

## HOW POLICIES AFFECT ECONOMIC GROWTH OF SMES- A ZIMBABWEAN SCRIPT 2016-2018

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### ABSTRACT

The Research investigates how policies affect economic growth in Zimbabwe after the dollarization of the economy, using primary data obtained from the employees of companies operating in Zimbabwe as well as the Ministry of Industry, Commerce and Enterprise Development and Zimbabwe National Chamber of Commerce staff members. Data collected was presented quantitatively using tables and other quantitative presentations. A total sample size of 224 respondents purposively selected to give their honesty opinion on the topic under study. This study used the Logistics (Logit) model to quantify the impact on economic growth caused by Non-tariff barriers (NTBs) to trade in general, particularly the aforementioned SI 64 of 2016. The results of the study revealed that Anti-dumping laws and, intellectual property rights, import licenses and customs valuations are respectively 0.9 times and 0.7 times less likely to yield economic growth in the Zimbabwean context. The findings also suggested that positive improvements in export measures are more than 2 times more likely to ignite economic growth and development and more importantly, a positive trust in implementation of the the Statutory Instrument 64 of 2016 is approximately 1.13 times more likely to yield significant economic growth in general particularly in the Zimbabwean context. Those economic agents who understood the concept were very receptive and supportive. However, some who felt that their value chain had been interrupted perceived the Statutory Instrument to have done more harm than good since its inception in 2016. Proponents of a negative impact of SI 64 of 2016 on the Zimbabwean economy include; informal cross-border traders and most small to medium local companies (SMEs) who survived on imports for their business.

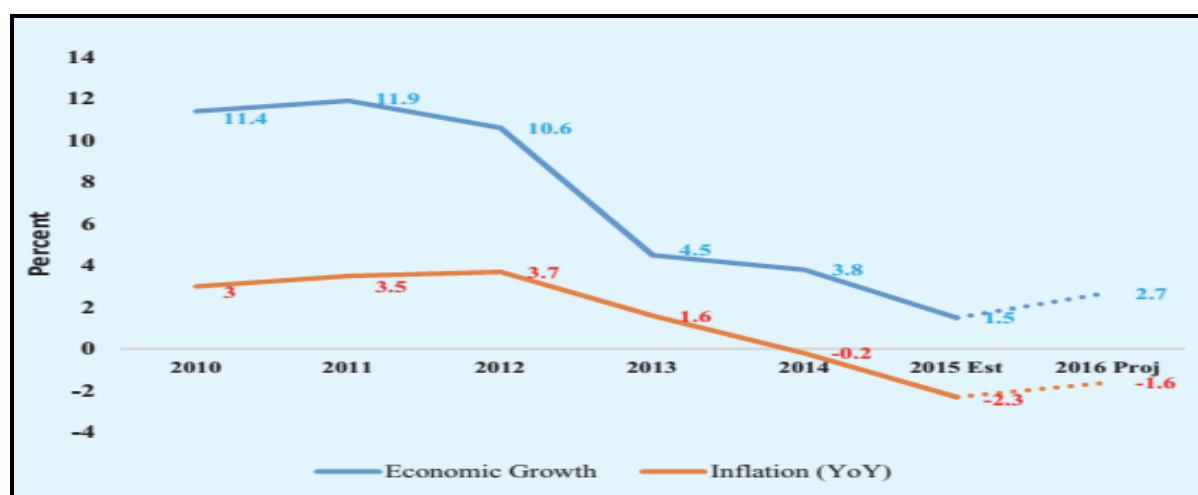
### 1.0 INTRODUCTION

Quite a number of countries have and are still benefiting from industrial development strategies that contribute to national economic growth. Zimbabwe, faced with a plethora of industrial ills (such as the imminent demise of the local manufacturing sector, dumping of substandard and unhygienic products by trading partners, and import/export imbalance), embarked on an Import Management Programme to try and secure a panacea for the economic misfortunes. As part of the import management process, the government unleashed SI 64 of 2016 to limit the influx of imports from the external markets. The move attracted the attention of both importers and exporters across the entire economy. Within days of its inception, the SI64 became the talk of the century, as economic agents discussed the repercussions of the new legislation. However, to the best of the researcher's knowledge, no research works have been devoted to quantify the impact of the SI 64 of 2016 on economic

growth in Zimbabwe since its inception in 2016. Therefore, the current research seeks to bridge this empirical gap by exploring and bringing to the fore the impact of the SI 64 of 2016 on economic growth and development in Zimbabwe.

