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The Regional Analysis on the Relationship of Income and Economic Growth on the Savings of Filipino Households over the Business Cycles

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ABSTRACT

This study analyzes the relationship of income and economic growth toward the savings of Filipino households over the business cycles. Savings has been studied to have various determinants. Thus, the researchers of this study were urged to provide empirical evidence in this topic within the economic context of the Philippines. The study would like to establish the conventional income-savings relationship and prove the causal relationship of economic growth to savings, both of which will be observed through a business cycle to understand the behavior of saving better. The researchers used Panel Data Regression analysis to find the significant predictors among the variables. It was found that the highest income range positively affects savings, and interest rates negatively affect it. Moreover, CAR was proven to have the highest average savings among other regions in the Philippines. However, it is only averaged compared to ARMM regarding Regional GDP. With this, the study provides policymakers with a better outlook on what factors they should focus on to boost savings and consequently improve investment and further economic growth.

Keywords: *Income, Economic Growth, Savings, Business Cycles, Regional Analysis*

1. Introduction

Over the years, household income has been used by economists to be a variable in analyzing different concepts in the field. Household Income serves as the variable differentiating the different levels of income in the Philippines Economy. Household income was defined by OECD (2013) in the context of the ICW framework as a flow variable that households received at annual or frequent intervals. It was mentioned that income greatly affects the net worth of a family and helps policymakers to evaluate policies that boost the welfare of different brackets in a population. According to the life-cycle saving hypothesis, when the income is low, a young individual would borrow and would have fewer savings, and on the other side, when the current income is high, a middle-aged working individual would have the tendency to save more because

of the capacity to work and incrementing income (Ando & Modigliani, 1963). Gutter et al. (2012) have supported this theory through their study by stating that gross income is one of the significant determinants of having a savings account-- meaning that income can play a role in the overall savings and the savings behavior of households. In addition, Mensah (2018) concluded that, in developing countries, instability in income distribution alongside a lack of policies due to poor governance results in low savings for households. This demonstrates further that income would have an impact on the level of savings that can also affect economic growth.

Economic growth serves as the identifier of how well the economy is behaving over a period of time. Conventionally, it has been believed that savings precede economic growth, as supported by Harrod-Domar and Solow's growth models. This is also further supported by other neoclassical theoretical viewpoints such as King and Levine (1994), Lewis (1955), and Romer (1986). These works explain that increasing savings would lead to higher investment and, as a consequence, would trigger economic growth. However, there are also some studies that propounded economic growth has an impact on savings, as supported by the Keynesian postulation (Odionye et al., 2016). Keynesian economic theory on savings described savings as simply an income not spent, meaning that it is a leakage that depends on income (Tang & Tan, 2014). Several studies based their theoretical point of view on this, such as Sodokin (2004) and Tang & Tan (2014). As such, the various theoretical standpoint on this economic growth and savings relationship has urged researchers to explore these variables through empirical research.

In the Philippine setting, Monsura (2020) mentioned that Filipino households are attracted to save more when there is economic growth. It was specified that households take the opportunity to earn more when the economy is in good condition. In essence, pump-priming the economy through economic activities during growth will result in higher levels of income that would lead to a higher household saving rate. To support this, Asian Development Outlook (2022) forecasts that in 2022, the Philippine economy will grow by 6.0% and expand further to 6.3% in 2023. The pivotal role of micro, small, and medium-sized enterprises (MSMEs) will be supported and upgraded through government policies assisted by the Asian Development Bank (ADB) via the Skills Up Net Philippines Program. Hence, more economic opportunities would be readily made available for the Filipinos, which will encourage them to work, leading to higher levels of income that will then result in a higher savings rate.

Business Cycle, as per definition, is the recurrent ups and downs of economic activity in a nation (Burns & Mitchell, 1946). In a study by De Gorostiza et al. (2019), they observe that the Philippine Economy, which has gone through six business cycles with various durations in 14 years, displays a steeper slope that contains a shorter cycle period. It is one of the observations that can be used in order to analyze time-series data that there would be significant relationships between variables such as income, savings, trade, etc. For example, a business cycle reveals that at this period of the cycle, an expansion happened, and with the interest rates rising, savings,

investments, economic policies, and vice versa. The connection between all of the variables in a recurrent is vital because it helps us understand the movements more, getting any additional information that would be deemed helpful.

In such a context, this study aims to examine the relationship of income and economic growth on the savings of Filipino Households inside the Philippine economy. With this, the research will focus on the data set of different levels of income and the regional economic growth of the business cycles. Specifically, it would investigate the annual data with three year increments on income and regional economic growth to analyze their impact on savings over the business cycles, exploring the causal relationship between economic growth and savings. In doing so, the paper can serve as a guide for economists and policymakers to determine which factor to focus on so that savings could increase and consequently improve investment and further economic growth, as explained by Najarzadeh et al. (2014). Based on this purpose, the research question that this study aims to answer is 'Does income and economic growth affect the savings of Filipino Households over the Business Cycle?'.

The gap in the literature that income and savings do not have a definite positive relationship constantly and that economic growth impacts savings motivated the researchers to tackle this study. This study has a limitation in the data because the researchers will utilize quarterly rates for income and economic growth (GDP) from Banko Sentral ng Pilipinas to investigate the impact of these factors on savings over business cycles. On the other side, the study is delimited to the social income classifications of households in the Philippines.

2. Literature Review

2.1 Income and Savings of Households

Savings was often denoted as the part of income that is not consumed and is used for future investments and consumption (Guma, 2014). It is reputed to have a critical role not only in the welfare of an individual but also in its impact on the socio-economic aspects of a country (Karlan et al., 2014). In economics, economists use several methodologies to analyze savings on a micro and macro level. One theory that was hypothesized by James Duesenberry (1949), which is the relative income hypothesis, was based on the Keynesian saving theory. It was articulated that when a person's income increases, consumption decreases while savings increases. He based his theory on Keynes and further developed it, arguing that his idea considered both cross-sectional and time-series evidence. Another approach was developed by Modigliani (1954), which is the life cycle hypothesis related to Friedman's permanent income hypothesis (1957). The life cycle hypothesis posits that individuals plan their spending and saving habits over the course of a lifetime. Individuals borrow when they have lower income and save when they have higher income. Connected in this theory is the permanent income hypothesis that assumes individuals

will only save if their current income is higher than the estimate of their future income, which was referred to as the long-term "permanent" income.

Tran et al. (2020) stated that income is an important determinant of household welfare that affects savings. According to the Keynesian saving theory, there is a direct relationship between income and savings; When a person's income increases, savings will follow. To support this theory, Kodom (2013) has conducted worldwide research and has found a positive relationship. He stated in his OLS analysis that there is a strong positive relationship between income and savings that many researchers foregrounded. As income increases, the people in Ghana are more likely to open savings accounts or join Susu, which is a financial intermediary in Ghana. Another study supports the conventional positive relationship between income and savings through the cointegration test. Proven in Ogbokor's (2014) study in Namibia that every 1 percent increase in gross domestic income will result in a 2.7 point increase in the savings rate. The result from the test poses that income is significant in expanding savings.

Furthermore, Francisco et al. (2018) discovered that those who have higher income not only save more as part of their income but also have a higher marginal propensity to save (MPS). It was stated in their study that there are two direct implications of an increasing MPS at the household level and aggregate level. At the household level, it has been expected that richer households save more. Additionally, income mobilization from households was predicted to further the country's saving rate. Therefore, on the aggregate level, the savings rate must increase as income has been redistributed due to income mobilization.

In contrast, other studies have indicated a negative relationship between household income and savings. Precious et al. (2014) observed that there is a negative co-integration between the level of income and household savings in South Africa. This behavior was deemed to be connected to a lack of self-control in savings in such a way that there are instances that when income increases, the households tend to increase their consumption as well, leaving their savings behind. Another study by Katona (1949) also showed a negative relationship between income and savings from the 1947 and 1948 Surveys of Consumer Finances. He stated that apart from the changes in income, various factors, like the age of the families and different phases of the business cycle, may affect the level of households' savings.

Similarly, a study by Keho (2011) that examined the long-run determinants of savings in developing countries concluded that determinants of savings vary from each country. His findings indicated that demographic structure is also vital for savings. He suggested that savings may increase if the non-working population size decreases through lowering the fertility rate and lowering the age dependency ratio. Furthermore, it was revealed through his study that developing countries such as Burkina Faso, Cote d'Ivoire, and Senega, display the effect of the growth rate of income having a positive impact on savings but not on Benin, Mali, Niger, and

Togo. At the same time, in these countries, it is shown that GDP growth rate is important for a positive savings rate.

2.2 Economic Growth and Savings of Households

In the study of Ivic (2015), Economic Growth by definition, is the increase in the production of goods and services over a period of time, and it is also seen as the evaluation of the nation's economic development. In a study by Najarzadeh et al. (2014), they stated that the amount of savings highly contributes to economic growth, implying a positive relationship between savings and investment. This stipulates that there should be an improvement in savings to see an improvement in economic growth and vice versa.

These two variables have been a topic of interest for many researchers. Initially, theories were established explaining the impact of savings on economic growth. Harrod (1939) and Domar (1946) have shown through their model that economic growth is dependent on the rate of capital accumulation. And the rate of saving in an economy determines capital accumulation. This implies that economic growth will occur through savings triggering capital accumulation. Solow and Swan (1956) built a model that was inspired by the model of Harrod and Domar. Solow and Swan have stated unequivocally that saving is a factor in economic growth. Other factors include population growth and technological advancement. Saving, according to them, influences investment, and investment in an economy is related to economic growth.

Eventually, empirical evidence regarding their relationship emerged. Earlier studies, such as those from Toda and Yamamoto (1995) and Dolado and Lutkepohl (1996), have shown saving results in economic growth. However, Gavin et al. (1997) and Sinha and Sinha (1998) have shown a one-way relationship that economic growth causes savings for Mexico. The multivariate analysis in this study revealed that economic growth affects saving in Mexico using the vector error correction model (VECM) and time series data on real GDP, private savings, and public savings from 1960 to 1996. Agrawal et al. (2008) did a study in ASIA using annual time series data. His study revealed that most Asian countries accept the idea that economic growth causes saving. In India, Jangili (2011) pointed out through his study, using time-series data and multivariate causality, that saving and investment will lead to economic growth. Turan and Gjergji (2014) confirmed this claim further, using time series data, Johansen cointegration test, and ordinary least squares (OLS), that savings significantly affects economic growth, but the opposite was not reported. Furthermore, Adeleke (2014) used the ARDL technique and a

causality test to investigate the link in Nigeria between 1970 and 2013, finding that there is bidirectional causation between saving and economic growth.

On the contrary, several studies proved otherwise. A study by Adelakun (2011) reported that there is a unidirectional and long-run relationship between economic growth to saving. Hundie (2014) has further proven this type of causality, stating that there is a unidirectional causality running from economic growth to gross domestic saving and not in the opposite direction. Brueckner et al. (2021) estimated, through a panel model analysis, that GDP per capita growth significantly affects the national savings rate of the 130 countries they examined from 1960 to 2006. It has been evaluated that there is a four percentage point increase in the national saving rate for every one percentage point increase in GDP per capita growth. Moreover, Ozili (2020) hypothesized that during the economic boom, the level of household savings would also increase as economic activities escalate, and financial inclusion would be more attractive to households. The two-way causal relationship between economic growth and savings has both a direct and significant effect on one another in the long run (Najarzadeh et al., 2014).

2.3 Business Cycles

According to Cerm ˇ áková et at. (2021) the business cycle is an instrument used for observing economic phenomena. It is a cycle that displays the expansions and contractions over a period; however, it does not always alternate in a time frame. Alqaralleh H. (2019), the study of business cycles is focused on the discovery of the cycle and its recurring phases as there would be many factors that make it harder to find out. In addition, he said that in investigating a business cycle, the economic indicators should be able to provide all-inclusive information needed to fully understand and interpret the forecasted business cycle. In a study conducted by Alqaralleh, H. & Adayleh, R. (2019), they concluded that controlled factors could influence the duration of the business cycle, elements included may vary from lengthening an expansion to shortening contractions, and with this, they also observed expansion phases as a key indicator to estimating the length of business cycles. Additionally, the findings on duration dependency deem to be asymmetric in nature. However, Castro (2013) presented that when expansions last longer than 120 months (or 10 years), the amount of duration dependency can be reduced.

The basic characteristics of a business cycle are *Volatility*, *Co-Movement*, and *Persistence*. *Volatility* is the early indicator of macroeconomic relevance wherein private consumption is the least erratic, whereas investments are the most volatile which influences the market swings. *Co-Movement* is essentially the movement of the macroeconomic variables with respect to the total output that has been serviced. Lastly, *Persistence* measures the fluctuations and their patterns throughout the cycle (Leitner, 2005 & Najarzadeh et al., 2014). The business cycle can also be used for finding cross-country correlations to explain the reasons behind an economic expansion and recession, moreover in the process of intersectoral input-output links as well as

idiosyncratic microeconomic shocks leading to GDP fluctuations (Krichene et. al, 2017). In the study of Amaral et. al (2021), they used international trade as the variable to show the interconnectedness of the economies using the Bouali model, which synchronizes their data. The assumption placed is that when there is an economic activity fromf one nation, it should also affect the trading partner (Azcona, 2022). In another study, business cycles is used to display the relationship of states, specifically the European Union which has been studied by Beck (2021), showcasing the instance of Business Cycle Divergence in a GDP time series. In support Magrini et. al (2013), his findings on the US state cycles are that the degree of synchronization and measure of sectoral specialization has a probable circular relationship. Considering that there is the variability of macroeconomic & microeconomic events, the research of the business cycle differs per subjective ideal, and you will be able to make various cycles with various elements that would fit the intention of the study. The researchers will use the business cycle as a time variable to show the relationship to household savings. Household savings being one of the greatest components of aggregate demand, consumption behavior and investment during the business cycle, can either exacerbate or reduce production changes (Adema & Pozi, 2015). In study of Challe and Ragot (2016), their observation towards households found that they respond to countercyclical shifts in unemployment risk by increasing precautionary wealth and, as a result, reducing spending more than they would otherwise.

Business cycles also occur because of interest rates and this was proven through the study of Bidabad & Hassan (2019). Their results showed that short-term interest rates are one of the main causes of fluctuations in the United States. They proved that an oscillation is occurring that originates from interest rates to the real sector. A Sims causality test by Arinze (2021) has shown that the current values of interest rates can predict the fluctuation of business activities in the future. In Germany, a study proved that interest spreads are useful in forecasting inflation cycles and economic turndown (Ivanova et. al, 2000)

2.4 Theoretical Framework

In this study, income and economic growth are the explanatory variables in which savings is the dependent variable. The researchers will then use Duesenberry's relative income hypothesis, Modigliani's life cycle hypothesis, and Friedman's permanent income hypothesis to relate income and savings. The aforementioned theories state that there is a direct relationship in analyzing savings and income.

On the other hand, the researchers would like to utilize Keynes' (1936) and Solow's (1956) econometric model in relating economic growth and savings. In Keynes' model, Savings is the function of economic growth which can be represented below:

$S = \alpha_0 + \alpha_1 Y + U_1$

Where:

S= Savings

α_0 = free term in the equation

α_1 = savings to economic growth sensitivity coefficient

Y= Economic Growth

U_1 = random component

In reverse, Solow's growth model states that economic growth is a function of savings which can be represented by the formula:

$$Y = \beta_0 + \beta_1 S + U_2$$

Where:

Y= Economic Growth

β_0 = free term in the equation

β_1 = savings to economic growth sensitivity coefficient

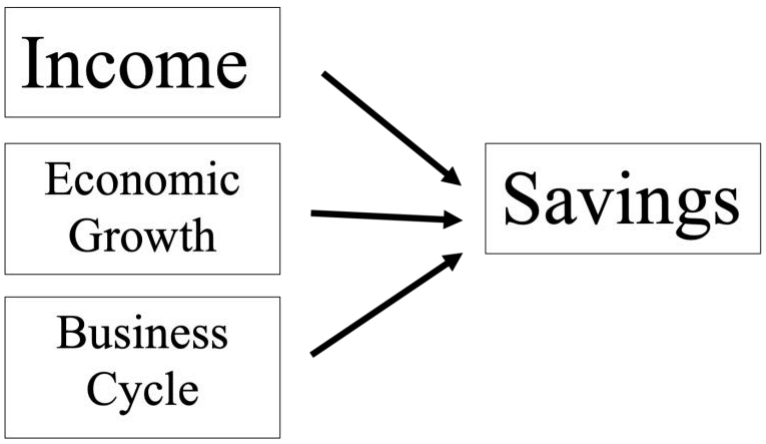
S= Savings

U_2 = random component

2.5 Statement of Hypothesis

H1: Income has a positive impact on the Savings of Filipino Households over the Business Cycle.
H2: Economic Growth has a positive impact on the Savings of Filipino Households over the Business Cycle.

2.6 Research Simulacrum



2.7 Synthesis

Each country has its own context, and it was found that the determinants of savings vary depending on the country, such as their income and economic growth. Hence, on a methodological level of this study, the researchers must utilize a country-specific approach. Theoretically and empirically, it was proven that income has a significant impact on the ability of an individual or household to save. And studies reviewed showed that it is more evident in developing countries to exhibit the impact of higher savings leading to higher economic growth. Nevertheless, it was proven that economic growth could impact savings, and the direction of causality can run from economic growth to savings. It was also discovered that there could be a mutual relationship between economic growth and savings.

The results of the studies are generally mixed depending on the measurements, variables included, and the environment where the study was conducted. It is important to note that the context of a country being a developed country or developing country is important because growth rates are various depending on other factors such as technology advancement, industrialization, and standard of living. Therefore, the researchers should expect an exclusive result in the case of the Philippines. In determining the direction of causality and the type of relationship that variables have, the existing body of literature has mostly used time-series data. There were also studies that adopted panel data. However, for this study, time-series data will be operated on the variables. Furthermore, recent literature has approached this topic empirically. And so, the researchers would conduct a quantitative study to look for patterns and causal relationships among the variables. Insofar as the researchers have reviewed the existing literature, empirical evidence on this subject in the Philippines is scarce. And, so the researchers are urged to fill that gap.

