Macroeconomic Savings Paradox & the Philippine Case (1960-2017)

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***Abstract*:** *This paper examined savings as derived from macroeconomic concepts and principles like income and its relation to consumption. Though a person, or a nation even, may have good interests in mind as to why he/she accumulates savings, studies showed that too much savings may be also detrimental. In essence, savings presents a paradox embedded within itself. This study is built on the reasons why people or economies save based on available literature and the nature of savings as built on Keynesian economics propagated by Blanchard (2003) through utilizing secondary macroeconomic data. Extant literature are then compared and contrasted with that of the Filipino view of savings as presented by Fajardo and Manansala (1993). In this paper, the researcher utilized the gross domestic savings rate as a percentage of gross domestic product of the country from 1960 to 2017 as well as the gross domestic product of the country in the same time frame.*

Keywords: *macroeconomics, savings, paradox, income*

1. Introduction & Objectives of the Study

"*One person gives freely, yet gains even more; another withholds unduly, but comes to poverty.*"

-Proverbs 11:24

As a consumer, there is the avid desire to level consumption throughout time—through thick or thin, in sickness or in health. It is true that one is not able to earn a living throughout his lifetime. Sooner or later, just like any living creature on this planet, we wither and die. To bear witness to these final moments in life, one has to save at the present in order to meet the needs of old age. No one wants to be completely dependent on his loved ones for monetary support. In addition to this, no one desires the feeling of helplessness and desperateness in times of need.

Fajardo and Manansala (1993) in Money, Credit and Banking identified six (6) specific motives that describe the rationale behind the saving decision. These are the following: (1) To finance the needs of old age; (2) to give insurance against the contingency of being unemployed or possible loss of employment because of ill-health or accident; (3) to give protection for the family; (4) to enjoy fully the retirement period in comfort and leisure; (5) to earn interest or additional income and; (6) to save because there is no other alternative but to save.

2. Literature Review & Framework of the Study

2.1. Literature Review

To illustrate the concept of saving, John Maynard Keynes, a British economist, described saving and consumption as alternative uses of income. Thus, this simple relationship can be mathematically represented as follows:

$$Y = C + S \qquad (1)$$
$$S = Y - C \qquad (2)$$

where:

Y = disposable income (income net of taxes)

C = consumption

S = saving

Equation 1 depicts that income net of taxes can be used for consumption or for savings. Isolating S on one side of the equation entails transposition of terms. Thus, savings is the net residual of disposable income after consumption as seen in Equation 2. As a matter of fact, these equations form part of the theories commonly discussed in courses in macroeconomics given their soundness and universality.

Saving, based on these mathematical relationships, prove to be a very promising concept or ideology for consumers and economists alike. It seems to guarantee a life free of woes and tribulations. However, something is at stake. Because of saving, people forego current consumption as well as their welfare in exchange for a smooth consumption in times of dire need in the future. Also, saving large proportions of income pose macroeconomic threats in the short-run. Higher output in the present period is sacrificed and this has repercussions in the current state of the economy.

Attempting to shed light on this issue, Blanchard (2003) and Thies (n.d.) explained an idea called *The Paradox of Saving*. As the title implies, there is a duality in the nature of saving. Though conventionally, people may view it as something totally beneficial. Saving has its own aftermath to offer in an economy. This paper on Blanchard's article attempts to critically assess the effects of saving deemed applicable to the current Philippine scenario. At the same time, this paper also wishes to shed light on the importance of saving or the lack of such most especially to a developing economy such as the Philippines.

Blanchard (2003) lumped saving as the sum of private and public *saving* with the latter pertaining to the savings made by the government which is the residual of tax revenues after spending. On the other hand, *savings* pertains to the accumulated value of past saving. Economists also refer to savings as *wealth*. In addition to these, Samuelson and Nordhaus (1992) defines saving as that part of income which is not consumed. Thus, by simple logic, to increase savings is to accumulate wealth.