The SI 64 of 2016 was gazetted in June 2016 following a recommendation from the local industry, which was based on an extensive study and consultations with respective sector players on the locally available manufacturing capacities. Since then, the importation of products specified under SI 64 of 2016 was controlled through issuance of import licenses. The then licensing procedure required applicants to physically submit their applications to the Ministry of Industry and Commerce for consideration (Manyeruke 2007). Import licenses are only issued in cases where there was a local supply gap and the Ministry would target migration from the current manual licensing system to e-licensing. The influx of imported products and the subsequent displacement of locally produced goods from the market prompted the adoption of the Statutory Instrument 64 of 2016.

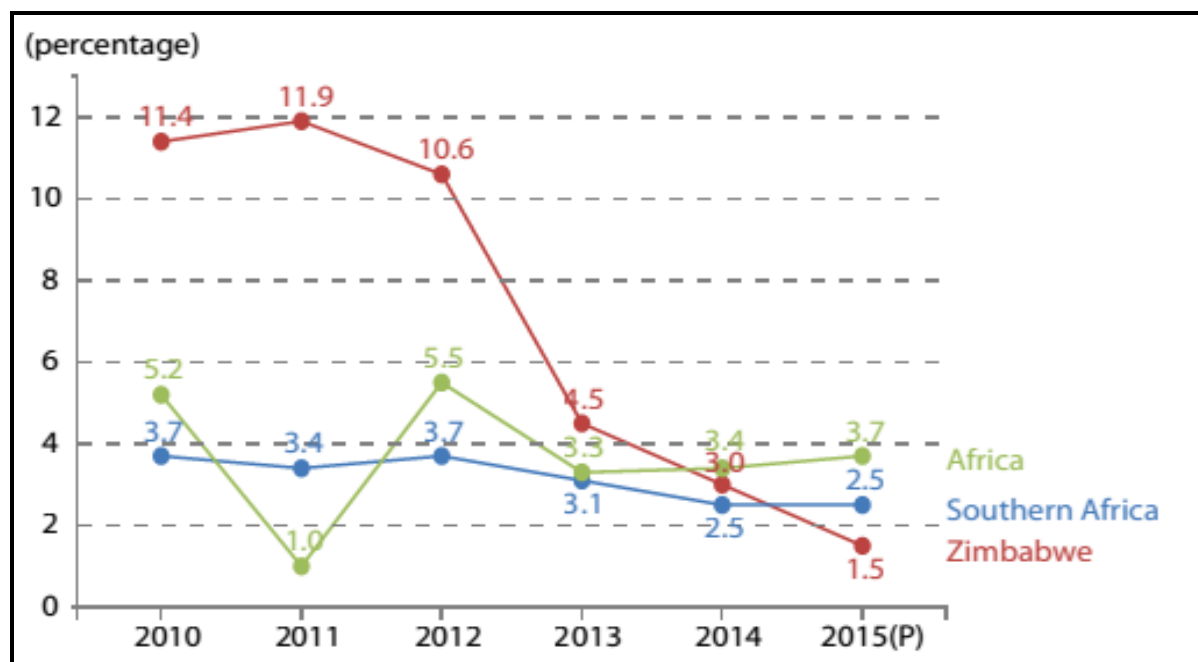
The Zimbabwean economy bounced back from a decade of economic downturn after the adoption of the multicurrency system and the subsequent dollarization of the economy in 2009. As shown in Figure 2.1 below, economic growth peaked at 11.9% in 2011, remained sluggish until 2012, declined dramatically thereafter and settled at an estimated 1.5% in 2015, some 1.7 percentage points lower than the initial forecast of 3.2% in the 2015 Budget.



**Figure 1 Economic growth and Inflation trends between 2010 and 2015**

**Source:** Zimbabwe National Statistics Agency, (2015)

Nevertheless, the government remained confident of modest economic growth premised on the implementation of the several strategies including; fiscal space and sustainability framework; clearance of arrears to the International Financial Institutions (IFIs) thereby unlocking new financing, improved cost and ease of doing business. Moreover, economic growth projections were also based on improved liquidity conditions, banking sector stability, successful implementation Staff Monitored Programme (SMP) reforms, reduced energy import costs and positive growth in tourism, construction, communication and a good agricultural season. However, the trends purported in Figure 2 below indicated that the Zimbabwean growth rate plunged below the Southern Africa region average economic growth rate between 2014 and 2015 despite previously soaring over the regional indicator between 2010 and 2013.



