Military Expenditure and the Socio-Economic Performance of the Philippines

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Abstract

This study aims to examine the relationship between military expenditure and the socio-economic performance of the Philippines from 1980 to 2011. Augmented Dickey Fuller test was used to test for stationarity of GDP growth rate and military expenditure. Akaike's Final Prediction Error was used to determine the optimal lag lengths for the variables tested and Granger causality test was employed to determine the linkages between the military expenditure and GDP growth rate. Correlation was utilized to indicate the direction and magnitude of the relationship between defense spending, health and education expenditures as percentages of GDP.

Results show that both GDP growth rate and military expenditure variables are stationary. The optimal lag length for both variables tested is one year which means that the effect of defense/growth on growth/defense will be felt immediately and that growth/defense is predicted by its past values. Moreover, military expenditure induces growth of the Philippine economy. This relationship suggests that the Philippines' GDP growth rate relied on its military expenditure during 1980 to 2011. However, there is a negatively strong correlation between defense spending and the social variables of health and education expenditures. Defense spending appears to crowd out health and education expenditures of Philippines. This implies that defense spending may be good for the Philippine economy, but detrimental to social development in terms of health and education expenditures. This indicates that modifications in the level of defense spending will entail significant changes in the country's economy and on the society.

1. Introduction

Guns or butter?
The link between military spending with economic growth can be traced from the concept of Military Keynesianism. This concept dates back to the post World War II period when John Maynard Keynes advised the then-US President, Franklin Roosevelt, to devote spending on the military to promote economic growth. To wit: "In the past, orthodox finance has regarded a war as the only legitimate excuse for creating employment by governmental expenditure. You, Mr. President, having cast off such fetters, are free to engage in the interests of peace and prosperity the technique which, hitherto has only been allowed to serve the purposes of war and destruction." [17] The U.S. government then accepted the concept and labeled it as "military Keynesianism". It refers to the "economic policies in which the government devotes large amounts of spending to the military in order to foster economic growth" [12]. Since then, the link between economic control and military operation has been the subject of scholarly inquiries.

In the literature reviewed, many of the sources of inquiry cite Benoit's study of 44 Less Developed Countries (LDCs) for the period 1950 to 1965. Benoit analyzed the impact of military spending on economic growth and human capital formation of these 44 countries. He found out that the defense burden actually stimulates economic growth. In addition, he discovered that the military in those LDCs has major roles in terms of infrastructure development, community outreach initiatives [3] and decreased unemployment [31].Therefore, expanded aggregate demand leads to higher investment [1]. There was then the impression that the social, economic and political thrusts towards development of the state can be influenced by military activities [24]. This is now labeled as the "Benoit Hypothesis". Other researchers then followed with studies for their respective countries looking at the effects of military spending on growth, for one, and also on other variables specifically on health and education.

1.1. Occurrence of *Positive Relationship* between Military Spending and Economic Performance

Several studies were conducted to find out if defense spending induces growth or the other way around. And results for countries specifically China, Singapore, Indonesia and the United States prove that defense spending is the key agent in improving a country's economy. For China, from 1953 to 2000, it was found out

that the direction is from national defense to the economy [11]. This considered the presence of the escalating arms race between China and Taiwan, and the size of China's military forces relative to Taiwan. The same result was achieved for the case of Singapore and Indonesia where the spillover effects of military activities such as the construction of public infrastructure, creation of dams, roads, and highways were considered growth-inducing [13]. A separate study presents the significant role of the military Research and Development (R&D) of the United States in the accumulation of earnings from arms exports. This is a military expenditure that has been identified to stimulate growth [32]. These findings support Benoit's Hypothesis that military spending stimulates economic growth.

