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Thanh Trung Nguyen, Ritsumeikan Asia Pacific University, Japan
Wickramanayake Pathirannnahalage Pravini, Ritsumeikan Asia Pacific University, Japan
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Ritsumeikan Asia Pacific University
Faculty Offices B425
1-1 Jumonjibaru, Beppu, Oita, 8748577, Japan
+81 977 78 1074
http://apbersociety.org/
perspectives@apbers.org
Editor’s Note

This issue of Perspectives is unique in many ways. First, it highlights the assortment of business and economic research. The diversity of research agenda enrich the existing literature by providing different outlooks on various interrelated social, business, and economic issues. This is critical because many issues faced by economic agents in this contemporary period requires different perspectives for these issues to be addressed. Second, although a variety of topics and methodologies were employed in these articles, the articles were able to cover the following major themes: macroeconomics, management and innovation, and development. Third, the gravitation of the studies towards these three thrusts reflects the importance of these themes in contemporary business and economic analysis. These indicate that we live in a world where diversity must be seen as an opportunity to expand our knowledge and create more networks that will aid in providing solutions to modern problems.

In the field of macroeconomics, the study by Nobuaki Hori and Peseng Seth (Institution, foreign investment, and the resource curse: Do source countries’ institutions matter?) found that resource abundance tends to be a curse for nations with poor institution because most of resource-rich nations with weak institution are poor and lacks of capital. That is, they rely on foreign investment for resource extraction. The prevalence of foreign investors from countries with poor institutions may increase the rent seeking activities in host countries, which eventually reduce productive entrepreneurship and lower total income of host countries.

Meanwhile, the study by Deborah Kim S. Sy and Daniel S. Hofileña (Monetary policy and stock market movement in the Philippines: A Structural Vector Autoregression approach) investigated the transmission mechanism of monetary policy to asset prices, as measured by the movements of the Philippine Stock Exchange Index (PSEi). Using a Structural Vector Auto Regression (SVAR), their findings strongly indicate that the monetary authorities in the Philippines react appropriately to shifts in both foreign and domestic economic conditions. Furthermore, the short run effects of policy rates to the index is primarily attributed to myopia – the whimsical and capricious behavior of investors motivated by short-term benefits with little regard for long-term growth – which validates why most long term effects of shocks to the PSEi are zero while short term effects are erratic.

In the field of innovation, the study by Raymund B. Habaradas, Pia T. Manalastas, and John Andrew C. See (SME innovation – Case studies of two Philippine firms) utilized the multiple case study method where they described how two Philippine SMEs – one engaged in food manufacturing and the other engaged in audio engineering services – innovate, and what the drivers and barriers of innovation are in these two companies. Results showed that both companies follow the coupling model process of innovation, where both technology and the market are influential factors. Both companies have adopted product and process innovations over the years, as a response to market and regulatory conditions.
In the field of development, the study by Cynthia P. Cudia (Poverty alleviation in the Philippines through entrepreneurship: An empirical analysis) constructed an empirical model estimating the effect of entrepreneurship on poverty in the Philippines. Results revealed that the more the households are engaged in entrepreneurship, the higher the chance of being alleviated from poverty.

Lastly, the study by Mohamed Ihthisham Mohamed Ikram, Thanh Trung Nguyen, and Wickramanayake Pathirannahalage Pravini (Brand equity and financial performance of Japanese banks: An industry case study) discussed the dominant role that financial performance and stability play in the sustainable operations of banks in Japan. Their findings showed that financial performance affects brand equity, both positively and negatively. It also reveals that both Japanese mega and local banks behave homogeneously. The study is vital in understanding if financial performance affects brand equity positively; and substantiating the financial variables affecting Japanese mega and local banks.

The authors of the articles in this issue of Perspectives touched on current global issues and laid emphasis on certain developments in the fields of business, economics, innovation, and development. The challenge now is for economic agents to see the changing signs of the times and adapt to these changes to see the world in a different global perspective. In behalf of the Advisory Editorial Board, I would like to express gratitude to all the contributors for making Perspectives their journal of choice in publishing their research articles.

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Institution, foreign investment, and the resource curse: Do source countries' institutions matter?

Nobuaki Hori
Kyushu University
Fukuoka, Japan
hori@econ.kyushu-u.ac.jp

Peseth Seng
Kyushu University
Fukuoka, Japan
sengpeseth@gmail.com

ABSTRACT

Resource abundance tends to be a curse for nations with poor institution. Most of resource-rich nations with weak institution are poor and lack of capital. They mainly rely on foreign investment for resource extraction. This paper develops a simple model by incorporating foreign investment into the resource curse literature. We argue that source countries' institutions of foreign investors do matter. The prevalence of foreign investors from countries with poor institutions may increase the rent seeking activities in host countries, which eventually reduce productive entrepreneurship and lower total income of host countries. Moreover, countries with larger resource suffer more from this negative impact.

JEL Classification: F21, O11, O13

Keywords: the resource curse, rent seeking, South-South FDI, institution, economic development

INTRODUCTION

While natural resource abundance have been traditionally emphasized by economic historian as blessings for nations, recent evidences have shown that countries with abundant natural resources tend to have lower welfare. For example, while such resource-rich nations as Angola, Indonesia, Nigeria, Saudi Arabia, Sierra Leone, Venezuela, and Zambia are stuck in a poverty trap, East Asian countries with fewer natural resources, namely, Hong Kong, Singapore, South Korea, and Taiwan have recently enjoyed much faster growth. This negative relationship is justified by a number of famous empirical researches including Sachs and Warner (1995, 1999, 2001), Auty (1995, 1997), and Gylfason (1999, 2001).

Gylfason (2001) explained that the adverse impact of natural resource abundance on economic income can be understood through four main channels of transmission: (1) the Dutch disease, (2) rent seeking, (3) overconfidence, and (4) neglect of education. The Dutch disease hypothesis emphasizes that resource booms, for example the boom in the price of raw material or primary products such as oils, minerals, agricultural products, fisheries and timbers... etc., will cause the real wage to rise. High demand for primary products will then hurt other sectors such as traded sector and manufacturing production due to higher input cost. Resource abundance shifts production factors from more productive manufacturing industries into backward industries with lower productivity, and thus decreases total productivity of an economy. Sachs and Warner (1999) studied such an adverse effect of resource booms on
productivity through the change in the production composition it generates in the big push model. In an economy with two types of sectors: increasing return to scale sector and constant return to scale sector, resource boom will reduce total output if increasing return to scale sector is the traded sector.

Secondly, the rents created by natural resource endowment provide incentives for the interest group to divert their time and efforts to capture these rents. This will result in misallocation of time and talents. Torvik (2002) developed a model to explain how rent seeking which is generated by resource abundance may lead to lower welfare. Larger amount of resource endowment or a resource boom raise profits of rent seekers and thus crowd out entrepreneurs from productive sectors into rent seeking activities. The effect of demand externality causes a lower total income for an economy as a whole since a fall in income from production is higher than an increase in income from natural resources.

Thirdly, governments of resource-rich countries tend to have a false sense of security and lose sight of the need for good and effective policy to promote economic growth (Sachs and Warner, 1999). Effort and incentive to formulate appropriate policy for economic growth tend to be discouraged by the ability and ease of creating wealth from natural resources.

Lastly, resource-rich nations mostly with overconfidence and reliability in their natural resource endowment tend to ignore the development of their human resources. Aldave and Garcia-Penalosa (2009) constructed a model to study how natural resource can reduce human capital investment. They explained that the resource boom increases the relative return to political investment over human resource investment. Through this mechanism, resource endowment reduces total income and growth. Empirical evidence also supports that natural resource endowment is negatively related with human capital accumulation (Gylfason, 2001).

Is natural resource always a curse? While it is obvious that many resource-rich countries, especially most of OPEC, tend to have lower income, it seems impossible to claim that rich nations such as United States, Australia, Norway and Sweden have developed their human capital and economy without the aid from their natural resources. In some cases, resource abundance stimulates growth and enhances welfare. In contrast to the claims of Sachs and Warner, some researchers have emphasized the roles of institutional arrangement in determining whether resource will be a curse or a blessing. As also emphasized by Gylfason (2001) who found evidence of negative impacts of natural resource on economic growth, it seems that natural resource abundance by itself does not directly deter economic growth, but what matters the most is how the countries manage and use those resources.

Recent literature has focused on the interaction between institution and resource abundance. Resource boom results in more corruption and poor institution, while poor institution determines whether resource is the blessing that stimulates growth or the curse that induces poverty trap. Aldave and Garcia-Penalosa (2009) studied how the institution plays a role in the education investment channel through which resource endowment effects total outputs and growth. In their paper, corruption and education are interrelated and both are strongly influenced by natural resource abundance. Poor institution, which is favorable for rent capture, will encourage more political investment relative to human capital investment. Similarly, Wadho (2013) emphasized that resource abundance affects growth through its influence on incentives to invest in education and rent capture. They claimed that resource endowment may stimulate growth or induce a poverty trap depending on the institutional quality of the country, particularly inequality in access to education and political participation, and political participation cost. Moreover, generally it is the state that owns the natural resource and poor institution makes it easy for the politician in office to capture its rents. Robinson et al. (2006) argue that resource abundance increases the payoff of holding political
power, which provide the incumbent politician with incentives to choose inefficient public resource allocation and investment policy that may impede productive activities, but increase their chance of winning the election. On the other hand, in a non-democratic countries where election play no roles in the competition for power, the abundance of natural resources may cause fighting among political rivals to extract the rents.

Mehlum et al. (2006) study the role of the institutional quality on the resource curse literature in a model in which entrepreneurs can choose to be producers or rent grabbers. The profits and the equilibrium allocation of entrepreneurs between the two sectors are determined by the institutional arrangement which reflects the extent to which institution favors rent seeking (grabbing) versus production activities. It may be a producer friendly institution where production and rent appropriation are complementary, or a grabber friendly institution where production and rent appropriation are competing activities. They show that resource abundance is a curse for the countries with grabber friendly institutions, and is a blessing for the countries with producer friendly institutions. Mehlum et al. (2006) provide a good framework to understand how institutions play a role in the rent seeking channel of resource abundance effect on income. Based on Mehlum et al. (2006), resource abundance will be the blessing if an economy has better institution. Strong legal and democratic institutions ensure that the economy is free from corruption and rent grabbing activities, and that resource will be optimally extracted and used for development of an economy.

In addition to shortage of strong institution, it is widely known that most countries that suffer from the resource curse are poor and lacks of technology and capital. Extraction of some sort of natural resources, particularly oil and minerals, requires high technology and many capitals. Most resource rich countries cannot afford to do it by themselves and rely on foreign investment firms for extraction. Foreign investors will get some share of rents as return for their investment. Most investments are made by large multinational corporations (MNCs) from developed countries (known as the North), which have good institutional infrastructure. Such kind of investment is commonly known as North-South foreign direct investment (FDI). However, as discussed earlier, resource-rich nations tend to have weak legal and democratic institution, poor property right protection, less political stability, more corruption, and rent seeking activities. Such institutional environment will discourage North MNCs’ investment. Investment in such environment involves higher risks and uncertainty. Moreover, engagement in corruption deal may deteriorate the image and good will of those North MNCs. However, investments from the North are not the only sources of foreign investment. Recent trends show an increase in foreign investment outflow by large MNCs from developing and transition economies (known as the South) whose institutional quality is as weak as the host countries. Such kind of investment is known as South-South FDI. For example, in 2010, 29 percent of global FDI outflows and six of the top-20 investors of global FDI were from the South (UNCTAD 2011). Unlike North MNCs that find it not profitable to invest in countries with poor institution, South MNCs may be able to capture profits from investment in such countries. The familiarity and experiences of operating in similarly corrupt and weak legal institution in their home countries provide them with more competitive advantages over North MNCs when investing in countries with poor institution. Cuervo-Cazurra (2006) and Cuervo-Cazurra and Genc (2008) provided empirical evidence that weak and corrupt institution of host countries will lower FDI from countries with good and strong institution, but results in more FDI inflow from the countries with poor and corrupt institutions. They emphasize that investors from corrupt home countries may not be discouraged by corruption abroad, but even seek to invest in corrupt countries where they can have competitive advantages over their North investor counterparts.
It can be obviously understood that the roles and behaviors of North and South MNCs in resource investment is crucial for understanding the resource curse phenomena in corrupt resource-rich countries who rely on foreign investment for resource extraction. However, the study of the roles of foreign investment in the resource curse literature has not yet done. In this paper, we incorporate foreign investment and institutional quality of the original countries of foreign investors into the resource curse literature. This allows us to be able to investigate the effect of foreign investment and institutional motivation of foreign investment on the total income of an economy through the rent-seeking channel of the resource curse literature.

**THE ECONOMY**

We consider an economy which consists of 4 sectors: (1) resource extraction sector; (2) backward production sector with constant return to scale (CRS) technology; (3) modern manufacturing production sector with increasing return to scale (IRS) technology; and (4) public sector which is just the redistribution sector where no output is produced. The economy consists of $L$ workers, the same number of goods and entrepreneurs, which are both normalized to one. Moreover, there are foreign investors who seek to invest in the resource extraction sector of the economy. Workers are employed in either backward production sector or modern manufacturing sector. Entrepreneurs may choose either to become producers in the modern production sector, or to become rent seekers in the public sector who seek to redistribute public income for their own favor by engaging in political competition, corruption and rent seeking activities. Modern producers will earn profits from production, while rent seekers will get rents from the country's resource extraction. We assume that the country lacks of strong democratic and legal institution, which allows rent seekers to capture all domestic share (excluding profit share of foreign investors) of resource extraction output. Entrepreneurs choose one of the two options so as to maximize their payoffs. We denote the number of entrepreneurs involving in rent seeking activities by $N_R$ and those engaging in modern production by $(1 - N_R)$.

Next we discuss resource extraction sector and foreign investment. The economy is assumed to be endowed with a stock of natural resources, which can only be extracted by foreign investment firms. The number of foreign investment firms is denoted by $N_f$. The output of resource extraction is denoted by $R$ and is a linear function of the number of foreign investment firms: $R = \mu N_f$ where $\mu > 0$ can be thought of as a parameter of resource endowment of the economy. Output from resource extraction will be shared between domestic rent seekers and foreign investors. Foreign investors need to involve with corruption and bribery to obtain the license for resource extraction. Foreign investors can be either large MNCs from developed countries with strong institutional infrastructure (known as North investors) or large MNCs from developing countries with corrupt and weak institution (known as South investors). All investors have the same productivity for resource extraction, but are different in their ability to capture output share from investment. The allocation share of profits from extraction is determined by the ability of foreign firms to deal with corrupt institution. Foreign firms, which have been exposed to corruption and rent seeking activities at home, are more effective in dealing with rent seekers in the host country. For example, they know better about the ranking structure of corrupt officials in the host country and efficiently bribe the key persons. Hence, they can manage to obtain more shares from resource extraction. Foreign investors from countries with good institution have relatively less knowledge about the
structure and behavior of corrupt officials in the host country, and find it more difficult to
generate in corruption due to legal constraints in their home countries and fear of deterioration
of good will and image of their firms. Hence, they can capture a relatively lower share of profits
from resource investment. We denote \( \lambda > 0 \) which is exogenous in this model to reflect the
difference in institutional quality of foreign investors' home country. \( \lambda \) can also be thought of
as foreign investors' familiarity and ability to deal with corrupt institution and rent seeking
activities. Higher value of \( \lambda \) implies that foreign investors know more about corruption and
can get higher share from resource extraction.