Based on the accustomed relationships of the variables aforementioned above, income and economic growth has a positive relationship towards savings. Several studies have shown that there really is an impact on how households save based on their income and the economic standing of a country. Therefore, with the current state of knowledge on this subject or the lack thereof, the research aims of this study would be consistent in filling the gaps in the literature. The researchers would also like to know the two-way relationship between economic growth and savings in which the literature supports that there are instances that the two variables can interchangeably be the explanatory variable or the dependent variable still having a direct relationship.

3. Research Method

The objective of this research is to analyze the impact of income and economic growth on the savings of Filipino households over a business cycle. The main focus of this study is the savings

of the Filipino household in which the researchers would acquire the needed data from (i) the Family Income and Expenditure Survey (FIES) conducted by the Philippines Statistics Authority (PSA), as a measurement for income and savings, (ii) the annual regional GDP growth conducted by the Philippine Statistics Authority (PSA) as well, as a measurement for economic growth, and (iii) the business cycle periods based on the Monetary Interest rates from the World Bank. The researchers opted to study the Filipino Households on a regional basis to utilize the available FIES data conducted every three years and the regional GDP growth per region conducted annually.

Derived from the study of Korkmaz (2019), one of the most basic strategies in statistical data analysis is linear regression. For a dependent variable Y as a function of one or more predictor (or independent) variables X. The researchers will process the data through a Panel Data Regression model. It is a cross sectional and time series data processing which takes data of the variables at different points of time (Zulfikar, 2018).

$$SAV = \beta_0 + \beta_1 EG + \beta_2 BC + \sum_{i=1}^{5} \beta_{3i} INC + \sum_{j=0}^{5} \beta_{4j} Year + \sum_{k=0}^{15} \beta_{5k} Region + e$$

SAV = Savings
EG = Economic Growth
BC = Business Cycle
INC = Income
e = error term

The independent variables being Economic Growth (the indicator of the state of the economy per region), Business Cycles (the interest rate), Income (showcasing Low-income, Middle-income, and High-income households that display the percentage of income allocated to savings), Year (time variable with data from years 2003, 2006, 2009, 2012, 2015, and 2018), Region (regions in the Philippines) while the dependent variable Savings of Filipino Households (percentage of households with savings).

4. Results and Discussion

4.1 Results

The researchers used Panel Data regression to determine the relationship between income and economic growth toward savings over the business cycle. It is a type of regression analysis that analyzes both cross-sectional and time-series datasets. It is a tool that economists use to measure certain variables through time. In this case, it's used to identify the relationship between the

aforementioned variables that will be represented by different family income levels, regional GDP, savings, and interest rates (102 observations in total).

Table 4.1.1 Initial Regression Model to Savings

Predictors	Unstandardized Coefficients B	Standardized Coefficients Beta	t	p-value	Collinearity Statistics Tolerance	VIF
Intercepts	-27.739		-1.043	0.300		
UNDER 40,000	-0.079	-0.023	-0.506	0.615	0.709	1.411
40,000 - 59,999	0.079	0.014	0.131	0.896	0.116	8.617
60,000 - 99,999	-0.130	-0.056	-0.419	0.676	0.080	12.445
100,000 - 249,999	-0.003	-0.044	-0.356	0.723	0.093	10.749
250,000 AND OVER	0.091	0.302	3.045	0.003	0.144	6.932
RGDP (in percentage)	0.287	0.050	0.904	0.369	0.466	2.146
Year=2006.0	2.914	0.048	0.917	0.362	0.522	1.916
Year=2009.0	5.744	0.094	1.750	0.084	0.489	2.046
Year=2012.0	12.935	0.212	1.974	0.052	0.123	8.152
Year=2015.0	26.854	0.440	6.943	0.000	0.352	2.841
Year=2018.0	64.269	1.054	12.157	0.000	0.188	5.307
Region=CAR	37.216	0.385	6.275	0.000	0.376	2.663
Region=MIMAROPA	14.887	0.154	2.601	0.011	0.403	2.480
Region=NCR	31.196	0.323	4.705	0.000	0.300	3.328
Region=REGION I	18.612	0.193	3.436	0.001	0.450	2.221
Region=REGION II	25.606	0.265	4.636	0.000	0.433	2.309
Region=REGION III	19.288	0.200	3.624	0.001	0.466	2.144
Region=REGION IV-A	15.498	0.160	2.817	0.006	0.436	2.291
Region=REGION IX	9.492	0.098	1.653	0.102	0.401	2.494
Region=REGION V	-3.615	-0.037	-0.648	0.519	0.424	2.359
Region=REGION VI	7.223	0.075	1.288	0.202	0.420	2.381
Region=REGION VII	17.523	0.181	3.021	0.003	0.393	2.547
Region=REGION VIII	3.278	0.034	0.530	0.598	0.346	2.894
Region=REGION X	13.036	0.135	2.221	0.029	0.383	2.608
Region=REGION XI	13.153	0.136	2.351	0.021	0.422	2.369
Region=REGION XII	0.911	0.009	0.156	0.876	0.387	2.582
Region=REGION XIII	4.897	0.051	0.901	0.370	0.447	2.235

***F = 23.423, p <0.001, R-square = 0.895

Table 4.1.1 shows parameter estimates of the initial model. In this model, we arrived at an F-test value of 23.423 ($p<0.001$) and an R-Square value of 0.895, which indicates a good fit. The regression equation on this model can be represented by:

Savings = -27.739+ -0.079 (Under 40,000) + 0.079 (40,000-59,999) + -0.130 (60,000-99,999) + -0.003 (100,000-249,999) + 0.091 (250,000 and over) + 0.287 (RGDP) + 2.914 (Year 2006) +

5.744 (Year 2009) + 12.935 (Year 2012) + 26.854 (Year 2015) + 64.269 (Year 2018) + 37.216 (Region=CAR) + 14.887 (Region=MIMAROPA) + 31.196 (Region=NCR) + 18.612 (Region=REGION I) + 25.606 (Region=REGION II) + 19.288 (Region=REGION III) + 15.498 (Region=REGION IV-A) + 9.492 (Region=REGION IX) + -3.615 (Region=REGION V) + 7.223 (Region=REGION VI) + 17.523 (Region=REGION VII) + 3.278 (Region=REGION VIII) + 13.036 (Region=REGION X) + 13.153 (Region=REGION XI) + 0.911 (Region=REGION XII) + 4.897 (Region=REGION XIII)+ error

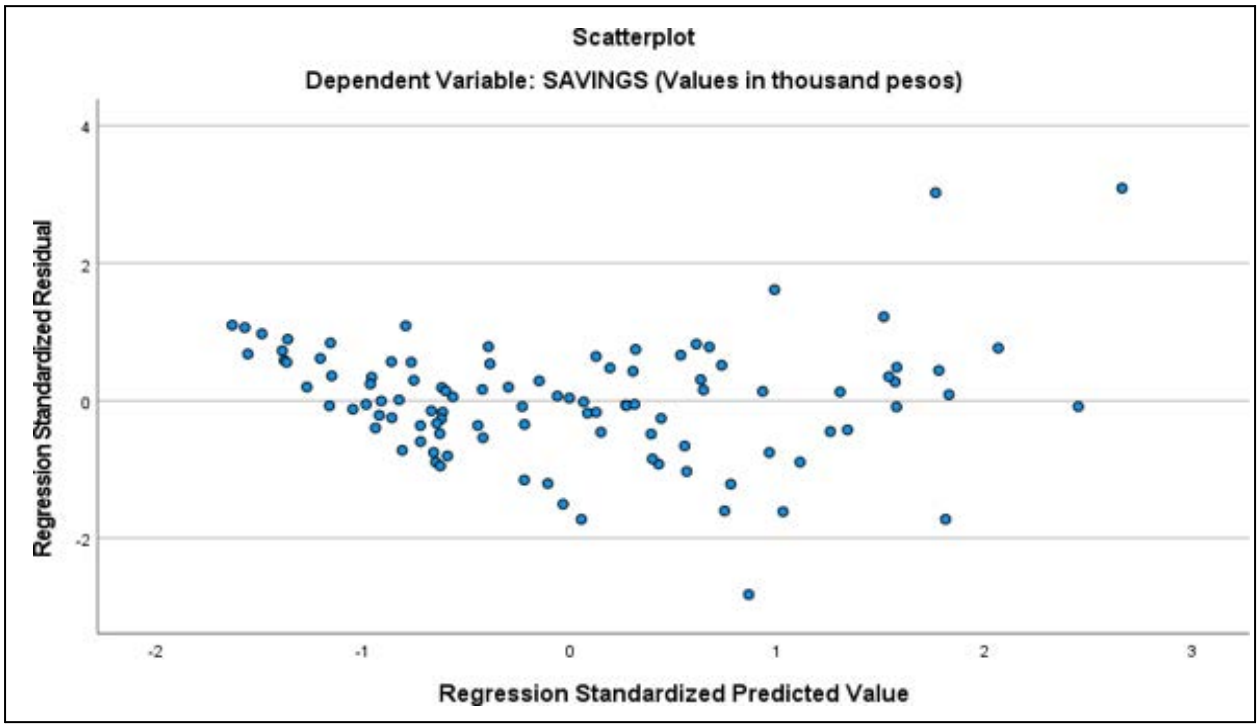
Performing tests for assumptions of regression, the model has several problems. It is seen that there exists a multicollinearity problem in the model, as indicated by a Variance Inflation Factor (VIF) of two variables to be greater than 10. (from the variables 60,000-99,999 and 100,000-249,999). As a general rule, VIFs exceeding the value of 4 require further investigation, and VIFs exceeding the value of 10 indicate serious multicollinearity problems that must be corrected. Other concerns are the insignificant intercepts and predictors. In the column for p-value, it can be seen that seven variables have an alpha greater than 0.05, showing that there is weak evidence to show that these variables are significant predictors.

Table 4.1.2 Test for Normality Initial Regression Model to Savings

	Shapiro-Wilk Statistic	df	p-value
Unstandardized Residual Model1	0.950	102	0.001
a. Lilliefors Significance Correction			

Testing the regression assumption of normality of residuals, the paper employs the Shapiro-Wilk test of normality. As a rule of thumb, a variable is normally distributed if the p-value is less than 0.05, which is the alpha ($p < 0.05$). The p-value of the test shows a value lower than the alpha of 0.05, thus rejecting the null hypothesis and concluding that the data is non-normal. This indicates that the initial model has a non-normal residual.

Figure 4.1.1 Initial Scatterplot for Savings



To test the homoscedasticity of the residuals, the researchers created the residual plot of the model. Figure 4.1.1 shows a funnel-shaped depiction of the dataset, which only leads to the conclusion that there is unequal variance. Moreover, it depicts heteroskedasticity, an error that needs to be addressed for the dataset to be homoscedastic.

Table 4.1.3 2nd Regression Model to LN_Savings

Predictors	Unstandardized Coefficients B	Standardized Coefficients Beta	t	p-value	Collinearity Statistics Tolerance	VIF
Intercepts	0.837		1.691	0.095		
UNDER 40,000	0.002	0.019	0.562	0.576	0.709	1.411
40,000 - 59,999	-0.003	-0.025	-0.295	0.769	0.116	8.617
60,000 - 99,999	0.005	0.091	0.899	0.371	0.080	12.445
100,000 - 249,999	0.000	0.098	1.041	0.301	0.093	10.749
250,000 AND OVER	0.003	0.441	5.835	0.000	0.144	6.932
RGDP (in percentage)	0.004	0.032	0.756	0.452	0.466	2.146
Year=2006.0	0.082	0.055	1.381	0.171	0.522	1.916
Year=2009.0	0.183	0.123	3.000	0.004	0.489	2.046
Year=2012.0	0.246	0.165	2.014	0.048	0.123	8.152
Year=2015.0	0.699	0.470	9.705	0.000	0.352	2.841
Year=2018.0	1.594	1.071	16.201	0.000	0.188	5.307
Region=CAR	0.784	0.333	7.105	0.000	0.376	2.663
Region=MIMAROPA	0.333	0.141	3.129	0.003	0.403	2.480

Region=NCR	0.712	0.302	5.768	0.000	0.300	3.328
Region=REGION I	0.498	0.211	4.938	0.000	0.450	2.221
Region=REGION II	0.633	0.269	6.159	0.000	0.433	2.309
Region=REGION III	0.572	0.243	5.773	0.000	0.466	2.144
Region=REGION IV-A	0.497	0.211	4.850	0.000	0.436	2.291
Region=REGION IX	0.301	0.128	2.820	0.006	0.401	2.494
Region=REGION V	-0.133	-0.056	-1.278	0.205	0.424	2.359
Region=REGION VI	0.143	0.061	1.373	0.174	0.420	2.381
Region=REGION VII	0.419	0.178	3.877	0.000	0.393	2.547
Region=REGION VIII	0.152	0.065	1.325	0.189	0.346	2.894
Region=REGION X	0.335	0.142	3.067	0.003	0.383	2.608
Region=REGION XI	0.349	0.148	3.349	0.001	0.422	2.369
Region=REGION XII	0.056	0.024	0.515	0.608	0.387	2.582
Region=REGION XIII	0.131	0.056	1.296	0.199	0.447	2.235

*** F = 42.194, p <0.001, R-square = 0.939, Adjusted R - Square = 0.917

To address the problem of homoscedasticity, a natural logarithmic transformation was performed to savings. In this second model, the researchers used natural logarithmic transformation to savings (LN_Savings) as the dependent variable replacing Savings. The parametric test of the model shows an F value of 42.194, p<0.001, an R-Square of 0.939, and an Adjusted R-Square of 0.917, indicating still a good fit for the model. It means that 93.9% of the variance in savings can be predicted from the levels of family income, Regional GDP, and interest rates. Testing the assumptions, the model still has multicollinearity problems, insignificant intercepts, and insignificant predictors with VIFs greater than 10 and p-values higher than alpha of 0.05.

Table 4.1.4 Test for Normality from 2nd Model to LN_Savings

	Shapiro-Wilk Statistic	df	p-value
Unstandardized Residual Model 2	0.985	102	0.317

a. Lilliefors Significance Correction

Transforming the dependent variable Saving to its natural logarithmic form addresses residual normality with the Shapiro-Wilk's test showing a p-value higher than 0.05. The transformation of the dependent variable also addresses the homoscedasticity problem of the model. The residual plot below shows that there is no funnel shape formed by the residuals, and the errors are contained in a parallel line near 0.

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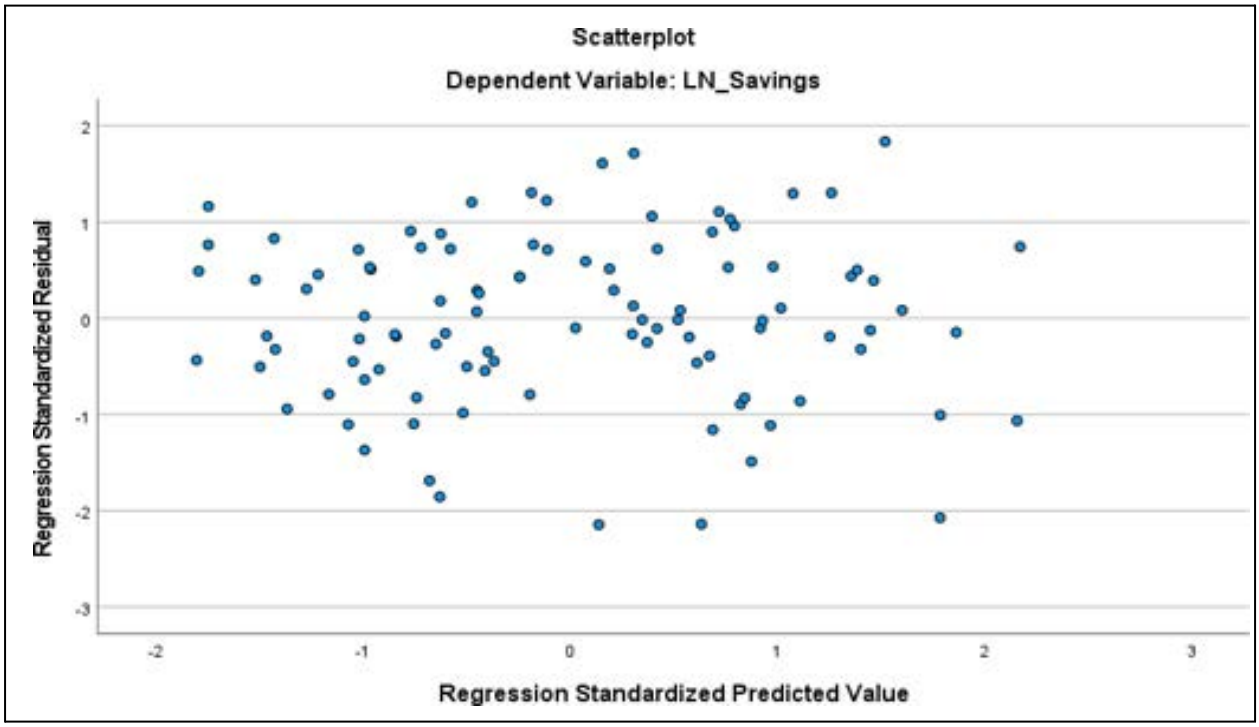
Figure 4.1.2 2nd Scatterplot for LN_Savings



The problem in homoscedasticity has now been addressed. The transformation of savings to its natural logarithmic form results in scattered residual plots offsetting the funnel-shaped figure on the initial model. It can be seen in Figure 4.1.2 that the plots have now been spread out and random. It now assumes equal variances among the variables being tested, showing homogeneity in the variances.