Studies determined just the same the link and direction of relationship between defense spending and growth. There was a positive relationship discovered; but that a feedback loop exists. This is best exhibited in the historical record of Taiwan military spending positively contributes to its economic growth. From 1953-1988, Taiwan's relatively large defense outlay affected directly its economic expansion with 8.08% GNP growth rate, on the average. One of the pinpointed factors contributing to this effect is the U.S. foreign aid for defense and development of Taiwan which represented 20% of its gross capital formation. Its conclusion specifies that the increase in military expenditure boosts Taiwan's economic performance in the long run and vice versa (Chien-Chiang and Chun-Ping 2006). Separate studies for Taiwan and Thailand investigate the relationship between economic performance vis-à-vis military spending. The first analysis involves GDP as the independent variable and the defense spending as the dependent variable. The second analysis interchanged the independent variable (IV) and the dependent variable (DV) where the defense spending is the independent variable for GDP. This study, too, found a feedback loop relationship between economic growth and military expenditure for Taiwan [11] and Thailand [13]. Meaning, an increase in military expenditure allows improved economic growth; this, thereby, permits an increase in its military outlay.

In the context of France over a 48-year period of analysis (from 1960 to 2008), the explored relationship between defense spending and growth in terms of GDP is positively bidirectional, in general [20]. The study concludes that the positive relationship between military spending and growth occurs in the long run while the reverse effect where growth proceeds to a positive relationship with military spending is seen to accrue in the short run [19]. The findings of these studies not only support Benoit's Hypothesis but provided an additional insight that the direction of relationship between the two variables may be bi-directional.

On the other hand, the result for Malaysia has a different direction of relationship wherein growth causes defense spending. Though Frederiksen (1991) explains this as the result of the declining final prediction error when defense/growth is the respective dependent variable, the claim for this reverse result proves the significance of its GDP growth to the country's defense spending.

It can be concluded, herein, that defense spending stimulates growth under, a) If the country's size of armed forces is big enough to influence its economy amidst conflict; b) If the country is a net arms exporter wherein the gain from trade induces economic growth; c) If military activities create spill-over effects characterized by a variety of public infrastructure such as creating dams, laying down communication networks, and constructing roads, airports, highways, and other transportation networks. This would mean providing the infrastructure of development and security that would stimulate economic activities; and d) If the country's foreign aid for military spending compensates the budget appropriation for its armed forces; thus, sparing budget cut-off on the part of the civilian sector.

1.2. Occurrence of *Negative Relationship* between Military Spending and Economic Performance

The cause of concern of several studies is whether military spending affects the country's social development. Does the positive relationship between economic growth and military spending also mean improved health and education? Though the relationship may be positive for countries such as Taiwan, China, and the United States, the relationship with health and physical welfare remains controversial [9]. This means that the increase in military expenditure is damaging to health and physical quality of life [3]. With amounts being shifted from non-military to military expenses, the attention to the basic needs of its citizens may be compromised (like guns vs. butter debate). Therefore, military expenditure has an adverse effect on social development. One study reveals that, in India, military expenditure impedes economic growth in the long-run. The hampered economic growth of India is concluded to be an effect of the continuous arms race against Pakistan wherein more funds are allocated for defense readiness [33].

Armed conflict and human well-being are the subjects of analysis of another study which specifically looked into LDCs "security". *Security* here was regarded as a symbol pertaining to "protection from the threat of disease, hunger, unemployment, crime, social conflict, political repression, and environmental hazards" [24]. This study highlights the detrimental influence of military spending and arms imports to security particularly to food