Aside from the benefits of savings mentioned in the previous part, the same is also eventually transmitted to the economy as investment. Blanchard (2003) also stresses that an economy that saves will enjoy the benefits of prosperity. Fajardo and Manansala (1993) identified the link between savings and economic growth with the aid of financial institutions. Financial institutions are responsible for mobilizing the savings made by individuals for investment. According to them, investment is the key to economic growth. It generates jobs for people, and at the same time, it produces goods and services leading to an increase in national output as people consume the very same goods and services the economy produces. Fajardo and Manansala (1993) defined financial institutions as "*private of government organizations whose assets consist primarily of claims or incomes primarily derived from dealing in and/or performing services in connection with claims*". These institutions are an integral part of the entire Philippine financial system which is comprised of financial claims, financial markets, government agencies and laws and policies. Therefore, these financial institutions basically function as conduits of funds from savers to borrowers.

2.2. Economic Framework of the Study

Blanchard (2003) presented the idea that consumers save more than the usual level or amount, meaning that their marginal propensity to save increases. This would also mean that the consumers' marginal propensity to consume decreases. Based on the equation for private saving:

$$S = -c_o + (1 - c_1)(Y - T) \qquad (3)$$

where:

S is saving

c_o is independent consumption

$1 - c_1$ is marginal propensity to save

Y – T is disposable income (income net of taxes)

Blanchard (2003) discusses that decreasing consumption decreases demand for goods and services. Thus, it

also reduces production. Formally stated, the *paradox of saving* or the *paradox of thrift* states that it is the result that an attempt by people to save more may lead to a decline in output and to unchanged saving as depicted by the equation below.

$$Y = \frac{1}{1 - c_1}[c_o + \bar{I} + G - c_1 T] \qquad (4)$$

where:

Y = output

1 – c1 = marginal propensity to save

I = investment

G = government spending

T = taxes

As the marginal propensity to save increases, it can be seen that the output decreases. Thus, they are inversely related to each other.

Blanchard pointed out that the net effect of the increase in saving is ambiguous or unclear. Since consumers are saving more of their income, but the effect of such decreases Y as well which pulls down saving. Thies (n.d.) quoted Samuelson's critic, McConnell (1960) in explaining the socio-economic effect of savings. McConnell (1960) argued that saving is a social harm, "*up to the point where full employment prevails, the growth of capital depends not at all on a low propensity to consume, but is, on the contrary, held back by it*".

The paradox of thrift has been a part of Keynesian economics. It simply argues that in times of recession, as people attempt to save more, aggregate demand in the economy declines, thus leading to a fall in aggregate demand

Because of these dynamics, the paradox of saving poses a strong impact in the short run. In the United States, the longing for higher savings eventually led to a recession in the early 90s. However, in some economic growth models like the Solow Growth model, saving, together with technological progress and capital paves the way for economic prosperity, which is a medium-run or a long-run effect.

This beneficial effect of saving is to be realized at the expense of economic issues such as a recession which has a serious effect on a country's Gross Domestic Product or GDP. Considering the fact that the Philippines is a developing country with more than half of its population living below the poverty line, saving can be an added burden to the country's *masa*. Since the *common tao's* concern is how to put food on the table on a daily basis, they can barely think of savings as a key to a bright future. Furthermore, unemployment is a serious concern of the Filipino people as well. Encouraging the middle-class and the upper-class to save more of their income would transmit an increasing rate of unemployment since the ones in the rank-and-file order of employees in a firm owned by the middle-class and the upper-class are the ones belonging to the masa. Instead of money being invested to use for economically productive activities, keeping it under one's mattress has no substantial effect on the economy. Consider this: Fajardo and Manansala (1993) tried to visualize a poor man who begins to earn more money to improve his standard of living leading to the elevation of social status and human dignity. Considering the fact that in the United States, even a maintenance personnel or a McDonalds' employee can afford to purchase an automobile, this continues to be an obscure reality for the working Filipino with a college degree. An improvement in the standard of living can be attained through economic growth and progress. They also affirmed that "*poor countries have very low incomes because of their low productivity. The problem of production has been brought about by deficiency of capital and poor technology. Inadequate financial capital results to low investment.*" Arguing along this maxim, financial capital in the form of investment equates to the savings of the people. But savings, in the meantime, reduces output as well. This ambiguous effect of savings supports the nature of its paradox.

In the short run, since saving can trigger a recession, it appears that this act of thrift is contrary to the

macroeconomic goal of full employment. Since employment is an element of economic growth and economic efficiency through the appropriate use or resources, in which capital and investment are integral parts of, saving can be treated as a detrimental factor as it reduces output.