Table 4.1.5 3rd Model to LN_Savings

Predictors	Unstandardized Coefficients B	Standardized Coefficients Beta	t	p-value	Collinearity Statistics Tolerance	VIF
Intercepts	0.953		1.993	0.050		
UNDER 40,000	0.002	0.020	0.573	0.568	0.709	1.411
40,000 - 59,999	0.003	0.019	0.277	0.783	0.174	5.733
100,000 - 249,999	3.449E-05	0.019	0.571	0.570	0.772	1.296
250,000 AND OVER	0.003	0.443	5.868	0.000	0.144	6.928
RGDP (in percentage)	0.005	0.032	0.766	0.446	0.466	2.146
Year=2006.0	0.083	0.056	1.399	0.166	0.522	1.915
Year=2009.0	0.190	0.127	3.130	0.002	0.496	2.018
Year=2012.0	0.271	0.182	2.292	0.025	0.130	7.704
Year=2015.0	0.714	0.480	10.201	0.000	0.372	2.690
Year=2018.0	1.607	1.080	16.500	0.000	0.192	5.208
Region=CAR	0.802	0.340	7.383	0.000	0.387	2.582
Region=MIMAROPA	0.340	0.144	3.199	0.002	0.405	2.470

Region=NCR	0.748	0.317	6.418	0.000	0.336	2.975
Region=REGION I	0.518	0.220	5.266	0.000	0.473	2.116
Region=REGION II	0.645	0.274	6.341	0.000	0.441	2.269
Region=REGION III	0.592	0.251	6.126	0.000	0.490	2.042
Region=REGION IV-A	0.490	0.208	4.806	0.000	0.438	2.281
Region=REGION IX	0.308	0.131	2.893	0.005	0.403	2.483
Region=REGION V	-0.122	-0.052	-1.180	0.242	0.430	2.326
Region=REGION VI	0.152	0.065	1.466	0.147	0.424	2.360
Region=REGION VII	0.429	0.182	4.005	0.000	0.397	2.516
Region=REGION VIII	0.159	0.068	1.389	0.169	0.347	2.881
Region=REGION X	0.347	0.147	3.204	0.002	0.389	2.570
Region=REGION XI	0.363	0.154	3.538	0.001	0.433	2.311
Region=REGION XII	0.061	0.026	0.559	0.578	0.388	2.576
Region=REGION XIII	0.141	0.060	1.404	0.164	0.453	2.208

*** F =43.898, p <0.001, R - Square = 0.938, Adjusted R - Square = 0.917

To address the multicollinearity problem, we removed the variable income of 60,000-99,999 with a VIF of 12.445, as seen in the 2nd Model to LN_Savings. Removing the variable, adjusted the values for VIF, and the table has no more values greater than 10. However, there is still a remaining presence of insignificant predictors, specifically on the p-values higher than the alpha (0.05).

Table 4.1.6 Test for Normality from 3rd Model to LN_Savings

	Shapiro-Wilk Statistic	df	p-value
Unstandardized Residual Model 3	0.987	102	0.416
a. Lilliefors Significance Correction			

With the income variable (60,000-99,999) removed, the adjusted p-value for the Shapiro-Wilk test is 0.416, which is still higher than 0.05, making the test of normality significant.

Table 4.1.7 Final Model to LN_Savings

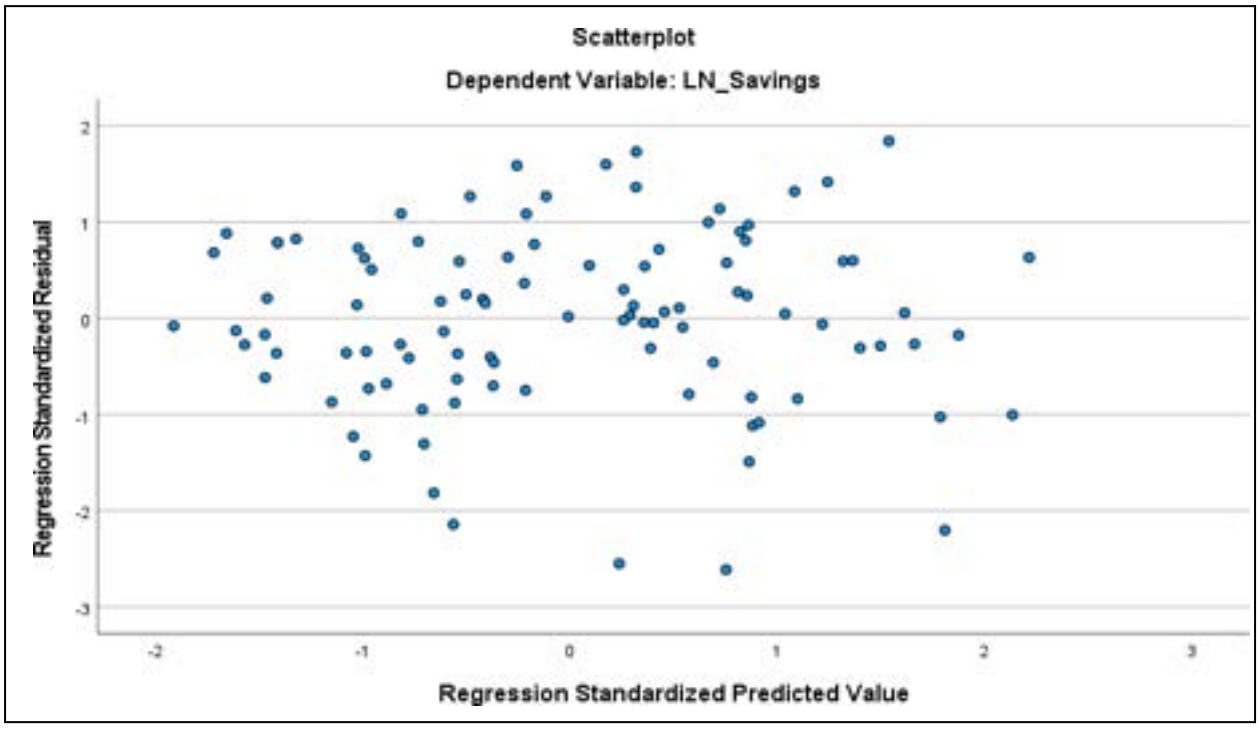
	Unstandardized Coefficients	Standardized Coefficients	t	p-value	Collinearity Statistics	
Predictor	B	Beta			Tolerance	VIF
Intercepts	3.734		28.898	0.000		
250,000 AND OVER	0.004	0.493	8.682	0.000	0.241	4.157
BUSINESS CYCLE	-0.426	-0.998	-22.554	0.000	0.320	3.126
Year=2006.0	-0.659	-0.443	-14.215	0.000	0.799	1.252
Year=2012.0	-0.812	-0.546	-9.727	0.000	0.247	4.054
Year=2015.0	0.759	0.510	15.395	0.000	0.707	1.414

Region=CAR	0.701	0.297	9.995	0.000	0.878	1.140
Region=MIMAROPA	0.220	0.093	3.154	0.002	0.884	1.131
Region=NCR	0.625	0.265	8.499	0.000	0.797	1.254
Region=REGION I	0.420	0.178	6.004	0.000	0.879	1.137
Region=REGION II	0.542	0.230	7.757	0.000	0.882	1.134
Region=REGION III	0.500	0.212	7.085	0.000	0.866	1.154
Region=REGION IV-A	0.385	0.163	5.514	0.000	0.885	1.129
Region=REGION IX	0.192	0.082	2.731	0.008	0.871	1.148
Region=REGION V	-0.225	-0.095	-3.222	0.002	0.885	1.130
Region=REGION VII	0.347	0.147	4.971	0.000	0.885	1.130
Region=REGION X	0.239	0.101	3.372	0.001	0.858	1.166
Region=REGION XI	0.264	0.112	3.786	0.000	0.885	1.129
*** F =70.827, p <0.001, R - Square = 0.935, Adjusted R - Square = 0.922						

The insignificant predictors must be removed one at a time starting from that with the highest p-value so the issue with insignificant predictors can be addressed. This was done through the backward method of regression in SPSS. The resulting model with all significant predictors is now represented by the linear equation:

LN_Savings= 3.734 + 0.004 (250,000 and over) + -0.0426 (Business Cycle) + -0.659 (Year 2006) + -0.812 (Year 2012) + 0.759 (Year 2015) + 0.701 (Region=CAR) + 0.220 (Region=MIMAROPA) + 0.625 (Region=NCR) + 0.420 (Region=REGION I) + + 0.542 (Region=REGION II) + 0.500 (Region=REGION III) + 0.385 (Region=REGION IV-A) + 0.192 (Region=REGION IX) + -0.225 (Region=REGION V) + 0.347 (Region=REGION VII) + 0.239 (Region=REGION X) + 0.264 (Region=REGION XI) + error

Figure 4.1.3 Final Scatterplot to LN_Savings



A residual plot of the model was constructed in order to test the homoscedasticity of the model. Based on the scatter plot above, there is no sign of a funnel shape trend in the residuals, and they tend to be contained in two imaginary parallel lines near zero on the y-axis. Furthermore, the Breusch-Pagan test of homoscedasticity (Table 4.1.8) was also conducted using the square of the studentized residual. The ANOVA table of the test shows an insignificant value (p=0.688), thus not rejecting the null hypothesis that the errors are homoscedastic.

Table 4.1.8 Breusrch-Pagan Test for Final Model to LN_Savings

Breusrch-Pagan Test Using square of studentized residual

	Sum of Squares	df	Mean Square	F	p-value
Regression	31.023	17	1.825	0.801	.688
Residual	191.454	84	2.279		
Total	222.476	101			

Table 4.1.9 Test for Normality from the Final Model to LN_Savings

	Shapiro-Wilk Statistic	df	p-value
Unstandardized Residual	0.979	102	0.105
a. Lilliefors Significance Correction			

To test the normality of the residuals, the Shapiro-Wilk test was used once more and shows an insignificant result (p = 0.105), confirming the normality of the errors.

Table 4.1.10 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Cook's Distance	102	0.00000	0.09877	0.0114980	0.0178773
Valid N (listwise)	102				

To identify outliers on the predictor values, the researchers utilize the Cook's distance to know if any of the predictors could have a great influence on data points. As a general guideline, values higher than .5 are considered to be influential observations. Based on the result, the maximum value on the Cook's Distance is 0.09877, which is far less than the value of .5. Thus, the sample does not have problematic influential cases that will raise a concern about influential outliers.

In summary, the Panel Data Regression & adjustments performed resulted in a model that contains the following variables: *Family Income of 250,000 and above, the Business Cycle, the years 2006, 2012, 2015, and the regions CAR, MIMAROPA, NCR, Region I, Region II, Region III, Region IV-A, Region IX, Region V, Region VII, Region X, and Region XI.*

4.2 Discussion

In the income variable, those households who have an income of 250,000 and over save more as their income increases. And this is evident from the income level of *250,000 and over*. For every percentage increase of income within the income range of *250,000 and over*, there is a 0.004 percent increase in LN_Savings. The study in Namibia by Ogbokor (2014) supports the results that income is essential in expanding savings. Moreover, as cited in the literature review, those who have higher incomes not only save more but also have a higher Marginal Propensity to Save (MPS), according to Francisco et al. (2018). This study has confirmed the validity of the cited literature. The study has also validated Duesenberry's relative income hypothesis in its approach of utilizing cross-sectional and time-series datasets and in the relationship between income and savings. It is conventional that when there is an increase in income, savings will follow, and in this income range, the common income-savings relationship has been proven to be true.

However, it is also important to note the insignificance of particular variables towards LN_Savings: *UNDER 40,000, 40,000 - 59,999, 60,000 - 99,999, 100,000 - 249,999, and RGDP (in percentage)*. In the case of income, it is not certain that these variables uphold or do not uphold the many studies in the literature review stating that there is a positive relationship between income and savings because these variables are statistically insignificant and cannot be a predictor of savings. This may be associated with the instability of income distribution among Filipinos and the lack of policies to make savings attractive, as also supported by Mensah (2018). On the other side, economic growth was not a predictor of savings in the Philippines. This contradicts the case studies in the literature review that affirms that there is a clear relationship between economic growth and savings.

Whenever there is an increase in *interest rate*, there is a 0.426 decrease in LN_Savings. This means that as the interest rate increases, the propensity to save decreases; as the interest rate decreases, the propensity to save also increases. The model has shown that the Business Cycle would be an important performance indicator and predictor of the savings rate along with income. The study of Arinze (2021) described that the current values of interest rates can predict the fluctuation of business activities in the future. And so, the Business Cycle in the model indicates that there is an impact from the expanding and contracting economy to the savings of households.

According to Banko Sentral ng Pilipinas, the level of interest rates in the country are not regulated by them but it is determined by the money market. A factor that determines the interest rates in the Philippines is the inflation rate. In the business cycle, the inflation rate signals that the country is in the expansion phase. From this economic fundamental basis, it can be said that those income from 250,000 and over in the Philippines would experience a decrease in saving during the expansion phase. Therefore, the study validates that during this part of the cycle, the increase in economic activity has a decreasing effect on savings.

For the years mentioned, the base year will be the *year 2003*; therefore, in the *year 2006*, compared to the year 2003, LN_Savings is lower at -0.659. In the *year 2012* compared to the year 2003, LN_Savings was lower by -0.812; And in the *year 2015* compared to the year 2003, LN_Savings is higher at 0.759. For the missing years, 2009 and 2018 compared to 2003 LN_Savings are of the same value. From this result, it is safe to conclude that more than the income level and business cycle, the economic and political context of a year in the Philippines is important as a predictor of Savings. In predicting savings, important life events must be considered such as the US-Iraq conflict in 2003, the weak global activity that posed risks for the country in 2006, and the drastic fall in oil prices in the global market that challenged the country's economy in 2015. Such cases should be considered as they impact the ability to earn and save.

For the Regions, ARMM being the base region, we have CAR and NCR with the highest LN_Savings, while Region IX and Region V with the lowest LN_Savings. In the region CAR compared to ARMM, LN_Savings is higher by 0.701. In the region NCR compared to ARMM, LN_Savings is higher at 0.625. In Region IX, compared to ARMM, LN_Savings is higher at 0.192. In Region V, compared to ARMM, LN_Savings is lower at -0.225. To further validate this result, below is the *Average Household Savings from Different Regions.*

Table 4.2.1 Average Household Savings of Regions

Regions	Average of SAVINGS (Values in thousand pesos)
ARMM	20.67
CAR	62.83
MIMAROPA	40.17
NCR	61.50
REGION I	43.00
REGION II	52.17

REGION III	42.33
REGION IV-A	41.67
REGION IX	37.17
REGION V	22.17
REGION VI	32.67
REGION VII	44.33
REGION VIII	32.67
REGION X	42.00
REGION XI	39.33
REGION XII	29.50
REGION XIII	30.83
Grand Total	**39.71**

Though CAR is highest when it comes to savings, it is only average compared to ARMM when it comes to Regional GDP. The researchers can only assume that societal behavior has something to do with the saving behaviors of the region. In the regional analysis of income and economic growth towards savings, it has been found out that CAR, MIMAROPA, NCR, Region I, Region II, Region III, Region IV-A, Region VII, Region IX, Region X, and Region XI have a higher savings than that of the base region which is ARMM. However, it is also important to note that Region V has a lower savings with 0.225 percent lower than that of the ARMM. This only means that when a person belongs to the aforementioned regions, they will have a higher savings than those who are in the ARMM excluding Region V, since it will be lower than the base region. Additionally, it is noteworthy to mention that when a person's income falls under 250,000 and over and it belongs to the regions mentioned, it would have either a higher, in the case of CAR, MIMAROPA, NCR, Region I, Region II, Region III, Region IV-A, Region VII, Region IX, Region X, and Region XI, or lower, in the case of Region V, savings than ARMM. Additionally, the researchers do not say that the insignificant regions: regions VI, VII, XII, XIII and the Regional GDP does not have any impact on the savings. They only do not have proof to say whether the insignificant predictors negatively or positively affect savings through the p-value. It can still be seen in the appendices of the paper that these insignificant regions have a positive effect on savings; however, their p-value does not meet the criteria thus the need to be removed to achieve a good fit model.

The variable with the highest effect on LN Savings is the Business Cycle at an absolute value of -0.998, followed by the year 2012 with an absolute value of -0.546, and the third highest level of significance is the year 2015 with an absolute value of 0.510. With the Business Cycle having the highest effect, it only means that Savings is elastic to the Business Cycle (Interest Rate). This can be supported by the study of Elmendorf (1996), he says that "interest elasticity of savings is defined as the percent change in saving that results from a one-percent change in the interest rate". He also mentions the lifecycle model, which is defined as future income being the determinant of people's propensity to save and consume; correlating this to the interest rate and savings, it only makes sense that a family income of *250,000 and over* be a significant predictor as the higher the income it only means the higher tendency to save, and with that large sum of income there is a high chance that families would save in coordination to the interest back to

them if they save the money on banks or investments. Additionally, according to Badura (2020), savings are seen to have a negative impact on the income effect because high-interest rates are equal to higher income resulting in higher consumption, with the substitution effect saying that a higher interest rate may be attractive to save. Still, it also lessens the need to save since, behaviorally, the more money you have, the more you will most likely spend.

5. Summary and Conclusion

5.1 Summary

Throughout the chapters of the paper, the researchers focused on identifying the relationship of different levels of income and the regional GDP towards savings over the business cycles. With this aim, the researchers intended to answer the question: 'Does income and economic growth affect the savings of Filipino Households over the Business Cycle?'. Using secondary data from Family Income and Expenditure Survey (FIES), Philippine Statistics Authority (PSA), and World Bank, they opted to use panel data regression to analyze the association of their independent variables (income, regional GDP, and business cycle) to their dependent variable (savings). It has been found that there are insignificant predictors that have been addressed to have a good model. Those insignificant variables are *Family Income of UNDER 40,000, 40,000 - 59,999, 60,000 - 99,999, 100,000 - 249,999, the years 2003, 2009, the regions VI, VII, XII, XIII and RGDP (Economic Growth).*

After a series of tests from their regression analysis, it was discovered that Family Income of 250,000 and above, the Business Cycle, the years 2006, 2012, 2015, and the regions CAR, MIMAROPA, NCR, Region I, Region II, Region III, Region IV-A, Region IX, Region V, Region VII, Region X, and Region XI are the significant predictors of Savings. It can also be concluded that the relationship between business cycles to savings is elastic. It means that savings is sensitive to every percentage change in interest rates. In this study, it has been found that when interest rate increases, there will be a decrease in savings. This may be associated with societal behaviors of the different Regions, as we all know, there are different stereotypes for different communities of people, for example, the Ilocos Region or Ilocano people as most known for being frugal, thus making sense for Cordillera Administrative Region (CAR) to have high savings.