security and child nutrition. This is dubbed as "military famine" or food shortage caused by diverted funds from civilian needs to military uses. Arguments follow that though military spending triggers positive economic growth, policy-makers must consider the social development opportunity costs of such a decision. Scanlan (2001) cited the situation of Afghanistan, North Korea, and Sudan to illustrate how human well-being is threatened by militarization and conflict. He recommends that the analysis of military expenditure must extend beyond the economic perspective; it must move into considering the social and political aspects that are equally worthy of inquiry. Moreover, trade-offs between military spending, health and education needs to be mapped. Take Turkey, for example. For the period 1925-1998, the result of a study by Ozsoy (2002) indicates a negative trade-off between military spending and education-health expenditures. We may link this with the analysis of the Production Possibility Frontier (PPF) wherein the increase in production of one variable (military/guns) leads to the reduction in the production of the other variable (education-health/butter). Another crucial result of this study was the empirical evidence showing the significant positive relationship of education and health on per capita GNP. Therefore, an increase in military spending which results to reduced education-health expenditure can impair economic growth. The same outcome was found out in a study about developed countries– UK, France and German. Ozsoy (2002) supports the study of Kollias (2002) in ascertaining that defense spending has been crowding out education and health.

In an assessment about the impact of defense on the Balkan countries' growth rates, productivity growth, and civilian budgetary outlays specifically education, health, and social services spending; Kollias (2002) affirms that there is, indeed, a negative link. Findings about Greece, Albania, Bulgaria, Macedonia, Slovenia, and Turkey during the period of unrest and intense ethnic conflicts (from 1993 to 1998) led Kollias to conclude that this link has a multitude of channels and these various linkages are brought about by the countries' differences in terms of level of development, differences in defense burden, and differences in the nature of the security problem. However, despite the differences in the level of development, defense expenditure (or defense burden) and armed conflict history of these countries, Barros (2002) argues that the result is identical - that these Balkan countries will be marginalized in terms of development if military budget will be bloated.

The study of Mylonidis (2008) was an offshoot of Barros' study covering the period 1960-2000. He supports Barros' finding and showed that "military spending has an overall net negative influence on economic growth" and this effect may magnify in the long-run. Separate studies about middle- to low-income countries and 15

member-countries of the European Union (EU15) viewed the effect of military spending in terms of GDP share and the same result was obtained – that for the middle- to low-income countries, defense burden serves a positive end only in the short run but when this is studied in the long-run, its effect is negative [15]; and that this negative effect is experienced both in the short- and long-run for the EU15 member-countries [22].

These studies lead to the conclusion that the country's increase in defense spending has a negative effect on its economy when budget allocation has been shifted from social development (e.g. child nutrition, food security, quality education, etc.) to strengthen its military readiness. Such budget shift includes allocation of budget from non-military sector to import armaments. Likewise, the combat means to respond to security threat which, consequently, leads to conflict is also seen to threaten human well-being, therefore it hampers growth in the long-run.

1.3. *Mixed Results* about the relationship between Military Spending and Economic Performance

Though the previous studies presented paints a clear-cut relationship between military expenditure and economic growth, studies discussed in this part share mixed results. Take for example Turkey. For the period of 1949-2004, Turkey shows empirical evidence proving the linear and nonlinear positive relationship between increasing military spending and economic development. The linear positive relationship result means that, for Turkey to improve its economic situation, it needs to divert its resources to defense, while the nonlinear causality indicates a weak to nonexistent causal relationship between defense and economic growth. With these findings, Turkey's military spending influences its economic performance in a non-proportional "and thus unpredictable way" [16]. In another study, the weight of military expenses vis-à-vis a state's budget, size of armed forces, armament production and development, and cost of building military bases were the considerations in analyzing the socio-economic ramifications of increased defense spending of the U.S. The result is two-pronged: positive and negative. Positive findings are: military spending stimulates economic growth in the short-run. Negative findings are: military spending dwarfs its economy in the long-run, armament production and development expenditure seized the opportunity from the civilian sector for development [26].

With these studies, it seems that while the basket of military gets filled-up, the basket for civilian sectors gets emptied; thus, a decline in the economic performance of the country in the long-run. Further, positive results maybe enjoyed, indeed, but only in the short-run. Therefore, budget shift from military to civilian sector

cannot be regarded as a sound economic decision. These results pre-empt a dilemma- whether to give more weight on military budget or to civilian budgetary outlay.