To add to the Philippines' growing list of worsening socioeconomic conditions, financial institutions, specifically savings banks, offer minimal interest rates on saving deposits. In 2003, most savings banks only grant 1.0 to 1.5% interest on savings. This is not even net of taxes. This unattractiveness to save also contributes to the fact that people are not encouraged to deposit their excess money at all. Some people find other attractive financial securities as an alternative use for their excess funds such as bonds and treasury bills while some purchase pension plans and various insurances to safeguard their future. As of 2011, a number of savings banks in the Philippines offer less than 1.0% interest rate on savings deposits. This leads to the question for future research: Given the current interest rate on savings, will it encourage the Filipino citizenry to build on savings and accumulate wealth? Or will it just further advance consumerism to fuel the Philippine economy to increase gross domestic and gross national product?

3. Presentation & Analysis of Data

In this study, the researcher utilized the patterns of the gross domestic savings rate of the Philippines from 1960 to 2017 as provided by the World Bank. Gross domestic savings rate is computed from gross domestic savings and nominal gross domestic product (GDP) (CEIC, 2018). Gross domestic savings is determined by subtracting final consumption expenditure from nominal GDP. On the other hand, final consumption expenditure is determined by obtaining the sum of both private and government consumption expenditure. Hence, we have the following relationships:

$$FCE = PCE + GCE \tag{5}$$

where:

FCE = final consumption expenditure

PCE = private consumption expenditure

GCE = government consumption expenditure

$$GDS = GDP_{nominal} - FCE \tag{6}$$

where:

GDS = gross domestic saving

$GDP_{nominal}$ = nominal gross domestic product

FCE = final consumption expenditure

From the economic relationships presented above, it can be seen that the concepts rely heavily on classical macroeconomic relationships between income, consumption and savings.

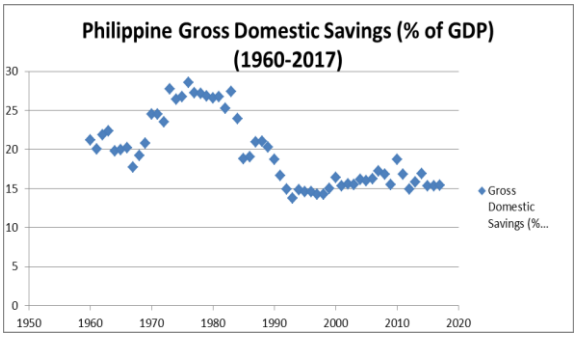

Fig. 1 Philippine Gross Domestic Savings Rate (1960-2017)

Figure 1 below is a scatterplot of the Philippine Gross Domestic Rate for the past 58 years, from 1960 to 2017. The raw data were obtained from the World Bank. From the scatterplot, it can be seen that the gross domestic savings rate of the country was generally increasing from the mid-1960s to mid-1970s. It is generally declining throughout the 1980s with little fluctuations thereafter.

Employing descriptive statistics on the time series data gathered yields the following:

Table I: Philippine Gross Domestic Savings Rate Descriptive Analysis

	Gross Domestic Savings Rate (in %)	**Year**
maximum	28.55570666	1976
minimum	13.75909911	1993
average	19.61779411	
median	18.7653954	
stdev	4.526432556	

Table 1 shows that the maximum Philippine gross domestic savings rate was realized in 1976 while the least gross domestic savings rate was experience in 1993. The average (mean) gross domestic savings rate for the past 58 years is around 19.62% with a standard deviation of 4.52%. The median gross domestic savings rate is only 18.77%. With the mean gross domestic savings rate being higher than the median gross domestic savings rate, it can be inferred that the data set is positive skewed.

Treating time as an independent variable and gross domestic savings rate can help determine its behavior that will give rise to implications regarding the Philippine economy. Running a simple correlation and regression analysis yields the output below as seen in Table 2.

