planned savings are greater than plant investment in a period, the level of income will fall, as savings are not optimally invested. Keynes's income theory, which is also called the saving-investment theory, is where saving–investment equality is achieved (S=I), which is a basic condition for general equilibrium. This equality is derived from the equality of the aggregate demand and aggregate supply (Y= C + I). Saving is definitely safer than investing, although this may not result in the most effective and profitable returns over the long run. There are benefits in investing cash say in bonds and other monetary assets, which may yield higher returns than savings accounts. Didelija (2019) further deconstructs the determinants of savings into financial determinants (deposit interest rates, financial market development, stock market development) demographic determinants (dependent population rate, life expectancy, and urbanization rate) education and employment (education level from employment) government policy(public revenue and expenditure , public savings/budget deficit , forms of social assistance, income, macroeconomic uncertainty (inflation, CPI changes), and external factors(import ratio, current account balance, and trade balance).

Manufacturing theory

The industrial revolution was the transition from the cottage industry to two new manufacturing systems in the United Kingdom, Europe, and the United States between 1760, 1820 and 1840. The textile industry was the first to use modern production methods in the form of yarn-spinning machines. The four concepts of modern age manufacturing are: statistical quality control, new manufacturing accounting, organization of the manufacturing process combining the advantages of standardization and flexibility, and finally a systems approach embedding the physical process that is manufacturing in the economic process of business, which can be construed as a business of creating value for the customer. In their study on Transaction Cost Economics (TCE), Ketokivi and Mahoney (2020) opine that TCE is one of the most widely referenced organizational theories in operations and supply management research. While observing that TCE is a widely applicable theory of governance, it has a specific interest in the make or buy decisions that owners of businesses have to make. Ganbold, Kundu, Li, and Zhang (2020) extend the manufacturing field further by looking at another aspect of the manufacturing process, that is, storage or warehousing with respect to finished goods and raw materials.

Using a simulation-based optimization method, the study proposed a support tool to assist the warehouse manager in dealing with the warehouse worker allocation problem, a daily decision that business owners must make every day, in order to minimize the cost of production and augment the gross profit margin. Cilliers (2018) observes that globalization, the future of global value change, and digital production are poised to disrupt the nature of manufacturing globally and that the Fourth Industrial Revolution offers Africa opportunities to accelerate economic transformation into higher rates of productivity and growth. The author recommends that nationally, industrialization efforts require well-administered, supportive public policies and effective administrative systems. Further, the paper recommends that rapid growth in manufacturing, agro-industry, and tradable services require access to larger markets, hence, it is imperative to progress with regard to Africa's regional economic integration.

Conceptual framework

In this section, we deal with the conceptualization of this study by identifying manufacturing as a key driver of economic growth in Kenya, and one that has been identified as the fourth pillar of the country's development vision 2030. Frankema, and Jerven (2017) have identified manufacturing as a key platform of growth and development in emerging nations. In our regression model, the manufacturing sector is framed as the dependent variable. National savings contribute to a great deal of how fast countries industrialize, losing the manufacturing sector is one of the key contributors to industrial growth. Savings in both the household and public sectors represent the opportunity cost of deferred consumption in favor of providing finds that usually drives industrial growth.

Patra et al. (2017) revisiting the causal nexus between savings and growth in India identified gross national savings as a major contributor to the manufacturing sector of the Indian economy. Since the industrial revolution and, more recently, Adam Smith's writing of the seminar wax on the growth or wealth of nations' capital for mission has been a key focus of all industrialization in Western and Eastern growth economies. In our regression model, the National Savings and Capital Formation are the predictor variables that may be used to predict the growth of the manufacturing sector, which has previously been identified as likely to play a key role in Africa's growth, targeting poverty reduction and wealth creation among the fast-emerging youthful population.