1.4. *Absence of Relationship* between Military Spending and Economic Performance

In developed countries where defense spending is just a small part of its total economy, studies may derive a weak link between economic growth and military spending. This is exemplified in the case of Sri Lanka over a ten-year period where a 1% increase in military spending increases its GDP by only 0.05%. However, a 1% increase in non-military spending, i.e. devotion of spending to the civilian sector led to a 1.6% increase in GDP [31]. The result was similar when other countries were included. The result shows that a 1% increase in military spending leads to only 0.04% increase in real GDP for the five South Asia countries, particularly Sri Lanka, Pakistan, Bangladesh, Nepal and India. This shows a weak or negligible impact of expenditures for military purposes upon economic growth especially since the war between their government and the separatist guerillas has come to an end [31].

Another study by Lin and Ali (2009) across 58 countries from 1987 to 1999 proved no linkage between military spending and economic growth. The analysis of the four-year long conflict between the Arabs and Israelis arrives also at the same result proving the no causal relationship between military spending and economic growth [1]. Frederiksen's study (1991) has the same result when he studied the Philippines from 1956-1988. Out of the 6 Asian countries studied, he found out that defense spending of Philippines and South Korea "does not Granger cause", or has no causal relationship with economic growth. The only reason provided for the lack of relationship is the short time period used which is thirty years.

In essence, the country's increase in defense spending derives a weak to non-existent causal relationship effect on its economy if the country's defense spending takes up a small part of its government spending and if military services are no longer demanded by the society, ergo, the absence of conflict in the country. Also, it can be argued that one cannot automatically translate economic growth (through military spending) into guaranteed socio-economic development. For example, the increase in military expenditures cannot readily imply poverty reduction. These results led to the query of whether reducing the military budget can, in fact, improve a country's economy. Therefore, policies to increase military spending cannot be used as a justification for guaranteed economic growth because policy-makers may not be able to forecast the exact effect on the economic variable when military expenditure is increased.

2. Results and Analyses
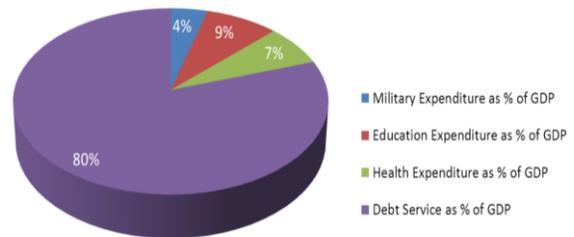
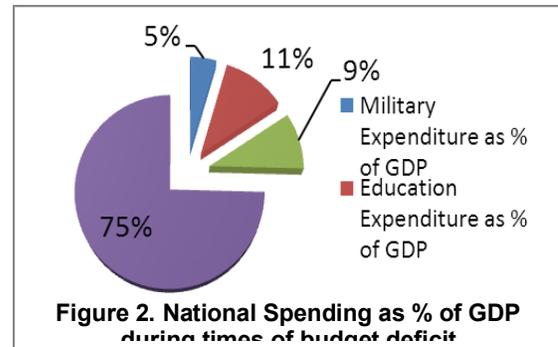**Graph 1. National spending as % of GDP (1980-2011)**

Figure 2. National Spending as % of GDP during times of budget deficit

2.2 Background

For more than three decades, the bulk (or 80%) of the Philippine government's expenditure went to debt service. This has left only 4% for military, 9% for education, and 7% for health. This is shown in Graph 1. However, the events that led to the pronouncement of budget deficit from the assassination of Ninoy Aquino (1984-1985), power crises (1991) to the Asian Financial crisis (1997-1998) showed the government's change of priorities. Figure 2 shows that the level of debt service gradually declined from 80% to 75% of the national government's spending. Apparently, these events showed an increase in the levels of education expenditure from 9% to 11%, health expenditure from 7% to 9%, and military expenditure from 4% to 5%.

The increase in the military and social expenditures in times of budget deficit, as shown in Graph 2, is only a portion of the scenario that this paper wishes to understand. It is insightful as well to see how these variables relate for over a 30-year period characterized by a history of political unrest and civilian dissent.