We apply the contest success function, which is commonly used in rent seeking and the
resource curse literature, for the sharing of profits between domestic rent seekers and
foreign investors. The profit of each rent seeker is given by a factor \( s \) times \( \frac{\mu N_I}{N_R + N_I} \)

\[
\Pi_R = s \frac{\mu N_I}{N_R + N_I}
\]  

(1)

On the other hand, the profit for each foreign investment firm is defined as

\[
\Pi_F = s\lambda \frac{\mu N_I}{N_R + N_I} - cN_I
\]  

(2)

where \( cN_I \) is extraction cost and \( 0 < c < \mu \). The extraction cost is increasing in the number of
foreign investment firms. More competitions in the resource extraction sector mean that each
firm has to increase more inputs to be able to compete for extraction of the limited stock of
resources.

The sum of share to both groups must be equal to one. Therefore, the following
equality constraint must hold

\[
\frac{sN_R}{N_R + N_I} + \frac{s\lambda N_I}{N_R + N_I} = 1
\]  

(3)

From the above condition, we can derive the function of \( s \) with respect to \( \lambda \)

\[
s = \frac{N_R + N_I}{N_R + \lambda N_I}
\]  

(4)

The factor \( s \) is decreasing in \( \lambda \) because the rent seekers will be able to capture less when
foreign investors can manage to get more share of investment. On the other hand, \( s\lambda \) must be
increasing in \( \lambda \) as foreign investors will get more share, the higher \( \lambda \).

The production side of the economy follows Murphy et al. (1989). Firms in backward
production sector use only workers as production input, and one unit of labor can produce one
unit of any good. In the modern sector, modern firm is established by one entrepreneur with
the fixed cost of \( F \) unit of labors and marginal cost of \( \beta \), where \( \beta > 1 \). We assume that
\( F < L \). The consumers are assumed to have Cobb-Douglas utility with inelastic demand and
equal expenditure share in consumption, which mean that consumption is allocated equally for
each good. Hence, each good will be produced in equal quantity. We denote \( Q \) as the quantity of each good. Modern firms compete with the fringe competitors, which are the CRS firms in backward production sector using Bertrand price competition. This implies that each good is either entirely produced by one single modern firm or by the fringe. Moreover, the modern firms will charge the highest possible price, which is equal to one, the price that is charged by the fringe competitors. The wage paid to each worker is also equal to one, which is the worker's outside option in backward production sector.

The profit of each entrepreneur who choose to become a modern producer is the total output from production minus total production cost

\[
\Pi_p = \left(1 - \frac{1}{\beta}\right)Q - F
\]

**EQUILIBRIUM**

There are three necessary conditions needed for the economy to be in equilibrium. First, foreign investors will enter the resource extraction sector until investment profits become zero. By using equation 2, 4 and the condition that \( \Pi_I = 0 \), we can derive the equilibrium number of foreign investors as a function of \( N_R \)

\[
N_I(N_R) = \frac{\mu}{c} - \frac{N_R}{\lambda}
\]

Second, the total supply must be equal to the total demand or income. We consider the GNP of an economy and thus exclude foreign investors' profits. We assume that foreign investors bring all their profits back to their home countries. We denote \( Y \) as the total supply of the economy, which is equal to the sum of the total production output and resource extraction output excluding resource output allocated to foreign investors. The total income is equivalent to the sum of worker’s income, producers' profits, and rent seekers' profits. The second equilibrium condition is therefore

\[
Y = Q + \frac{sRN_R}{N_R + N_I} \equiv L + (1 - N_R)\Pi_P + N_R\Pi_R
\]

By using equation 1, 2, 4, 5 and 7, we can solve for the equilibrium total quantity of production output as the function of the number of rent seekers:

\[
Q(N_R) = \frac{\beta[L - (1 - N_R)F]}{1 + N_R(\beta - 1)}
\]

We assume that \( Q(0) = \beta(L - F) > Q(1) = L \) to ensure that production output in an economy with full modern firms is higher than that in an economy with complete backward production firms. This requires that the marginal productivity of modern firms is high enough
\[ \beta > \frac{L}{L - F} \] (9)

It should be noted that \( R \) does not appear in equation 8. Natural resource does not directly affect production output. This is because natural resource contributes equally to both demand and supply, but it indirectly affects production through its effects on \( N_R \).

Next, we insert equation 8 into 5 to derive the payoff function of each producer

\[
\Pi_p(N_R) = \left(1 - \frac{1}{\beta}\right)\frac{\beta[L - (1 - N_R)F]}{1 + N_R(\beta - 1)} - F
\] (10)

The third equilibrium condition is to ensure that no entrepreneurs will move between production and rent seeking activities. This requires that the payoffs for each producer must equal to the payoffs for each rent seeker

\[
\Pi_R = \Pi_p
\] (11)

From equation 1, 4, 10, and 11, the equilibrium number of rent seekers can be written as the function of \( N_i \)

\[
N_R(N_i) = \frac{N_i[\mu - \lambda(\beta(L - F) - L)]}{\beta(L - F) - L - \mu N_i(\beta - 1)}
\] (12)

By using equation 9, it can be shown that \( N'_R(N_i) > 0 \). The higher number of foreign investors increases profits for each domestic rent seeker, which in turn leads to an increase in \( N_R \). Moreover, from equation 6, it can be seen that \( N'_R(N_R) < 0 \). More domestic rent seekers means that the resource output will have to be shared with more people, and thus lower profit for each foreign firm. This results in lower number of foreign investment firms. \( N_R(N_i) \)-curve and \( N_i(N_R) \)-curve will cross each other and determine the equilibrium number of rent seekers and foreign investors. This equilibrium point is illustrated by point A in Figure 1.
South Foreign Investors and Rent Seeking

Next we investigate the effect of the prevalence of South foreign investors instead of North foreign investors on rent seeking activities. In this model, this effect can be reflected by an increase in \( \lambda \). It can be noted from equation 6, that \( N_i(N_r) \)-curve shift upward to the right with an increase in \( \lambda \), and equation 12 and 9 implies that \( N_r(N_i) \)-curve shift backward to the left when \( \lambda \) is larger. In the new equilibrium, an increase in \( \lambda \) will always leads to larger \( N_i \), but the effects of an increase in \( \lambda \) on \( N_r \) is ambiguous. The positive relation of \( \lambda \) and \( N_i \) is straightforward, higher share of resource output to investors will encourage more investors. On the other hand, there are two opposing effects of an increase in \( \lambda \) on \( N_r \). The first one is the share effect. Higher \( \lambda \) means lower share of profits to rent seekers and thus lower \( R_N \). On the one hand, larger \( \lambda \) implies more investment in the resource sector and higher output from resource extraction to be shared. This is called the size effect.

In short, \( N_r \) is increasing (decreasing) in \( \lambda \) if the size effect is larger (smaller) than the share effect. Since \( \lambda \) itself is the parameter of the share of resource output, one can expect that the size effect is more important than the share effect when \( \lambda \) is very small. Indeed, one can show that when \( \lambda \) is very small and close to zero, \( N_r \) is increasing in \( \lambda \). This result can be shown by inserting equation 6 into 12 to derive the following result:

\[
\lim_{\lambda \to 0} N_r'(\lambda) = \frac{\mu}{c} > 0
\]

(13)
Figure 2 shows the three possible new equilibrium numbers of $N_R$ and $N_I$ when $\lambda$ is increasing. New equilibrium point $B$ corresponds to the case where $\lambda$ is very small. All the results discussed above are summed up in the following proposition.

**Proposition 1:** An increase in $\lambda$ always leads to larger $N_I$. On the other hand, the effect of $\lambda$ on $N_R$ is ambiguous. However, one can show that for some small values of $\lambda$, $N_R$ is increasing in $\lambda$.

The economy with corrupt institution that allows rent seekers to capture much of the output from resource investment may discourage North foreign investors from countries with better institution who see no hope of earning profits from investment. The existence of South foreign investors who are more familiar with corrupt environment and thus can capture more return from the investment can be substitute source of foreign investment in an economy. However, the prevalence of South investors may eventually increase the rent seeking activities in the economy. The above proposition clearly emphasizes that foreign investors who are more familiar with corrupt institutions may become complementarity of domestic rent seekers.

**Income Effect**

To see if this complementarity is harmful to an economy, we turn to investigate the effect of an increase in $\lambda$ on the total income of an economy. From equation 9 and 10, one can show that $\Pi'_R(N_R) < 0$. Moreover, by using equation 1, 4 and 6, the profit of each rent seeker can be written as a function of $N_R$ as

$$\Pi_R(N_R) = \frac{\mu \lambda - N_R^C}{\lambda^2}$$

(14)
It can be clearly seen that $\Pi'_R(N_R) < 0$. Both $\Pi_R(N_R)$-curve and $\Pi_p(N_R)$-curve are decreasing in $N_R$. The profit for each producer is decreasing in the number of rent seekers due to demand externality effect. More rent seekers lead to fewer number of modern firms, which in turn results in lower income and demand, and thus lower sale and profits for the remaining modern firms. The profit of each rent seeker is decreasing in $N_R$ because larger $N_R$ implies a lower share of given rents to each rent seeker.

In the following discussion, we will focus on the case where $\lambda$ is very small and close to zero. In this case, the equilibrium with complete rent seekers or complete producers will never exists, and $\Pi_R(N_R)$-curve will cross $\Pi_p(N_R)$-curve from above determining the stable equilibrium number of producers and rent seekers and their equilibrium profits. Such equilibrium is illustrated by point $E$ in Figure 3. An increase in $\lambda$ will shift $\Pi_R(N_R)$-curve upward to the right resulting in new equilibrium point with larger $N_R$ and lower profits for both producers and rent seekers. This also implies that the total income of an economy will also decrease. The new equilibrium is shown by point $E'$ in Figure 3. We sum up the above result in proposition 2.

**Proposition 2:** Consider a case with some small values of $\lambda$, an increase in $\lambda$ will lead to lower profits for both producers and rent seekers and thus lower total income of an economy.

This proposition clearly shows that the fact that South foreign investors become complementarity of domestic rent seekers can be harmful to the welfare of the host country.
Resource Boom

Note from equation 13, it is straightforward to show that

$$\lim_{\lambda \to 0} \frac{\partial^2 N_R(\lambda, \mu)}{\partial \lambda \partial \mu} = \frac{1}{c} > 0$$

This can be implied that the resource boom in an economy, or economy with larger resource magnify the positive impact of South FDI prevalence on rent seeking activities. This is because a rise in $\mu$ increases the size effect of $\lambda$ on $N_R$ in relative to its share effect. Resource boom or larger resource endowment, ceteris paribus, means larger size of resource output to be captured which directly makes rent seeking more attractive than production. Moreover, larger $\mu$ also means larger profits from resource investment and thus larger $N_I$ which also leads to larger $N_R$ through the size effect mechanism. Although, a rise in $\mu$ increases the positive impact of $\lambda$ on $N_R$, its effect on the positive impact of $\lambda$ on $N_I$ is neutral. This is because larger $N_R$ as a result of a rise in $\mu$ also has opposing negative impact on $N_I$. Indeed, by inserting equation 12 into 6, one can show that

$$\lim_{\lambda \to 0} \frac{\partial^3 N_I(\lambda, \mu)}{\partial \lambda \partial \mu} = 0$$

Using a similar analysis as in section 3.2, it can also be concluded that an increase in $\mu$ magnifies the negative impacts of an increase in $\lambda$ on the profits for both producers and rent seekers, and the total income of an economy. We summarize the results in the following proposition.

**Proposition 3:** Consider a case with some small values of $\lambda$, an increase in $\mu$ magnifies the positive impacts of $\lambda$ on $N_R$ and its negative impacts on the profits for both producers and rent seekers, and on the total income of the economy. An increase in $\mu$ has neutral impacts on the positive effect of $\lambda$ on $N_I$.

When rent seeking exists in the economy, and South FDI becomes the complementarity of domestic rent seekers, an economy with a larger resource endowment or the resource boom will suffer more from the negative impacts of the complementarity between South FDI and rent seeking activities. Indeed, Proposition 3 clearly predicts the resource curse phenomena that may result in a case where the existence of South FDI becomes the complementarity of domestic rent seeking activities.

**CONCLUSION**

A simple model is developed to investigate the effect of the institutional quality of home countries of foreign investors on the total income of an economy through the lens of rent seeking channel in the resource curse literature. Recent literature argue that resource tends to
be a curse for the countries with poor institution. Countries that suffer from the natural resource curse are poor and lack of high technology and capital, and have to rely heavily on foreign investment firms to extract their natural resource. However, such economies are always seen to be related to weak legal and democratic institution, corruption and rent seeking activities, which are obstacles for them to attract foreign investment at least from developed countries. If resource-rich countries must have good institution to be able to attract foreign investment. One can expect that the resource curse problem may be reduced in economies that depend on foreign investment for resource extraction. However, the prevalence of foreign investors who are less likely to be deterred by such poor institution due to their exposure and familiarity with such environment in their home countries may become a substitute source of foreign investment into those resource-rich economies. We show that the prevalence of such foreign investors may become complementarity of domestic rent seeking activities, and crowd out entrepreneurs from the productive sector, which eventually induce an economy to suffer from the resource curse. A larger natural resource or the resource boom in an economy magnifies these negative impacts.

REFERENCES


Monetary policy and stock market movement in the Philippines: A Structural Vector Autoregression approach

Deborah Kim S. Sy
School of Economics, De La Salle University
Manila, Philippines
deborahkimsy@gmail.com

Daniel S. Hofileña
School of Economics, De La Salle University
Manila, Philippines
danielhofilena@gmail.com

ABSTRACT

As an emerging market in a region vulnerable to political turmoil, natural disasters, and financial contagion, the Philippines is prone to immense capital movements and fierce volatility shocks. The central bank of the Philippines (BSP), under an inflation targeting framework, acts as the harbinger of economic growth and stability. With the advent of financial liberalization, changes in monetary policy ostensibly cause financial instability by nurturing asset price bubbles or massive sell-offs—causing significant contractions and oscillations in economic activity. The study aimed to investigate the transmission mechanism of monetary policy to asset prices, as measured by the movements of the Philippine Stock Exchange Index (PSEi). The multi-sector approach takes into account the banking sector and their risk taking behavior; the foreign sector and their quest for higher returns; and the real economy with the performance of domestic firms. Monthly observations from 2000 to 2010 of multiple variables that best represent each sector were utilized. In order to model these, a Structural Vector Auto Regression (SVAR), which is a modified version of the Vector Auto Regression (VAR), is used to estimate unanticipated structural shocks. Our findings strongly indicate that the monetary authorities in the Philippines react appropriately to shifts in both foreign and domestic economic conditions. Furthermore, the short run effects of policy rates to the index is primarily attributed to myopia – the whimsical and capricious behavior of investors motivated by short-term benefits with little regard for long-term growth – which validates why most long term effects of shocks to the PSEi are zero while short term effects are erratic. The empirical evidence presented in the study can assist policy makers to cope with the strenuous financial environment and regional volatility most especially in newly integrating and industrializing nations.

JEL Classifications: E5

Keywords: Monetary Policy, Stock Market, The Philippines, Monetary Policy transmission mechanism, Structural Vector Auto Regression
INTRODUCTION

As an emerging market, the Philippines experienced persistent stock market volatility, and sudden capital movements throughout the first decade of the 21st century, heightened by economic crises. During the climax of the Global Meltdown of 2008, the Philippine Stock Exchange Index (PSEi) went on a free-fall, crashing by more than 21 percent (Guinigundo, n.d). However, as compared to some of her Western-neighbors, the Philippines remained resilient, giving importance to the intervention of her duly constituted authorities.