**Figure 2: Zimbabwe's regional comparison on economic growth rate**

Source: Ministry of Finance, (2015a)

The dollarization of the economy successfully restored the once existent but long-forgotten price stability in the Zimbabwean economy. Year on year inflation remained subdued from the year 2010 to 2013 and moved into the negative territory by the beginning of the year 2014 (Zimbabwe National Statistics Agency, 2015). In 2015, the general price level in the economy remained low, with year on year inflation initially valued at -1.3%, and reaching -3.3% by the third quarter of 2015. The general price deceleration has, largely been attributed to price correction, weak aggregate demand, tight liquidity and depreciation of the South African Rand against the United States dollar.

According to the Ministry of Finance (2016), high import bill resulted in the worsening of Zimbabwe's trade balance wherein the country imported US\$5.2 billion worth of imports in 2016 against exports of US\$2.8 billion thereby creating a negative trade balance of US\$2.4 billion which was deemed unsustainable by the government. Above all and beyond, the use of the multi-currency regime has also attracted exports mainly from the country's neighbouring trading partners primarily due to Zimbabwe's use of a stronger currency (United States Dollar). The Ministry of Finance (2016), also acknowledged that the influx of cheaper foreign products into the economy has seen an upsurge in the appetite for imports among domestic consumers. Consequently, the manufacturing sector's capacity utilization went on a nosedive (from a peak of 57.2% to 34% between 2011 and 2015) and Zimbabwe experienced pronounced company closures and retrenchments.

Official statistics from the Ministry of Finance (MOF) indicated that during the first half of 2016, there were 231 company closures, with about 5 333 workers being retrenched during the first quarter of 2016 (MOF, 2016). The Statutory Instrument 64 of 2016 was therefore, part of Government's Import Management Programme (GIMP) intended to rejuvenate the local industry. Since import regulation has vast potential to promote industrial recovery by stimulating the demand for locally produced goods, new investments are set to be attracted as there will be a guaranteed market for locally produced products.

## 2.0 Materials and Methods

The researcher collected fresh data from the employees of manufacturing companies operating in Zimbabwe as well as the staff from the Zimbabwe National Chamber of Commerce and the Ministry of Industry and Commerce using a simple and precise close-ended questionnaire. The researcher used questionnaires premised on a five point Likert scale which was used during data collection. The Likert scale questionnaire questions had summations which the researcher wanted to determine whether they had an impact on economic growth used as a unit of analysis in this research. The questionnaires proved to be easy to administer as respondents simply had to select responses based on their honest opinion.

The Logit model was used as the dependent variable, is dichotomous and it provides an indication of the adequacy of a set of predictor by assessing suitability and also provides an indication of the relative importance of each predictor variable or interaction among predictor variables (Pallant, 2013). According to Yehuala (2008), logistic distribution (logit) is extremely flexible and easy to use model from a mathematical point of view and results in a meaningful interpretation since, the logistic regression coefficients can be used to estimate odds ratios for each independent variable in the model. Precisely, the term 'Logit' itself refers to the natural logarithm of the odds (log odds) which indicates the probability of falling into one of the two categories on some variable of interest (Chauke *et al.*, 2013). Therefore, in the current research, the Logit model was employed to assess how well a set of independent variables such as the SI 64 of 2016, determines economic growth in Zimbabwe.

Since the current study assumed a minimum sample size of 100 respondents for each category of the respondents and an estimated response rate of 90 percent, based on these parameters, the actual sample size for each category was found to be 112 respondents. To this end, the current study is premised on a total sample size of 224 respondents purposively selected to give their honesty opinion on the topic under study. The sample size was broken down into 112 respondents from the manufacturing firms operating within the geographical boundaries of Zimbabwe and another combined 112 respondents from both the Ministry of Industry and Commerce and, Zimbabwe National Chamber of Commerce.

Principal components analysis was used. This is a method used for reducing several dimensions of the same data set into certain principal variables that explain the array of correlations within a set of observed variables (Field 2005). Principal components analysis was used for identifying a few orthogonal components or factors that explain most of the variability observed in several observed input variables. According to Field (2005), variables that load together if and only if they measure the same concept hence, at least three variables should load together as one factor to fortify the statistical analysis. Initial Eigenvalues sometimes suggest several principal components other than one; say two but they should never exceed the number of loaded factors. The varimax rotated component matrix then lists those principal components suggested by the initial Eigenvalues that explain more than half (50%) of the variation in the input dimension for every rotated solution.