Table 1. Average of variables measured per Presidential term

Administration	Year	Average			
		GDP Growth Rate	Military Expenditure as % of GDP	Education Expenditure as % of GDP	Health Expenditure as % of GDP
F. Marcos	1980-1986	0.40	1.64	1.70	0.17
C. Aquino	1986-1992	3.33	1.46	2.64	1.15
F. Ramos	1992-1998	3.60	1.33	3.07	3.35
J. Estrada	1998-2001	3.47	1.02	3.50	3.13
G. Arroyo	2001-2010	4.65	1.04	2.69	3.39
B. Aquino	2010-2011	5.65	1.15	2.40	3.60

Table 1 depicts that while the Marcos administration suffered an average GDP growth rate of 0.40%, the country's GDP growth rate advanced throughout the administration of Corazon Aquino with an average of 3.33% GDP growth rate and Fidel V Ramos with an average of 3.60% GDP growth rate. It can be observed that a decline in the average GDP growth rate was experienced during the term of Joseph E Estrada. His declaration of "all-out war" may have hampered the country's growth. However, the country regained growth rate in its GDP during Gloria Macapagal-Arroyo's term with an average of 4.65% GDP growth rate. The current administration of President Benigno S Aquino III has the highest GDP growth rate with an average of 5.65% for the past 2 years (2010-2011). Upon assumption of office, President Aquino expressed his commitment to advance order and security in the country targeting the conflict-prone areas of Philippines with peacebuilding and community-based development efforts. This may have send signals to investors about the regaining stability of the country in terms of resolving conflict.

Military expenditure as percentage of GDP, on the other hand, was at its height during the Marcos regime. Though the declaration of Martial Law gained a favorable outcome during its first 2 to 3 years, this has prompted retaliation among the Filipino people most especially among the communist groups. While this was the case for the Marcos administration, a gradual decline in the military expenditure can be observed beginning C. Aquino's term up to J. Estrada's term with a slight increase with the current Presidency of Benigno Aquino with an average of 1.15% of GDP.

On the other hand, the average education expenditure as percentage of GDP was highest during the time of then-President Estrada while lowest during the Marcos administration, with 3.50% and 1.70% respectively. Health expenditure as percentage share of GDP also pegged highest among the 6 administrations during the first two years of President Aquino III and lowest during Marcos administration, with 3.60% and 0.17% respectively.

From these figures, we can have a glimpse of each administration's priority given the variables studied. How their priorities may have influence the economic performance of the Philippines will be presented in the following sections of this paper.

2.2. Test for Stationarity

Table 2 presents the ADF test result which was used to determine the stationarity of the time series used in this study.

Table 2. ADF Test Results

ADF	Statistic		Prob.**	
	7.176524		0.1269	
Series	Prob. (ρ)	Lag	Max Lag	Obs
GDP Growth Rate	0.1400	6	7	25
Military Expenditure	0.1975	0	7	31

** Probabilities for ADF tests are computed using an asymptotic Chi-square distribution

Based on Table 2, the following results for δ for the GDP growth rate and military expenditure is shown below:

Table 3. δ Results for GPD and Military Expenditure

GDP	MILEX
$\delta_{GDP} = \rho - 1$	$\delta_{MILEX} = \rho - 1$
$\delta_{GDP} = 0.1400 - 1$	$\delta_{MILEX} = 0.1975 - 1$
$\delta_{GDP} = -0.8600$	$\delta_{MILEX} = -0.8025$

Since $\delta_{GDP} = -0.1174$ and $\delta_{MILEX} = -.08176$ are both less than zero; the time series of both GDP growth rate and military expenditure are, therefore, stationary. Meaning, the tests results using can be valid not only for this time series but throughout other time periods. It is also important to determine if the ρ values are statistically significant below 1 to declare that GDP/MILEX time series is stationary. The condition that the Absolute value of the ADF Test Statistic > Absolute value of the Critical Dickey-Fuller tau should be met. Otherwise, the result is nonstationary. Table 4 shows the result for this test.