5.2 Conclusion and Policy Implication

The researchers hypothesized that income and economic growth have a positive impact on the savings of Filipino Households over the Business Cycle. The results showed that income would positively impact savings. However, economic growth has shown insignificance to the model. Furthermore, through the model, the year and business cycle display an impact on savings. The statistical insignificance of economic growth to savings in the context of the Philippines should

encourage future studies to explore its impact on savings because it cannot be determined through the study's data how it precisely impacts savings.

Moving forward, policymakers could be guided in reassessing different policies on wages and regional productions. In the aspect of wages and salaries, the researchers suggest that policymakers intentionally twist the bargaining power of those Filipinos who are low to middle-income earners. If the bargaining power is in the hands of the laborers, the country can assume full employment. It will force employers to raise wages and offer better pay for their employees. It will help workers to save even a small portion of their income. Additionally, if their savings would increase, economic growth will follow.

There also should be consideration towards societal behavior as observed in the results, though CAR being highest at saving their regional GDP is not as high compared to the other regions. Incorporation of the study by Bersales and Mapa (2003), "Patterns and Determinants of Household Savings in the Philippines", should be able to further discuss why savings moves the way it is, it all has different factors that change the logic of how interest rates work towards savings. On the aspect of regional production, the results say that the regional GDP is insignificant to savings. The researchers encourage having programs and policies that will help every region in the country to increase its regional GDP. Expansion programs would be of great help not only on the regional level but also on the national level. Enough attention should be allocated to pump-priming the GDP on a per-region basis, as it would reflect positively on the country's economic performance. It will then result in the country being competitive relative to other countries and would have a better economic health standing.

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5. Appendix

Appendix 1: Gathered Data

Year	Region	UNDER 40,000	40,000 - 59,999	60,000 - 99,999	100,000 - 249,999	250,000 AND OVER	SAVINGS (Values in thousand pesos)	RGDP (in percentage)	BUSINESS CYCLE
2003	NCR	32	53	84	163	514	48	12.8	6.1
2006	NCR	29	52	84	168	518	53	10.2	4.4
2009	NCR	31	51	84	176	544	46	10.9	5.7
2012	NCR	31	54	96	201	582	54	9.5	3.6
2015	NCR	38	51	85	183	568	76	8.7	6.3
2018	NCR	30	53	85	195	359	92	8.3	2.3
2003	CAR	30	51	78	158	410	26	11.5	6.1
2006	CAR	30	50	79	163	488	41	5.6	4.4
2009	CAR	91	50	80	162	488	44	10.3	5.7
2012	CAR	41	64	101	207	606	69	9	3.6
2015	CAR	31	51	82	163	504	73	4.9	6.3
2018	CAR	30	51	81	171	350	124	4.5	2.3
2003	REGION I	30	50	78	151	402	22	12.8	6.1
2006	REGION I	31	51	79	159	429	18	8	4.4
2009	REGION I	32	51	81	156	472	35	12.1	5.7
2012	REGION I	35	62	101	192	556	45	10.5	3.6
2015	REGION I	30	51	83	164	471	56	9.2	6.3
2018	REGION I	32	52	82	172	338	82	7.3	2.3
2003	REGION II	32	50	78	151	479	27	18.7	6.1
2006	REGION II	31	51	78	10	438	25	10.8	4.4
2009	REGION II	30	50	80	153	507	40	4.7	5.7
2012	REGION II	39	71	108	195	562	55	14.3	3.6
2015	REGION II	31	51	82	162	486	75	6.7	6.3
2018	REGION II	34	51	82	166	343	91	3.7	2.3
2003	REGION III	33	51	81	155	375	22	11	6.1
2006	REGION III	31	51	80	158	443	28	7.9	4.4
2009	REGION III	35	51	82	163	431	32	14.6	5.7
2012	REGION III	39	61	95	194	517	48	8.3	3.6
2015	REGION III	33	51	82	171	491	60	8.6	6.3
2018	REGION III	32	53	84	179	345	64	5.9	2.3
2003	REGION IV-A	30	51	80	159	433	26	11.8	6.1
2006	REGION IV-A	31	51	80	161	456	24	9.2	4.4
2009	REGION IV-A	33	51	82	165	476	36	15.8	5.7

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2012	REGION IV-A	34	57	89	187	538	41	7.3	3.6
2015	REGION IV-A	32	52	81	171	497	43	6.2	6.3
2018	REGION IV-A	33	52	58	180	355	80	5.9	2.3
2003	MIMAROPA	30	50	77	149	495	19	8.5	6.1
2006	MIMAROPA	29	50	77	149	411	16	13.2	4.4
2009	MIMAROPA	30	52	78	150	431	21	3.8	5.7
2012	MIMAROPA	38	65	98	190	576	41	5	3.6

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2015	MIMAROPA	34	52	81	154	536	61	4.6	6.3
2018	MIMAROPA	35	51	82	166	338	83	1.3	2.3
2003	REGION V	30	50	77	151	467	15	13.2	6.1
2006	REGION V	31	50	79	151	486	15	12.6	4.4
2009	REGION V	30	51	80	148	465	15	10.1	5.7
2012	REGION V	31	54	84	162	507	19	11.4	3.6
2015	REGION V	32	50	83	152	462	27	9.2	6.3
2018	REGION V	32	52	82	162	336	42	7.4	2.3
2003	REGION VI	30	50	77	149	427	14	10.6	6.1
2006	REGION VI	30	51	78	150	424	14	9.8	4.4
2009	REGION VI	30	51	79	153	458	16	6.4	5.7
2012	REGION VI	34	59	88	180	574	39	7.5	3.6
2015	REGION VI	30	50	82	156	522	50	7.9	6.3
2018	REGION VI	32	51	83	164	342	63	6.9	2.3
2003	REGION VII	27	50	78	152	433	19	13.8	6.1
2006	REGION VII	28	50	78	155	441	20	11.2	4.4
2009	REGION VII	29	51	79	156	485	32	15.9	5.7
2012	REGION VII	37	61	9	3195	549	45	10.6	3.6
2015	REGION VII	29	51	80	160	510	46	9.9	6.3
2018	REGION VII	33	51	82	169	347	104	7.6	2.3
2003	REGION VIII	29	50	76	155	464	19	16.9	6.1
2006	REGION VIII	30	50	76	156	491	22	2.2	4.4
2009	REGION VIII	31	50	79	148	542	32	5.1	5.7
2012	REGION VIII	34	57	87	186	590	34	10.2	3.6
2015	REGION VIII	30	51	81	151	560	41	15.9	6.3
2018	REGION VIII	31	51	83	158	344	48	2.5	2.3
2003	REGION IX	26	49	76	159	463	18	11.7	6.1
2006	REGION IX	28	50	76	155	481	26	13.4	4.4
2009	REGION IX	29	50	78	153	498	28	9.5	5.7
2012	REGION IX	36	66	98	197	596	40	7	3.6
2015	REGION IX	33	51	80	152	500	46	7.1	6.3
2018	REGION IX	33	52	83	160	342	65	5.2	2.3
2003	REGION X	29	49	78	157	434	18	15	6.1
2006	REGION X	30	50	78	151	484	25	12	4.4
2009	REGION X	30	50	78	153	493	26	14	5.7
2012	REGION X	36	61	96	196	661	47	7.9	3.6
2015	REGION X	32	52	80	154	516	60	11.6	6.3
2018	REGION X	35	52	83	161	344	76	7.8	2.3
2003	REGION XI	29	50	77	154	504	18	13.9	6.1
2006	REGION XI	30	49	79	153	417	20	11.2	4.4

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2009	REGION XI	30	50	79	155	450	24	12.5	5.7
2012	REGION XI	35	57	91	187	532	39	9	3.6
2015	REGION XI	33	51	82	160	501	57	11.8	6.3
2018	REGION XI	34	52	82	166	344	78	9.6	2.3
2003	REGION XII	30	50	77	151	600	28	15.9	6.1
2006	REGION XII	31	50	78	147	433	18	14.3	4.4

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2009	REGION XII	31	51	79	154	498	21	14.2	5.7
2012	REGION XII	33	55	84	167	510	23	11.4	3.6
2015	REGION XII	32	51	80	153	510	26	7.6	6.3
2018	REGION XII	33	52	82	162	340	61	4.5	2.3
2003	REGION XIII	30	49	76	158	376	12	13.3	6.1
2006	REGION XIII	31	50	78	147	433	18	16.4	4.4
2009	REGION XIII	31	51	78	150	531	22	14.6	5.7
2012	REGION XIII	40	63	96	182	553	38	8	3.6
2015	REGION XIII	31	52	82	154	513	39	6.9	6.3
2018	REGION XIII	32	51	83	161	341	56	4.3	2.3
2003	ARMM	33	50	75	144	414	16	23.4	6.1
2006	ARMM	32	51	77	142	403	14	6.3	4.4
2009	ARMM	34	52	80	138	396	16	18.4	5.7
2012	ARMM	41	63	89	154	444	16	7	3.6
2015	ARMM	35	52	84	140	395	28	6.7	6.3
2018	ARMM	35	54	85	148	326	34	8.2	2.3

Appendix 2: Gathered Data with dummy variable

Year	Region	UNDER400000	@4000059999	@6000099999	@100000249999	@250000ANDOVER	SAVINGS Valuesinthousandpesos	RGDPinpercentage	BUSINESSCYCLE	Year_Code_1	Year_Code_2	Year_Code_3	Year_Code_4	Year_Code_5	Year_Code_6	Region_code_1	Region_code_2	Region_code_3	Region_code_4	Region_code_5	Region_code_6	Region_code_7	Region_code_8	Region_code_9	Region_code_10	Region_code_11	Region_code_12	Region_code_13	Region_code_14	Region_code_15	Region_code_16	Region_code_17	LN_Savings
2003	NCR	32	53	84	163	514	48	12.8	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.87
2006	NCR	29	52	84	168	518	53	10.2	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.97
2009	NCR	31	51	84	176	544	46	10.9	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.83
2012	NCR	31	54	96	201	582	54	9.5	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.99
2015	NCR	38	51	85	183	568	76	8.7	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.33
2018	NCR	30	53	85	195	359	92	8.3	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.52

2003	CAR	30	51	78	158	410	26	11.5	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.26
2006	CAR	30	50	79	163	488	41	5.6	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.71
2009	CAR	91	50	80	162	488	44	10.3	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.78

2012	CAR	41	64	101	207	606	69	9.0	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.23
2015	CAR	31	51	82	163	504	73	4.9	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.29
2018	CAR	30	51	81	171	350	124	4.5	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.82
2003	REGION I	30	50	78	151	402	22	12.8	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.09
2006	REGION I	31	51	79	159	429	18	8.0	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.89
2009	REGION I	32	51	81	156	472	35	12.1	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.56
2012	REGION I	35	62	101	192	556	45	10.5	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.81
2015	REGION I	30	51	83	164	471	56	9.2	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.03
2018	REGION I	32	52	82	172	338	82	7.3	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.41
2003	REGION II	32	50	78	151	479	27	18.7	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.30
2006	REGION II	31	51	78	10	438	25	10.8	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.22
2009	REGION II	30	50	80	153	507	40	4.7	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69
2012	REGION II	39	71	108	195	562	55	14.3	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.01
2015	REGION II	31	51	82	162	486	75	6.7	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.32
2018	REGION II	34	51	82	166	343	91	3.7	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.51

2003	REGION III	33	51	81	155	375	22	11.0	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.09
2006	REGION III	31	51	80	158	443	28	7.9	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.33
2009	REGION III	35	51	82	163	431	32	14.6	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.47

2012	REGION III	39	61	95	194	517	48	8.3	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.87
2015	REGION III	33	51	82	171	491	60	8.6	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.09
2018	REGION III	32	53	84	179	345	64	5.9	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.16
2003	REGION IV-A	30	51	80	159	433	26	11.8	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.26
2006	REGION IV-A	31	51	80	161	456	24	9.2	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.18
2009	REGION IV-A	33	51	82	165	476	36	15.8	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.58
2012	REGION IV-A	34	57	89	187	538	41	7.3	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.71
2015	REGION IV-A	32	52	81	171	497	43	6.2	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.76
2018	REGION IV-A	33	52	58	180	355	80	5.9	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.38
2003	MIMAROPA	30	50	77	149	495	19	8.5	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.94
2006	MIMAROPA	29	50	77	149	411	16	13.2	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.77
2009	MIMAROPA	30	52	78	150	431	21	3.8	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.04
2012	MIMAROPA	38	65	98	190	576	41	5.0	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.71

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2015	MIMAROPA	34	52	81	154	536	61	4.6	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.11
2018	MIMAROPA	35	51	82	166	338	83	1.3	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.42

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2003	REGION V	30	50	77	151	467	15	13.2	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.71
2006	REGION V	31	50	79	151	486	15	12.6	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.71
2009	REGION V	30	51	80	148	465	15	10.1	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.71
2012	REGION V	31	54	84	162	507	19	11.4	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.94
2015	REGION V	32	50	83	152	462	27	9.2	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.30
2018	REGION V	32	52	82	162	336	42	7.4	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.74
2003	REGION VI	30	50	77	149	427	14	10.6	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.64
2006	REGION VI	30	51	78	150	424	14	9.8	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.64
2009	REGION VI	30	51	79	153	458	16	6.4	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.77
2012	REGION VI	34	59	88	180	574	39	7.5	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
2015	REGION VI	30	50	82	156	522	50	7.9	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	3.91
2018	REGION VI	32	51	83	164	342	63	6.9	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	4.14
2003	REGION VII	27	50	78	152	433	19	13.8	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	2.94
2006	REGION VII	28	50	78	155	441	20	11.2	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	3.00
2009	REGION VII	29	51	79	156	485	32	15.9	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	3.47

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2012	REGION VII	37	61	9	3195	549	45	10.6	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	3.81
2015	REGION VII	29	51	80	160	510	46	9.9	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	3.83
2018	REGION VII	33	51	82	169	347	104	7.6	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	4.64

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2003	REGION VIII	29	50	76	155	464	19	16.9	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	2.94
2006	REGION VIII	30	50	76	156	491	22	2.2	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	3.09
2009	REGION VIII	31	50	79	148	542	32	5.1	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	3.47
2012	REGION VIII	34	57	87	186	590	34	10.2	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	3.53
2015	REGION VIII	30	51	81	151	560	41	15.9	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	3.71
2018	REGION VIII	31	51	83	158	344	48	2.5	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	3.87
2003	REGION IX	26	49	76	159	463	18	11.7	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.89
2006	REGION IX	28	50	76	155	481	26	13.4	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.26
2009	REGION IX	29	50	78	153	498	28	9.5	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.33
2012	REGION IX	36	66	98	197	596	40	7.0	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69
2015	REGION IX	33	51	80	152	500	46	7.1	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.83
2018	REGION IX	33	52	83	160	342	65	5.2	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.17
2003	REGION X	29	49	78	157	434	18	15.0	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	2.89
2006	REGION X	30	50	78	151	484	25	12.0	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	3.22
2009	REGION X	30	50	78	153	493	26	14.0	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	3.26

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2012	REGION X	36	61	96	196	661	47	7.9	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	3.85
2015	REGION X	32	52	80	154	516	60	11.6	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	4.09
2018	REGION X	35	52	83	161	344	76	7.8	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	4.33

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2003	REGION XI	29	50	77	154	504	18	13.9	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	2.89
2006	REGION XI	30	49	79	153	417	20	11.2	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	3.00
2009	REGION XI	30	50	79	155	450	24	12.5	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	3.18
2012	REGION XI	35	57	91	187	532	39	9.0	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	3.66
2015	REGION XI	33	51	82	160	501	57	11.8	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	4.04
2018	REGION XI	34	52	82	166	344	78	9.6	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	4.36
2003	REGION XII	30	50	77	151	600	28	15.9	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	3.33
2006	REGION XII	31	50	78	147	433	18	14.3	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	2.89
2009	REGION XII	31	51	79	154	498	21	14.2	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	3.04
2012	REGION XII	33	55	84	167	510	23	11.4	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	3.14
2015	REGION XII	32	51	80	153	510	26	7.6	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	3.26
2018	REGION XII	33	52	82	162	340	61	4.5	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	4.11
2003	REGION XIII	30	49	76	158	376	12	13.3	6.1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2.48
2006	REGION XIII	31	50	78	147	433	18	16.4	4.4	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2.89
2009	REGION XIII	31	51	78	150	531	22	14.6	5.7	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	3.09

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2012	REGION XIII	40	63	96	182	553	38	8.0	3.6	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	3.64
2015	REGION XIII	31	52	82	154	513	39	6.9	6.3	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	3.66
2018	REGION XIII	32	51	83	161	341	56	4.3	2.3	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	4.03

2003	ARMM	33	50	75	144	414	16	23.4	6.1	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.77
2006	ARMM	32	51	77	142	403	14	6.3	4.4	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.64
2009	ARMM	34	52	80	138	396	16	18.4	5.7	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.77
2012	ARMM	41	63	89	154	444	16	7.0	3.6	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.77
2015	ARMM	35	52	84	140	395	28	6.7	6.3	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.33
2018	ARMM	35	54	85	148	326	34	8.2	2.3	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.53

Regression Model 1

Appendix 3: Model Summary to Savings

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.946[a]	0.895	0.857	8.637	1.586

a. Predictors: (Constant), Region=REGION XIII, Year=2018.0, UNDER 40,000, Region=MIMAROPA, Region=REGION II, 100,000 - 249,999, Region=REGION IV-A, Region=NCR, Region=REGION X, Region=REGION XI, Year=2015.0, Region=REGION III, Region=REGION I, Region=REGION XII, Region=REGION VI, Year=2009.0, Region=REGION V, Region=REGION IX, Year=2006.0, Region=REGION VIII, 40,000 - 59,999, Region=CAR, RGDP (in percentage), Region=REGION VII, 250,000 AND OVER, Year=2012.0, 60,000 - 99,999

b. Dependent Variable: SAVINGS (Values in thousand pesos)

Appendix 4: ANOVA test to Savings

ANOVA[a]					
Model	Sum of Squares	df	Mean Square	F	Sig.