Monetary policy is one mechanism by which Central Banks control the money supply of the economy. The framework by which the Central Bank of the Philippines or Bangko Sentral ng Pilipinas (BSP) achieves its mandate is through inflation-targeting. The primary instrument of Monetary Policy of the BSP is the manipulation of overnight reverse repurchase (borrowing) rates (BSP Inflation Report, 2014).

Given the vulnerability of the Philippine stock market to changes in domestic and foreign economic conditions, it is vital to understand how it responds to local Monetary Policy. Hence, this paper aims to model this relationship taking into consideration the various sectors of the economy.

The rest of this paper is organized as follows. Under Section 2 is the review of literature. A brief background on the data used are presented in Section 3. Section 4 illustrates the economic modeling while Section 5 paints the picture of the Philippine economy, which includes the empirical findings and analysis. Lastly, the conclusion is found on Section 6.

REVIEW OF RELATED LITERATURE

Existing literature tackling monetary policy and its channels have been conducted in countries such as Venezuela (Coll et al., 2005), Brazil (De Mello & Pisu, 2010) and in countries in Europe (De Bondt, 1998; De Santis & Surico, 2013), Latin America, and Asia (Olivero et al., 2011). As for the Philippines, only few studies examined this phenomenon, mostly revolving around the concept of bank lending (Aban, 2013), interest rate, and exchange rate channels (Tuano-Amador et al., 2009).

The stock market index is the primary indicator of the health of the nation. At the same time, its performance also affects the cost of financing of firms within an economy (Rigobon & Sack, 2003). Previous literature conducted in other countries such as that of Bernanke and Kuttner (2004) pointed out that monetary policy has its most direct and immediate effect on asset price returns during financial crises, mostly through shifts in expected future dividends and excess returns. Bordo and Wheelock (2007) also found that monetary policy affects stock prices in the short-run by altering expectations on dividends, equity premium and discount rate. More importantly, erratic monetary policy can also lead to chaos in the financial markets (Bordo et al., 1995). Yet, the monetary transmission mechanism in the Philippines in relation to the movement of the stock market remains largely unknown.
DATA

In this study, we consider four sectoral blocs - foreign, domestic policy, domestic investment, and domestic economic activity, proxied by ten economic variables.

Table 1. Variables

<table>
<thead>
<tr>
<th>Bloc</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>foreign bloc</td>
<td>fint</td>
<td>Foreign interest rate</td>
</tr>
<tr>
<td></td>
<td>drem</td>
<td>Cash remittances</td>
</tr>
<tr>
<td>domestic bloc (policy)</td>
<td>rrp</td>
<td>Reverse repurchase rates</td>
</tr>
<tr>
<td></td>
<td>inf</td>
<td>Inflation</td>
</tr>
<tr>
<td>domestic bloc (investment)</td>
<td>dloans</td>
<td>Bank loans</td>
</tr>
<tr>
<td></td>
<td>dlinv</td>
<td>Bank investment</td>
</tr>
<tr>
<td>domestic bloc (economic activity)</td>
<td>dlsxp</td>
<td>Services export</td>
</tr>
<tr>
<td></td>
<td>dgxp</td>
<td>Goods export</td>
</tr>
<tr>
<td></td>
<td>dlmfg</td>
<td>Manufacturing index</td>
</tr>
<tr>
<td></td>
<td>dlpsei</td>
<td>Philippine Stock Exchange Index</td>
</tr>
</tbody>
</table>

Sources of Data: Bangko Sentral ng Pilipinas and Philippine Stock Exchange

**Foreign Bloc.** Foreign interest rate (fint) is proxied by the interest rate of the United States, it being the largest economy at the time. Since there is size asymmetry between the Philippines and the U.S., we regard U.S. interest rate as exogenous given that there is little possibility for a small economy to affect large ones and that the fortune of a small economy is driven by large economies due to globalization (Di Giovanni & Shambaugh, 2007).

Another variable that we include in this bloc is cash remittances (drem, in millions of U.S. dollars) from abroad. For in 2010, 9.45 million or around ten percent of the country's total population were migrants and overseas workers. The country also exhibited a drastic growth in remittances in 2001-2010, from $6.03 billion to $18.77 billion (National Tax Research Center, 2012). Moreover, the Philippines received five percent of total world remittances amounting to $21.3 out of $440.1 billion, she becoming the world’s 4th largest recipient of remittances.

**Domestic Policy Bloc.** In the study, real inflation rate (dlinf) is taken as the rate at which the average price of the goods in the economy increases over time with 2000 as the base year. While a high and irregular inflation may depict price instability, it may also lead to other economic distortions such as uncertainty in the choice of firm investments and a varying income distribution (Blanchard & Johnson, 2013).

Policy rates are formulated with outmost regard for inflation targeting. In the Philippines, the reverse repurchase rate (rrp) is the primary instrument of the BSP to regulate inflation (BSP, 2013). With inflation targeting as the key objective of the BSP, changes in these policy rates are designed to affect inflation through open market operations specifically by selling of government securities to influence money supply (Blanchard & Johnson, 2013).
**Domestic Investment Bloc.** Bank loans (in million pesos, dlloans) or money that the banking sector lends to the private sector, is one way of generating domestic liquidity in the market. Likewise, it is the primary tool of banks in generating profit. Bank loans are taken as an asset in the balance sheet, comprising 50.67 percent of the value of banks in 2007.

As another measure of domestic investment, we take into account the level of Commercial Bank investment in securities (in million pesos, dlinv). These banks, by definition (Philippine Deposit Insurance Corporation, n.d), are granted powers to act as investment houses, along with a wide variety of banking services such as underwriting and investing in securities.

**Domestic Economic Activity.** In many studies, Gross Domestic Product (GDP) has been considered as the primary indicator of economic activity. However, GDP data in the Philippines is available quarterly and annually. We opted to use monthly variables as proxies for economic activity in lieu of GDP.

**Service Exports.** The Philippines, where export of services is the principal engine for economic growth since the mid-1980’s, has generated around 16,300 workers in the industry by the end of 2005. In 2008, the ratio of service exports to GDP is 8.58 percent. The export of services was dominated by the business processes outsourcing (BPO) in the 2000’s because of a large, educated workforce with strong English language potential and flexibility to other cultures, and the ratio of service sector exports to total service sector revenue was 12 percent in 2009 (Mitra, 2013). It has outperformed most countries in industry growth emerging as the largest BPO center in the world after India (Business Processes Association of the Philippines, 2009-2013). Denomination of the variable services export (dlsxp) is USD.

**Goods Exports.** The characteristics of exports and global trade are radically changing as the world recovers from the recent global financial crisis. Free trade agreements and international trade negotiations brought about by trade liberalization expand opportunities for growth and potential for larger export markets (Energy Development Corporation, n.d). According to the National Statistics Office (NSO) (n.d), primary goods exports in the country from all throughout the 2000’s were manufactures such as electronics, electrical equipment and telecom. Goods export, which is also a component of the balance of payments aside from services export, is in US dollars as well.

**Manufacturing Index.** The manufacturing sector continues to capture the largest share among all of the 11 economic sectors in the national accounts of the Philippines while accounting for 24 percent of the domestic economy (in constant prices) (Virola, Talento, & Polistico, 2007). The variable used to for manufacturing index (dlmfg) is the total value of production index of key manufacturing enterprises.

The stock market is well-known as the primary ground of capital formation for businesses and at the same time, it serves as a crucial indicator of
the overall wealth generated by the economy of the Philippines as an emerging market. The monthly closing prices from January 3, 2001 and December 1, 2010 of the PSEi were taken on the first Wednesdays of the month or on the previous business day if the Wednesday is a holiday. Being a snapshot of the market’s overall condition, the PSEi is composed of the 30 largest and most active common stocks listed at the exchange based on their free float-adjusted market capitalization.

Therefore, the monthly data from 2001 to 2010 in the study comprise of US interest rates, cash remittances abroad, reverse repurchase rates or the policy rates, inflation rates, bank loans, bank investment in securities, service exports, goods exports, manufacturing index and the PSEi closing prices.

PROPOSED ECONOMETRIC METHODOLOGY

First, we specify the underlying VAR model. After testing for the stationarity of the variables and selecting of the optimal lag length using the Selection Criteria, we test for the stability of the underlying VAR model. Next, we identify and specify the long-run restrictions for the SVAR and lastly, we generate the impulse response functions.

Vector Autoregressive (VAR) models are multivariate simultaneous equation models wherein all variables and their lags are regarded as endogenous to examine the relationship among a set of economic variables (Enders, 2010). The term autoregressive is due to the appearance of the lagged value of the dependent variable on the right-hand side and the term vector is due to the fact that we are dealing with a vector of two or more variables (Gujarati & Porter, 2009).

The long run SVAR model has the form:

\[ y_t = C \epsilon_t \]

In long run models, the constraints are imposed on the elements of \( C \) and the free parameters are then estimated. The Plr matrix such that \( P_l r P_l r^\prime = \Sigma \) identifies the structural impulse response functions. \( P_l r = C \) is identified by the restrictions placed on the parameters in \( C \) (Stata Manual, n.d.b).

In a Structural Vector Autoregressive (SVAR) model, restrictions of a particular economic model are incorporated on the contemporaneous relationship among variables as opposed to VAR models which are being criticized as being devoid of economic content (Enders, 2010). In other words, SVAR intends to utilize economic theory to recover structural innovations from the residuals in a VAR.

In order to exactly identify the structural model from an estimated VAR, it is necessary to impose at least \( n(n-1)/2 \) restrictions on the structural model (Enders, 2010). However, in an event that the constraints are not independent because of its construction or the data itself, the number of constraints may exceed the required number of restrictions that results to over-identification (Amisano & Giannini, 1997).

To generate sensible economic inferences through several time periods, we need stochastic processes that are stationary that implies a constant mean and variance over time and the covariance between the time periods depends only on
the lag between these periods (Gujarati & Porter, 2009). In order to test for stationarity, we use the Augmented Dickey-Fuller (ADF) test on the raw data. Only inflation and service exports appear to be stationary. So, we take the normalized returns of some selected variables. After transformation, all variables are stationary.

A lag order of three is used even though the VAR lag selection criterion points out a lag order of two because of the inconsiderable difference of $10^{-22}$ between the values for the Factor Prediction Error (FPE) for lags two and three, and theoretically, two months is too short for economic shocks to take effect. In reference with the Federal Reserve Bank of San Francisco (2002), changes in monetary policy normally take effect on the economy with a lag between three quarters to two years.

The Eigen-value of the test for stability of the VAR model shows a value of .9809. Hence, the VAR model is stable.

The C matrix is the matrix where we impose the restrictions upon the contemporaneous and lagged effects of the error terms for the SVAR.

### Table 2. C Matrix

<table>
<thead>
<tr>
<th></th>
<th>fint</th>
<th>dlrem</th>
<th>rrp</th>
<th>inf</th>
<th>dlloans</th>
<th>dlxsp</th>
<th>dlxgp</th>
<th>dlmfg</th>
<th>dlinv</th>
<th>dlpsvi</th>
</tr>
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<tbody>
<tr>
<td>fint</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
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<tr>
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<td>rrp</td>
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<td>0</td>
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<tr>
<td>inf</td>
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<td>dlxsp</td>
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</tr>
<tr>
<td>dlxgp</td>
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<td>.</td>
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<td>0</td>
</tr>
<tr>
<td>dlmfg</td>
<td>0</td>
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</tr>
<tr>
<td>dlinv</td>
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<td>.</td>
<td>.</td>
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<tr>
<td>dlpsvi</td>
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</tr>
</tbody>
</table>

In the matrix, the rows are the response variables, and the columns are the impulse variables. If the coefficients are zero, this means that we restrict the column variables to not have an effect on the row variables.

To avoid simultaneity and feedback effect problems, the variable dlpsvi is deemed to have no effect on any other variables, and is regarded as a truly endogenous. On the other hand, fint is regarded as an exogenous variable by economic theory.

To confirm our a-priori expectations and to provide empirical support, we checked for causality using the Vargranger test. It is a test where we regress the dependent variable on its own lagged values and on lagged values of the independent variable to see if the variable granger-causes the other (Stata Manual, n.d.a). Aside from a few results in the test that were a-theoretic as in the case of the Philippines, we found that our matrix is consistent.

### PAINTING THE PICTURE OF THE PHILIPPINE ECONOMY

As defined by Gujarati & Porter (2009), impulse response functions trace out the response of the dependent variable to shocks in the error terms in VAR systems
for several time periods in the future. This section shows the various impulse response functions obtained from the SVAR.

**How reverse repurchase rates react to shocks in the foreign interest rates.**

As said by BSP Governor Amando Tetangco Jr (February 2, 2014), the movement of the US Federal Reserve is one of a number of factors BSP authorities consider in their overall analysis. We are a small open economy. Therefore, a change in foreign monetary policy rates influence the outlook for domestic inflation and growth mainly due to movements of capital.

![Graph](image-url)

**Figure 1.** Foreign Interest Rate to Reverse Repurchase Rate IRF

A few years ago, while Federal Reserve tapering sparked fears in emerging markets, investors reacted by pulling out their capital. They began moving capital from the United States to other emerging markets such as Philippines, which brought inflationary pressures. The BSP, in turn, stabilized the inflows by keeping policy rates high in the first few periods.

**How reverse repurchase rates react to shocks in inflation.**

A sudden spike in inflation is a trigger for monetary authorities to jack up the key policy rates, as seen at the contemporaneous response. The BSP’s main objective is to regulate inflation. Hence, they respond with strong policy actions to rein in inflation expectations as well as pre-empt potential second-round effects as previous monetary responses continued to work their way through the economy (BSP, 2014).

In January and February of 2007, there is a considerable drop of 23.08 percent in the inflation rate, but the BSP did not change its policy rates because the inflation rate at the period is 3.4 percent and is within their target of 4 percent. However, as inflation continued to rise to 6.6 percent in June and to 7.5 percent in September of 2008, the BSP reacted accordingly by increasing the policy rates by 25 basis points in both periods because the rates have already breached the target of 4.0 percent ± 1.0 percent for 2008. Furthermore, the average change in the reverse repurchase rate is 0.0104 percent or 1 basis point.
from 2001-2010. This suggests that BSP responds with a sharp RRP hike to curb inflation.

![Figure 2. Inflation to Reverse Repurchase Rate IRF](image)

The sharp decline indicates that the BSP still allows for growth due to excessive demand in the economy as long as inflation normalizes and falls well-within the target policy rates.

**How inflation react to shocks in the reverse repurchase rates.**

![Figure 3. Reverse Repurchase Rate to Inflation IRF](image)

The impact of the policy rate is seen after 16 months where inflation starts to lie on the negative quadrant. In other words, there exists a lag effect in which the monetary stance is able to affect the economy through inflation. This is in line with the findings by Bayangos (2010) that describes the relationship of the
Philippine CPI to tighten. According to the study, the reaction fully takes effect after five quarters and will reach its peak after eight quarters.

Also, the upward spike of the policy rate in the impulse response function (Figure 3) exhibits procyclicality which is what inflation targeting has been doing in the case of supply shocks. Even though the nominal target by a central bank creates unnecessary procyclicality into the monetary mechanism, it is still better to choose a nominal anchor that are accommodating shocks rather than exacerbating them (Frankel, 2011).

**How bank investment in securities reacts to shocks in foreign interest rates.**

At least five in the top ten negative returns of the PSEi tabulated by Hofileña and Tomaliwan (2014) are within the our time period while three fell within the period of the Global Financial Crisis.