Table 4. Critical Dickey-Fuller Test Results

	Absolute Value Critical DF tau	Relation	Absolute Value of ADF Test Statistic	Result
GDP (1%)	-2.640	<		Stationary
GDP (5%)	-2.965	<	$|7.177|$	Stationary
MILEX (1%)	-2.640	<		Stationary
MILEX (5%)	-2.965	<		Stationary

Since, in absolute terms, the Critical DF tau (-2.640 and -2.965 at 1% and 5% significant level, respectively), is less than the absolute value of the ADF test statistic, we can conclude that the GDP growth rate and military expenditure are stationary series.

2.3. Test of Causality

Now that the GDP growth rate and military expenditure time series are found to be stationary, the researcher proceeded to testing for causality between the two variables. When testing for causality using time series data, correlation and regression tests are not enough (Gujarati 2004). Therefore, a causality test was performed. This portion covered the time period 1980-2011 to capture the response of GDP growth rate to military spending corresponding with the different administrations (with an overlap timeframe with the study of Frederiksen). This study would like to find out if the result of Frederiksen still holds provided an updated timeframe.

Prior to performing causality test, the optimal lag length was determined first. In requirement, the method of Frederiksen was adopted. First, the optimal lag lengths were determined using Akaike's Final Prediction Error (FPE).

Table 5. Optimal lag length results

GDP = f(lagMILEX)			
Optimal Lag Lengths		FPE	
m*	n*	FPE (m*)	FPE(m*,n*)
1	1	2.947	4.153
MILEX = f(lagGDP)			
Optimal Lag Lengths		FPE	
m*	n*	FPE (m*)	FPE(m*,n*)
1	1	0.072	0.077

Result of the optimal lag lengths with its corresponding FPE, as shown in Table 5, suggests that in running a regression analysis wherein military expenditure is the independent variable for GDP growth rate, use the equation: GDP = f(GDPlag1, MILEXlag1). The optimal lag length 1 for both GDP growth rate and military expenditure means that the analyst has to use the data for the previous year of GDP and MILEX to predict its effect on the country's current GDP growth rate. Further, this table suggests that when GDP growth rate is taken as the independent variable for military expenditure, the equation that should be used is: MILEX = f(GDPlag1, MILEXlag1). Using the optimal lag length of 1 for both equations will produce a result that best explains the relationship of the variables being tested.

In this case, the data for the previous year (lag 1) for GDP and military expenditure can be used to predict its effect on Philippines' economic performance. The past GDP growth rates have a one-year lagged impact on military expenditure for Philippines, and vice versa. And this indicates that the effect of military expenditure on GDP growth rate and vice-versa can be felt immediately after a year. This result supports the findings of Frederiksen's study about Philippines with timeframe from 1956 to 1988.

After the optimal lag lengths were determined, the subsequent steps as suggested by Gujarati (2004) was conducted to determine whether military expenditure Granger causes GDP growth rate or the other way around, or a feedback relationship exist between the two variables, or these two variables have no relationship at all. Table 6 summarizes the results. In running the regression for this part, the identified optimal lag lengths for the variables tested was used. Thus, the equation that was utilized to derive the results shown in Table 6 is in the form: GDP=f(GDPlag1, MILEXlag1) and MILEX=f(MILEXlag1, GDPlag1), respectively.