### 3.0 Results and Discussion

**Table 1 Statutory instruments**

Questions	N	Strongly disagree	Disagree	Unsure	Strongly agree	Agree
Governments can also use macroeconomic, competition, fiscal, immigration or investment policy tools to distort trade in desired ways	102	3.9%	2.9%	21.6%	44.1%	27.5%
The Statutory Instrument 64 of 2016 regulates the importation of food products in order to protect consumers, plants and animals from contaminants, toxins, pests and diseases.	102	5.9%	2%	17.6%	45.1%	29.4%
The conventions of the gazetted Statutory Instrument 64 of 2016 are in harmony with international standards	102	4.9%	25.5%	37.3%	13.7%	18.6%
<b>Mean score</b>		<b>4.90%</b>	<b>10.13%</b>	<b>25.50%</b>	<b>34.30%</b>	<b>25.17%</b>
<b>Standard deviation</b>		<b>0.01</b>	<b>0.13</b>	<b>0.10</b>	<b>0.18</b>	<b>0.06</b>

Table 1 above shows the respondents' views regarding the impact of the Statutory Instrument 64 of 2016 implemented by the government to regulate the movement of goods and services into and out of the country. Approximately 44.1 percent of the respondents strongly agreed that Governments can also use macroeconomic, competition, fiscal, immigration or investment policy tools to distort trade in desired ways. The results are strongly consistent with Brou and Ruta, (2013) who declared that in most developing countries, statutory instruments are often used by the government to manipulate trade in desired ways.

Furthermore, a cumulative portion equal to 74.5 percent of the respondents just agreed that The Statutory Instrument 64 of 2016 regulates the importation of food products in order to protect consumers, plants and animals from contaminants, toxins, pests and diseases. However, a cumulative proportion equivalent to 30.4 percent of the respondents disagreed that the conventions of the Statutory Instrument 64 of 2016 are in harmony with international standards while a further 37.3 percent of the respondents were unsure whether or not the conventions nested under the recently enforced SI 64 are in tandem with international standards and regulations. The results above indicated that it is beyond dispute that the introduction of the SI 64 in the Zimbabwean economy was justified owing to the relentless influx of cheaper sub-standards imports into the economy which prompted the government to intervene and regulate the importation of food products in order to protect consumers, plants and animals from contaminants, toxins, pests and diseases. Above and beyond, the results presented above in Table 1 also validated that the strongly agree category of the Likert scale was found to have the highest mean score equivalent to 34.3 percent while disagree was also found to have the least mean score of approximately 5 percent.

Meanwhile, the least standard deviation equivalent to 0.01 was observed for the strongly disagree category relative to the most deviation (0.18) observed for respondents who strongly agreed. Overall, the results imply that on average most respondents the introduction of the SI64 of 2016 was necessary to regulate the flow influx of imports into the Zimbabwean economy despite the fact that they generally perceived that its conventions were not properly aligned with international standards and regulations.

**Table 2: The effects of SI 64 of 2016 on economic growth**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	20	19.6	19.6	19.6
	Yes	82	80.4	80.4	100.0
	Total	102	100.0	100.0	

In addition to the above mentioned facts about the respondents' opinion on the imposition of the SI 64 of 2016 on the Zimbabwean economy, Table 2 above shows the results obtained when the respondents were asked whether or not the adoption of the SI 64 of 2016 have brought about significant economic growth and development. Remarkably, the majority of the respondents granted that SI 64 has significantly spurred economic growth in Zimbabwe notwithstanding a small but non-negligible proportion equivalent to 19.6 percent of the respondents who contradicted the same opinion. The results substantiated that SI 64 of 2016 did more good than harm to the Zimbabwean economy and this evidence coupled with the results presented in Table 1 above, provided necessary but insufficient evidence to reject the null hypothesis that SI 64 of 2016 has not impacted significantly on economic growth in the Zimbabwean context. To this end, the results authenticated Korinek and Kim, (2010) who maintained that although, Statutory Instruments have distortionary effects on the free flow of goods and services in a given country, they are increasingly utilized to resuscitate domestic industries among other economic development initiatives.