**Table 3. Top Ten Negative Returns of the PSEi**

<table>
<thead>
<tr>
<th>Date</th>
<th>Returns</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday, October 29, 2008</td>
<td>-15.2317</td>
<td>Investors started to dump stocks as they await results of U.S. election and 3rd quarter earnings.</td>
</tr>
<tr>
<td>Wednesday, August 12, 1998</td>
<td>-14.6089</td>
<td>President Estrada was warned of impeachment, and fears about a weakening yen and yuan started to brew.</td>
</tr>
<tr>
<td>Wednesday, September 3, 1997</td>
<td>-12.8450</td>
<td>Bank interest rates hit a 5-year high.</td>
</tr>
<tr>
<td>Wednesday, June 17, 1998</td>
<td>-10.6395</td>
<td>Fears of a weakening yen started. Peso catches up with the currencies that weakened last Friday.</td>
</tr>
<tr>
<td>Wednesday, March 2, 1994</td>
<td>-10.6267</td>
<td>There are fears of a 20 percent withholding tax on local T-bills.</td>
</tr>
<tr>
<td>Wednesday, October 8, 2008</td>
<td>-10.4829</td>
<td>There are worries on how the U.S. recession will affect the world.</td>
</tr>
<tr>
<td>Wednesday, September 17, 2008</td>
<td>-9.9470</td>
<td>U.S. congress fails to approve a rescue plan.</td>
</tr>
<tr>
<td>Wednesday, February 28, 2007</td>
<td>-9.9432</td>
<td>Investors dump U.S. stocks. There are fears that AIG will fail.</td>
</tr>
<tr>
<td>Wednesday, March 1, 2000</td>
<td>-9.6992</td>
<td>President Arroyo was linked directly to the ZTE scandal. Investors await U.S. economic data.</td>
</tr>
<tr>
<td>Wednesday, May 24, 2006</td>
<td>-9.6310</td>
<td>There are impending U.S. interest rate hikes this month. Asian currencies are weakened.</td>
</tr>
</tbody>
</table>

Figure 4 depicts the buy-low and sell-high risk taking attitude of domestic banks. When there are large negative returns, associated with bad news at that time, banks reach their investment peaks during that period as highlighted by the red boxes. We can say that banks are risk-takers and are seeking long term profits. They buy during market downturns to sell during upswings.

Contractionary monetary policy abroad is a sign of a slowing global economy. During periods of crisis, fears are heightened which induce capital flight that brings down the stock market. As a result, domestic banks then invest to take advantage of cheap capital.
How bank investment in securities react to shocks in remittances.

The Pairwise coefficient of correlation of 89.50 percent of bank investment in securities and bank loans suggests strong comovements between them. The limited assets of the banking sector may imply adjustments of banks to temporary surge in demand for loans as seen in temporary decline in securities investments.
However, as it can be seen from the Figure 7, it is clear that banks generally tend to increase loans side-by-side with portfolio investments which are indicators that they are taking advantage of favorable economic conditions.
How bank investment in securities react to shocks in the reverse repurchase rates.

Figure 8. Reverse Repurchase Rate to Bank Investment in Securities IRF

High interest rates caused by a contractionary monetary policy stance make bank investment in securities more costly because of the corresponding decrease in their profit margins. The decrease in the spread reflects less profit and discourages domestic investment in securities. It dampens domestic investment altogether.

How Philippine Stock Exchange Index reacts to foreign interest rates.

Figure 9. Foreign Interest Rate to Philippine Stock Exchange Index IRF

After the bottom out in 2008, stock markets in Asia started an unprecedented run that saw the rise of emerging markets such as the Philippines
and Indonesia. These emerging markets had become choice destinations for investments looking for higher yields given the uncertainties in most developed markets (Crisostomo, Padilla & Visda, 2013).

Having more information about the financial specifics of the country, domestic investors are more prone to take on risks rather than foreign investors in times of financial distress.

To support this, the local-foreign value turnover ratio from 1998 to 2012 shows that during the Asian and Global financial crisis, the foreign ratio is declining which means that the local trading activity in the country is strengthening.

![Figure 10. Local Foreign Turnover Ratio 1998-2012 in %](image)

**Source:** PSE Trading Participants’ Ranking Reports

Moreover, when a large economy such as the U.S. slows down, there is a risk of contagion to other countries. This phenomenon is described as coupling of economies and is caused by globalization and partial integration of economies due to international trade and free capital flows.

At the same time, it is well recognised that capital inflows help relax the financing constraint of the domestic economy. Thus, rather than discourage inflows altogether, authorities generally undertake measures to attract direct investments and other long-term capital flows (Gonzalez, 2008). This may also explain the positive shock to the index when foreign interest rates go up.

**How Philippine Stock Exchange Index reacts to shocks in remittances.**

The increase in the domestic investment can be related indirectly to seasonality where high remittances and more loans are available during the Christmas season. During such season, aggregate demand of the economy is higher which leads to the increase in profitability of private firms. Hence, these are reflected in the surge of the value of the firm.
How Philippine Stock Exchange Index reacts to shocks in the reverse repurchase rates.

Contractionary monetary policy sharply decreases the index to the negative quadrant initially but the effect dies down after the succeeding periods. The Philippines being a small open economy with little capital control due to financial liberalization is very sensitive to movements in policy rates. This is an occurrence commonly called as spooks or the fact that investors are jittery especially with their money on the onset of monetary policy decision-making. The fact that policy rates have an effect on the index in the short run may reflect the myopic behavior of investors where these investors only see the short run profits rather than the long run gains in venturing in the stock market.
This is in line with Kochar & David (1996) where investors value short term gains as they may lack access to firm-specific information to evaluate the potential of the firm so they only look at current earnings which is easily measurable. Therefore, they primarily focus on turning over their portfolio to capitalize on all the possible short-term profit they see (Shleifer & Vishny, 1990).

CONCLUSION

Our findings strongly indicate that the monetary authorities in the Philippines respond aptly to shifts in both foreign and domestic economic conditions. The Bangko Sentral ng Pilipinas is able to fulfill its objective of price stability throughout the years.

The credibility of the BSP plays an important role on the stability of the stock index since a contractionary monetary stance abroad will trigger 'spooks' and capital flight towards safer havens. This finding is consistent with the fact that our time period encompasses the fullness of the Global Financial Crisis, the advent of the Euro-zone worries, and the aftermath of the Asian Financial Crisis. During this period, investors are jittery and are extremely sensitive to the financial climate.

In case of sudden economic downturns, the outflow of 'Hot Money' is counter-balanced by investment in securities of domestic financial institutions. The buy-low sell-high attitude is consistent with profit-seeking behavior. This is also an indicator of strong confidence of domestic investors even in times of global turmoil. Furthermore, the Philippine banking system has remained resilient during the 2008 Meltdown due to its limited exposure to securitized assets and a strong supervisory and regulatory body (Guinigundo, n.d).

Moreover, we find that the short run effects of policy rates to the index is mainly attributed to myopia – the whimsical and capricious behavior of investors – motivated by short-term gains with little regard for long-term growth. This justifies why most long-term effects to the PSEi are zero while short-term effects of variable shocks are erratic. This is consistent with the characteristics of emerging economies especially with financial liberalization of the Philippines in the late 90s, which abolished capital controls and eased the flow of capital.

REFERENCES


SME innovation – Case studies of two Philippine firms

Raymund B. Habaradas
del Rosario College of Business, De La Salle University
Manila, Philippines
raymund.habaradas@dlsu.edu.ph

Pia T. Manalastas
del Rosario College of Business, De La Salle University
Manila, Philippines
pia.manalastas@dlsu.edu.ph

John Andrew C. See
del Rosario College of Business, De La Salle University
Manila, Philippines
john.andrew.see@dlsu.edu.ph

ABSTRACT

Very few scholars have studied the innovation practices of SMEs in the Philippines, limiting the knowledge base from which local firms can derive useful lessons for their own attempts at upgrading their products/services and organizational processes. Most of these studies are descriptive in nature, and do not attempt to scrutinize the dynamics of organizational innovation. To understand how organizational dimensions of Philippine firms and their innovation practices are linked, we asked the following research questions: How do Philippine small- and medium-size enterprises (SMEs) innovate? Is there a relationship between these SMEs’ organizational characteristics (i.e. organization strategy, organization structure, and organization culture) and their innovation activities?

Utilizing the multiple case study method, we described how two Philippine SMEs—one engaged in food manufacturing and the other engaged in audio engineering services—innovate, and what the drivers and barriers of innovation are in these two companies. Our study showed that both companies follow the coupling model process of innovation, where both technology and the market are influential factors. Both companies have adopted product and process innovations over the years, as a response to market and regulatory conditions.

These two cases also provide empirical evidence that support the findings of Damanpour (1991), whose highly-cited work identified several structural, cultural, resource and process variables as determinants of organizational innovation. Our study shows that, in these two firms, the following variables are positively related to innovation: specialization, professionalism, managerial attitude towards change, technical knowledge resources, slack resources, and external and internal
communication. However, only in the food manufacturing business is functional differentiation a key determinant.

Additional insights generated by this study are the following: (a) that companies are likely to adapt their strategies or to restructure their organizations depending on internal and external conditions, and that these changes could result in different forms of innovation; and (b) that individual, organizational, and environmental factors would affect innovation activities depending on the organization’s stage in its life cycle, which supports an earlier contention made by Aguado, et. al. (2010).

**JEL Classification:** L00, M1

**Keywords:** SME innovation, family business management, small business management

**INTRODUCTION**

Doing business in the Philippines has become increasingly tough. This is the realization of many Philippine firms that face strong competition by companies from countries such as China, India, and Vietnam, which are able to significantly bring down the prices of their goods because of extremely low production costs. For many Filipino firms, especially those in traditional industries such as garments, footwear, furniture, and handicrafts, competing on the basis of price alone have just become impossible, what with the high cost of production inputs (i.e. labor, raw materials, and electricity, among others). Many of these firms have, in fact, decided to fold up either because margins have become too thin or because continuing business operations have become an unprofitable proposition.

Some Philippine firms, however, have remained viable in spite of stiff foreign competition. This is largely because of their ability to offer differentiated, higher-end products that are valued both in domestic and international markets. Those that engage in technological upgrading have also enhanced their productivity and overall efficiency, consequently improving their ability to compete.

Indeed, innovation has become critical in enhancing the capability of firms to adjust to rapid changes in the business environment. This means not only remaining economically competitive but also being responsive to social and environmental imperatives. Without a doubt, “[u]nless organizations are prepared to renew their products and processes on a continuing basis, their survival chances are seriously threatened” (Tidd, Bessant and Pavitt, 1997).

However, very few studies on the innovation practices of firms in the Philippines have been undertaken (Beng Hui, et. al., 2005; Habaradas, 2005; Habaradas & Tolentino, 2010; and Macapanpan, 1999; as cited by Ancog & Aquino, 2007), effectively limiting the knowledge base from which local firms can derive useful lessons for their own attempts at upgrading their products / services and organizational processes. Even fewer are published studies that focus on the innovation practices of small- and medium-enterprises (SMEs) in the Philippines, which comprise the bulk of businesses in the country, employ more than two-
thirds of the country’s total workforce, and contribute about one-third of the national output (Habaradas, 2009). Most of these studies are descriptive in nature, and do not attempt to scrutinize the dynamics of organizational innovation. Therefore, there is a need to undertake empirical studies that show how organizational dimensions of Philippine firms and their innovation practices are linked. This led us to ask the following questions: How do Philippine small- and medium-sized enterprises (SMEs) innovate? Is there a relationship between these SMEs’ organizational characteristics (i.e. organization strategy, organization structure, and organization culture) and their innovation activities?

RESEARCH FRAMEWORKS

To describe the innovation process undertaken by the firms we examined, we utilized the five models identified by Rothwell (1994, as cited by Smith, 2006), namely the technology-push model, the demand-pull model, the coupling model, the integrated model, and the network model.

We also used as my guide the highly-cited work of Damanpour (1991), who conducted a meta-analysis of previous organizational innovation research. In his study, Damanpour examined the relationships among 13 variables identified from previous studies that were theoretically identified as determinants of innovation (see Figure 1). These included structural, cultural, resource, and process variables, which largely correspond to the organizational characteristics we mentioned above.

![Figure 1. Determinants of innovation based on Damanpour's (1991) meta-analysis](image)

Listed below is a description of how the above-mentioned variables influence innovation in organizations, and how these could be operationalized.

**Table 1. Explanation and indicators of variables that influence innovation in organizations**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Apriori</th>
<th>Explanation</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialization</td>
<td>+</td>
<td>A variety of specialists</td>
<td>Number of different</td>
</tr>
<tr>
<td></td>
<td></td>
<td>provides</td>
<td>occupational</td>
</tr>
<tr>
<td>Variable</td>
<td>Apriori</td>
<td>Explanation</td>
<td>Indicators</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td>Variable</td>
<td>Apriori</td>
<td>greater access to knowledge and new ideas, products, and techniques.</td>
<td>types or job titles in an organization</td>
</tr>
<tr>
<td>Functional differentiation</td>
<td>+</td>
<td>Combined professional formed into different units can influence change in the systems.</td>
<td>Total number of units under top management level</td>
</tr>
<tr>
<td>Professionalism</td>
<td>+</td>
<td>Brings to the organization people that have experience, self-confidence, additional inputs from external sources and a psychological commitment to go beyond the status quo, which are all conducive for innovation.</td>
<td>Number or percentage of professional staff members with certain educational backgrounds or index reflecting degree of professional training of organizational members</td>
</tr>
<tr>
<td>Managerial attitude towards change</td>
<td>+</td>
<td>The favourable attitude of managers towards change can lead to a climate that is conducive to innovation.</td>
<td>Battery of items assessing managers’ values that favor change or historical account of innovations introduced by managers</td>
</tr>
<tr>
<td>Technical knowledge resources</td>
<td>+</td>
<td>Greater technical expertise aids in the understanding</td>
<td>The presence of technical group or technical personnel</td>
</tr>
<tr>
<td>Variable</td>
<td>Apriori</td>
<td>Explanation</td>
<td>Indicators</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Administrative intensity</td>
<td>+</td>
<td>A higher proportion of managers would facilitate the successful adoption of innovation, which depends largely on the support, leadership, and coordination that they provide.</td>
<td>Ratio of managers to total employees in the organization.</td>
</tr>
<tr>
<td>Slack resources</td>
<td>+</td>
<td>Allow the organization to purchase innovations, absorb failures and bear costs associated with instituting innovations.</td>
<td>Changes in an organization’s budget and sources of finance; changes in the expenditure for the organization’s main activity.</td>
</tr>
<tr>
<td>External communication</td>
<td>+</td>
<td>Environmental scanning and extra-organizational professional activities of employees can bring in new ideas.</td>
<td>Degree of involvement of the organization’s members and their participation professional activities outside of the organization.</td>
</tr>
<tr>
<td>Internal communication</td>
<td>+</td>
<td>Facilitates the diffusion of ideas within an organization,</td>
<td>Number of committees that exist in an organization.</td>
</tr>
</tbody>
</table>
Asia Pacific Business & Economics Perspectives, 2(2), Winter 2014

<table>
<thead>
<tr>
<th>Variable</th>
<th>Apriori</th>
<th>Explanation</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>increasing the diversity of ideas of its members, creating an environment</td>
<td>organization, the frequency of committee meetings, or the number of times employees come in contact with people of the same and different levels.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>that is receptive to innovation.</td>
<td></td>
</tr>
</tbody>
</table>

Centralization - Concentrating the decision making authority prevents the firm from utilizing innovative solutions

Degree of organizational members’ participation in decision making; degree of authority and freedom that organizational members have in making their own decisions.

Adapted from Aguado, et. al. (2010).