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1	Regression	47176.898	27	1747.293	23.423	<.001[b]
	Residual	5520.279	74	74.598		
	Total	52697.176	101			

a. Dependent Variable: SAVINGS (Values in thousand pesos)

b. Predictors: (Constant), Region=REGION XIII, Year=2018.0, UNDER 40,000, Region=MIMAROPA, Region=REGION II, 100,000 - 249,999, Region=REGION IV-A, Region=NCR, Region=REGION X, Region=REGION XI, Year=2015.0, Region=REGION III, Region=REGION I, Region=REGION XII, Region=REGION VI, Year=2009.0, Region=REGION V, Region=REGION IX, Year=2006.0, Region=REGION VIII, 40,000 - 59,999, Region=CAR, RGDP (in percentage), Region=REGION VII, 250,000 AND OVER, Year=2012.0, 60,000 - 99,999

Appendix 5: Regression Model to Savings

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-27.739	26.601		-1.043	0.300		
	UNDER 40,000	-0.079	0.157	-0.023	-0.506	0.615	0.709	1.411
	40,000 - 59,999	0.079	0.605	0.014	0.131	0.896	0.116	8.617
	60,000 - 99,999	-0.130	0.311	-0.056	-0.419	0.676	0.080	12.445
	100,000 - 249,999	-0.003	0.009	-0.044	-0.356	0.723	0.093	10.749
	250,000 AND OVER	0.091	0.030	0.302	3.045	0.003	0.144	6.932
	RGDP (in percentage)	0.287	0.318	0.050	0.904	0.369	0.466	2.146
	Year=2006.0	2.914	3.176	0.048	0.917	0.362	0.522	1.916
	Year=2009.0	5.744	3.282	0.094	1.750	0.084	0.489	2.046
	Year=2012.0	12.935	6.552	0.212	1.974	0.052	0.123	8.152
	Year=2015.0	26.854	3.868	0.440	6.943	0.000	0.352	2.841
	Year=2018.0	64.269	5.286	1.054	12.157	0.000	0.188	5.307
	Region=CAR	37.216	5.931	0.385	6.275	0.000	0.376	2.663
	Region=MIMAROPA	14.887	5.724	0.154	2.601	0.011	0.403	2.480
	Region=NCR	31.196	6.630	0.323	4.705	0.000	0.300	3.328
	Region=REGION I	18.612	5.416	0.193	3.436	0.001	0.450	2.221
	Region=REGION II	25.606	5.523	0.265	4.636	0.000	0.433	2.309
	Region=REGION III	19.288	5.322	0.200	3.624	0.001	0.466	2.144
	Region=REGION IV-A	15.498	5.502	0.160	2.817	0.006	0.436	2.291
	Region=REGION IX	9.492	5.740	0.098	1.653	0.102	0.401	2.494
	Region=REGION V	-3.615	5.583	-0.037	-0.648	0.519	0.424	2.359
	Region=REGION VI	7.223	5.608	0.075	1.288	0.202	0.420	2.381

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	Region=REGION VII	17.523	5.800	0.181	3.021	0.003	0.393	2.547
	Region=REGION VIII	3.278	6.183	0.034	0.530	0.598	0.346	2.894
	Region=REGION X	13.036	5.870	0.135	2.221	0.029	0.383	2.608
	Region=REGION XI	13.153	5.594	0.136	2.351	0.021	0.422	2.369
	Region=REGION XII	0.911	5.840	0.009	0.156	0.876	0.387	2.582

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Region=REGION XIII	4.897	5.434	0.051	0.901	0.370	0.447	2.235

a. Dependent Variable: SAVINGS (Values in thousand pesos)

Appendix 6: Collinearity Diagnostics to Savings

Collinearity Diagnostics[a]																														
				Variance Proportions																										
Model	Dimension	Eigenvalue	Condition Index	(Constant)	UNDER 40,000	40,000-59,999	60,000-99,999	100,000-249,999	250,000 AND OVER	RGDP (in percentage)	Year=2006.0	Year=2009.0	Year=2012.0	Year=2015.0	Year=2018.0	Region=CAR	Region=MIMAROPA	Region=NCR	Region=REGION I	Region=REGION II	Region=REGION III	Region=REGION IV-A	Region=REGION IX	Region=REGION V	Region=REGION VI	Region=REGION VII	Region=REGION VIII	Region=REGION X	Region=REGION XI	Region=REGION XII	Region=REGION XIII
1	1	7.919	1.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	1.257	2.510	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00
	3	1.046	2.751	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06	0.00	0.00	0.05	0.03	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.00
	4	1.012	2.798	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.03	0.06	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.01	0.00	0.00
	5	1.005	2.806	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.07	0.00	0.01	0.00	0.19	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
	6	1.002	2.811	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.06	0.00	0.03	0.02	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.01	0.00	0.01
	7	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.03	0.00	0.00	0.02	0.12	0.01	0.00	0.01	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00
	8	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.03	0.01	0.01	0.01	0.03	0.00	0.01	0.00	0.03	0.02	0.02	0.02	0.01
	9	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.00	0.00	0.00	0.03	0.14	0.00	0.00	0.01	0.03	0.00	0.02	0.04	0.02	0.00	0.00	0.00	0.02	0.01	0.00
	10	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.02	0.09	0.06	0.03	0.00	0.03	0.05	0.04	0.00	0.00
	11	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.06	0.00	0.01	0.08	0.07	0.01	0.00	0.06	0.01	0.05	0.00	0.00
	12	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.11	0.00	0.00	0.02	0.20	0.00	0.02	0.00
	13	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.07	0.15	0.00	0.00	0.00	0.05	0.04	0.00	0.03	0.00	0.00	0.00	0.00

	14	1.000	2.814	0.00	0.00	0.000	0.000	0.00	0.00	0.00	0.05	0.00	0.00	0.04	0.00	0.01	0.02	0.00	0.03	0.01	0.00	0.13	0.06	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00
	15	1.000	2.814	0.00	0.00	0.000	0.000	0.00	0.00	0.00	0.01	0.04	0.00	0.01	0.00	0.00	0.01	0.00	0.02	0.05	0.01	0.01	0.01	0.00	0.00	0.00	0.05	0.00	0.03	0.11	0.03
	16	1.000	2.814	0.00	0.00	0.000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.01	0.32

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17	1.000	2.814	0.00	0.00	0.000	0.000	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.10	0.01	0.03	0.02	0.06	0.00	0.01	0.00	0.07	0.04	0.00
18	1.000	2.814	0.00	0.00	0.000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.12	0.00	0.17	0.01	0.00	0.00	0.04	0.00	0.00	0.02	0.00	0.01	0.00
19	1.000	2.814	0.00	0.00	0.000	0.000	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.06	0.01	0.01	0.13	0.00	0.02	0.01	0.02	0.03	0.00	
20	1.000	2.814	0.00	0.00	0.000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.09	0.06	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05	0.01
21	0.437	4.256	0.00	0.00	0.000	0.000	0.10	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00
22	0.200	6.296	0.00	0.00	0.000	0.000	0.00	0.00	0.11	0.32	0.36	0.07	0.17	0.06	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.067	10.870	0.00	0.01	0.000	0.000	0.00	0.00	0.20	0.08	0.04	0.02	0.10	0.07	0.20	0.15	0.17	0.27	0.25	0.27	0.24	0.21	0.27	0.20	0.28	0.17	0.26	0.29	0.26	0.29
24	0.032	15.651	0.00	0.33	0.000	0.000	0.00	0.00	0.54	0.18	0.22	0.15	0.28	0.24	0.25	0.18	0.05	0.07	0.08	0.10	0.08	0.07	0.04	0.10	0.02	0.07	0.03	0.04	0.03	0.06
25	0.018	20.806	0.01	0.65	0.000	0.001	0.01	0.01	0.15	0.05	0.00	0.04	0.07	0.02	0.04	0.19	0.13	0.15	0.15	0.13	0.13	0.18	0.13	0.18	0.14	0.15	0.11	0.11	0.11	0.13
26	0.003	51.467	0.02	0.00	0.001	0.004	0.03	0.96	0.00	0.00	0.03	0.03	0.07	0.48	0.13	0.10	0.21	0.05	0.11	0.02	0.13	0.16	0.10	0.10	0.10	0.24	0.20	0.10	0.20	0.10
27	0.001	96.893	0.66	0.00	0.000	0.660	0.52	0.02	0.01	0.00	0.02	0.41	0.06	0.00	0.01	0.00	0.05	0.01	0.01	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.001	125.741	0.32	0.00	0.98	0.36	0.33	0.01	0.00	0.00	0.00	0.18	0.01	0.01	0.05	0.02	0.12	0.06	0.01	0.05	0.01	0.02	0.09	0.05	0.05	0.06	0.05	0.09	0.06	0.04

a. Dependent Variable: SAVINGS (Values in thousand pesos)

Appendix 7: Residual Statistics to Savings

Residuals Statistics[a]					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.50	97.29	39.71	21.612	102
Std. Predicted Value	-1.629	2.664	0.000	1.000	102
Standard Error of Predicted Value	4.025	8.629	4.467	0.725	102
Adjusted Predicted Value	1.01	371.55	43.69	40.366	102
Residual	-24.358	26.709	0.000	7.393	102

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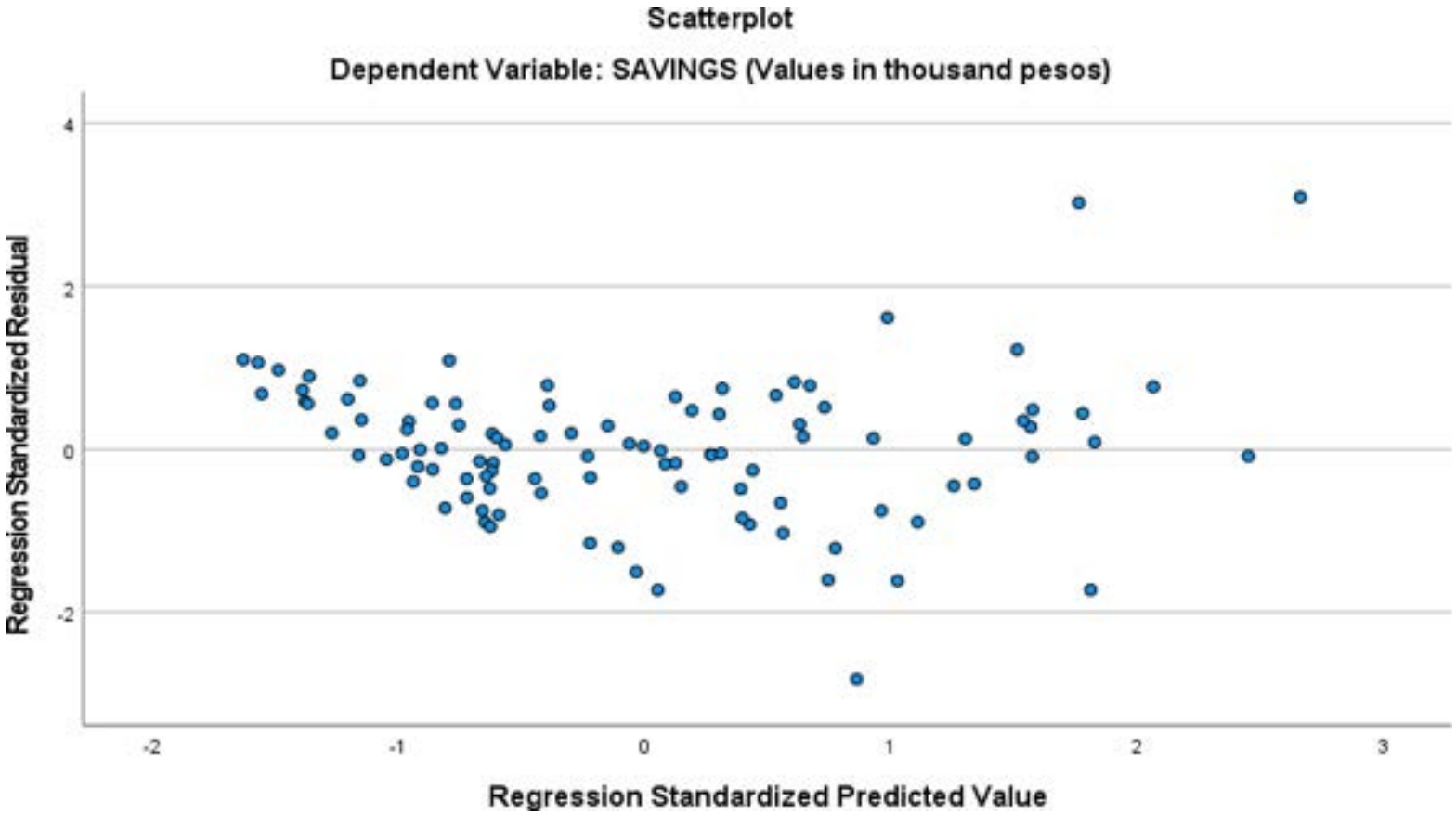
Std. Residual	-2.820	3.092	0.000	0.856	102
Stud. Residual	-3.269	3.617	-0.031	1.028	102
Deleted Residual	-326.547	36.547	-3.982	34.841	102
Stud. Deleted Residual	-3.510	3.960	-0.029	1.064	102
Mahal. Distance	20.944	99.822	26.735	11.877	102

Cook's Distance	0.000	50.956	0.546	5.052	102
Centered Leverage Value	0.207	0.988	0.265	0.118	102

a. Dependent Variable: SAVINGS (Values in thousand pesos)

Appendix 8: Scatter Plot to Savings



Regression Model 2

Appendix 9: 1st Model Summary to LN Savings

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.969[a]	0.939	0.917	0.16079	1.873

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a. Predictors: (Constant), Region=REGION XIII, Year=2018.0, UNDER 40,000, Region=MIMAROPA, Region=REGION II, 100,000 - 249,999, Region=REGION IV-A, Region=NCR, Region=REGION X, Region=REGION XI, Year=2015.0, Region=REGION III, Region=REGION I, Region=REGION XII, Region=REGION VI, Year=2009.0, Region=REGION V, Region=REGION IX, Year=2006.0, Region=REGION VIII, 40,000 - 59,999, Region=CAR, RGDP (in percentage), Region=REGION VII, 250,000 AND OVER, Year=2012.0, 60,000 - 99,999
b. Dependent Variable: LN_Savings

Appendix 10: 1st ANOVA test to LN Savings

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.455	27	1.091	42.194	<.001[b]
	Residual	1.913	74	0.026		
	Total	31.368	101			

a. Dependent Variable: LN_Savings

b. Predictors: (Constant), Region=REGION XIII, Year=2018.0, UNDER 40,000, Region=MIMAROPA, Region=REGION II, 100,000 - 249,999, Region=REGION IV-A, Region=NCR, Region=REGION X, Region=REGION XI, Year=2015.0, Region=REGION III, Region=REGION I, Region=REGION XII, Region=REGION VI, Year=2009.0, Region=REGION V, Region=REGION IX, Year=2006.0, Region=REGION VIII, 40,000 - 59,999, Region=CAR, RGDP (in percentage), Region=REGION VII, 250,000 AND OVER, Year=2012.0, 60,000 - 99,999

Appendix 11: 1st Regression Model to LN Savings

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.837	0.495		1.691	0.095		
	UNDER 40,000	0.002	0.003	0.019	0.562	0.576	0.709	1.411
	40,000 - 59,999	-0.003	0.011	-0.025	-0.295	0.769	0.116	8.617
	60,000 - 99,999	0.005	0.006	0.091	0.899	0.371	0.080	12.445
	100,000 - 249,999	0.000	0.000	0.098	1.041	0.301	0.093	10.749
	250,000 AND OVER	0.003	0.001	0.441	5.835	0.000	0.144	6.932
	RGDP (in percentage)	0.004	0.006	0.032	0.756	0.452	0.466	2.146
	Year=2006.0	0.082	0.059	0.055	1.381	0.171	0.522	1.916
	Year=2009.0	0.183	0.061	0.123	3.000	0.004	0.489	2.046
	Year=2012.0	0.246	0.122	0.165	2.014	0.048	0.123	8.152
	Year=2015.0	0.699	0.072	0.470	9.705	0.000	0.352	2.841
	Year=2018.0	1.594	0.098	1.071	16.201	0.000	0.188	5.307
	Region=CAR	0.784	0.110	0.333	7.105	0.000	0.376	2.663

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	Region=MIMAROPA	0.333	0.107	0.141	3.129	0.003	0.403	2.480
	Region=NCR	0.712	0.123	0.302	5.768	0.000	0.300	3.328
	Region=REGION I	0.498	0.101	0.211	4.938	0.000	0.450	2.221
	Region=REGION II	0.633	0.103	0.269	6.159	0.000	0.433	2.309
	Region=REGION III	0.572	0.099	0.243	5.773	0.000	0.466	2.144
	Region=REGION IV-A	0.497	0.102	0.211	4.850	0.000	0.436	2.291