Table II: Philippine Gross Domestic Savings Rate Regression Analysis

Table 2 shows that 43.40% of the variation in gross domestic savings rate is explained by time. There also appears to be a negative relationship between time (year) and gross domestic savings rate. This is justified by the negative sign under the coefficients column corresponding to time (year) with a value of -0.1766 with a p-value of 1.882E-08. This suggests that on the average, gross domestic savings rate diminishes by that amount every year. Given the very small value of Sig F of 1.88E-08, it can be said that the linear regression model is significant should the researcher decide to use it to predict the future values gross domestic savings rate.

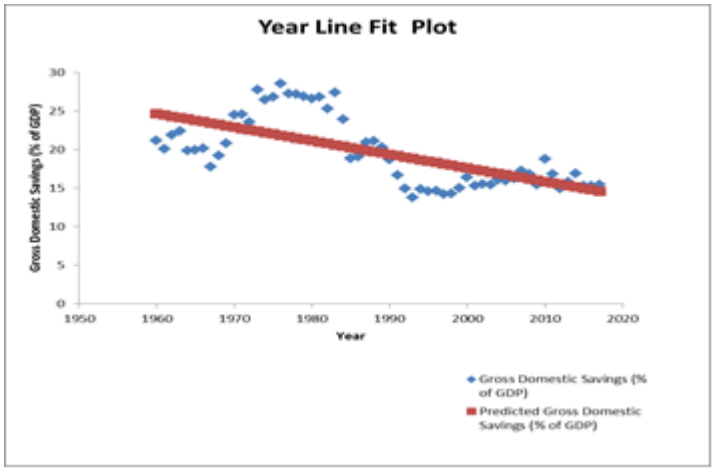

Fig. 2 Best Line Fit Plot of Gross Domestic Savings Rate

The best line fit plot that captures that actual data of the gross domestic savings rate shows that gross domestic savings rate is decreasing over time. Based on Figure 2, the overall trend is a decline from 1960 – 2017.

Where does the paradox lie? Using the same time frame, the gross domestic product data for the Philippines yields the following scatterplot:

Fig. 3 Gross Domestic Product of the Philippines (1960 – 2017)

The scatterplot above shows that the gross domestic product of the country is generally increasing from 1960 to 2017.

It is interesting to note that despite these increases in gross domestic product, gross domestic savings is declining. This relationship can be summarized by the correlation matrix below.

Table III: Correlation Matrix Between GDP and Gross Domestic Saving

	Year	*GDP*	*Gross Domestic Savings (% of GDP)*
Year	1.00000		
GDP	0.86266	1.00000	
Gross Domestic Savings (% of GDP)	-0.65885	-0.54699	1.00000

The correlation matrix shows that there is a strong positive correlation between GDP and time (year). However, there is a moderate negative correlation between gross domestic savings and time (year). The same moderate negative correlation can be seen between gross domestic savings and GDP.

4. Conclusions & Recommendations

Economic growth is an ingredient of economic progress. Given the circumstances that plague the Philippine setting, increasing savings is not beneficial in the short run to the common Juan dela Cruz whose goal at the end of the day is to place food on the table. This is where social responsibility and social justice come in. Money is not the most important thing in the world, neither is it an economic resource. However, capital is. The government, together with financial institutions, should formulate sound economic policies that uplift the quality of our human resources given the fact that the Philippines is blessed with abundant natural resources. However, it is important t

Keynes may have shed light in examining the idiosyncrasy saving may bring. However, idiosyncrasies, to a certain extent, have their own competitive advantages. Recalling the old adage that Rome wasn't built on one day, this would remind economists and decision-makers in all fields that a great empire symbolizes economic prosperity. It took years for the Roman empire to exude immense greatness and power. Analogously, in the early 90s, statistics showed that the thriftiest savers such as the Japanese, the Dutch, the French and the Germans. At the other side of the spectrum, there are still nations in Africa that still need to see the light of economic progress.

It is true that the fruits of developing the quality of the country's human resources through training and education may not be realized in a few years' time. The present generation may not be even alive when they witness it. However, economists should view this as a form of an investment which will reap payoffs in the future leading to an increase in output and an uplifted morale by improving the standard of living. After all, prosperity is something wished for by every society. Similar to saving, though it may come as a disadvantage for now, it does promise a bright future for everyone. The question now is "*How much are we willing to sacrifice for now to enjoy a bright future?*" The answer lies in everybody's hands.

5. Acknowledgment

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