II. Literature Review

Manufacturing: Expanding the output of manufacturing companies is key, as the manufacturing industry plays an important role in the economy (Jabbour et al., 2015). For example, Malaysia, the third largest economy in Southeast Asia and the 29th largest in the world, is one of the most stable economies in the Asian region, with its manufacturing being one of the most well-developed and contributing to a GDP growth rate that has been consistent at 5 to 6% for the last ten years. On the other hand, manufacturing outsourcing has been touted as an alternative as it could bring benefits such as cost reduction, efficient process, more technological advanced process, and maybe better product yields (Kamalahmadi & Parasat (2016); Pang, Zhang, and Jiang (2020); Liu et al. 2018).

Capital formation: Ahmad and Khan (2019) in their study showed that demographic transition and human capital are both key contributors to economic growth. However, the demographic transition cannot make a positive contribution to economic growth unless the labor markets are flexible enough to employ a greater percentage of young people entering the labor market. Barcenilla and Lopez-Puevo (2018) consider the effects of different types of human capital, total factor productivity on the economic growth of EU countries over 1950 -2011. On the other hand, some authors argue that the effect of human capital on economic growth depends on other variables such as economic complexity (Zhu and Li 2017), social capabilities (Ali et al. 2018), and economic structure (Texeira and Queiros 2016). Given this literature review and varying findings, it is clear that there is a need for further review in this area.

National savings: Mensaklo, Kornu, and Dom (2017) investigated determinants of savings behavior by households in Ho, Ghana, concluding that savings behavior varies from individual to individual, as they have diversified purposes of saving and consuming money. The authors lay out five sets of constraints that may hinder the adoption and effective usage of saving: transaction cost, lack of trust, regulatory barriers, information and knowledge gaps, social constraints, and behavioral biases. Savings in Africa averaged 8% of GDP in the 1980s, compared to 23% for Southeast Asia. Savings rates in most African economies are household-based as compared to firm-based savings in developed economies. Schaner (2018) studied savings behavior in Kenya using couples saving as individuals and jointly where randomly selected couples were incentivized by higher yield bank joint accounts. The author concludes that short-term incentives to save have long-term implications for the economic lives of low-income, rural Kenyans. Kenya has one of the lowest savings rates in the East African region (8 % in 2019) compared to Tanzania (36 %) and Uganda (22 %) in the same period. Compared to some of the fastest growing economies in Southeast Asia, which have an average rate of 32.8% over the last five years, Kenya's is one of the lowest. Rahman and Ferdaus (2021) opine in their study that the impact of savings and domestic investment on economic growth is in the long run good for Pakistan.

III. Methodology

We use the standard multi-regression method whereby two independent predictor variables are used to predict the outcome for a single dependent or numerical variable. The outcome variable in our example is Manufacturing Value Addition. (MANF), defined as the total sum of the net output of all resident manufacturing activity units obtained by adding up outputs and subcontracting intermediate consumption. The predictor variables in our model are the gross capital formation (GCAF), defined as the aggregate gross addition to fixed assets (i.e., fixed capital formation), increase in stock volumes, hereinafter referred to as change in stock during a period of accounts and net acquisition of non-consumables during a specified period. It can also refer to the net increase in physical assets by the household, public, and government sectors within the measurement period of the economy, normally one year. The other predictor is the net national savings as a percentage of gross national income, after deducting depreciation on existing physical assets. In our model, this variable is represented by the acronym GSGNI.

There are four key assumptions of the standard multi-regression model: first, the sample size; the rule of thumb here is that we typically want enough variability in the predictor variables to estimate with some accuracy what we want to estimate in the population around 15 cases. The next assumption is multicollinearity

where a multicollinearity with an R factor of .9 or higher would be indicate as high. The second assumption is on outliers where SPSS is very sensitive to outliers whether they are too high or very low, so this should be part of our check, including accuracy, and we want to check this for both the independent and dependent variables, and typically we want to identify all the cases that lie + or – 3 standard deviations from the mean. The third assumption we want to check is Collinearity, and a coefficient or R factor measures correlation between the predictor variables. An R exceeding .7 is considered high and would be a cause for worry for our equation. The fourth and last assumption we want to measure is linearity. We want to ensure that there is a linear relationship between the predictor variables on the one hand and with the outcome variables on the other hand.