**METHODOLOGY**

To provide additional empirical evidence to validate Damanpour’s findings, we utilized the case study research method, which is most appropriate for understanding complex contemporary phenomenon with some real-life context. Moreover, the case study method allows researchers to retain the holistic and meaningful characteristics of real-life events – such as organizational and managerial processes (Yin, 2009). We also adopted a multiple-case design because the analytic conclusions that independently arise from at least two cases are more powerful than those coming from just a single case. Also, because the contexts of multiple cases are likely to differ to some extent, arriving at a common conclusion in spite of the varied circumstances “will have immeasurably expanded the external generalizability” (Yin, 2003, p.53) of one’s findings compared to those of a single case.

For this study, we largely depended on data provided by key informants during in-depth interviews, since the two companies we studied did not have
annual reports, minutes of meetings, or other documents that could be examined. After the interviews were transcribed, we proceeded to analyze the data using the above-mentioned frameworks as our guide.

**REVIEW OF RELATED LITERATURE**

This section contains a review of the extant literature on innovation. It touches on innovation models, factors that influence innovation, innovation in SMEs, barriers to SME innovation, and overcoming these barriers by harnessing organizational culture and through open innovation.

**Innovation**

McAdam and Armstrong (2001) define innovation as "the harnessing of creative ability within individuals and the workforce in response to change, by doing things differently or better across products, processes or procedures." Their definition is an attempt to integrate previous definitions derived from literature (Mogee and Schact, 1980; Drucker, 1985; Mole and Elliot, 1987; and Gobeli and Brown, 1994).

Specifically, technological innovation activities are all those scientific, technological, organizational, financial and commercial steps that actually, or are intended to, lead to the implementation of new or improved products and processes. The main activities involved are the acquisition of knowledge (patents, licenses, technical services, etc.), the acquisition of machinery and equipment, and various other preparations for production delivery, including tooling up, staff training, marketing, and R&D (Virasa and Tangjitpiboon, 2000).

Tidd, Bessant and Pavitt (1997) offer a useful framework for determining the type of innovation adopted by firms. They said that innovation can be reckoned in terms of what is changed (i.e. product, service, or process) and of the perceived extent of change (i.e. incremental transformation and radical transformation). A similar classification scheme utilized by Kaplinsky and Morris (2003) and by Humphrey and Schmitz (2003) identified four trajectories that firms can adopt in pursuing the objective of technological upgrading: process upgrading, product upgrading, functional upgrading, and chain (or inter-sectoral) upgrading. These categories, according to Humphrey and Schmitz (2003) “are finding rapid acceptance in the international debate”, and suggest that firms can, indeed, follow a hierarchy of upgrading as suggested by Gereffi (1999).

Drawing from the literature, Lee, et. al. (2010) also identified other types of innovations, such as systemic innovation and component innovation; technology-push and market-pull; and closed innovation and open innovation.

**Innovation models**

Gudmundson, et. al. (2003) concluded that “the innovation process is complex,” an observation shared by other innovation scholars such as Tidd, et. al. (1997), who said that “technological opportunities and threats are often difficult to identify, innovation strategies difficult to define, and outcomes difficult to predict.” This is due to the large number of variables that have been associated with innovation in a number of studies such as those undertaken by Damanpour
(1991), Link and Bozeman (1991), and Scherer (1991). In fact, there are several innovation models that attempted to explain the innovation process within organizations. Rothwell (1994, as cited by Smith, 2006), for example, identified five models of the innovation process, namely the technology-push model, the demand-pull model, the coupling model, the integrated model, and the network model.

The technology-push process model is the traditional perspective on the process of innovation, which is seen as largely driven by developments in science and technology. According to Smith (2006), “the model is naïve as far as the process itself is concerned” since it tells very little about the nature of the innovation process.

In the demand-pull process model, the role of the market is central, i.e. the market forms the source of ideas for new innovations. Knowledge of consumer requirements is seen as driving research and development rather than the other way around.

In the coupling model process model, both technology and the market are influential. Technology enhances the state of knowledge within the broader scientific and technological community, while the market works to express wider consumer needs and expectations. New ideas are the product of both. The crucial difference between this model and earlier ones is the presence of feedback loops (Smith, 2006).

The integrated model process model, according to Smith (2006), promotes the notion of concurrent or parallel development, which, when applied to new product development, implies an end to strictly linear and sequential processes. Under such arrangements, the different functional areas (through project teams) are brought into the new product development process from the start; therefore, issues such as manufacturability are considered early in the process rather than near the end.

The network model process model is described by Rothwell (1994) as a ‘fifth-generation’ innovation process. It reflects the way in which some organizations increasingly rely not on their own internal resources for innovation, but instead draw on external resources through alliances, agreements and contracts with third-party organizations. According to Smith (2006), the use of networks reflects continuing developments in computing and communications that have facilitated the transfer of information and have facilitated outsourcing arrangements, whereby organizations focus on their core activities and simply obtain the services of other companies for non-core activities.

Factors that influence innovation

In Damanpour’s (1991) highly-cited meta-analysis of previous organizational innovation research, he examined the relationships among 13 variables identified from previous studies that were theoretically identified as determinants of innovation. Significant positive relationships were found between innovation and specialization, functional differentiation, professionalism, managerial attitude towards change, technical knowledge resources, administrative intensity, slack resources, and external and internal communication. On the other hand, a significant negative relationship was found between innovation and
centralization, which is consistent with the findings of Link and Bozeman (1991) and Scherer (1991), who said that innovation is driven by an organizational environment free of bureaucratic constraints (cited by Audretsch, 2004). The study also concluded that type of organization and scope of innovation had a significant moderating effect on the relationships between these variables and innovation.

A more recent study by Gudmundson, et. al. (2003) summarized several innovation models that attempted to explain the innovation process. These include the models developed by West and Farr (1989), by Woodman, Sawyer, and Griffin (1993), and by Hauser (1998).

The model of West and Farr (1989) dwelt on individual innovation at work. In this model, facilitators of innovation included characteristics that were intrinsic to the job, group factors, relationships at work, and organizational factors. The relationship between these variables and innovation was moderated by individual characteristics. The model developed by Woodman, et. al. (1993), which is referred to as an interactionist model of organizational creativity, included various individual, group, and organizational characteristics and portrayed their theoretical relationship to creativity. Finally, the conceptual model of the innovation process, as developed by Hauser (1998), suggested that organizational culture plays a key role in the innovation process.

**Innovation in SMEs**

Acs and Audretsch (1987, 1988, 1990, as cited in Audretsch, 2004) said that the differences between the innovation rates of large and small firms can generally be explained by (1) the degree of capital intensity, (2) the extent to which an industry is concentrated, (3) the total innovative intensity, and (4) the extent to which an industry is comprised of small firms. In particular, the relative innovative advantage of large firms tends to be in industries that are capital intensive, advertising intensive, concentrated, and highly unionized. Small firms, on the other hand, have a relative innovative advantage in industries that are highly innovative and where small firms do not have a high employment share.

According to Tidd, et. al. (1997), small innovating firms have similar objectives as compared to large innovating firms. They both develop and combine technological and other competencies to provide goods and services that satisfy customers better than alternatives, and that are difficult to imitate. The difference lies in terms of organizational structure, and technological capabilities / resources.

Smaller firms have certain relative strengths such as “ease of communication, speed of decision-making, degree of employee commitment and receptiveness to novelty”, which is why small firms often do not need the formal strategies that are used in large firms to ensure communication and coordination. However, “smaller firms only have a specialized range of technological competencies, are unable to develop and manage complex systems, and are unable to fund long-term and risky programs” (Tidd, et. al., 1997). As Todtling and Kaufmann (2002) put it, “SMEs innovate in a different way than larger firms and they usually face more barriers. They apply less resources for R&D and they undertake less systematic market research or technology monitoring.”
Barriers to SME innovation

Beise and Licht (1996), as cited by Audretsch (2004), identified the following barriers to innovation: (a) too long a gestation period required for innovative activity, (b) legal restrictions and restrictive government policies, (c) long drawn-out processes for obtaining government approval for a new product, (c) shortage of financial capital, (d) lack of competent employees, and (e) very high levels of risk. Also worth mentioning is the study by Caputo, Cucchiella, Fratocchi, Pelagagge, and Scacchia (2002), which identified several obstacles to SME innovation: (a) high innovation costs, (b) high risks related to innovation activities, (c) absence of financial resources, (d) absence of skilled workers, (e) organizational constraints, (f) regulations and technical standards, (g) low customer interest in product innovation, (h) absence of information on technology, and (i) absence of market information.

Lee, et. al.’s (2010) fairly recent study of Korean firms revealed the following as the top innovation barriers among SMEs: (a) difficulties in finding suitable manpower in the labor market, (b) shortage of suitable manpower within the firm, (c) market uncertainty in innovative products, (d) imitation possibilities of technology innovation, (e) shortage of ability in R&D planning and management, (f) lack of technological information, (g) funding difficulties due to high risk from technological uncertainty, (h) funding difficulties due to high innovation and commercialization costs, (i) lack of market information, and (j) frequent turnover of human resources (usually for R&D).

In summary, the obstacles or barriers to innovation could be classified in terms of the nature of innovation, internal constraints, and external conditions (see Table 2).

Table 2. Obstacles / barriers to innovation

<table>
<thead>
<tr>
<th>Nature of innovation</th>
<th>Internal constraints</th>
<th>External conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>- High innovation costs</td>
<td>- Absence or shortage of financial resources</td>
<td>- Low customer interest in product innovation</td>
</tr>
<tr>
<td>- High commercialization costs</td>
<td>- Absence of skilled workers / lack of suitable manpower within the firm and in the labor market</td>
<td>- Market uncertainty in innovative products</td>
</tr>
<tr>
<td>- High levels of risks related to innovation</td>
<td>- Frequent turnover of technical human resources</td>
<td>- Absence of information on technology</td>
</tr>
<tr>
<td>- Long gestation period required</td>
<td>- Other organizational constraints</td>
<td>- Absence of market information</td>
</tr>
</tbody>
</table>

Sources: Beise and Licht (1996), Caputo, et. al. (2002), and Lee, et. al. (2010)
Harnessing organizational culture to promote innovation in SMEs

A study by McAdam and Armstrong (2001) on the symbiosis of quality and innovation in SMEs shows that quality in SMEs is more suited to structured continuous improvement than large organization quality models, such as the business excellence model and ISO, which were found to be “overly bureaucratic and inflexible. Higher scoring SMEs linked large-scale innovation to their quality efforts, and considered quality to be both a catalyst and a foundation for more radical innovation efforts.

The study also showed that encouraging employees to be creative and to generate knowledge led to increased empowerment, risk taking, and experimentation, ultimately leading to innovation. Furthermore, quality efforts aimed at getting feedback from the customer lead to a source of outside knowledge for use in devising innovations. Finally, there was clear evidence that a culture of continuous improvement, linked to organizational goals, was a “good foundation on which larger scale innovation could be established and developed.” However, the study also concluded that “quality and innovation cannot be quickly incorporated in SMEs,” and that “there must be a careful and systematic development program” (McAdam and Armstrong, 2001).

According to Caputo, et. al. (2002), the diffusion of innovation within firms is reduced because of high costs and the resulting risks related to innovation activities, fear of changes that accompany innovations, and modest information about public and private incentives for innovation. These factors especially affect SMEs because of the moderate knowledge base they own, the little time an entrepreneur may dedicate to innovation activities, because of other daily demands of the job; modest financial resources, and diffused aversion to realize partnerships with potential innovation suppliers.

To overcome these limitations, Caputo, et. al. (2002) proposed a model for innovation transfer to SMEs, the main features of which are as follows:

- Networked architecture, which contributes to interaction of the different involved actors in order to increase transfer’s success chances
- Introduction of an organizational unit – innovation center (IC) – which collects knowledge on innovations and financial – fiscal subsidies’ availability
- Proposition of an organizational actor – innovation promoter (IP) – who is the main interlocutor of the enacted SME willing to realize an innovation transfer

However, for the proposed framework to be successful, the involved SME must be sincerely interested in receiving and implementing innovations. Moreover, the SME must follow a step-by-step approach starting with an incremental low-cost pilot project, which is meant for the entrepreneur to gain trust in the innovation transfer process; consequently, more radical and systemic innovation transfers will be realized only when pilot projects are successfully implemented. Finally, the innovation promoter (IP) must be able to operate within the SME and to gain the trust of the entrepreneur; this becomes more likely if the IP possesses both adequate technical skills and ample ability to establish effective interpersonal relationships, which he or she needs to interact with key people within the firm, particularly at the innovation center (IC) level.
Caputo, et. al.’s study supports the earlier findings of Woodman, et. al. (1993), and Hauser (1998), both of which point to organizational culture as factors that influence innovation in business organizations. It is also consistent with a subsequent study of Gudmundson, et. al. (2003), which indicate that initiation and implementation of innovation in small businesses are related to aspects of culture and ownership, and that organizational support was found to be more important for implementation rather than for initiation of innovation. Family businesses, in particular, were found to have unique characteristics positively related to implementation of innovation.

**Overcoming constraints through open innovation**

According to conventional wisdom, firms inherently have a deficit of knowledge assets, burdening them with a clear and distinct disadvantage in generating innovative output. However, there is increasing evidence that entrepreneurial small firms are making a crucial contribution to innovative activity and technological change (Audretsch, 2004).

There are two possible reasons for this, according to Audretsch (2004). First, the measurement of innovative output and technological change has greatly improved. With the development of measures that focus on innovative output, rather than just on inputs into the innovative process, “the vital contribution of small firms became more prominent.” Second, it is possible that the new view of the innovative capacity of small firms emerged not because of measurement improvements, but because the economic and social environment actually changed in such a way as to shift the innovative advantage more towards smaller enterprises, which are less bureaucratic, and therefore, more flexible in dealing with changes in the business environment.

Moreover, smaller firms have overcome size-specific barriers by relying on innovation partners (e.g. major suppliers or buyers), by their involvement in industrial clusters, and through the support provided by regional or national innovation systems (Todtling and Kaufmann, 2002). These are evidence that SMEs have begun to adopt the open innovation model, which is driven by “the increasing availability and mobility of knowledge workers, the flourishing of the internet and venture capital markets, and the broadening scope of possible external suppliers” (Chesbrough, 2003, as cited by Lee, et. al., 2010, p.290). Since few SMEs have sufficient resources and capacity to manage the whole innovation process by themselves, “this encourages them to collaborate with other firms” (Edwards, et. al., 2005, as cited by Lee, et. al., 2010, p. 291).

**COMPANIES’ PROFILES**

The companies that we selected for this study are small- to medium-sized firms that come from two different industries, namely food manufacturing and audio engineering services (see Table 3).

The first company is Grain Food Corporation [Note: name of company and its owners and managers are disguised upon the request of the owners], a medium-sized, family-owned and operated noodle-manufacturing firm. Located in Bulacan, a province north of Manila, the company manufactures several types
of rice sticks or noodles (bihon and palabok) for both the local and international markets. In the Philippines, it is a toll manufacturer for big companies selling well-known instant-noodle brands. The company also carries its own brands, which it sells to wet markets and to lower-end small-scale retailers.