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Region=REGION IX	0.301	0.107	0.128	2.820	0.006	0.401	2.494
Region=REGION V	-0.133	0.104	-0.056	-1.278	0.205	0.424	2.359
Region=REGION VI	0.143	0.104	0.061	1.373	0.174	0.420	2.381
Region=REGION VII	0.419	0.108	0.178	3.877	0.000	0.393	2.547
Region=REGION VIII	0.152	0.115	0.065	1.325	0.189	0.346	2.894
Region=REGION X	0.335	0.109	0.142	3.067	0.003	0.383	2.608
Region=REGION XI	0.349	0.104	0.148	3.349	0.001	0.422	2.369
Region=REGION XII	0.056	0.109	0.024	0.515	0.608	0.387	2.582
Region=REGION XIII	0.131	0.101	0.056	1.296	0.199	0.447	2.235

a. Dependent Variable: LN_Savings

Appendix 12: 1st Collinearity Diagnostics to LN Savings

Collinearity Diagnostics[a]																																
				Variance Proportions																														
Model	Dimension	Eigenvalue	Condition Index	(Constant)	UNDER 40,000	40,000-59,999	60,000-99,999	100,000-249,999	250,000 AND OVER	RGDP (in percentage)	Year=2006.0	Year=2009.0	Year=2012.0	Year=2015.0	Year=2018.0	Region=CAR	Region=MIMAROPA	Region=NCR	Region=REGION I	Region=REGION II	Region=REGION III	Region=REGION IV-A	Region=REGION IX	Region=REGION V	Region=REGION VI	Region=REGION VII	Region=REGION VIII	Region=REGION X	Region=REGION XI	Region=REGION XII	Region=REGION XIII
1	1	7.919	1.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	1.257	2.510	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
	3	1.046	2.751	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06	0.00	0.00	0.05	0.03	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.00
	4	1.012	2.798	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.03	0.06	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.01	0.00	0.00	
	5	1.005	2.806	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.07	0.00	0.01	0.00	0.19	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	
	6	1.002	2.811	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.06	0.00	0.03	0.02	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.01	0.00	0.01	
	7	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.03	0.00	0.00	0.02	0.12	0.01	0.00	0.01	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	
	8	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.03	0.01	0.01	0.01	0.03	0.00	0.01	0.00	0.03	0.02	0.02	0.02	0.01	
	9	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.00	0.00	0.00	0.03	0.14	0.00	0.00	0.01	0.03	0.00	0.02	0.04	0.02	0.00	0.00	0.00	0.02	0.01	0.00	
	10	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.02	0.09	0.06	0.03	0.00	0.03	0.05	0.04	0.00	0.00	
	11	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.06	0.00	0.01	0.08	0.07	0.01	0.00	0.06	0.01	0.05	0.00	0.00	
	12	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.11	0.00	0.00	0.02	0.20	0.00	0.02	0.00	
	13	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.07	0.15	0.00	0.00	0.00	0.05	0.04	0.00	0.03	0.00	0.00	0.00	0.00	
	14	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.04	0.00	0.01	0.02	0.00	0.03	0.01	0.00	0.13	0.06	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	
	15	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.00	0.01	0.00	0.00	0.01	0.00	0.02	0.05	0.01	0.01	0.01	0.00	0.00	0.00	0.05	0.00	0.03	0.11	0.03	

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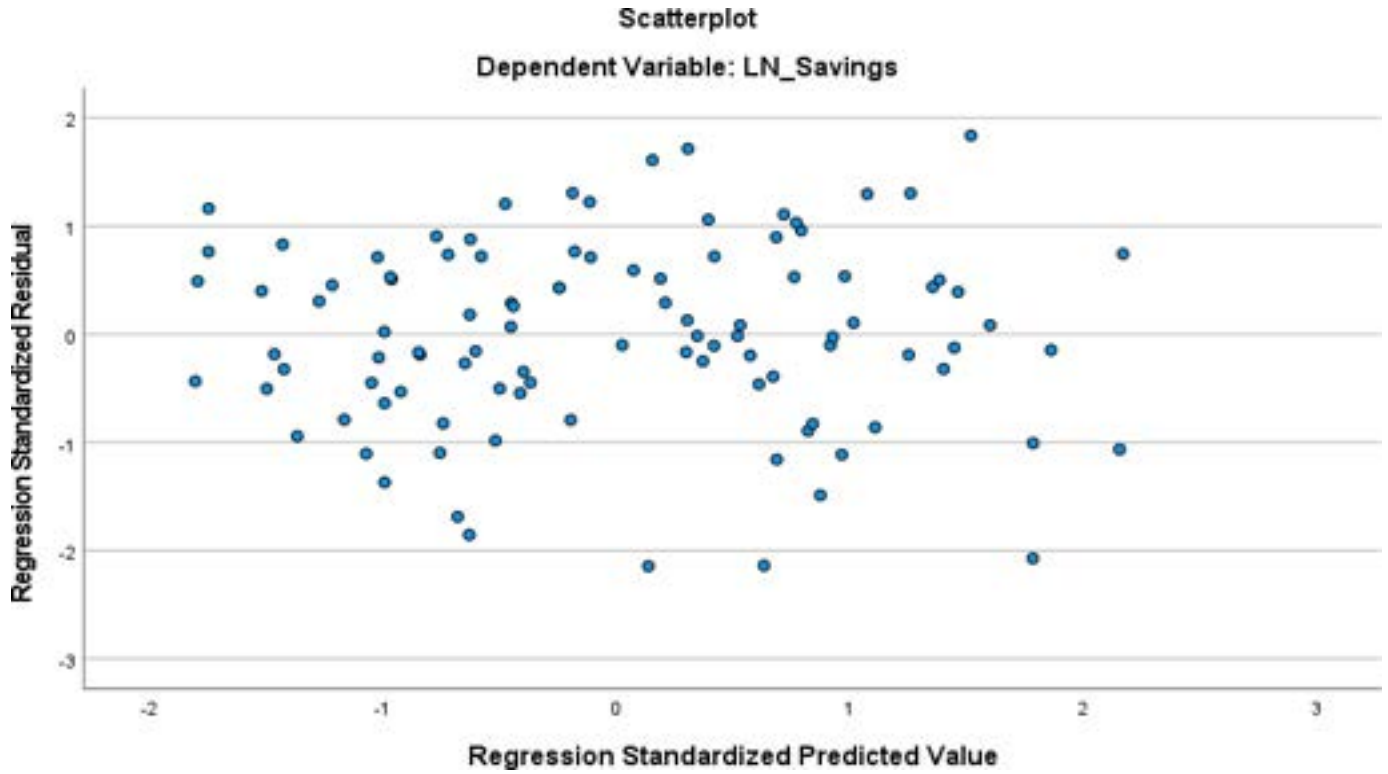
	16	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.01	0.32
	17	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.10	0.01	0.03	0.02	0.06	0.00	0.01	0.00	0.07	0.04	0.00
	18	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.12	0.00	0.17	0.01	0.00	0.00	0.04	0.00	0.00	0.02	0.00	0.01	0.00
	19	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.06	0.01	0.01	0.13	0.00	0.02	0.01	0.02	0.03	0.00

	20	1.000	2.814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.09	0.06	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.05	0.01
	21	0.437	4.256	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00
	22	0.200	6.296	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.32	0.36	0.07	0.17	0.06	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.067	10.870	0.00	0.01	0.00	0.00	0.00	0.00	0.20	0.08	0.04	0.02	0.10	0.07	0.20	0.15	0.17	0.27	0.25	0.27	0.24	0.21	0.27	0.20	0.28	0.17	0.26	0.29	0.26	0.29
	24	0.032	15.651	0.00	0.33	0.00	0.00	0.00	0.00	0.54	0.18	0.22	0.15	0.28	0.24	0.25	0.18	0.05	0.07	0.08	0.10	0.08	0.07	0.04	0.10	0.02	0.07	0.03	0.04	0.03	0.06
	25	0.018	20.806	0.01	0.65	0.00	0.01	0.01	0.01	0.15	0.05	0.00	0.04	0.07	0.02	0.04	0.19	0.13	0.15	0.15	0.13	0.13	0.18	0.13	0.18	0.14	0.15	0.11	0.11	0.11	0.13
	26	0.003	51.467	0.02	0.00	0.01	0.04	0.03	0.96	0.00	0.00	0.03	0.03	0.07	0.48	0.13	0.10	0.21	0.05	0.11	0.02	0.13	0.16	0.10	0.10	0.10	0.24	0.20	0.10	0.20	0.10
	27	0.001	96.893	0.66	0.00	0.00	0.60	0.52	0.02	0.01	0.00	0.02	0.41	0.06	0.00	0.01	0.00	0.05	0.01	0.01	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	28	0.001	125.741	0.32	0.00	0.98	0.36	0.33	0.01	0.00	0.00	0.00	0.18	0.01	0.01	0.05	0.02	0.12	0.06	0.01	0.05	0.01	0.02	0.09	0.05	0.05	0.06	0.05	0.09	0.06	0.04

Appendix 13: 1st Residual Statistics to LN Savings

Residuals Statistics[a]					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.5548	4.7009	3.5276	0.54003	102
Std. Predicted Value	-1.801	2.173	0.000	1.000	102
Standard Error of Predicted Value	0.075	0.161	0.083	0.014	102
Adjusted Predicted Value	2.4986	5.3378	3.5546	0.59190	102
Residual	-0.34488	0.29537	0.00000	0.13763	102
Std. Residual	-2.145	1.837	0.000	0.856	102
Stud. Residual	-2.479	2.130	-0.018	1.013	102
Deleted Residual	-1.55362	0.39705	-0.02705	0.27665	102
Stud. Deleted Residual	-2.571	2.183	-0.021	1.026	102
Mahal. Distance	20.944	99.822	26.735	11.877	102
Cook's Distance	0.000	3.174	0.069	0.406	102
Centered Leverage Value	0.207	0.988	0.265	0.118	102
a. Dependent Variable: LN_Savings					

Appendix 14: 1st Scatterplot to LN Savings



Regression Model 3

Appendix 15: 2nd Model to LN Savings

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.969[a]	0.938	0.917	0.16059	1.854

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a. Predictors: (Constant), Region=REGION XIII, Year=2018.0, UNDER 40,000, Region=MIMAROPA, Region=REGION II, 100,000 - 249,999, Region=REGION IV-A, Region=NCR, Region=REGION X, Region=REGION XI, Year=2015.0, Region=REGION III, Region=REGION I, Region=REGION XII, Region=REGION VI, Year=2009.0, Region=REGION V, Region=REGION IX, Year=2006.0, Region=REGION VIII, 40,000 - 59,999, Region=CAR, RGDP (in percentage), Region=REGION VII, 250,000 AND OVER, Year=2012.0
b. Dependent Variable: LN_Savings

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Appendix 16: 2nd ANOVA test to LN Savings

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.434	26	1.132	43.898	<.001[b]
	Residual	1.934	75	0.026		
	Total	31.368	101			

a. Dependent Variable: LN_Savings

b. Predictors: (Constant), Region=REGION XIII, Year=2018.0, UNDER 40,000, Region=MIMAROPA, Region=REGION II, 100,000 - 249,999, Region=REGION IV-A, Region=NCR, Region=REGION X, Region=REGION XI, Year=2015.0, Region=REGION III, Region=REGION I, Region=REGION XII, Region=REGION VI, Year=2009.0, Region=REGION V, Region=REGION IX, Year=2006.0, Region=REGION VIII, 40,000 - 59,999, Region=CAR, RGDP (in percentage), Region=REGION VII, 250,000 AND OVER, Year=2012.0

Appendix 17: 2nd Regression Model to LN Savings

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.953	0.478		1.993	0.050		
	UNDER 40,000	0.002	0.003	0.020	0.573	0.568	0.709	1.411
	40,000 - 59,999	0.003	0.009	0.019	0.277	0.783	0.174	5.733
	100,000 - 249,999	3.449E-05	0.000	0.019	0.571	0.570	0.772	1.296
	250,000 AND OVER	0.003	0.001	0.443	5.868	0.000	0.144	6.928
	RGDP (in percentage)	0.005	0.006	0.032	0.766	0.446	0.466	2.146
	Year=2006.0	0.083	0.059	0.056	1.399	0.166	0.522	1.915
	Year=2009.0	0.190	0.061	0.127	3.130	0.002	0.496	2.018
	Year=2012.0	0.271	0.118	0.182	2.292	0.025	0.130	7.704
	Year=2015.0	0.714	0.070	0.480	10.201	0.000	0.372	2.690

	Year=2018.0	1.607	0.097	1.080	16.500	0.000	0.192	5.208
	Region=CAR	0.802	0.109	0.340	7.383	0.000	0.387	2.582
	Region=MIMAROPA	0.340	0.106	0.144	3.199	0.002	0.405	2.470
	Region=NCR	0.748	0.117	0.317	6.418	0.000	0.336	2.975

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Region=REGION I	0.518	0.098	0.220	5.266	0.000	0.473	2.116
Region=REGION II	0.645	0.102	0.274	6.341	0.000	0.441	2.269
Region=REGION III	0.592	0.097	0.251	6.126	0.000	0.490	2.042
Region=REGION IV-A	0.490	0.102	0.208	4.806	0.000	0.438	2.281
Region=REGION IX	0.308	0.106	0.131	2.893	0.005	0.403	2.483
Region=REGION V	-0.122	0.103	-0.052	-1.180	0.242	0.430	2.326
Region=REGION VI	0.152	0.104	0.065	1.466	0.147	0.424	2.360
Region=REGION VII	0.429	0.107	0.182	4.005	0.000	0.397	2.516
Region=REGION VIII	0.159	0.115	0.068	1.389	0.169	0.347	2.881
Region=REGION X	0.347	0.108	0.147	3.204	0.002	0.389	2.570
Region=REGION XI	0.363	0.103	0.154	3.538	0.001	0.433	2.311
Region=REGION XII	0.061	0.108	0.026	0.559	0.578	0.388	2.576
Region=REGION XIII	0.141	0.100	0.060	1.404	0.164	0.453	2.208

a. Dependent Variable: LN_Savings

Appendix 18: 2nd Collinearity Diagnostics to LN Savings

Collinearity Diagnostics[a]																														
				Variance Proportions																										
Model	Dimension	Eigenvalue	Condition Index	(Constant)	UNDER 400,000	400,000-599,999	100,000-249,999	250,000 AND OVER	RGDP (in percentage)	Year=2006.0	Year=2009.0	Year=2012.0	Year=2015.0	Year=2018.0	Region=CAR	Region=MIMAROPA	Region=NCR	Region=REGION I	Region=REGION II	Region=REGION III	Region=REGION IV-A	Region=REGION IX	Region=REGION V	Region=REGION VI	Region=REGION VII	Region=REGION VIII	Region=REGION X	Region=REGION XI	Region=REGION XII	Region=REGION XIII
1	1	6.952	1.000	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	1.244	2.364	0.00	0.000	0.000	0.112	0.000	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00
	3	1.044	2.581	0.00	0.000	0.000	0.000	0.000	0.00	0.03	0.06	0.00	0.00	0.05	0.04	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.00

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	4	1.012	2.621	0.00	0.000	0.000	0.000	0.000	0.00	0.01	0.00	0.03	0.03	0.06	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.01	0.00	0.00
	5	1.005	2.630	0.00	0.000	0.000	0.000	0.000	0.00	0.03	0.07	0.00	0.02	0.00	0.18	0.01	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
	6	1.001	2.635	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.01	0.03	0.07	0.00	0.04	0.01	0.00	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.01

	7	1.000	2.637	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.01	0.02	0.00	0.23	0.00
	8	1.000	2.637	0.00	0.000	0.000	0.000	0.000	0.00	0.05	0.06	0.00	0.01	0.00	0.01	0.02	0.04	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.05	0.04	0.00	0.01	0.03
	9	1.000	2.637	0.00	0.000	0.000	0.000	0.000	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.00	0.00	0.03	0.01	0.10	0.01	0.00	0.00	0.07	0.06	0.00	0.00
	10	1.000	2.637	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.02	0.06	0.00	0.00	0.05	0.00	0.01	0.13	0.00	0.07	0.00	0.00	0.00	0.00
	11	1.000	2.637	0.00	0.000	0.000	0.000	0.000	0.00	0.05	0.00	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.07	0.06	0.02	0.02	0.00
	12	1.000	2.637	0.00	0.000	0.000	0.000	0.000	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.33
	13	1.000	2.637	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.04	0.13	0.02	0.06	0.02	0.01	0.00	0.03	0.00	0.05	0.00	0.01
	14	1.000	2.637	0.00	0.000	0.000	0.000	0.000	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.07	0.02	0.00	0.12	0.02	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00
	15	1.000	2.637	0.00	0.000	0.000	0.000	0.000	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.13	0.00	0.04	0.02	0.00	0.00	0.00	0.01	0.03	0.03	0.05	0.00
	16	1.000	2.637	0.00	0.000	0.000	0.000	0.000	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.09	0.06	0.03	0.01	0.02	0.01	0.00	0.01	0.02	0.11	0.00	0.00
	17	1.000	2.637	0.00	0.000	0.000	0.000	0.000	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.17	0.01	0.02	0.02	0.01	0.04	0.07	0.00	0.00	0.02	0.00	0.00	0.00
	18	1.000	2.637	0.00	0.000	0.000	0.000	0.000	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.02	0.01	0.04	0.00	0.08	0.00	0.00	0.00	0.01	0.00	0.00
	19	1.000	2.637	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.04	0.13	0.00	0.14	0.01	0.00	0.00	0.00	0.00	0.02	0.01	0.00
	20	1.000	2.637	0.00	0.000	0.000	0.000	0.000	0.00	0.05	0.03	0.00	0.00	0.00	0.03	0.00	0.01	0.02	0.00	0.01	0.00	0.00	0.11	0.00	0.00	0.00	0.06	0.06	0.00	0.00
	21	0.424	4.047	0.00	0.000	0.000	0.886	0.000	0.00	0.01	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00
	22	0.200	5.899	0.00	0.000	0.000	0.001	0.000	0.11	0.32	0.36	0.08	0.18	0.06	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.067	10.185	0.00	0.001	0.000	0.000	0.000	0.20	0.08	0.05	0.03	0.10	0.07	0.20	0.15	0.19	0.28	0.26	0.28	0.24	0.21	0.27	0.20	0.28	0.17	0.26	0.29	0.26	0.29
	24	0.032	14.800	0.00	0.400	0.000	0.000	0.000	0.49	0.17	0.22	0.14	0.27	0.22	0.24	0.15	0.04	0.05	0.07	0.09	0.07	0.06	0.03	0.08	0.01	0.05	0.03	0.03	0.03	0.05

	25	0.016	20.874	0.01	0.57	0.01	0.00	0.03	0.19	0.07	0.01	0.05	0.10	0.01	0.06	0.24	0.16	0.18	0.18	0.15	0.18	0.22	0.15	0.21	0.15	0.19	0.14	0.13	0.14	0.15
	26	0.003	51.286	0.06	0.01	0.06	0.00	0.97	0.01	0.01	0.04	0.07	0.09	0.49	0.14	0.08	0.28	0.05	0.11	0.03	0.09	0.15	0.09	0.09	0.10	0.22	0.20	0.11	0.18	0.09
	27	0.001	108.680	0.92	0.000	0.93	0.00	0.000	0.00	0.00	0.00	0.54	0.01	0.02	0.02	0.01	0.03	0.02	0.00	0.02	0.03	0.01	0.08	0.04	0.03	0.05	0.03	0.06	0.06	0.02
a. Dependent Variable: LN_Savings																														

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Appendix 19: 2nd Residual Statistics to LN Savings