#### **Principal components Analysis**

As shown in Table 3 below, the varimax rotation method of principal components analysis, was used to reduce the data dimensions from a complex sample into a smaller manageable number of principal factors that accounts for most of the variations (at least 50 percent of the variation) in the input dimensions.

**Table 3: Principal Components analysis**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
TM1	2.090	34.830	34.830	2.090	34.830	34.830
TM2	1.375	22.922	57.752	1.375	22.922	57.752
TM3	1.104	18.406	76.158	1.104	18.406	76.158
RO	1.311	53.704	53.704	1.311	53.704	53.704
PSI	1.185	59.487	39.487	1.185	59.487	59.487
DR	1.448	58.261	58.261	1.448	58.261	58.261
GP	1.279	52.632	42.632	1.279	52.632	52.632
ADL	1.319	65.940	65.940	1.319	65.940	65.940
IIC	1.524	50.813	50.813	1.524	50.813	50.813
EM1	1.253	31.325	31.325	1.253	31.325	31.325
EM2	1.055	26.378	57.703	1.055	26.378	57.703
EM3	1.002	25.039	82.742	1.002	25.039	82.742
SI64	1.269	52.289	52.289	1.269	52.289	52.289

The principal components are orthogonal implying that they follow a normal distribution with a zero mean and variance of one. The results presented above also indicated that three principal components for Technical Measures {TM1 (34.830%), TM2 (22.922%) and TM3 (18.406%)} were extracted based on both the Initial Eigen values and the Extraction Sums of Squared Loadings extraction mechanism. While none of the three extracted principal components accounted for more than 50 percent of the variation in the input dimensions but their cumulative contribution amounted to 76.14 percent of the variation in all the dimensions that constituted the technical measures studied. The results shown in Table 3 indicated that a single principal factor was extracted for each of the six traits on Non-technical measures {RO (53.704%), PSI (59.487%), DR (58.261%), GP (52.632%), ADL (65.940%) and IIC (50.813%)} based on both the initial Eigen values extraction method and the extraction sum of squares loadings. Moreover, three principal factors were also extracted to represent Export measures and these include: EM1, EM2 and EM3 which accounted for 31.325%, 26.378% and 25.039% of the variation in input categories respectively.

Last but not least, the results purported in Table 3 above confirmed that the principal components extraction mechanism based on both the Initial Eigen values and the Extraction Sums of Squared Loadings extracted one principal factor for all the input dimensions related to the Statutory Instrument 64 of 2016. The carefully chosen principal component for SI 64 of 2016 accounted for 52.289% of the variation in its input dimensions.

#### **Logistics (Logit) Regression Results**

To this end, the extracted principal components for each explanatory variable were used to quantify the impact of these explanatory variables on economic growth by means of the Logistics regression model (Logit) whose estimates are shown in Table 4.27 below;

**Table 4: Logistics Regression Results**

Variables	Notation		Coefficients	Exp(B)	95% C.I. for Exp(B)	
					Lower	Upper
TM1	TM1	$\beta_1$	-0.027 (0.339) [0.007]	0.973	0.501	1.890
TM2	TM2	$\beta_2$	0.213** (0.313) [9.465]	1.238	0.671	2.284
TM3	TM3	$\beta_3$	-0.394 (0.352) [1.250]	0.674	0.338	1.345
RO	RO	$\beta_4$	0.207** (0.344) [11.363]	1.230	0.626	2.417
PSI	PSI	$\beta_5$	-0.119** (0.354) [6.113]	0.888	0.444	1.776
DR	DR	$\beta_6$	0.180** (0.368) [17.241]	1.198	0.583	2.461
GP	GP	$\beta_7$	0.481** (0.503) [11.916]	1.618	0.604	4.333

ADL	ADL	$\beta_8$	-0.104** (0.355) [19.086]	0.901	0.450	1.806
IIC	IIC	$\beta_9$	-0.433*** (0.306) [20.001]	0.649	0.356	1.182
EM1	EM1	$\beta_{10}$	-0.834** (0.409) [10.169]	0.434	0.195	.967
EM2	EM2	$\beta_{11}$	0.733** (0.508) [12.081]	2.080	0.769	5.628
EM3	EM3	$\beta_{12}$	-0.237 (0.295) [3.648]	0.789	0.442	1.406
SI64	SI64	$\beta_{13}$	0.122** (0.347) [17.123]	1.130	0.572	2.229
Constant	Constant	$\beta_0$	1.667*** (0.306) [29.712]	5.298		

Note: \*, \*\*, \*\*\* indicates statistical significance at 10 percent; 5 percent and 1 percent significance level respectively. The standard error(s) are stated in parentheses' and the t-ratios are reported in brackets [].