**Table 3. Company profile**

<table>
<thead>
<tr>
<th></th>
<th>Grain Food Corporation</th>
<th>Wild Sound</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year established</strong></td>
<td>• 1986</td>
<td>• 2003</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td>• Bulacan</td>
<td>• Metro Manila</td>
</tr>
<tr>
<td><strong>Form of ownership</strong></td>
<td>• Corporation</td>
<td>• Corporation</td>
</tr>
</tbody>
</table>
| **Owners**           | • Mr. Johnny Chua and family | • Mr. Albert Michael Idioma 
|                      |                         | • Mrs. Teresa Idioma 
|                      |                         | • Ms. Pia Manalastas                |
| **Number of regular employees** | • 70                | • 10                               |
| **Industry**         | • Food manufacturing   | • Audio engineering services       |
| **Major products / services** | • Rice sticks / rice noodles 
|                      | • (bihon, palabok)       | • Rental of audio equipment for use during principal photography 
|                      | • Toll manufacturing    | • Audio post-production (e.g. mixing, dubbing, etc.) |
| **Major customers / clients** | • Large companies with established noodle brands 
|                      | • Wet markets            | • Film producers                    |
|                      |                        | • TV producers                    |
|                      |                        | • Advertising agencies            |

The company was incorporated in 1986 when Johnny Chua acquired the business from his uncle. Chua and four of his friends, who also had experience in noodle manufacturing, took over the business when it still utilized the traditional sun-drying method and manual conversion of rice to noodle strands. Several years later, some of the original incorporators sold their shares to the Chua family, which has since run the business. Three of Johnny’s children successively served as the company’s general manager over the past two decades, even as Johnny himself continued to be actively engaged in sales and finance.

The second company is Wild Sound, which was founded in 2003 by award-winning sound engineer Albert Michael “Mike” Idioma and his wife Teresa “Timi” Idioma. It started operations in the Idioma’s home. In the early days, the company’s main clients were production houses that make TV and radio commercials.
The company initially offered the rental of equipment that allowed film makers “to shoot in the wild” (e.g. outdoors) and still generate studio-quality sound. Wild Sound was able to acquire the said equipment (which cost more than a million pesos) through the help of Timi’s cousin Pia Manalastas, who agreed to be a co-investor. Like most start-up companies, the spouses did most of the work. Mike, with the help of a few technicians, handled the technical / operations side of the business in the evenings and on weekends, while Timi handled the administration, marketing and accounting / financing duties.

The company later transferred to an existing recording studio in Makati City, the country’s financial capital, where it stayed for a couple of years. However, the company later moved to Quezon City, where the Philippines’ two major broadcasting companies are located.

In 2008, Wild Sound started offering audio post-production after Mike left Road Runner (an ABS-CBN subsidiary engaged in post-production services) and started to work full-time for his own company. The business took off quickly since then because film producers knew where the talent was, and wanted the quality of work that Mike could give. When Road Runner closed down in 2011 because of the declining output of the Philippine movie industry, this worked in favor of Wild Sound, especially since many of those who availed of Road Runner’s services were Mike’s former clients.

**Innovation activities of the two companies**

Grain Food Corporation and Wild Sound implemented a mix of product and process innovations of an incremental nature over their respective business life cycles (see Table 4 for a summary of these innovation activities).

**Table 4. Innovations of the two companies**

<table>
<thead>
<tr>
<th>Company</th>
<th>Innovation activities</th>
<th>Product or process?</th>
<th>Radical or incremental?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain Food Corporation</td>
<td>• Acquisition of equipment that allowed for a semi-automated production process</td>
<td>• Process</td>
<td>• Incremental</td>
</tr>
<tr>
<td></td>
<td>• Introduction of HR information system and payroll system</td>
<td>• Process</td>
<td>• Incremental</td>
</tr>
<tr>
<td></td>
<td>• Acquisition of charcoal-fed boiler</td>
<td>• Process</td>
<td>• Incremental</td>
</tr>
<tr>
<td></td>
<td>• Small improvements in work processes</td>
<td>• Process</td>
<td>• Incremental</td>
</tr>
<tr>
<td></td>
<td>• New noodle</td>
<td>• Product</td>
<td>• Incremental</td>
</tr>
<tr>
<td>Company</td>
<td>Innovation activities</td>
<td>Product or process?</td>
<td>Radical or incremental?</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>---------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Wild Sound</td>
<td>• Acquisition of equipment that allowed film makers “to shoot in the wild”</td>
<td>• Both product and process</td>
<td>• Incremental</td>
</tr>
<tr>
<td></td>
<td>• Assembly of post-production equipment using parts of old equipment acquired from e-Bay</td>
<td>• Process</td>
<td>• Incremental</td>
</tr>
<tr>
<td></td>
<td>• Offering of product bundle (i.e. from production equipment up to audio post-production services)</td>
<td>• Product</td>
<td>• Incremental</td>
</tr>
<tr>
<td></td>
<td>• Offering of film previews (private cinema service) in Wild Sound premises</td>
<td>• Product</td>
<td>• Incremental</td>
</tr>
<tr>
<td></td>
<td>• Dolby Atmos sound technology</td>
<td>• Produce</td>
<td>• Incremental</td>
</tr>
</tbody>
</table>

**Grain Food Corporation**

The first major innovation of Grain Food Corporation happened in 1986 when the original incorporators pooled their resources to invest in a machine that allowed the company to cook the noodles faster and more efficiently. By utilizing the blower-dryer technology, they were able to produce noodles regardless of weather conditions, since noodle-drying could already be done indoors. However, because of the shift to partial automation, the workers had to experiment with the amount of time to cook the noodles, the speed by which the dough must pass through the dye, the amount of dough that can be cooked at a particular point, etc. These experiments lasted for about two years (Habaradas and See, 2014).

Several years later, Johnny Chua decided to acquire from a Malaysian supplier a new machine designed to reduce water usage and raw material wastage. He discovered this machine while attending an international exposition. He took on a new loan to finance the purchase of this new technology, which
until then has not been used in the Philippines. Just like its initial experience with a new machine, the company could not immediately produce noodles of satisfactory quality. It took another year for them to formulate the appropriate mix of cooking time, raw materials usage, water and steam content before they got everything right. Part of the problem was the quality of cornstarch, which changed depending on the supplier. The company later dropped suppliers that provided substandard cornstarch and used whatever stocks were left to produce noodles for the “D” market. Fortunately, this investment was originally meant to augment the company’s existing product line, and, therefore, did not adversely affect regular operations (Habaradas and See, 2014).

Over the years, the company also introduced improvements in various aspects of its operations. This includes the setting up of a formal human resource (HR) information system, which facilitated the efficient assignment of factory personnel across work shifts, the monitoring of work hours rendered (including absences and tardiness), and the administration of payroll. Likewise, the company began organizing its production records and sales records, including customer files. It also introduced minor changes in work processes (as suggested by a plant supervisor), which resulted in the speedier movement of raw materials and goods-in-process (Habaradas and See, 2014).

In 2012, the company had to deal with tighter environmental regulations. Due to the strict enforcement of the log ban by the Department of Environment and Natural Resources (DENR), the company found it difficult to source firewood and sawdust to support its operations. Therefore, the company had to invest about PHP2 million in a furnace that could accommodate coal. However, the heat generated by the coal-fed furnace could not meet the factory’s requirements, thus slowing down production. Since the company had to cut down its production hours per day due to fuel shortage, it now needs three to four days of lead-time to meet the orders of its industrial customers (Habaradas and See, 2014).

Because of these large investments coupled by current constraints in production capacity, the company could not, at the moment, engage in product diversification (e.g. production of chips and other snack food) even if informal research points to a demand for such products. At this point, the company is focusing its attention on meeting the requirements of its current customers.

**Wild Sound**

Wild Sound started with an innovative product that was the first in the country. It offered audio services using equipment that allowed filmmakers “to shoot in the wild” and still generate studio-quality sound. Wild sound (or wild track) refers to sound recorded on location, which requires the services of a boom operator and of a cable guy that mounts wireless microphones during principal photography for a film (or a commercial). At that time, Wild Sound did several TV commercials that were ‘price sensitive’ and therefore typically shot one day. Because of wild-sound technology, talents did not have to be brought back to the studio for dubbing, saving the producers a lot of money during post-production. Back then, the company worked on the ads of Petron Corporation and of several multinational companies. It also did a lot of campaign materials for political candidates during election years.
When the company eventually ventured into audio post-production, it could not afford to buy new equipment. Therefore, co-owner Mike Idioma, using his technical knowledge, assembled equipment (i.e., sound mixer) using parts of old equipment acquired from e-Bay. He also downloaded applications from various sources to make the equipment functional. This saved the company a lot of money.

Realizing that film producers, especially producers of ‘independent films’ (‘indies’), have limited budgets, Wild Sound came up with a product bundle that enabled these producers to avail of both audio production and post-production services for a discounted price. On the part of the company, this meant added business.

The company later expanded its services to include film previews in Wild Sound for those who want to show their films to a small audience after these have undergone post-production in the company. Wild Sound built a small private theatre within its premises for this purpose. More importantly, this theatre enables Wild Sound to offer Dolby Atmos sound technology to its clients, the first company to do so in the Philippines. It used to be, when producers wanted their movies in Dolby, sound engineers had to go to either Thailand or South Korea, where there were Dolby studios. Getting access to Dolby Atmos technology in the country means not only savings for producers but the opportunity for Filipino films to offer a “completely new listening experience with enveloping sound that brings the stories on screen more fully to life” (http://www.dolby.com/us/en/technologies/dolby-atmos/dolby-atmos-next-generation-audio-for-cinema-white-paper.pdf).

Innovation drivers and barriers

For both companies, the owners’ ability to spot technologies that can be adopted by their companies is clearly a driver of innovation.

For Grain Food Corporation, Johnny Chua’s familiarity with technological developments, coupled by his entrepreneurial spirit, served the company well in terms of acquiring machinery that had kept it ahead of competitors. For example, the company ventured into partial automation when manual noodle production was still the norm in the Philippines. It was also the first in the country to invest in a machine designed to reduce water usage and raw material wastage. Fortunately, the company had been able to acquire a bank loan to finance these major investments.

In the case of Wild Sound, Mike Idioma’s extensive experience in the field of audio engineering allowed him to spot the latest technologies, thus the acquisition of the wild-sound equipment, the first of its kind in the country, for audio production work. However, financial constraints prevented the company from purchasing brand new audio post-production equipment when Mike decided to work full-time in Wild Sound. Fortunately, Mike’s technical knowledge allowed him to assemble equipment and software he and his team needed for their audio post-production work.

Another common driver of innovation for both firms is the desire to meet the requirements of current and potential customers. In the case of Grain Food Corporation, the company invested in equipment that allowed them to produce
noodles according to the specifications of a major industrial customer. According to its General Manager John Chua, “when it was mentioned that they were looking for something like that, my dad invested in the machines” (personal communication, April 23, 2013). The company also adopted the blower-dryer technology in favor of the sun-dried routine because it did not want dust in the noodles. Since the company is striving for export-quality noodles, “we have to make sure that the products are clean.”

In the case of Wild Sound, the acquisition of wild-sound equipment and the offering of product bundles were largely a response to film producers’ desire to bring down the cost of producing a movie. Bringing Dolby Atmos sound technology to the country has also worked in favor of its clients. Given the range of services offered by the company, it can give clients a discount if they avail of a package from live-sound shooting to post-production.

**Table 5. Innovation drivers and barriers of the two companies**

<table>
<thead>
<tr>
<th>Company</th>
<th>Innovation drivers</th>
<th>Innovation barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain Food Corporation</td>
<td>• Access to capital</td>
<td>• Financial constraints – loans still being paid</td>
</tr>
<tr>
<td></td>
<td>• Owner’s extensive network</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Managerial transitions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Customer requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Regulatory requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Higher cost of raw materials</td>
<td></td>
</tr>
<tr>
<td>Wild Sound</td>
<td>• Owners’ technical knowledge and previous work experience</td>
<td>• Financial constraints</td>
</tr>
<tr>
<td></td>
<td>• Owners’ commitment to raise industry standards</td>
<td>• Lack of incentives from government</td>
</tr>
<tr>
<td></td>
<td>• Technological developments</td>
<td>• Small local market for audio engineering</td>
</tr>
<tr>
<td></td>
<td>• Customer requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Competitive pressures</td>
<td></td>
</tr>
</tbody>
</table>

**Other innovation drivers and barriers**

A major driver of innovation for Grain Food Corporation is managerial transition. For example, Johnny’s eldest daughter Carla, during her managerial stint in the company from 2000 to 2004, reorganized the factory and instituted operational procedures, even as she underwent the painstaking task of consolidating support within the company. Her younger sister Ellie later took over as general manager, and put her qualifications as an engineer to good use. Building on the work done by her elder sister, she further improved the record keeping and filing systems of the company. She also undertook time-and-motion studies that allowed management to determine production capacity (i.e., the quantity that repackers can actually produce per hour or per day). The results of
this study are still being used up to now to allocate production time (Habaradas and See, 2014).

Other innovations are mostly a response to external conditions. For example, Grain Food decided to acquire a charcoal-fed boiler because of a tighter regulatory environment that caused the shortage of firewood, which consequently raised its price. In the case of Wild Sound, the technological developments in audio engineering industry prompted the Idioma couple to invest in new equipment that opened up opportunities for their business. The declining output of the Philippine movie industry, however, has resulted in stiffer competition among industry players, which now include unregistered backyard operations that undermine both quality and price standards. This led Wild Sound to come up with more creative approaches (e.g. product bundles) that enabled them to keep their clientele.

For both companies, financial constraints have prevented them from expanding as quickly as they have wanted.

**Innovation models of Grain Food Corporation and Wild Sound**

Using Rothwell’s typology, we see some evidence of the coupling model process coming into play (see Table 6). While it is a fact that the availability of technology that allowed both companies to upgrade their product offerings and processes, it is really the business owners’ sense of how these equipment matches the market demand that led to their adoption of these technologies.

<table>
<thead>
<tr>
<th>Models of innovation process</th>
<th>Grain Food Corporation</th>
<th>Wild Sound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology-push process</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Demand-pull process</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Coupling model process</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Integrated model process</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Network model process</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

As stated by Smith (2006), the crucial difference between the coupling model process and earlier ones (i.e. technology-push and demand-pull) is the presence of feedback loops. A good illustration is how Johnny Chua of Grain Food Corporation decided to buy a certain piece of equipment only when he was certain about the specific requirements of a potential industrial customer. In the case of Wild Sound, Mike Idioma’s close interaction with his clients eventually gave him the idea of building a small private theatre within the Wild Sound’s premises to allow for previews of films that underwent post-production in the company.
Determinants of innovation in the two companies

After examining these two cases, we found evidence to support most of the theorized relationships revealed by Damanpour’s meta-analysis (see Table 8). Let us begin, though, by explaining why certain determinants do not apply. For example, the relatively small sizes of these firms mean that they don’t have layers of bureaucracy that could impede decision-making. Thus, centralization does not apply to both cases. In addition, functional differentiation does not apply to Wild Sound, which does not yet divide the organization into separate functional areas. Finally, the concept of administrative intensity seems out-of-place in small firms since leadership is largely provided by the business owners, who do not typically encounter resistance when they make major decisions.

A closer examination of the remaining variables showed how these are really closely linked to each other. For example, in the case of Grain Food Corporation, Johnny Chua’s openness to adopt new technology (managerial attitude towards change) is a function of his technical expertise and his wide network of contacts (external communication) built over his entrepreneurial career. And while the company’s resources are largely used as working capital, he could easily get a bank loan for capital investments (slack resources).

The same is true in the case of Wild Sound. Mike Idioma’s skills and experience in audio engineering (technical knowledge resources) allowed him to spot opportunities brought about by new technological developments. And while the company does not have enough money to buy brand new equipment, it was able to assemble equipment using second-hand parts due Idioma’s expertise. Recently, Wild Sound has been able to generate business and acquire some smaller equipment due to the entry of a new investor in the person of businessman Tony Tuviera, who is also a technology-buff and who is a believer of the quality of work produced by Mike Idioma and his team of sound engineers (professionalism).