Residuals Statistics[a]					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.5545	4.7031	3.5276	0.53984	102
Std. Predicted Value	-1.803	2.177	0.000	1.000	102
Standard Error of Predicted Value	0.075	0.160	0.082	0.012	102
Adjusted Predicted Value	2.5049	5.8595	3.5626	0.61513	102
Residual	-0.34744	0.30453	0.00000	0.13838	102
Std. Residual	-2.164	1.896	0.000	0.862	102
Stud. Residual	-2.462	2.193	-0.022	1.016	102
Deleted Residual	-2.05288	0.40718	-0.03497	0.31438	102
Stud. Deleted Residual	-2.551	2.251	-0.025	1.029	102
Mahal. Distance	20.943	99.811	25.745	10.974	102
Cook's Distance	0.000	6.041	0.104	0.682	102
Centered Leverage Value	0.207	0.988	0.255	0.109	102

a. Dependent Variable: LN_Savings

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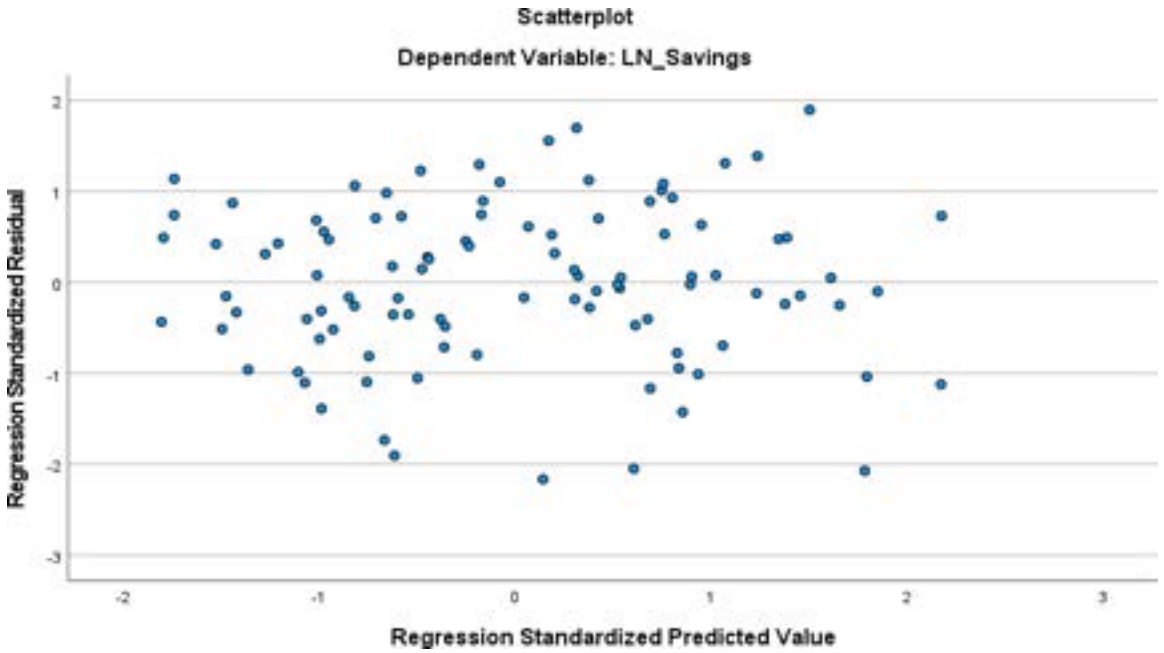
Appendix 20: 2nd Scatterplot to LN Savings



Appendix 21: Tests of Normality for first 3 and Final Regression Modes

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Model1	0.075	102	0.182	0.950	102	0.001
Model 2	0.059	102	.200*	Model	102	0.317
Model 3	0.051	102	.200*	0.987	102	0.416
Final Model	0.053	102	.200*	0.980	102	0.129
*. This is a lower bound of the true significance.						

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Appendix 22: Descriptive Statistics for first 3 and Final Regression Model

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Cook's Distance MOdel 1	102	0.00000	50.95567	0.5456833	5.05247136

Cook's Distance Model 2	102	0.00000	3.17447	0.0694003	0.40629693
Cook's Distance MOdel 3	102	0.00003	6.04057	0.1044431	0.68181093
Cook's Distance Final Model	102	0.00000	0.10192	0.0113666	0.01815383
Valid N (listwise)	102				

Appendix 23: Model Selection using Backward Method

Variables Entered/Removed[a]			
Model	Variables Entered	Variables Removed	Method

1	Region=REGION XIII, Year=2006.0, Region=REGION XII, 100,000 - 249,999, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Year=2009.0, Region=REGION VI, Region=REGION V, UNDER 40,000, Year=2012.0, Region=REGION II, RGDP (in percentage), Region=REGION VII, Year=2015.0, 40,000 - 59,999, 250,000 AND OVER[b]		Enter

2		40,000 - 59,999	Backward (criterion: Probability of F-to-remove >= .100).
3		Year=2009.0	Backward (criterion: Probability of F-to-remove >= .100).
4		Region=REGION XII	Backward (criterion: Probability of F-to-remove >= .100).
5		100,000 - 249,999	Backward (criterion: Probability of F-to-remove >= .100).
6		UNDER 40,000	Backward (criterion: Probability of F-to-remove >= .100).
7		RGDP (in percentage)	Backward (criterion: Probability of F-to-remove >= .100).
8		Region=REGION VIII	Backward (criterion: Probability of F-to-remove >= .100).

9		Region=REGION VI	Backward (criterion: Probability of F-to-remove >= .100).
10		Region=REGION XIII	Backward (criterion: Probability of F-to-remove >= .100).
a. Dependent Variable: LN_Savings			

b. Tolerance = .000 limit reached.

Appendix 24: Model Summary from 1st to 10th Regression Model

Model Summary[k]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.969[a]	0.938	0.917	0.16059	
2	.969[b]	0.938	0.918	0.15961	
3	.969[c]	0.938	0.919	0.15869	
4	.969[d]	0.938	0.920	0.15789	
5	.968[e]	0.938	0.920	0.15725	
6	.968[f]	0.937	0.921	0.15671	
7	.968[g]	0.937	0.921	0.15629	
8	.967[h]	0.936	0.921	0.15668	
9	.967[i]	0.935	0.921	0.15647	
10	.967[j]	0.935	0.922	0.15605	1.836

a. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=REGION XII, 100,000 - 249,999, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Year=2009.0, Region=REGION VI, Region=REGION V, UNDER 40,000, Year=2012.0, Region=REGION II, RGDP (in percentage), Region=REGION VII, Year=2015.0, 40,000 - 59,999, 250,000 AND OVER

b. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=REGION XII, 100,000 - 249,999, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Year=2009.0, Region=REGION VI, Region=REGION V, UNDER 40,000, Year=2012.0, Region=REGION II, RGDP (in percentage), Region=REGION VII, Year=2015.0, 250,000 AND OVER

c. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=REGION XII, 100,000 - 249,999, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Region=REGION VI, Region=REGION V, UNDER 40,000, Year=2012.0, Region=REGION II, RGDP (in percentage), Region=REGION VII, Year=2015.0, 250,000 AND OVER
d. Predictors: (Constant), Region=REGION XIII, Year=2006.0, 100,000 - 249,999, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Region=REGION VI, Region=REGION V, UNDER 40,000, Year=2012.0, Region=REGION II, RGDP (in percentage), Region=REGION VII, Year=2015.0, 250,000 AND OVER
e. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Region=REGION VI, Region=REGION V, UNDER 40,000, Year=2012.0, Region=REGION II, RGDP (in percentage), Region=REGION VII, Year=2015.0, 250,000 AND OVER
f. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Region=REGION VI, Region=REGION V, Year=2012.0, Region=REGION II, RGDP (in percentage), Region=REGION VII, Year=2015.0, 250,000 AND OVER
g. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Region=REGION VI, Region=REGION V, Year=2012.0, Region=REGION II, Region=REGION VII, Year=2015.0, 250,000 AND OVER

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h. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VI, Region=REGION V, Year=2012.0, Region=REGION II, Region=REGION VII, Year=2015.0, 250,000 AND OVER
i. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION V, Year=2012.0, Region=REGION II, Region=REGION VII, Year=2015.0, 250,000 AND OVER

j. Predictors: (Constant), Year=2006.0, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION V, Year=2012.0, Region=REGION II, Region=REGION VII, Year=2015.0, 250,000 AND OVER
k. Dependent Variable: LN_Savings

Appendix 25: ANOVA test from 1st to 10th Regression Model

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.434	26	1.132	43.898	<.001[b]
	Residual	1.934	75	0.026		
	Total	31.368	101			
2	Regression	29.432	25	1.177	46.212	<.001[c]
	Residual	1.936	76	0.025		
	Total	31.368	101			
3	Regression	29.429	24	1.226	48.691	<.001[d]
	Residual	1.939	77	0.025		
	Total	31.368	101			
4	Regression	29.423	23	1.279	51.315	<.001[e]
	Residual	1.945	78	0.025		
	Total	31.368	101			
5	Regression	29.414	22	1.337	54.072	<.001[f]
	Residual	1.953	79	0.025		
	Total	31.368	101			
6	Regression	29.403	21	1.400	57.013	<.001[g]
	Residual	1.965	80	0.025		
	Total	31.368	101			
7	Regression	29.389	20	1.469	60.162	<.001[h]
	Residual	1.978	81	0.024		
	Total	31.368	101			
8	Regression	29.355	19	1.545	62.939	<.001[i]
	Residual	2.013	82	0.025		
	Total	31.368	101			
9	Regression	29.336	18	1.630	66.564	<.001[j]
	Residual	2.032	83	0.024		
	Total	31.368	101			
10	Regression	29.322	17	1.725	70.827	<.001[k]

	Residual	2.046	84	0.024		
	Total	31.368	101			

a. Dependent Variable: LN_Savings

b. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=REGION XII, 100,000 - 249,999, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Year=2009.0, Region=REGION VI, Region=REGION V, UNDER 40,000, Year=2012.0, Region=REGION II, RGDP (in percentage), Region=REGION VII, Year=2015.0, 40,000 - 59,999, 250,000 AND OVER
c. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=REGION XII, 100,000 - 249,999, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Year=2009.0, Region=REGION VI, Region=REGION V, UNDER 40,000, Year=2012.0, Region=REGION II, RGDP (in percentage), Region=REGION VII, Year=2015.0, 250,000 AND OVER
d. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=REGION XII, 100,000 - 249,999, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Region=REGION VI, Region=REGION V, UNDER 40,000, Year=2012.0, Region=REGION II, RGDP (in percentage), Region=REGION VII, Year=2015.0, 250,000 AND OVER
e. Predictors: (Constant), Region=REGION XIII, Year=2006.0, 100,000 - 249,999, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Region=REGION VI, Region=REGION V, UNDER 40,000, Year=2012.0, Region=REGION II, RGDP (in percentage), Region=REGION VII, Year=2015.0, 250,000 AND OVER
f. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Region=REGION VI, Region=REGION V, UNDER 40,000, Year=2012.0, Region=REGION II, RGDP (in percentage), Region=REGION VII, Year=2015.0, 250,000 AND OVER
g. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Region=REGION VI, Region=REGION V, Year=2012.0, Region=REGION II, RGDP (in percentage), Region=REGION VII, Year=2015.0, 250,000 AND OVER
h. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VIII, Region=REGION VI, Region=REGION V, Year=2012.0, Region=REGION II, Region=REGION VII, Year=2015.0, 250,000 AND OVER
i. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION VI, Region=REGION V, Year=2012.0, Region=REGION II, Region=REGION VII, Year=2015.0, 250,000 AND OVER

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j. Predictors: (Constant), Region=REGION XIII, Year=2006.0, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION V, Year=2012.0, Region=REGION II, Region=REGION VII, Year=2015.0, 250,000 AND OVER

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k. Predictors: (Constant), Year=2006.0, Region=NCR, Region=CAR, Region=REGION IV-A, BUSINESS CYCLE, Region=REGION III, Region=REGION I, Region=REGION IX, Region=REGION XI, Region=REGION X, Region=MIMAROPA, Region=REGION V, Year=2012.0, Region=REGION II, Region=REGION VII, Year=2015.0, 250,000 AND OVER

Appendix 26: 1st to 10th Regression Models

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.531	0.491		7.192	0.000		
	250,000 AND OVER	0.003	0.001	0.443	5.868	0.000	0.144	6.928
	Year=2009.0	0.021	0.059	0.014	0.350	0.727	0.526	1.901
	Year=2012.0	-0.786	0.123	-0.528	-6.392	0.000	0.121	8.297
	Year=2015.0	0.798	0.071	0.536	11.193	0.000	0.358	2.795
	Region=CAR	0.802	0.109	0.340	7.383	0.000	0.387	2.582
	Region=MIMAROPA	0.340	0.106	0.144	3.199	0.002	0.405	2.470
	Region=NCR	0.748	0.117	0.317	6.418	0.000	0.336	2.975
	Region=REGION I	0.518	0.098	0.220	5.266	0.000	0.473	2.116
	Region=REGION II	0.645	0.102	0.274	6.341	0.000	0.441	2.269
	Region=REGION III	0.592	0.097	0.251	6.126	0.000	0.490	2.042
	Region=REGION IV-A	0.490	0.102	0.208	4.806	0.000	0.438	2.281
	Region=REGION IX	0.308	0.106	0.131	2.893	0.005	0.403	2.483
	Region=REGION V	-0.122	0.103	-0.052	-1.180	0.242	0.430	2.326
	Region=REGION VII	0.429	0.107	0.182	4.005	0.000	0.397	2.516
	Region=REGION X	0.347	0.108	0.147	3.204	0.002	0.389	2.570
	Region=REGION XI	0.363	0.103	0.154	3.538	0.001	0.433	2.311

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	UNDER 40,000	0.002	0.003	0.020	0.573	0.568	0.709	1.411
	40,000 - 59,999	0.003	0.009	0.019	0.277	0.783	0.174	5.733
	100,000 - 249,999	3.449E-05	0.000	0.019	0.571	0.570	0.772	1.296

	RGDP (in percentage)	0.005	0.006	0.032	0.766	0.446	0.466	2.146
	BUSINESS CYCLE	-0.423	0.026	-1.104	-16.500	0.000	0.184	5.441
	Year=2006.0	-0.636	0.055	-0.427	-11.464	0.000	0.591	1.691
	Region=REGION VI	0.152	0.104	0.065	1.466	0.147	0.424	2.360
	Region=REGION VIII	0.159	0.115	0.068	1.389	0.169	0.347	2.881
	Region=REGION XII	0.061	0.108	0.026	0.559	0.578	0.388	2.576
	Region=REGION XIII	0.141	0.100	0.060	1.404	0.164	0.453	2.208
2	(Constant)	3.658	0.177		20.680	0.000		
	250,000 AND OVER	0.003	0.001	0.448	6.153	0.000	0.153	6.525
	Year=2009.0	0.020	0.058	0.013	0.343	0.733	0.527	1.899
	Year=2012.0	-0.769	0.106	-0.517	-7.230	0.000	0.159	6.287
	Year=2015.0	0.800	0.071	0.537	11.306	0.000	0.359	2.782
	Region=CAR	0.797	0.106	0.338	7.494	0.000	0.399	2.504
	Region=MIMAROPA	0.337	0.105	0.143	3.207	0.002	0.409	2.446
	Region=NCR	0.741	0.113	0.314	6.570	0.000	0.355	2.816
	Region=REGION I	0.514	0.097	0.218	5.308	0.000	0.481	2.079
	Region=REGION II	0.644	0.101	0.273	6.374	0.000	0.442	2.262
	Region=REGION III	0.589	0.095	0.250	6.169	0.000	0.495	2.018
	Region=REGION IV-A	0.485	0.100	0.206	4.872	0.000	0.455	2.198
	Region=REGION IX	0.304	0.105	0.129	2.901	0.005	0.412	2.428
	Region=REGION V	-0.130	0.098	-0.055	-1.322	0.190	0.468	2.136
	Region=REGION VII	0.423	0.104	0.180	4.054	0.000	0.413	2.419
	Region=REGION X	0.341	0.105	0.144	3.242	0.002	0.409	2.446
	Region=REGION XI	0.356	0.098	0.151	3.616	0.001	0.466	2.148
	UNDER 40,000	0.002	0.003	0.020	0.601	0.549	0.713	1.402
	100,000 - 249,999	3.522E-05	0.000	0.019	0.587	0.559	0.773	1.294

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	RGDP (in percentage)	0.005	0.006	0.033	0.782	0.437	0.467	2.143
	BUSINESS CYCLE	-0.425	0.024	-1.109	-17.594	0.000	0.204	4.896
	Year=2006.0	-0.639	0.054	-0.429	-11.811	0.000	0.614	1.628

	Region=REGION VI	0.146	0.101	0.062	1.448	0.152	0.443	2.256
	Region=REGION VIII	0.151	0.110	0.064	1.374	0.173	0.376	2.659
	Region=REGION XII	0.052	0.103	0.022	0.505	0.615	0.421	2.373
	Region=REGION XIII	0.136	0.098	0.058	1.386	0.170	0.465	2.148
3	(Constant)	3.634	0.162		22.408	0.000		
	250,000 AND OVER	0.003	0.000	0.457	6.768	0.000	0.176	5.677
	Year=2012.0	-0.784	0.096	-0.527	-8.204	0.000	0.194	5.141
	Year=2015.0	0.786	0.058	0.528	13.615	0.000	0.534	1.874
	Region=CAR	0.788	0.103	0.334	7.655	0.000	0.420	2.378
	Region=MIMAROPA	0.331	0.103	0.140	3.214	0.002	0.421	2.374
	Region=NCR	0.733	0.110	0.311	6.674	0.000	0.370	2.704
	Region=REGION I	0.511	0.096	0.217	5.330	0.000	0.485	2.060
	Region=REGION II	0.639	0.099	0.271	6.430	0.000	0.452	2.213
	Region=REGION III	0.586	0.094	0.248	6.200	0.000	0.500	2.000
	Region=REGION IV-A	0.481	0.098	0.204	4.896	0.000	0.463	2.160
	Region=REGION IX	0.298	0.103	0.126	2.900	0.005	0.422	2.367
	Region=REGION V	-0.133	0.097	-0.056	-1.371	0.174	0.473	2.114
	Region=REGION VII	0.420	0.103	0.178	4.063	0.000	0.417	2.399
	Region=REGION X	0.335	0.103	0.142	3.246	0.002	0.419	2.387
	Region=REGION XI	0.352	0.097	0.149	3.620	0.001	0.471	2.124
	UNDER 40,000	0.002	0.003	0.023	0.692	0.491	0.745	1.341
	100,000 - 249,999	3.495E-05	0.000	0.019	0.586	0.559	0.773	1.293
	RGDP (in percentage)	0.004	0.006	0.030	0.734	0.465	0.484	2.064
	BUSINESS CYCLE	-0.424	0.024	-1.107	-17.758	0.000	0.207	4.842
	Year=2006.0	-0.647	0.049	-0.435	-13.227	0.000	0.744	1.345
	Region=REGION VI	0.142	0.099	0.060	1.424	0.159	0.451	2.217