Table 4 shows the estimated binary logit regression results. The results confirmed the intercept coefficient (1.667) included in the estimated logit models is positive and statistically significant at one percent level of significance suggesting that holding all other variables constant, the logit of economic growth is more likely.

The partial slope coefficient of the second principal component of Non-technical measures to trade ( $\beta_2=0.213$ ) in Logit model is positive and significant at 5% significance level. This implies that holding other explanatory variables constant, Technical measures are more likely to increase the Logit of economic growth by approximately 0.2 units. However, the partial slope coefficients for the first ( $\beta_1 = -0.027$ ) and the third ( $\beta_3 = -0.394$ ) principal factors of technical measures are negative and insignificant at 5% significance level. The result implies that there is insufficient evidence from a statistical point of view that an inverse relationship exists between technical measures and economic growth.

Apart from technical measures discussed above, the current research also quantifies the impact on economic growth of non-technical measures such as Rules of origin (RO), Pre-shipment inspections and other formalities (PSI), Distributional restrictions (DR), Government procurement restrictions (GP), Anti-dumping Laws (ADL) and, Intellectual property rights, import licenses and customs valuations (IIC). The results of the current research presented above in Table 4 revealed that the partial slope coefficient of the principal factor related to the Rules of origin (RO) denoted by  $\beta_4$  equivalent to 0.207 is positive and statistically significant at five percent level of significance. The result implies that a one unit increase in the Rules of origin will on average result in an increase in the estimated logit of economic growth of about 0.207 units holding all other regressors in the model constant. The partial slope coefficient for Pre-shipment inspections and other formalities (PSI) estimated by  $\beta_5$  (= - 0.119) is negative and significant at 5% significance level. The



findings indicate that holding other regressors constant, a positive transition in Pre-shipment inspections and other formalities by one unit will impact a decrease in the probability of economic growth of approximately 0.12 units all things being equal. On the other hand, the results of the current research also revealed that the partial slope coefficient of the Distributional restrictions (DR) variable ( $\beta_6 = 0.18$ ) is positive and statistically significant at five percent significance level. The result suggests that a one unit increase in Distributional restrictions in Zimbabwe will trigger an increase in the probability of economic growth by approximately 0.2 units if all the regressors in the logit regression model remains unchanged. Against the same background, the partial slope coefficients of Government procurement restrictions (GP) symbolised by  $\beta_7 (= 0.481)$  is positive and significant at 5% significance level. In general, the findings indicated that a unit increase in Government procurement restrictions will yield an upsurge in the logit of economic growth of about 0.5 units all things being equal. Moreover, the research results also found the partial slope coefficient related to Anti-dumping Laws (signified by  $\beta_8$  equivalent to -0.104) to be significant at 5% significance level. The results connote that a unit increase in Anti-dumping Laws (ADL) will decrease the probability of economic growth by approximately 0.1 units basing on ceteris paribus principle. In similar vein, the slope coefficient of the last aspect on non-technical measures studied herein the current research known as Intellectual property rights, import licenses and customs valuations ( $\beta_9 = -0.433$ ) is significant at 5% significance level. This implies that, a unit increase in Intellectual property rights, import licenses and customs valuations (IIC) will on average result in an increase in the estimated logit of economic growth by 0.433 units, ceteris paribus.

Above and beyond, the results presented in Table 4 above also show the impact of the three principal factors related to export measures on economic growth. The partial slope coefficients denoted by  $\beta_{10} (= -0.834)$  and  $\beta_{12} (= -0.237)$  for the first (EM1) and third (EM3) principal factors of export measures are not significant at 5% significance level. The findings indicated that there is no enough evidence from a statistical standpoint to support the argument that an increase in export measures will yield a decline in economic growth. Nevertheless, the partial slope coefficient of the second principal factor (EM2) of export measures connoted by  $\beta_{11}$  equivalent to 0.733 is significant at 5% significance level. The results indicated that there is sufficient statistical evidence at five percent level to support the argument that an increase of about 1% in export measures will yield a corresponding increase in the probability of economic growth of about 0.7 units if all other variables remain unchanged.