Table 7. Determinants of innovation in Grain Food Corporation and Wild Sound

<table>
<thead>
<tr>
<th>Variables</th>
<th>Theorized relationship</th>
<th>Grain Food Corporation</th>
<th>Wild Sound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialization</td>
<td>(+)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Functional differentiation</td>
<td>(+)</td>
<td>Yes</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Professionalism</td>
<td>(+)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Managerial attitude towards change</td>
<td>(+)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Technical knowledge resources</td>
<td>(+)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Administrative intensity</td>
<td>(+)</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Slack resources</td>
<td>(+)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>External and internal</td>
<td>(+)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
CONCLUSIONS

The empirical evidence we generated from the two case studies described above supports the contentions of Tidd, et. al. (1997) and Gudmundson, et. al. (2003) that “innovation is a complex process” and that “technological opportunities and threats are often difficult to identify; innovation strategies difficult to define; and outcomes difficult to predict.” However, these case studies provide additional empirical support to the findings of Damanpour (1991), which scholars can still use as a take-off point for understanding the innovation activities of SMEs.

Table 8. Answers to research questions

<table>
<thead>
<tr>
<th>Research questions</th>
<th>Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do Philippine small- and medium-size enterprises (SMEs) innovate?</td>
<td>The two companies examined indicate that they follow the coupling model process, where both technology and the market are influential factors. Both companies have adopted product and process innovations over the years, as a response to market and regulatory conditions.</td>
</tr>
<tr>
<td>Is there a relationship between these SMEs’ organizational characteristics (i.e. organization strategy, organization structure, and organization culture) and their innovation activities?</td>
<td>Yes, there is a relationship between SMEs organizational characteristics, consistent with the findings of Damanpour (1991). However, companies are likely to adapt their strategies or to restructure their organizations depending on internal and external conditions. These changes could result in different forms of innovation.</td>
</tr>
</tbody>
</table>

Worth highlighting, though, is the finding of Aguado, et. al. (2010), who found that individual, organizational and environmental factors would affect innovation activities depending on the organization’s stage in its life cycle. According to them, innovations occurring among businesses in their introductory stage are largely dependent on the business owner; thus individual factors are more prominent than organizational and environmental factors; as the business moves along into the growth to maturity stage, organizational factors become more relevant. Finally, from the maturity to saturation stages, environmental factors take the lead role. This model recognizes the dynamic nature of organizations. Future studies on the innovation of SMEs can test the validity of this model’s assumptions.
Figure 2. Proposed relationship between innovation factors and business life cycle (Aguado, et. al., 2010)

REFERENCES


Poverty alleviation in the Philippines through entrepreneurship: 
An empirical analysis

Cynthia P. Cudia
Ramon V. del Rosario College of Business, De La Salle University
Manila, Philippines
cynthia.cudia@dlsu.edu.ph

ABSTRACT

Increasing uncertainty in the Philippines has created challenges to pursue development strategies to achieve economic growth. The main objective of this study is to determine the relationship between poverty and entrepreneurship in the Philippines. This study constructs an empirical model estimating the effect of entrepreneurship on poverty in the Philippines. Results show that the more the households are engaged in entrepreneurship, the higher the chance of being alleviated from poverty. It is recommended that the government should create more programs supporting entrepreneurship.

JEL Classification: D0, D1, D2

Keywords: poverty, entrepreneurship

INTRODUCTION

Poverty alleviation is one of the key issues in an economy. Promoting small business for reducing poverty in developing countries has been collecting a drive among international development agencies and the respective economy governments. United Nations Development Programme (UNDP) has been developing ‘Growing Sustainable Business’ initiatives, which focus on business model that engages local partners, for poverty reduction in developing countries such as Tanzania, Zambia, Ethiopia, El Salvador, and Serbia and Montenegro (Agupusi, 2007).

In South Africa, small business development is seen as a “catalyst for economic growth, job generation, and poverty alleviation” (Agupusi, 2007). In support for business government strategies, Agupusi (2007) added that some institutions like Small Enterprises and Development Agency and Khula Enterprises Limited through its Department of Trade and Industry were established to initiate programs fostering new business start-ups and building the capacity of those existing ones.

In the Philippines, increasing uncertainty has created challenges to pursue development strategies to achieve economic growth. The Philippine economy is promoting economic growth with its continuous battle against its
internal dilemmas such as political disputes, unemployment, and unsustainable increase in population. It is one of the developing countries that need to address the critical problem of poverty. According to National Statistical Coordination Board (NSCB), poverty line of the Philippines marks a per capita income of PHP 16,871 per year. NSCB reported that around 20.5 percent of the population falls below the poverty line as of 2009.

Understanding the relationship between poverty and entrepreneurship is critical in aiming to improve policies designed to strengthen the economy. Landes (1998) claimed that entrepreneurship may also play a role over time in poverty alleviation.

The main objective of this paper is to determine the relationship between poverty and entrepreneurship in the Philippines. This study constructs an empirical model estimating the effect of entrepreneurship on poverty in the Philippines. Other explanatory variables factors such as education, family size and remittances are included in the study.

**LITERATURE REVIEW**

**Conceptualization of Poverty**

The United Nations High Commission for Human Rights (UNHCR) defines poverty as “deprivation of resources as well as capabilities, choices, security and power needed to enjoy an standard o living and other fundamental civil, cultural, economic, political and social rights” (UNHCR, 2004).

Poverty has been conceptualized in different perspectives. It is seen in the perspectives of lacking income, security, economic stability and predictability to sustain meeting basic needs (Dugguh, 2013). On the basis of interviews in developing countries made by Narayan, Patel, Schafft, Rademacher, & Koch-Schulte (2000), poverty is a multi-dimensional social phenomenon. Nonetheless, the most commonly narrowed definition by Narayan, Patel, Schafft, Rademacher & Koch-Schulte (1999) as cited in VanSandt & Sud (2012) is “ the lack of what is necessary for material being – especially food but also housing, land and others assets…. leading to physical deprivation”.

**Measuring Poverty**

Patel (2005) posits that indicators to measure poverty vary depending on the social, cultural and political system in a particular country. In measuring poverty globally, World Bank uses the same poverty line, expressed in common unit across countries. Using data from the 2005 Purchasing Power Parity Terms, reference lines are set at USD 1.25 and USD 2 per day (World Bank, 2010). The international poverty line of USD 1.25 per day at 2005 prices is the mean of the national poverty lines for the 10 to 20 poorest countries of the world.

At the country level, measuring poverty is commonly based on income and consumption levels. When a person’s level of consumption or income falls below the poverty line, which is the minimum level, he or she is considered poor.

Measuring poverty incidence in the Philippines commonly uses per capita income. For the purpose of this study, I have chosen to measure income-based poverty through the use of per capita income data from NSCB, which is reported
at the poverty threshold of PHP16,871 per year or PHP1,405.92 per month or PHP46.86 per day or the equivalent of approximately one US dollar.

**Poverty Alleviation**

Poverty alleviation remains largely a phenomenon. In the Philippines, it remains a main challenge to the government (Moreno, 2011). The Philippine economy was characterized by high economic growth in the 1960s and 1970s, slowdown in the early 1980s, tentative resurgence in the late 1980s, and complete recovery in the 1990s (Orbeta & Sanchez, 1996). This economic growth pattern affects per capita income in the process.

A report in 1994 of consultants commissioned by the Presidential Commission to Fight Poverty (as cited in Orbeta & Sanchez, 1996) identified specific keys to alleviate poverty. Gaiha and Kulkarni (1998) posit that part of poverty reductions may be due to a higher average income without any change in its distribution. Increasing income is identified primarily a key to poverty alleviation.

Poverty is defined as “a call to action—for the poor and the wealthy alike—a call to change the world so that many more may have enough to eat, adequate shelter, access to education and health, protection from violence, and a voice in what happens in their communities” (World Bank, 2010).

Addressing the concern of the global economy, 189 countries signed the Millennium Declaration that led to the adoption of Millennium Development Goals (MDGs). The poverty goal calls for reducing people living on less than a dollar by 2015 and would reduce the number of extreme poor by 363 million (World Bank, 2010).

Aside from the two associated targets of reducing half of people living in extreme poverty and half of people who suffer from hunger for the target period 1990-2015, eight goals of MDGs include the goal to achieve universal primary education. Apparently, education is one factor that affects poverty alleviation. VanSandt & Sud (2012) posits that “the education system is a logical candidate to advocate for the poor as part of the missions of social institutions”.

According to the 1990 World Development Report (as cited in Gaiha & Kulkarni, 1998), “there can be little doubt that educating the children of the poor greatly improves their chances of escaping poverty”. In addition, in 2010 study made by Mohammed & Madaji (as cited in Duggu, 2013), they supported that poverty is responsible for most serious crimes in Nigeria as a result of unemployment living below poverty line with low level of education.

According to Human Development Report, 2009 (as cited in VanSandt & Sud, 2012), some studies reveal that households having at least one migrant are able to reduce their poverty levels. Migration is due to lack of opportunity and in search of gainful employment (VanSandt & Sud. 2012). Consequently, remittances, defined as “the money transfers made by migrants to their families and friends back home”, have increasingly captured the attention of policymakers as their magnitude keeps rising and their role in economic development becomes more obvious (Dorantes, 2007).

The Philippines has been considered as one of the top recipients of remittances. The economy has been heavily relying on the incremental income of
Overseas Filipino Workers (OFWs) in augmenting its economic performance. Undeniably, the flow of OFWs is a long-standing phenomenon in the growth of the Philippine economy. Remittances of OFWs contribute as much as 2 percent of gross national product, representing only the documented ones (Orbeta & Sanchez, 1996). Accordingly, Orbeta & Sanchez, 1995 (as cited in Orbeta & Sanchez, 1996) pointed out that while neighboring countries attract foreign direct investments, the Philippines sends its workers abroad.

Another concern of people living in poverty is the family size. Studies found that many couples living in poverty do not want as many children as they have (Campbell, 1968). He posits that having a large number of children is one of the major problems of the poor. Hence, he considered in his study the prevention of unwanted births that would have substantial economic impact on families living in poverty. Campbell (1968) concluded that for those living in poverty, the total economic benefit of unwanted birth prevented is 26 times greater than the cost per unwanted birth prevented.

In developing countries, there is considerable evidence of strong negative correlation between household size and consumption or income per person (Lanjouw & Ravallion, 1995). This means that the higher the household size, the lower the income per person becomes. Hence, it is often concluded that generally, people living in larger households are typically poorer (Lanjouw & Ravallion, 1995). However, Lanjouw & Ravallion (1995) cautioned about the relationship as the empirical results might be particularly sensitive to differences in the assumed size. They further concluded that the “widely cited evidence of a strong positive correlation between size and consumption per person is unconvincing, given that even poor households face economies of size”. Their study reveals that for Pakistan, a positive correlation between poverty incidence and household size drops depending on elasticity.

Furthermore, Orbeta & Sanchez (1996) considers that the structure of the economy delineates opportunities the poor can contribute in the economic growth. Both the World Bank and the United Nations recognize that the poor are participants in the design of economic development (London, 2007). The World Bank emphasizes the importance of making the poor actively contribute in the process of making markets work (Narayan, Patel, Schafft, Rademacher, & Loch-Schulte, 2000, as cited in London, 2007). Likewise, United Nations convened the Commission on the Private Sector and Development, which recommended that future development programs should place greater emphasis on market-based approaches to address the insufficiency of grant-based poverty alleviation approaches.

Orbeta & Sanchez (1996) affirmed that one of the causes of poverty is lack of employment opportunities. Hence, due to lack of opportunities, GEM 2009 (as cited in VanSandt & Sud, 2012) reported findings of researches that the poor are propelled into self-employment. The literature has characterized the self-employed or an entrepreneur in many different ways. Low, Henderson, and Weiler (2005) (as cited in Mojica, 2009) described an entrepreneur as “an individual who started his own business with several characteristics distinguishing him from other persons in the business world”.
Following the thought of Aminu, 2011 (as cited in Duggu, 2013), entrepreneurship is perceived as the pursuit of lucrative opportunities that involves creating new systems, resources or processes with the objective of earning profit either for the manufacture of new goods or for services rendered.

Analyzing the relationship of entrepreneurship and poverty led to identifying measures of entrepreneurship. Entrepreneurship is defined as “the process by which individuals acquire ownership (property rights) in economic rents of their creation” (Montanye, 2006, as cited in Mojica, 2009). This definition gives importance to objectives of individuals, whether in business enterprise or in all aspects of life, in acquiring property rights to some economic benefit leaving the individual better off under perfect competition system (Mojica, 2009). Moreover, this definition not only provides a useful basis of distinguishing entrepreneurship theories from many variations in the literature but also a holistic appreciation of entrepreneurial profit known as economic rent (Mojica, 2009).

Entrepreneurial activities and capacities vary across countries and regions. Hence, this variation guides policy makers in identifying appropriate sound policies (Mojica, 2009). Literature on entrepreneurship shows that different variables were used as proxies to measure entrepreneurship due to limitations of available data (Mojica, 2009). Some indicators of entrepreneurship are firm formation rate and business owner share of the labor force (Acs and Armington, 2005, as cited in Mojica, 2009), number of startup businesses (Audretsch and Keilback, 2005; Camp, 2005; Van Stel and Suddle, 2005; as cited in Mojica, 2009). In the study of Low, Henderson, and Weiler, 2005 (as cited in Mojica, 2009), proxies were used to measure breadth and depth of entrepreneurial capacity in the US. Breadth symbolizes the quantity represented by the size of small businesses in a region and depth measures quality represented by the value created by the entrepreneurs both for themselves and the local economy. Furthermore, average income (i.e., the ratio of proprietor income to proprietor employment in a country); and revenue capture (i.e., percentage of income to sales) were both uses as measures of depth of entrepreneurship. Low, Henderson & Weiler, 2005 (as cited in Mojica, 2009) posits that with higher incomes and by generating more income per dollar of revenue, entrepreneurs add more value in the local economy.

Mojica (2009) argues that a more precise measure of entrepreneurship is the number of business births per 1000 person in the labor force, and likewise permits entrepreneurial capacities compared between regions. The study made by Sadeghi, 2008 (as cited in Mojica, 2009) used this measure based on two concepts, establishment birth based on the first appearance in the registry and based on the positive employment reported. Results of the study revealed that there were differences in the magnitude of births using different methods but would have no significant differences in the pattern of change over time. Sadeghi (2008) concluded that the estimation of births of positive employment in the third month of a quarter and a zero employment in the previous four quarters as the preferred measure of births.

VanSandt and Sud (2012) illustrated how entrepreneurship can tackle poverty. A framework was developed wherein large firms operating in poverty ‘base-of-the-pyramid’ markets collaborate with and include the poor in their
supply chain succeed resulting in significant impact on their efforts to alleviate poverty.

Kevane and Wydick (2001) suggest that there is a tradeoff of economic growth in favor of poverty reduction in targeting microenterprise credit at women. The empirical results of their study showed that during childbearing years of women, female entrepreneurs are restricted in their ability to generate employment within their enterprises compared to other entrepreneurs for the reason that these women must allocate much of their time to care for their children.

While poverty has been defined as lack of what is necessary for material being, low income levels of informal sectors are actors in poverty (Ishengoma & Kappel, 2006). Low-income levels of some entrepreneurs are due to limited capital and access to financial and business support services. Access to capital remains a challenge to many entrepreneurs whose capitalization is limited as they depend on their own or family’s savings to start and operate a business (Okpara, 2011).