Coefficients

One of the predictable variables has a positive correlation .473, and the other positive .638, both above .30, which means that the two predictor variables correlate quite strongly with the outcome variable. We also see that the two predictable variables are correlated; in our case, the two correlation R factor is -.183, which is way below .9, making our two predictor variables useful and reliable as a basis for predicting the outcome variable as there is no case of multicollinearity. SPSS can also help us to pick up some other multicollinearity that we may not have picked during our earlier tests and for us to check this, we go to the table of Correlations Diagnostics. We look for Table called Coefficients and two values are given here to help us test for these are Tolerance and the Variation Inflation Factor (VIF). Tolerance is an indicator of how much of each predictor variable is not explained by other predictor variables. If this value is too small, there might be a case of multicollinearity. In this case, we would normally expect multicollinearity if the tolerance scores were very small, .10. The VIF is an inverse of the tolerance and, in any case, if the VIF is above 10, it would also be a case of multicollinearity. We find that the tolerance values for our variables are .966, both above the threshold .01, and that the VIF is 1.035, both below the R factor of 10; in this case, we conclude that our assumption of no multicollinearity is also achieved or proved in this further coefficient diagnostics test of SPSS

Normality, Linearity, and outliers

Next is normality, linearity, and outliers; for this, we go to the normal probability plots we asked SPSS to extract from the data, and further to this we consider the Charts and first is PP Plot, and we expect to see that the distribution of our values should be spread along the line of perfect fit that runs across the X and Y axes. We expect to see a reasonably straight line of perfect fit and our values of scores lying along the line and on both sides if our predictor and outcome variable distributions are normally distributed. The next chart that we would consider is the chart plot, and again the distribution we expect to see is one where we would roughly draw a rectangle around the values of both X and Y, and if all these falls roughly within that rectangle would prove that the values are normally distributed and that the relationship of the variables is linear. If there are any outliers, we would expect to see them falling out of the chart box outside of the three degrees of freedom. Our charts are complaint in both cases, and there are no outliers from the means of each variable that falls outside the 3.3 or less than negative 3.3 degrees of freedom. We can also check the outliers by expecting the Mahalanobis distances that are produced by the multi-regression program, although these do not appear in our output, appear in our datafile on the right side and to identify if there are any cases we need to determine the critical values of Chi Square depending on the number of variables of our equation so that if we are using two variables, we would expect the Chi Square of 13.82. The distance and maximum value should be 3.15, which is lower than the expected maximum score for our variables and residual statistics table. The next method from our output is to consider those cases with more than 1 score in our Cooks Distance and in our cases, we see that the maximum Cooks Distance that any or our cases have is .617 which is much less than 1.

We also need to go to the model summary box; we want to check the value under $R^2$and this tells us how much of the variance of the Y-axis MANF is explained by our model, how much the two variables explain the increase in manufacturing, and in our case, the value is. 721 and this explained as a percentage of 72.1%, which means that the variation in our manufacturing value addition of Kenya's economy can be explained by the two variables and the balance being explained by other factors. This is quite a good rate; however, using a small sample sometimes gives us a more than optimistic value, which is the reason we use the Adjusted R square, which in our cases gives us .721, a good R Score of our model. The next step is to measure whether the model is statistically significant, or if it makes accurate predictions in a way that indicates or helps us to see what may be happening in the population. To do this, we use the ANOVA table to reject the null hypothesis that multiple R in the population equals zero or that the model cannot accurately estimate the outcome. In our case, the ANOVA values at Sig column .001 which means the model is statistically significant.

IV. Results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.876[a]	.767	.721	.73113

a. Predictors: (Constant), GSGNI, GCAF
b. Dependent Variable: MANF

Correlations

		MANF	GCAF	GSGNI
Pearson Correlation	MANF	1.000	.473	.638
	GCAF	.473	1.000	-.183
	GSGNI	.638	-.183	1.000
Sig. (1-tailed)	MANF	.	.044	.009
	GCAF	.044	.	.274
	GSGNI	.009	.274	.
N	MANF	14	14	13
	GCAF	14	14	13
	GSGNI	13	13	13