Perhaps the most spectacular result shown above in Table 4.27 is that the partial slope coefficient of the Statutory Instrument 64 of 2016 variable (SI64) epitomized by  $\beta_{12} (= 0.122)$  is significant at 5% significance level. The result implies that a 1% increase in SI 64 will increase the probability of economic growth by a magnitude of 0.122 holding all other variables in the model constant. To this end, the results validated that strong evidence is available from a statistical viewpoint to refute the belief (null hypothesis) that the adoption of the Statutory Instrument 64 of 2016 has no impact on the probability of significant economic growth in Zimbabwe in favour of the alternative hypothesis that SI 64 of 2016 has significantly contributed to economic growth in Zimbabwe. Apart from the estimated partial slope coefficients, the results presented in Table 4 above also shows the odds of the estimated logit regression model coefficients. Based on the odds (1.238) of the statistically significant estimated partial slope coefficients related to technical measures, an upgrade in technical

measures is more than 1.24 times more likely to improve economic growth particularly in the Zimbabwean context.

Against the same background, Rules of Origin are 1.23 times more likely to speed up the rate of economic growth. Moreover, enhancements in Pre-shipment inspections and other formalities are 0.9 times less likely to foster economic growth in general particularly in Zimbabwe. On the contrary, Distributional restrictions are just about 1.2 times more likely to trigger economic growth and development. In the same vein, positive reforms in Government procurement restrictions are approximately 2 times more likely to bring positive momentum in economic growth. However, developments in Anti-dumping Laws and, Intellectual property rights, import licenses and customs valuations are respectively 0.9 times and 0.7 times less likely to yield economic growth in general especially in the Zimbabwean context. The odds presented in Table 4 above also suggested that positive improvements in export measures are more than 2 times more likely to ignite economic growth and development. Notably, a positive strust in implementation of the conventions and reforms stipulated by the Statutory Instrument 64 of 2016 are approximately 1.13 times more likely to yield significant prosperity in the economy in general particularly in the Zimbabwean context. The combined results of the estimated logit model specified earlier in the current research provides necessary and sufficient evidence that the regressors in the model are consistent with their expected signs from a theoretical perspective and have significant influence on economic growth and development in Zimbabwe. Although a handful of partial slope coefficients of some of the explanatory variables used as a unit of analysis in this research were found to be statistically insignificant, the summary statistics provided in Table 5 below validated that the fitted logit model is correctly specified and provided a good fit to the data.

**Table 5: Goodness of fit test statistics**

<b>Model Summary</b>			
<b>Step</b>	<b>-2 Log likelihood</b>	<b>Cox &amp; Snell R Square</b>	<b>Nagelkerke R Square</b>
1	87.957 <sup>a</sup>	0.520	0.591
a. Estimation terminated at iteration number 5 because parameter estimates changed by less than 0.001.			

The results portrayed in Table 5 above validated that both the Cox & Snell R-square and the Nagelkerke R-square for the three estimated Logit regression model are greater than 0.5 implying an empirical substantiation that the Logit model provided a good fit to the data.

**Table 6: Hosmer and Lemeshow Test Results**

<b>Step</b>	<b>Chi-square</b>	<b>Degrees of freedom</b>	<b>P-value</b>
1	7.262***	8	0.0350

Note: \*, \*\*, \*\*\* indicates statistical significance at 10 percent, 5 percent and 1percent significance level respectively.

The findings displayed above in Table 6 relates to the Hosmer-Lemeshow test performed with eight degrees of freedom. The Hosmer-Lemeshow test statistic (7.262) computed at eight (8) degrees of freedom is significant at 5% significance level since the chi-square statistic have a p-value (0.0350) less than 0.05. The results implies that both the  $y = 1$  and

the  $y = 0$  observations of the dependent variable (economic growth) are adequately represented in the estimated Logit model therefore, the model provided a good fit to the data.

### Correlation Results

Table 7 below also shows the correlation coefficients for the variables employed in the Logit regression model estimation. Based on the results presented in Table 7 below, all the three principal components related to the technical measures variable were found to be negatively correlated with each other except for the second (EM2) and the third (EM3) which were found to be positively correlated (correlation coefficient = 0.133). Moreover, the second and statistically significant factor related to the Technical measures variable (TM2) was also found to be positively correlated with all other variables except Anti-dumping laws (ADL) and each of the three principal components related to the export measures variable.