	Region=REGION VIII	0.144	0.107	0.061	1.341	0.184	0.390	2.567
	Region=REGION XII	0.047	0.102	0.020	0.463	0.645	0.430	2.325
	Region=REGION XIII	0.132	0.097	0.056	1.363	0.177	0.472	2.119
4	(Constant)	3.640	0.161		22.632	0.000		

	250,000 AND OVER	0.003	0.000	0.470	7.737	0.000	0.215	4.647
	Year=2012.0	-0.800	0.089	-0.538	-9.004	0.000	0.223	4.488
	Year=2015.0	0.783	0.057	0.526	13.698	0.000	0.538	1.859
	Region=CAR	0.763	0.087	0.324	8.806	0.000	0.588	1.700
	Region=MIMAROPA	0.304	0.085	0.129	3.565	0.001	0.605	1.653
	Region=NCR	0.702	0.086	0.298	8.136	0.000	0.594	1.685
	Region=REGION I	0.486	0.080	0.206	6.112	0.000	0.697	1.435
	Region=REGION II	0.612	0.081	0.260	7.594	0.000	0.679	1.472
	Region=REGION III	0.563	0.080	0.239	7.038	0.000	0.691	1.447
	Region=REGION IV-A	0.455	0.080	0.193	5.656	0.000	0.683	1.465
	Region=REGION IX	0.270	0.083	0.115	3.270	0.002	0.648	1.543
	Region=REGION V	-0.159	0.080	-0.067	-1.992	0.050	0.696	1.437
	Region=REGION VII	0.394	0.086	0.167	4.590	0.000	0.600	1.667
	Region=REGION X	0.306	0.082	0.130	3.729	0.000	0.655	1.528
	Region=REGION XI	0.327	0.080	0.139	4.107	0.000	0.698	1.433
	UNDER 40,000	0.002	0.003	0.021	0.636	0.527	0.761	1.315
	100,000 - 249,999	3.541E-05	0.000	0.019	0.597	0.552	0.773	1.293
	RGDP (in percentage)	0.004	0.006	0.030	0.735	0.465	0.485	2.064
	BUSINESS CYCLE	-0.427	0.023	-1.116	-18.819	0.000	0.226	4.422
	Year=2006.0	-0.651	0.048	-0.437	-13.583	0.000	0.767	1.304
	Region=REGION VI	0.116	0.082	0.049	1.414	0.161	0.660	1.516
	Region=REGION VIII	0.114	0.085	0.048	1.338	0.185	0.612	1.633
	Region=REGION XIII	0.107	0.080	0.045	1.343	0.183	0.697	1.435
5	(Constant)	3.642	0.160		22.740	0.000		
	250,000 AND OVER	0.003	0.000	0.470	7.767	0.000	0.215	4.647
	Year=2012.0	-0.793	0.088	-0.533	-9.041	0.000	0.227	4.410

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	Year=2015.0	0.784	0.057	0.527	13.756	0.000	0.538	1.859
	Region=CAR	0.763	0.086	0.324	8.840	0.000	0.588	1.700
	Region=MIMAROPA	0.305	0.085	0.129	3.583	0.001	0.605	1.653
	Region=NCR	0.703	0.086	0.298	8.187	0.000	0.594	1.684

	Region=REGION I	0.487	0.079	0.207	6.147	0.000	0.697	1.434
	Region=REGION II	0.612	0.080	0.260	7.621	0.000	0.679	1.472
	Region=REGION III	0.563	0.080	0.239	7.076	0.000	0.691	1.447
	Region=REGION IV-A	0.456	0.080	0.193	5.690	0.000	0.683	1.464
	Region=REGION IX	0.271	0.082	0.115	3.292	0.001	0.648	1.543
	Region=REGION V	-0.158	0.079	-0.067	-1.995	0.049	0.696	1.437
	Region=REGION VII	0.412	0.080	0.175	5.176	0.000	0.690	1.449
	Region=REGION X	0.307	0.082	0.130	3.752	0.000	0.655	1.528
	Region=REGION XI	0.327	0.079	0.139	4.132	0.000	0.698	1.433
	UNDER 40,000	0.002	0.003	0.022	0.675	0.502	0.763	1.310
	RGDP (in percentage)	0.004	0.006	0.030	0.734	0.465	0.485	2.064
	BUSINESS CYCLE	-0.427	0.023	-1.116	-18.897	0.000	0.226	4.422
	Year=2006.0	-0.651	0.048	-0.437	-13.644	0.000	0.767	1.304
	Region=REGION VI	0.116	0.081	0.049	1.426	0.158	0.660	1.516
	Region=REGION VIII	0.114	0.085	0.048	1.351	0.181	0.612	1.633
	Region=REGION XIII	0.107	0.079	0.046	1.353	0.180	0.697	1.435
6	(Constant)	3.701	0.134		27.604	0.000		
	250,000 AND OVER	0.003	0.000	0.473	7.852	0.000	0.216	4.628
	Year=2012.0	-0.790	0.087	-0.531	-9.048	0.000	0.227	4.397
	Year=2015.0	0.784	0.057	0.527	13.803	0.000	0.538	1.859
	Region=CAR	0.779	0.083	0.330	9.419	0.000	0.636	1.572
	Region=MIMAROPA	0.303	0.085	0.129	3.580	0.001	0.605	1.652
	Region=NCR	0.699	0.085	0.297	8.188	0.000	0.597	1.675
	Region=REGION I	0.484	0.079	0.205	6.139	0.000	0.700	1.430
	Region=REGION II	0.610	0.080	0.259	7.633	0.000	0.680	1.471
	Region=REGION III	0.564	0.079	0.239	7.116	0.000	0.691	1.446

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	Region=REGION IV-A	0.453	0.080	0.192	5.685	0.000	0.684	1.461
	Region=REGION IX	0.265	0.082	0.113	3.254	0.002	0.654	1.529
	Region=REGION V	-0.163	0.079	-0.069	-2.067	0.042	0.701	1.426
	Region=REGION VII	0.407	0.079	0.173	5.151	0.000	0.698	1.433

	Region=REGION X	0.303	0.081	0.129	3.730	0.000	0.657	1.522
	Region=REGION XI	0.324	0.079	0.138	4.113	0.000	0.700	1.428
	RGDP (in percentage)	0.004	0.006	0.030	0.749	0.456	0.485	2.063
	BUSINESS CYCLE	-0.429	0.022	-1.119	-19.072	0.000	0.228	4.396
	Year=2006.0	-0.656	0.047	-0.441	-13.965	0.000	0.786	1.273
	Region=REGION VI	0.112	0.081	0.047	1.380	0.171	0.664	1.506
	Region=REGION VIII	0.109	0.084	0.046	1.295	0.199	0.618	1.617
	Region=REGION XIII	0.105	0.079	0.045	1.335	0.186	0.698	1.433
7	(Constant)	3.717	0.132		28.168	0.000		
	250,000 AND OVER	0.003	0.000	0.471	7.853	0.000	0.216	4.623
	Year=2012.0	-0.785	0.087	-0.527	-9.042	0.000	0.229	4.371
	Year=2015.0	0.763	0.049	0.513	15.416	0.000	0.704	1.420
	Region=CAR	0.763	0.080	0.324	9.574	0.000	0.681	1.467
	Region=MIMAROPA	0.281	0.079	0.119	3.557	0.001	0.694	1.441
	Region=NCR	0.694	0.085	0.294	8.176	0.000	0.601	1.664
	Region=REGION I	0.478	0.078	0.203	6.110	0.000	0.708	1.413
	Region=REGION II	0.604	0.079	0.256	7.617	0.000	0.689	1.452
	Region=REGION III	0.555	0.078	0.236	7.104	0.000	0.708	1.413
	Region=REGION IV-A	0.444	0.079	0.189	5.652	0.000	0.699	1.430
	Region=REGION IX	0.255	0.080	0.108	3.182	0.002	0.673	1.487
	Region=REGION V	-0.166	0.078	-0.071	-2.119	0.037	0.703	1.421
	Region=REGION VII	0.407	0.079	0.173	5.168	0.000	0.698	1.433
	Region=REGION X	0.304	0.081	0.129	3.742	0.000	0.657	1.522
	Region=REGION XI	0.324	0.079	0.137	4.118	0.000	0.700	1.428
	BUSINESS CYCLE	-0.420	0.019	-1.097	-21.593	0.000	0.302	3.315
	Year=2006.0	-0.654	0.047	-0.439	-13.984	0.000	0.789	1.267

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	Region=REGION VI	0.098	0.079	0.042	1.246	0.216	0.701	1.427
	Region=REGION VIII	0.098	0.082	0.042	1.188	0.238	0.637	1.570
	Region=REGION XIII	0.102	0.079	0.043	1.295	0.199	0.701	1.427
8	(Constant)	3.706	0.132		28.084	0.000		

	250,000 AND OVER	0.004	0.000	0.494	8.656	0.000	0.241	4.157
	Year=2012.0	-0.813	0.084	-0.546	-9.695	0.000	0.247	4.055
	Year=2015.0	0.759	0.049	0.510	15.332	0.000	0.707	1.414
	Region=CAR	0.728	0.074	0.309	9.814	0.000	0.791	1.265
	Region=MIMAROPA	0.247	0.074	0.105	3.345	0.001	0.796	1.256
	Region=NCR	0.652	0.077	0.277	8.423	0.000	0.726	1.378
	Region=REGION I	0.447	0.074	0.190	6.039	0.000	0.792	1.263
	Region=REGION II	0.569	0.074	0.242	7.696	0.000	0.794	1.259
	Region=REGION III	0.527	0.075	0.224	7.063	0.000	0.781	1.281
	Region=REGION IV-A	0.412	0.074	0.175	5.575	0.000	0.797	1.255
	Region=REGION IX	0.219	0.074	0.093	2.945	0.004	0.786	1.273
	Region=REGION V	-0.198	0.074	-0.084	-2.679	0.009	0.796	1.256
	Region=REGION VII	0.374	0.074	0.159	5.063	0.000	0.797	1.255
	Region=REGION X	0.266	0.075	0.113	3.551	0.001	0.775	1.291
	Region=REGION XI	0.291	0.074	0.124	3.942	0.000	0.797	1.255
	BUSINESS CYCLE	-0.426	0.019	-1.111	-22.470	0.000	0.320	3.126
	Year=2006.0	-0.660	0.047	-0.443	-14.161	0.000	0.799	1.252
	Region=REGION VI	0.065	0.074	0.028	0.886	0.378	0.797	1.255
	Region=REGION XIII	0.069	0.074	0.029	0.939	0.351	0.797	1.255
9	(Constant)	3.723	0.130		28.551	0.000		
	250,000 AND OVER	0.004	0.000	0.493	8.662	0.000	0.241	4.157
	Year=2012.0	-0.812	0.084	-0.546	-9.704	0.000	0.247	4.054
	Year=2015.0	0.759	0.049	0.510	15.353	0.000	0.707	1.414
	Region=CAR	0.711	0.072	0.302	9.917	0.000	0.843	1.186
	Region=MIMAROPA	0.231	0.071	0.098	3.230	0.002	0.849	1.178
	Region=NCR	0.636	0.075	0.270	8.464	0.000	0.769	1.301

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	Region=REGION I	0.431	0.072	0.183	6.016	0.000	0.844	1.184
	Region=REGION II	0.553	0.072	0.235	7.729	0.000	0.847	1.181
	Region=REGION III	0.511	0.072	0.217	7.073	0.000	0.832	1.202
	Region=REGION IV-A	0.395	0.071	0.168	5.537	0.000	0.850	1.176

	Region=REGION IX	0.203	0.072	0.086	2.817	0.006	0.837	1.195
	Region=REGION V	-0.214	0.071	-0.091	-3.000	0.004	0.849	1.177
	Region=REGION VII	0.358	0.071	0.152	5.006	0.000	0.850	1.177
	Region=REGION X	0.250	0.073	0.106	3.443	0.001	0.825	1.213
	Region=REGION XI	0.275	0.071	0.117	3.848	0.000	0.850	1.176
	BUSINESS CYCLE	-0.426	0.019	-1.111	-22.495	0.000	0.320	3.126
	Year=2006.0	-0.660	0.047	-0.443	-14.177	0.000	0.799	1.252
	Region=REGION XIII	0.053	0.071	0.022	0.742	0.460	0.850	1.176
10	(Constant)	3.734	0.129		28.898	0.000		
	250,000 AND OVER	0.004	0.000	0.493	8.682	0.000	0.241	4.157
	Year=2012.0	-0.812	0.083	-0.546	-9.727	0.000	0.247	4.054
	Year=2015.0	0.759	0.049	0.510	15.395	0.000	0.707	1.414
	Region=CAR	0.701	0.070	0.297	9.995	0.000	0.878	1.140
	Region=MIMAROPA	0.220	0.070	0.093	3.154	0.002	0.884	1.131
	Region=NCR	0.625	0.074	0.265	8.499	0.000	0.797	1.254
	Region=REGION I	0.420	0.070	0.178	6.004	0.000	0.879	1.137
	Region=REGION II	0.542	0.070	0.230	7.757	0.000	0.882	1.134
	Region=REGION III	0.500	0.071	0.212	7.085	0.000	0.866	1.154
	Region=REGION IV-A	0.385	0.070	0.163	5.514	0.000	0.885	1.129
	Region=REGION IX	0.192	0.070	0.082	2.731	0.008	0.871	1.148
	Region=REGION V	-0.225	0.070	-0.095	-3.222	0.002	0.885	1.130
	Region=REGION VII	0.347	0.070	0.147	4.971	0.000	0.885	1.130
	Region=REGION X	0.239	0.071	0.101	3.372	0.001	0.858	1.166
	Region=REGION XI	0.264	0.070	0.112	3.786	0.000	0.885	1.129
	BUSINESS CYCLE	-0.426	0.019	-0.998	-22.554	0.000	0.320	3.126
	Year=2006.0	-0.659	0.046	-0.443	-14.215	0.000	0.799	1.252

a. Dependent Variable: LN_Savings

Appendix 27: Overall Residual Statistics

Residuals Statistics[a]					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.4975	4.7216	3.5276	0.53881	102
Std. Predicted Value	-1.912	2.216	0.000	1.000	102
Standard Error of Predicted Value	0.035	0.080	0.064	0.012	102
Adjusted Predicted Value	2.4991	4.7240	3.5279	0.53891	102
Residual	-0.40773	0.28736	0.00000	0.14232	102
Std. Residual	-2.613	1.841	0.000	0.912	102
Stud. Residual	-2.729	2.079	-0.001	1.000	102
Deleted Residual	-0.44479	0.36630	-0.00030	0.17160	102
Stud. Deleted Residual	-2.842	2.122	-0.004	1.014	102
Mahal. Distance	4.068	25.468	16.833	5.841	102
Cook's Distance	0.000	0.099	0.011	0.018	102
Centered Leverage Value	0.040	0.252	0.167	0.058	102
a. Dependent Variable: LN_Savings					

Appendix 28: Final Scatterplot to LN Savings

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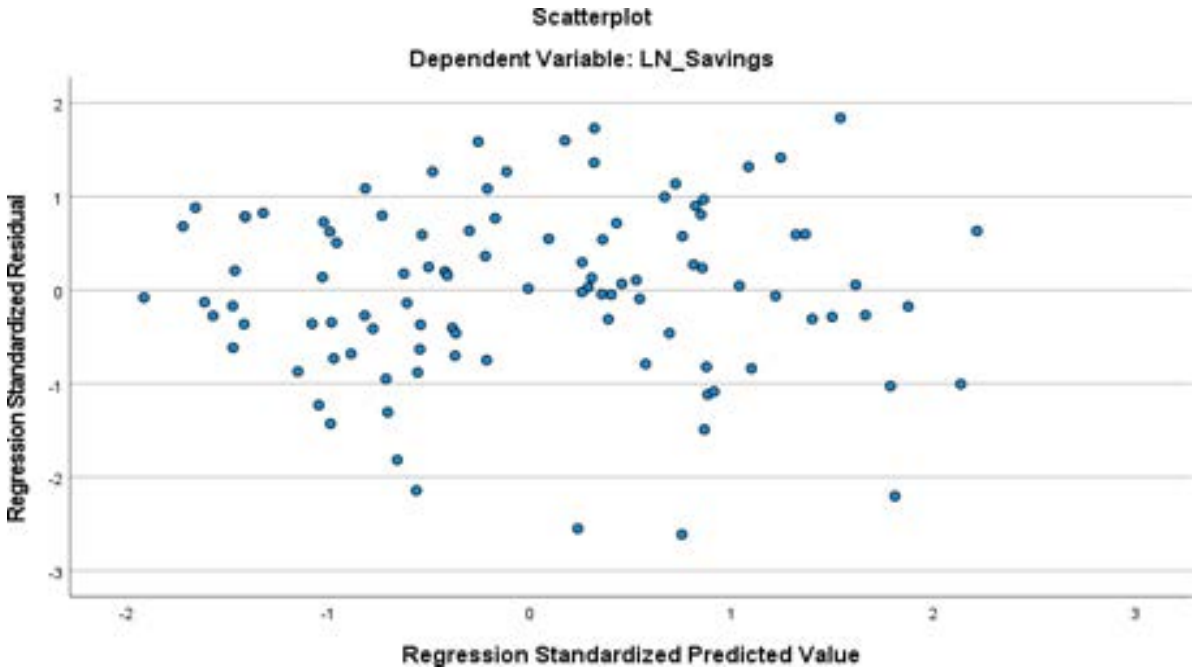

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