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B Lower Bound	95.0% Confidence Interval for B Upper Bound	Correlations Zero-order	Correlations Partial	Correlations Part	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	-5.819	3.224		-1.805	.101	-13.001	1.364					
	GCAF	.551	.140	.611	3.936	.003	.239	.862	.473	.780	.600	.966	1.035
	GSGNI	.436	.090	.750	4.833	.001	.235	.637	.638	.837	.737	.966	1.035

a. Dependent Variable: MANF

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions GCAF	Variance Proportions GSGNI
1	1	2.975	1.000	.00	.00	.00
	2	.023	11.408	.02	.06	.83
	3	.002	35.896	.98	.94	.17

a. Dependent Variable: MANF

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.632	2	8.816	16.492	.001[b]
	Residual	5.345	10	.535		
	Total	22.977	12			

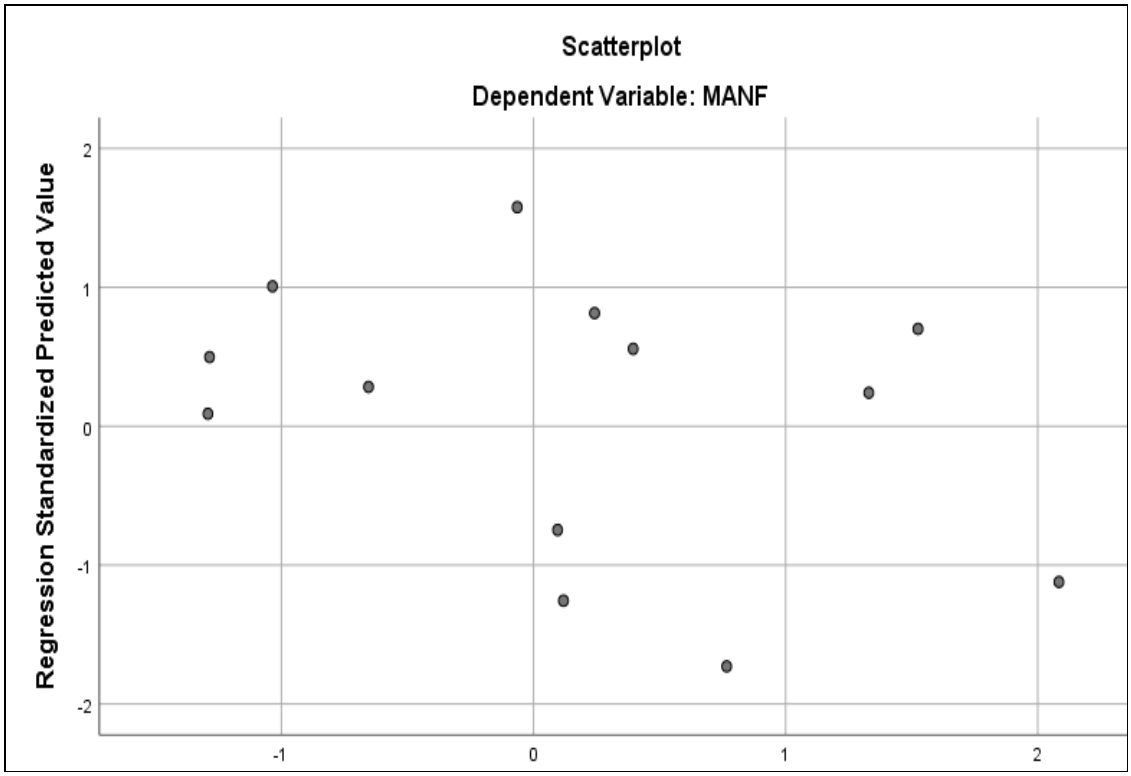
a. Dependent Variable: MANF

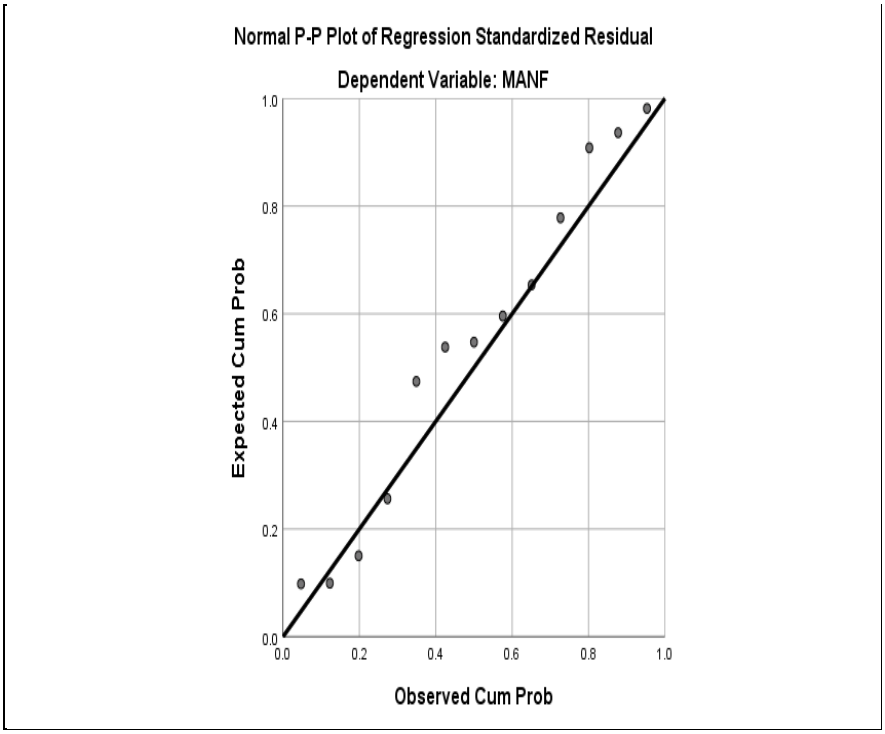
b. Predictors: (Constant), GSGNI, GCAF

Residual Statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	8.7399	12.7473	10.9210	1.19587	13
Std. Predicted Value	-1.729	1.577	.070	.987	13
Standard Error of Predicted Value	.248	.426	.343	.058	13
Adjusted Predicted Value	8.4520	12.7685	10.9013	1.32563	13
Residual	-.94451	1.52368	.12512	.78138	13

Std. Residual	-1.292	2.084	.171	1.069	13
Stud. Residual	-1.481	2.397	.184	1.208	13
Deleted Residual	-1.24722	2.01515	.14489	1.00028	13
Stud. Deleted Residual	-1.590	3.485	.269	1.441	13
Mahalanobus Distance	.455	3.151	1.791	.885	13
Cook's Distance	.001	.618	.129	.167	13
Centred Leverage Value	.038	.263	.149	.074	13
a. Dependent Variable: MANF					





V. Discussions

Outcomes

We see that GSGNI at .750 contributed the most to explain the model, and together with GCAF largely explain the growth in the Manufacturing Value Addition MANF of the economy. The standardized beta values or their Sig value of the other two combined is less than .5. It can therefore be concluded that the variables individually and compositely contribute uniquely to the variability of the outcome variable. Further the largest Beta values are .101, .003, and .001 all three below .5, so we can say that each of the three variables make significant and unique contributions to the model, but the most contribution comes from GSGNI, and the balance is explained by the other variables. For each, we could see if they made individual statistically unique contributions and here you check the statistically significant contribution. If less than .05 or .01, we can say the variable made a significant contribution.