Table 6. Result to test for causality

RSSr	RSSur	m	RSSr-RSSur	numerator	(n-k)	denominator	Fvalue	F*
Result to Test if GDP Growth Rate Granger causes Military Expenditure								
0.926	0.921	1	0.005	0.005	28	0.032892857	0.152009	2.5082
Result to Test if Military Expenditure Granger causes GDP growth rate								
281.992	256.247	1	25.745	25.745	28	9.151678571	2.813145	2.5082

where: m = optimal lag length, n = number of cases, k = number of parameters estimated in the unrestricted regression

The results on Table 6 show that military expenditure Granger causes GDP growth rate of Philippines from 1980 to 2011 where its Fvalue of 2.81 is greater than the critical F value of 2.5, F*, at 0.05 level of significance. On the other hand, for causality test involving military expenditure (MILEX) as the dependent variable, the result is insignificant. GDP growth rate does not Granger cause military expenditure. Meaning, any change in GDP growth rate had an insignificant effect on the level of military spending of Philippines from 1980 to 2011.

The regression result shows a unidirectional causality from military expenditure, MILEX, to GDP growth rate. This may indicate that when Philippines aims to significantly increase its military budget, this induces improvement in the GDP growth rate. This affirms Benoit's Hypothesis stating a pattern of causality from military expenditure to GDP growth rate. However, this contradicts the initial findings of Frederiksen of no causality between the two variables for the case of Philippines using the timeframe 1956 to 1988. Frederiksen's result of no causality is due to three reasons: 1) shortness of timeframe – the shorter the timeframe, the weaker are the statistical findings; 2) FPE result – final prediction error increases as lagged values of military spending were added in the model, therefore reduces the model's predictive power – implying defense does not Granger cause growth; and 3) reliance of growth on defense spending – no causality may be achieved if the country's growth does not heavily rely on its defense. Other factors such as technological advances and economic diversity have been treated as engines of growth. The modified results are best captured by the study of Smith and Smith (1980) as cited by Dunne (2000) which posits that:

"If analysis suggests a weak causal relation between high military spending and unmet basic needs, and implies that there is no automatic mechanism, no 'hidden hand', to direct resources released by disarmament towards development, then attention must be given to the forms of political and social intervention required to direct resources to the desired end. In other words, if there is a relationship between disarmament and development, it may be one that has to be constructed politically, not one that is pre-given by economic forces."

This statement appears to be true for Philippines. Velasco (2006) opines that "…the post-1986 democratic system saw the restoration of political stability and was concomitant with a remarkable economic turnaround that put the country back into the growth race alongside other Southeast Asian nations. Peace talks with military and Muslim rebel groups took place resulting to the integration of these groups into regular political life". In this case, military expenditure cannot be regarded as the sole determinant of growth.

2.4. Test for Correlation

In Graph 2, it has been identified that during the times of experienced budget deficit, the Philippines has resorted to decrease its level of debt service while increase spending on military and social variables (health and education). However, it is important to find out that there was a preference over one variable that had led to the shift of budget that should have been for the other variable; therefore, a crowding out effect. A test of correlation was performed between military expenditure (as a percentage of GDP) and civilian budgetary outlays: education and health expenditures (as percentage of GDP) for the entire period of 1980 to 2011.

Table7. Correlation Results for Military, education and health expenditures

* Significant at 0.01 alpha level

From Table 7, both the expenditures on education and health are seen to be correlated with military expenditure. However, the relationship is negative. It shows that military expenditure, MILEX, is negatively associated with education and health expenditures (as percentage of GDP) with $r = -0.459$ and $r = -0.688$, both significant at 1% level. The strength of the association between military and the social variables is strong. Meaning, an increased in military spending had entailed a subsequent budget decrease on education and health expenditures. It is evident in this data that the increased in appropriated budget for the military was at the expense of social development in terms of health and education. While the Philippine government embarked on military activities (counterinsurgency, training, etc.), it failed to meet the basic education and health needs of the Filipinos during this time period. The results shown in Table 7 shows that military expenditure is detrimental to social development in the aspect of health and education. It is worth pinpointing also the strong positive correlation between health and education with $r = 0.619$ significant at 1% level. It could mean that throughout the 3 decades, the increase in expenditure of health/education was coupled with the increase in expenditure in education/health. A deeper appreciation of this relationship may form part of a separate study.