While the results below have also validated a negative relationship between the Rules of origin variable (RO) and most of the explanatory variables employed herein, a handful of positive linear associations was also revealed between RO and variables such as Pre-shipment inspections and other formalities (PSI), Intellectual property rights, import licenses and customs valuations (IIC), EM2 and the Statutory Instrument 64 of 2016 (SI64) variable. Most of the variables exhibited a positive correlation with the SI 64 variable except for the first principal factor of technical measures (-0.476), the Distributional restrictions variable (-0.145), the Anti-dumping laws variable (0.099) and the first (-0.079) and third (-0.292) principal components for export measures. Although some positive correlations were realized based on the results presented in Table 7 below, none of the estimated correlation coefficients exceeded a threshold of 0.8. The results strongly suggested that the results were essentially uncorrelated and that the model neither suffered from the problem of multi-collinearity nor auto relation.

**Table 7: Correlations**

	Constant	TM1	TM2	TM3	RO	PSI	DR	GP	ADL	IIC	EM1	EM2	EM3	SI64	
Variables	Constant	1.000	0.041	0.104	-0.207	0.028	-0.040	0.056	0.157	-0.090	-0.195	-0.337	0.220	-0.075	-0.027
	TM1		1.000	-0.077	-0.177	-0.329	-0.232	0.269	0.038	-0.103	-0.097	-0.133	0.140	0.179	-0.476
	TM2			1.000	0.133	0.390	0.069	0.159	0.101	-0.161	0.112	-0.176	-0.014	-0.114	0.192
	TM3				1.000	0.359	0.311	0.022	0.079	0.002	0.002	-0.061	0.047	0.092	0.258
	RO					1.000	0.403	-0.304	-0.077	-0.024	0.007	0.040	-0.127	-0.115	0.389
	PSI						1.000	-0.390	0.048	-0.074	-0.226	0.067	-0.050	-0.001	0.161
	DR							1.000	0.242	-0.346	0.065	-0.319	0.310	-0.061	-0.145
	GP								1.000	-0.259	0.070	-0.573	0.787	-0.232	0.124
	ADL									1.000	-0.132	0.407	-0.467	0.143	-0.099
	IIC										1.000	0.072	-0.037	-0.155	0.089
	EM1											1.000	-0.589	0.057	-0.079
	EM2												1.000	-0.181	0.075
	EM3													1.000	-0.292
	SI64														1.000



Manyeruke (2007) who argued that police roadblocks also contribute to serious time delays for products being transported by road, which can have significant impact on the quality of agricultural products in general and in particular, perishables.

- Cross-border infrastructure such as transport, energy and telecommunications are essential to expand market access, reduce economic distance and facilitate trade, investment and labour mobility. In this regard, the results substantiated Martin and Anderson, (2011) who argued that unreliable power supplies as well as poor transport and communications infrastructure inflate the costs of doing business.
- Technical regulations are assessed in terms of their consistency with public policy objectives in Zimbabwe and found strong evidence that parastatals actively participate in Zimbabwe's trading system.
- The research also established that anti-dumping and countervailing measures are permissible under certain circumstances to protect the domestic industry from serious injury arising from dumped or subsidized imports and are consistent with Ganguli, (2008) who suggested that anti-dumping of foreign goods on the local market also provides justification for protectionism.
- Intellectual property rights, import licenses and customs valuations entails some decreed valuations of goods for the customs duty valuation, intended to avoid deceptive practices and enhance domestic industry protection.
- Anti-dumping Laws and, Intellectual property rights, import licenses and customs valuations are respectively 0.9 times and 0.7 times less likely to yield economic growth in the Zimbabwean context.
- Positive improvements in export measures are more than 2 times more likely to ignite economic growth and development and more importantly, a positive trust in implementation of the Statutory Instrument 64 of 2016 is approximately 1.13 times more likely to yield significant economic growth in general particularly in the Zimbabwean context.

## 5.0 RECOMMENDATIONS

- A fully-fledged Imports Management Monitoring and Evaluation Committee (IMMEC) comprising stakeholders from both public and private sectors should be established to address the challenges of the threat of retaliation from trading partners.
- Bureaucratic discretion on the applications and procedures of the statutory instruments should be limited by clear rules.
- In order to make trade easier and minimize the burden of regulation, while at the same time protecting the health and welfare of citizens, the current research recommends the Zimbabwean government to adopt policy measures that are in harmony with international standards.

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