VI. Conclusion And Recommendations

The contribution of the manufacturing sector in Kenya's Vision 2030 is to create employment and wealth for a greater part of the population. A number of interventionist measures proposed in the vision that combined is planned to lead Kenya to be globally competitive and prosperous by the year 2030. The goal of the sector in the medium-term program (MTP) is to enhance its contribution to GDP by at least 10% per annum. Other objectives are to strengthen the capacity and local content of domestically manufactured goods, to increase the generation and utilization of research and development results, to raise the share of the products in the regions market from 7% to 15%, to develop niche products for existing and new products and new markets [1] for the above to be realized, there is need to recognize that Kenya is largely an agricultural country and therefore greater emphasis should be on agribusiness with a view to enhancing value addition manufacturing processes that are grounded in the vast opportunities in the agricultural sector. The other comparative advantage the country has is in its youth full population, where over 70 % of the population is below 35 years and for which the tech industry and services are a major employer, and policy makers aim in manufacturing should bear this in mind and ensure technology is at the heart of this new frontier of manufacturing to be appealing to the youth [2]. This study recommends introducing policies to enhance the national savings rate of a minimum of 10 % of GDP. This would be attained by a combination of tools at fiscal and monetary tools, both at the National Treasury and at the Central Bank. This would include tax breaks for small savers and more incentives for banks to introduce more savings products. For faster capital formation, it is recommended that the Treasury and Planning ministries introduce a raft of measures to ring fence special funds for youth to go into manufacturing goods and services that have the potential to employ more youth and be technology-based in order that the Vison 2030 Goal to industrialize among youth in manufacturing is achieved.