3. Conclusions and Recommendations

For more than 3 decades, the level of defense spending of Philippines had been determining its economic performance. Its growth relied on its military spending. This affirmation of the Benoit's Hypothesis mimics the same result derived from countries studied such as China [11], Singapore, Indonesia [13] and the United States [32] and contradicts the initial findings of Frederiksen (1991). The pinpointed reasons for such direction of causality are the demand for armed forces and spill-over effects of military activities. Though limited data was made available by the World Bank about

the breakdown of military expenses, presented in Graph 3 is a 5-year breakdown of military expenditure for the purposes if illustrating the military spill-overs. Graph 3 shows that from 1980-2011, most of its spending (79%) accounts for Maintenance and Other Operating Expenses (MOOE). MOOE of military is composed of Internal Security Operations (operation and maintenance of combat units), Territorial Defense (operation and maintenance of reserve units and reservist affairs), Disaster Response (operation and maintenance of units engaged in disaster and relief operations), Support to National Development (operation and maintenance of engineer units), International Defense and Security Engagements (joint training exercises and exchange programs) and International Humanitarian Assistance and Peacekeeping assistance.

Variable	Military Expenditure	Education Expenditure	Health Expenditure
Military Expenditure	1	-0.459*	-0.688*
Education Expenditure		1	0.619*
Health Expenditure			1

Graph 3. Military Expenditure (2006-
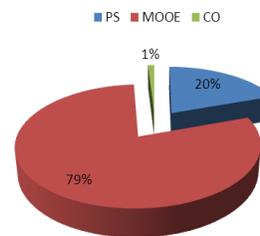
Second is the payment for Personal Services (PS) where 20% goes to payment for salaries/wages, representation allowance, honoraria, bonuses, clothing/uniform allowance, social security contributions. Only 1% is allotted for its Capital Outlay (CO). CO corresponds to the buildings and structures outlay, office equipment, furniture and fixtures, transportation equipment, and machineries. From the detailed breakdown of the composition of PS and MOOE, and from the observed minute proportion of CO (which refers to investments whose effects are felt much more in the long run) to PS and MOOE, it can be concluded that the Philippine military expenditure has an immediate effect in the economy.

Such effect was felt immediately (1 year lag). This may be a good indication for the country's economy, but when defense spending was viewed vis-à-vis health and education, problem of crowding out arose. This means that for every added input on the basket of the military, a

significant level of inputs is robbed off from the basket of the civilian sectors, such as health and education, which are equally important for the country's development. This could mean that whatever response the government resorts to in resolving its insurgency and terrorist problems, the society's well-being remains at stake.

Understanding this dilemma will lead us to contemplate on how crucial any decision made regarding budget allocation in this country – should it prioritize military readiness or provide for the basic needs of its citizens? Apparently, this study only provided the presence of relationship and the direction of causality. The exact level of defense spending that would provide the exact level of influence to its growth may be the subject of another research. Another solution for this predicament may depend on the nature of military activities. If the government desires to increase defense spending, changes to its military activities are necessary. These changes do not mean drastically parting from its traditional role of war-fighting. With the persistence of insurgencies in the country, its war-fighting role is essential not only for the country's security but also for the state's survival. The Armed Forces of the Philippines needs to equip its organization to ably and readily protect the Filipino people and the state. More than that, the country needs a reliable military force against threat brought by Scarborough claims. However, combative means to resolve conflict may be viewed as the last resort. The current AFP's battlecry of "winning the peace" briefly captures this insight. And with this, efforts of peacebuilding, conflict transformation and community development are the salient thrusts of the current administration for year 2013. Though these initiatives sound promising, its economic and social impacts still need to be assessed. As to whether its impact will be in the short-run or may be sustained in the long-run is also deemed important so such peace efforts may be used as reference by future administrations. Further research can also explore the relationship of defense burden to other non-military aspects, i.e. good governance, political stability, etc.

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