Ethical Statement

This was an empirical study requiring no human contact or use of animal parts and did not permission as would be needed if there was interview and biological experiment.

Funding Statement

All the costs related to this study well met by the researcher

References

[1]. Ahmad, M., & Khan, R. E. A. (2019), "Does demographic transition with human capital dynamics matter for economic growth? A dynamic panel data approach to GMM", Social Indicators Research, 142(2), New York, Springer, pp. 753-772.
[2]. Ahmedov (2020). The Impact of Digital Economy on International Trade. European Journal of Business Management and Research. 5(4). DIO; 10. 24018/ ejbmr. 2020.5.4.389
[3]. Abasimi, I., Martin, A. (2018). Determinants of National Saving in Four West African Countries. Vol 10, DO 10.5539/ijef. v10 5 p67. International Journal of Economics and Finance.
[4]. Ali, M., Egbetokun, A., & Memeon, M., H. (2018). Human Capital, Social Capabilities and Economic Growth. MDPI. Economies 2018,6,2; doi:10.3990/economies6010002.
[5]. Barcenilla, S., López-Pueyo, C. (2018), "Differences in Total Factor Productivity Growth in The European Union: The Role of Human Capital by income level", Prague Economic Papers, 28(1), Prague, University of Economics, pp. 70-85.
[6]. Boldeanu, F.T., & Constantinescu, L., (2015). The Main Determinants Affecting Economic Growth. Bulletin of the Transylvania university of Brussels. Series V: Economic Sciences. Vol 8 (57) No2-2015
[7]. Cilliers, J., (2018) Made in Africa: Manufacturing and the fourth industrial revolution. Institute for Security Studies, April 2018Patterns of Manufacturing Growth in Sub-Saharan Africa
[8]. Didelija, I. (2019). "Analysis Of Empirical Literature of Saving Determinants," Noble International Journal of Economics and Financial Research, Noble Academic Publisher, vol. 4(12), pages 111-120, December.
[9]. Frankema, A.E. & Jerven, M. (2017). Patterns of Manufacturing Growth in Sub-Saharan Africa. From Colonization to the Present 2017.Oxford online. OI:10.1093/acprof: oso/9780198753643.003.0014
[10]. Feyissa, G.F. and Gebbisa, M.B. (2021) Choice and Determinants of Saving in Rural Households of Bale Zone: The Case of Agarfa District, Oromia, South East Ethiopia. Open Access Library Journal, 8, 1-20. doi: 10.4236/oalib.1107167.

[1] Republic of Kenya. Ministry of industrialization, Trade and Enterprise Development.
[2] UNIDO. The G20 2016 Initiative on supporting Industrialization in Africa and LDCs

[11]. Ganbold ,O.,Li, H., & Zhang,W. (2020). A Simulation Based Optimization Warehouse Worker Assignment, ReserchGate,Vol. 13-326.DOI:

[12]. Jabbour, A. B. L. D. S., Frascareli, F. C. D. O., & Jabbour, C. J. C. (2015). Green supply chain management and firms' performance: Understanding potential relationships and the role of green sourcing and some other green practices. Resources, Conservation and Recycling, 104, 366–374.

[13]. Rahman, Z., & Ferdaus, J. (2021). Impact of Domestic Savings and Domestic Investment on Economic Growth: An Empirical study for Pakistan

[14]. Kamalahmadi, M., & Parast, M. M. (2016). A review of the literature on the principles of enterprise and supply chain resilience: Major findings and directions for future research. International Journal of Production Economics, 171, 116–133.

[15]. Ketokivi, M., & Mahoney, T.J. (2020). Transaction Cost Economics as a Theory of Supply Chain Efficiency, Production and Operations Management, 10.1111/poms.13148, 29, 4, (1011-1031), (2020). Wiley Online Library.

[16]. Liu, Y., Blome, C., Sanderson, J., & Paulraj, A. (2018). Supply chain integration capabilities, green design strategy and performance: a comparative study in the auto industry. Supply Chain Management: An International Journal. doi:10.1108/SCM-03-2018-0095

[17]. Mensahklo, E., Kornu, D.D., and Dom, B., (2017). An Empirical Analysis of the Determinants of Saving Behaviour by Households in HO, Ghana: A Case Study of HO Municipality, and Individual Level Analysis. Journal of Economics and Sustainable Development. ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online) Vol.8, No 6, 2017

[18]. Naude, W. (2018). Structural transformational in Africa : New Technologies , resurgent entrepreneurship and the revival of manufacturing " MERIT Working Papers 2018-045, United Nations University – Maastricht Economic and Social Research Institute on Innovations and Technology (MERIT).

[19]. Newman, C., Page, J., Rand, J., Shimeles, A., Soderbom, M., &Tarp, F. (2016). Made in Africa, Learning to Compete in Industry: Washington DC.: The Brookings Institution: 1775 Massachusetts Avenue, N.W Washington, D.C.20036 www.brookings.edu

[20]. Ngo, M., A. &. Amoa, N., B. (2020) Effectiveness of Bilateral and Multilateral Official Development Assistance on Economic Growth in CEMAC: An Expansionary Variable Analysis Method. Theoretical Economics Letters, 10, 322-333.doi: 10.4236/tel.2020.102022.

[21]. Patra, S., K., Satyanarayana, D., Mahendra, M.,Kuruva, B., & Mohanty,A., (2017).Revisiting the causal nexus between savings and economic growth in India: An empirical analysis, EconomiA,Volume 18, Issue 3,2017,Pages 380-391,ISSN 1517 580,https://doi.org/10.1016/j.econ.2017.05.001.

[22]. Pang, Y., Zhang, S., & Jiang, A.X. Outsourcing: Overview and Trends IntechOpen: DOI: 10.5772/ InterOpen.98333.

[23]. Ribaj, A., & Mexhuani, F., (2021). The impact of savings on economic growth in a developing country (the case of Kosovo) Journal of Innovation and Entrepreneurship, Springer, Vol.10 (1), pages 1-13, December.

[24]. Schaner, S. (2018.) The Persistent Power of Behavioural Change: Long-Run Impacts of Temporary Savings Subsidies for the Poor. American Economic Journal: Applied Economics, 10 (3): 67-100.DOI: 10.1257/app.20170453

[25]. Signe, L., (2018). The potential of manufacturing and industrialization in Africa. AfricaGrowth Initiative at Brookings in collaboration with Chelsea Johnson, fellow at the London School of Economics and Political Science.

[26]. Teixeira, A. & Queirós, A (2016), "Economic Growth, Human Capital and Structural Change: A Dynamic Panel Data Model", Research Policy, 45(8), North-Holland, Elsevier, pp. 1636-164

[27]. Upreti, P., (2015). Factors Affecting Economic Growth in Developing Countries. Major Themes in Economics, 17, -37-54. Available at https;/scholarworks.uni.edu/mtie/Vol 17/iss1/5

[28]. Zhu, S & Li, R (2017), "Economic Complexity, Human Capital and Economic Growth: Empirical Research Based on Cross-Country Panel Data", Applied Economics, 49(38), Oxfordshire, Routledge, pp. 3815-382

FCPA Owen Koimburi. "National Savings Capital Formation and Manufacturing Value Addition in Kenya: A Casualty Study National Savings." *IOSR Journal of Economics and Finance (IOSR-JEF)*, 12(06), 2021, pp. 24-32.