Although Beck & Levine (2003) found no evidence that small and medium enterprises reduce poverty, Agupusi (2007) argues that small business development can contribute to poverty alleviation. Agupusi (2007) suggests that developing the sector, particularly the case of Alexandra in South Africa, is complex due to discouragement of entre culture among its black population. Hence, some South Africans, not only in Alexandra, seek formal employment rather than create a business. This is one reason why South Africa is reported to obtain below average compared to countries as Uruguay and Argentina based on total early-stage entrepreneurial activity (TEA) index as calculated by Global Entrepreneurship Monitor (GEM SA, 2006:26, as cited in Agupusi, 2007).

**METHODOLOGY**

This study is grounded on the concept of Werhane, Kelley, Hartman & Moberg (2010) that profitable partnerships are the solution for poverty alleviation. In the published book of Werhane et al. (2010), they posit that multinational enterprises for profit can have moral obligation to help poverty alleviation through partnerships with the poor for mutual benefit. In addition, this study is based on the theory of Werhane (2002) that a particular configuration of a system or a system affects individuals, e.g., organization affects the community and vice versa. This implies that outcome of organizational activities like entrepreneurship affects the public, which includes the poor, and vice versa.

Concurring with the premise of Werhane et al. (2010) and the theory of Werhane (2002), the methodology employed in this paper involves the analysis of the relationships of poverty in the Philippines on income from entrepreneurial activities, investment in education, family size and remittances of household members abroad. To evaluate these interrelationships, the following logistic empirical model is specified:

\[
pufpcincome = B_0 + B_1 pufeainc + B_2 pufeduc + B_3 pufsize + B_4 pufconab + \varepsilon \quad (1)
\]
The specification in equation (1) includes pufpcincome as a proxy for poverty, outcome measured with a dichotomous variable, assigning outcome 1 for households earning per capita income at poverty line of 16,871 pesos a year and below; and outcome 0 otherwise.

Logistic regression analysis is employed to estimate the parameters of the model wherein the possible outcomes are described by probabilities as a function of the explanatory variables. The estimation chooses parameters that maximize the likelihood of observing the sample values. The descriptions and expected signs of the explanatory variables are given in Table 1, and \( \varepsilon \) is an error term.

**Table 1: Explanatory Variables of the Empirical Model**

<table>
<thead>
<tr>
<th>Name of Variable</th>
<th>Description of Variable</th>
<th>Measurement</th>
<th>Expected Sign in Equation</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>pufeainc</td>
<td>Total income from entrepreneurial activities</td>
<td>PHP for year 2011</td>
<td>-</td>
<td>Low, Henderson &amp; Weiler (2005); VanSandt &amp; Sud (2012); Agupusi (2007)</td>
</tr>
<tr>
<td>pufsize</td>
<td>Family size</td>
<td>headcount of members</td>
<td>+</td>
<td>Lanjouw &amp; Ravallion (1995); Campbell (1968)</td>
</tr>
</tbody>
</table>

**Data**

This study employed data from the Annual Poverty Indicator Survey for 2011, consisting of 42,063 households in the Philippine regions shown in Table 2.

**Table 2. Data Profile of Households in the Empirical Model**

<table>
<thead>
<tr>
<th>Region</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region I - Ilocos Region</td>
<td>2,324</td>
<td>5.53</td>
<td>5.53</td>
</tr>
<tr>
<td>Region II - Cagayan Valley</td>
<td>2,051</td>
<td>4.88</td>
<td>10.41</td>
</tr>
<tr>
<td>Region III - Central Luzon</td>
<td>3,303</td>
<td>7.85</td>
<td>18.26</td>
</tr>
<tr>
<td>Region IVA - CALABARZON</td>
<td>4,082</td>
<td>9.70</td>
<td>27.96</td>
</tr>
<tr>
<td>Region IVB - MIMAROPA</td>
<td>1,734</td>
<td>4.12</td>
<td>32.08</td>
</tr>
<tr>
<td>Region V - Bicol</td>
<td>2,300</td>
<td>5.47</td>
<td>37.55</td>
</tr>
<tr>
<td>Region VI - Western Visayas</td>
<td>2,852</td>
<td>6.78</td>
<td>44.33</td>
</tr>
<tr>
<td>Region VII - Central Visayas</td>
<td>2,799</td>
<td>6.65</td>
<td>50.98</td>
</tr>
<tr>
<td>Region VIII - Eastern Visayas</td>
<td>2,283</td>
<td>5.43</td>
<td>56.41</td>
</tr>
<tr>
<td>Region IX - Zamboanga Peninsula</td>
<td>1,752</td>
<td>4.17</td>
<td>60.58</td>
</tr>
<tr>
<td>Region X - Northern Mindanao</td>
<td>1,861</td>
<td>4.42</td>
<td>65.00</td>
</tr>
<tr>
<td>Region</td>
<td>Frequency</td>
<td>Per Capita Income</td>
<td>Cumulative</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------</td>
<td>-------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Region XI - Davao</td>
<td>2,383</td>
<td>5.67</td>
<td>70.67</td>
</tr>
<tr>
<td>Region XII - SOCCSKSARGEN</td>
<td>2,164</td>
<td>5.14</td>
<td>75.81</td>
</tr>
<tr>
<td>Region XIII - Caraga</td>
<td>1,767</td>
<td>4.20</td>
<td>80.01</td>
</tr>
<tr>
<td>National Capital Region</td>
<td>4,793</td>
<td>11.39</td>
<td>91.40</td>
</tr>
<tr>
<td>Cordillera Administrative Region</td>
<td>1,761</td>
<td>4.19</td>
<td>95.59</td>
</tr>
<tr>
<td>Autonomous Region in Muslim</td>
<td>1,854</td>
<td>4.41</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42,063</strong></td>
<td><strong>100.00</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Table 3.** Frequency of Per Capita Income Data of Households in the Model

Per Capita Income (in Philippine Peso) | Frequency | Percent | Cumulative |
---------------------------------------|-----------|---------|------------|
0 - 9,999                              | 12,541    | 29.81   | 29.81      |
10,000 - 16,871                        | 10,379    | 24.67   | 54.49      |
16,872 – 499,999                       | 19,114    | 45.44   | 99.93      |
500,000 and above                      | 29        | 0.07    | 100        |
**Total**                               | **42,063**| **100.00**|            |

**RESULTS AND DISCUSSION**

**Logistic Regression**

I summarized in this section the results of the logistic regression analysis to describe the relationship between the dichotomous characteristic of the dependent variable ‘per capita income’ as a proxy to ‘poverty’ and a set of independent variables in the study that determines the outcome. The logistic regression generates coefficients and their standard errors and significant levels, as follows:

**Table 4.** Logistic Regression Results

| Poverty | Coef. | Std. Err. | z      | P>|z|  | 95% Conf. Interval |
|---------|-------|-----------|--------|-----|----------------------|
| pufedu  | -.0001423 | 3.24e-06 | -43.87 | 0.00 | -.0001486 - .0001359 |
| pufeainc| -.000017  | 4.60e-07 | -37.02 | 0.00 | -.0000179 - .0000161 |
| pufsize | .4820894  | .0067994 | 70.90  | 0.00 | .4687629 - .4954159 |
| pufconab| -.0000451 | 1.14e-06 | -39.45 | 0.00 | -.0000473 - .0000429 |
| cons    | -1.012353 | .0281813 | -35.92 | 0.00 | -1.067587 - .9571182 |

**Table 5.** Marginal Effects

| Variable | dy/dx | Std. Err. | z      | P>|z|  | 95% Conf. Interval |
|----------|-------|-----------|--------|-----|----------------------|
| pufeainc | -4.20e-06 | .000000 | -37.21 | 0.00 | -4.4e-06 - .4e-06  | 23198.5   |
| pufeduc  | -.0000351 | .000000 | -45.24 | 0.00 | -.000037 - .000034 | 4045.88  |
| pufsize  | .1190621  | .00168   | 70.72  | 0.00 | .115762 - .122362  | 4.59066  |
| pufconab | -.0000111 | .000000 | -40.82 | 0.00 | -.000012 - .000011 | 10006.9  |
Results of the logistic regression analysis show that for every peso earned from entrepreneurial activities, 44.49% probability of being poor will reduce by 0.000042%. This implies that the more Filipinos are involved in entrepreneurial activities, the higher their chances of creating wealth through achieving the business activity outcome targets. Consequently, it becomes apparent that the probability of a Filipino living in poverty when engaged with entrepreneurial activities will decrease.

Although entrepreneurial activities and capacities vary across countries and regions, findings of this study concur with the argument of Agupusi (2007) that small business development can contribute to poverty alleviation. Also, while Orbeta & Sanchez (1996) affirmed that one of the causes of poverty is lack of employment opportunities, being propelled into self-employment or starting one’s own business is reducing the chance of living in poverty.

Similarly, results of the logistic regression analysis show that for every peso spent to education, 44.49% probability of being poor will reduce by 0.00351%. Investment in education plays a vital role in one’s different aspects in life. Economically, literature reports that educating those living in poverty greatly improves their chances of escaping poverty. The higher the level of education, the lower the chance of being unemployed, whether in an organization or self-employed or engaged in entrepreneurship. Hence, for every peso spent by a Filipino in sending a child in school, there is around 50 percent likelihood of escaping his or her family from poverty.

On the other hand, results of the logistic regression analysis show that for every child born in the family, 44.49% probability of being poor will increase by 11.90621%. This analysis validates the reason of previous studies why many families living in poverty do not want many children. Having a large number of family is a major problem due to the higher cost of living relative to the income earned by the parents. Furthermore, this finding can be associated with the conclusion of Campbell (1968) that the total economic benefit of unwanted birth prevented is 26 times greater than the cost per unwanted birth prevented.

In addition, the results also affirm that in developing countries, there is considerable evidence of strong negative correlation between household size and consumption or income per person (Lanjouw & Ravallion, 1995).

Furthermore, the results of the logistic regression analysis show that for every peso received from abroad due to remittances, 44.49% probability of being poor will decrease by 0.0111%. Due to circumstances like lacking employment opportunities and the need to increase the income of households, sending family member abroad to augment expenses is an option most Filipinos undertake. Finding of this study supports the concept that increasing income through other avenues like migration of OFWs will help reduce the chance of the family to live in poverty.

CONCLUSIONS AND RECOMMENDATIONS

Using logistic regression analysis, this study empirically analyzes the relationship between poverty and entrepreneurship in the Philippines. This study constructs an empirical model estimating the effect of entrepreneurship on poverty in the
Philippines. Other explanatory variables factors such as education, family size and remittances are included in the study.

This analysis is grounded on the concept of Werhane, Kelley, Hartman & Moberg (2010) that profitable partnerships are the solution for poverty alleviation. While doing business activities, thereby creating wealth, enterprises for profit can help the poor by making them partners for mutual benefit. Nobel prize winner Amartya Sen (Sen, 1999) argues that economic earnings are the starting point for studying poverty. Empowering the poor people to participate in growth is a key to alleviate poverty. In addition, this study also used as a basis the theory of Werhane (2002) that a particular system affects individuals, e.g., organization affects the community and vice versa.

Results of the logistic regression analysis show that the more Filipinos are involved in entrepreneurial activities, the lower the likelihood of living below the poverty threshold. Income from entrepreneurship increases the household income, thereby, helping them get out of poverty line. This finding concurs with previous studies that entrepreneurial activities can contribute to poverty alleviation (Agupusi, 2007; VanSandt and Sud, 2012; Ishengoma & Kappel, 2006; Low, Henderson, and Weiler, 2005, as cited in Mojica, 2009).

Since income from entrepreneurial activities reduce poverty based on the empirical results of this study and as reported in the literature, except for Beck & Levine (2003) that found no evidence that small and medium enterprises reduce poverty, I suggest that constraints faced by entrepreneurs that impede the progress of their businesses need to be addressed; including the argument of Agupusu (2007) that there is just an absence of entrepreneurial education to enter business and acquire a culture of entrepreneurship.

In the study made by VanSandt and Sud (2012) that illustrated how entrepreneurship can tackle poverty, I suggest to support their framework developed wherein large firms collaborate with and include the poor in their supply chain to alleviate poverty.

Even the low-income levels of informal sectors are actors of poverty (Ishengoma & Kappel, 2006). Their level of income is associated with the limitation of capital and access to financial and business support services. This challenge to many entrepreneurs (Okpara, 2011) needs some support from the government and non-governmental organizations (NGOs) to fund businesses starting up as well as the existing ones to expand. Particularly, micro-credit/finance in small-scale loans must be accessible. With the mission of reducing poverty, business organizations while creating wealth are recommended also to work in partnership with governments and NGOs. They have to be active in participating to programs and sessions dealing with how to master the skills of entrepreneurship, cooperative education and strategies to implement businesses including micro-entrepreneurship. This would involve the poor in their strategies. Management training is also suggested. In addition, encouraging youths is a way to increase their chances of becoming owners of small enterprises and successful entrepreneurs.

Although entrepreneurial activities and capacities vary across countries and regions, this variation guides policy makers in identifying appropriate sound policies (Mojica, 2009). Small business sector in contributing to providing to
provide employment and hence, could raise living standards given coherent and constructive policies. Existing poverty alleviation strategies need be reviewed. Government policies need to identify and focus on the problems. Policies on macroeconomic and openness of trade to entrepreneurship are to be dealt in terms of governance, institutions and infrastructure. Bureaucratic harassment is a fundamental constraint that discourages entrepreneurs. Well-functioning regulatory institutions suppress entrepreneurial activity. Weakness of infrastructure, like power outages in some regions is often a barrier to entrepreneurship.

I recommend that government policies and established support institutions for small business development must not neglect the informal sector, where the majority of the poor are to be found. I suggest incentives are to be given to informal and semi-formal sectors that lack the capacity and drive for implementation.

In agreement with a-priori expectation, the regression analysis also resulted to negative relationship between poverty and investment in education. Results show that for every peso spent to education, there is around 50 percent probability of reducing to live in poverty.

Congruent with the goals of MDGs targeting to reduce half of people living in extreme poverty by 2015, institutions partnered with the governments, must create more programs to support and achieve universal primary education.

On the other hand, results of the logistic regression analysis show a positive relationship of family size to poverty. This implies that the bigger the family size, the higher the chance of living in poverty. This validates the concept that in general, people living in larger households are typically poorer (Lanjouw & Ravallion 1995). However, Lanjouw & Ravallion (1995) posits that there is considerable evidence of strong negative correlation between household size and consumption or income per person in developing countries but they cautioned about the relationship as the empirical results might be particularly sensitive to differences in the assumed sizes given that even poor households face “economies of size”.

Finally, the logistic regression analysis show negative relationship of poverty to remittances. This validates the Human Development Report, 2009 (as cited in VanSandt & Sud, 2012) that households having at least one migrant are able to reduce their poverty levels.

While the flow of OFWs is a long-standing phenomenon in the growth of the Philippine economy, the government with its policymakers must widen its support ensuring to protect the interest and welfare of the Filipinos working abroad.

Using the empirical data of the Philippines, I am able to make an analysis on how some variables stimulate the reduction of poverty in the Philippines. Consequently, by addressing the problem of poverty alleviation, entrepreneurs add more value in the local economy.

Likewise, other variables in the study such as education, family size and remittances, in contributing to higher income, alleviate poverty and thus, generate growth to the economy. Hence, opportunities to the poor contribute in the economic growth. Accordingly, based on the results of this study, I suggest
protecting the sectors, especially the small business sector; will also stimulate the economy to ensure sustainable growth. Further studies may explore variables related to poverty alleviation affecting economic growth of the Philippines.

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Brand equity and financial performance of Japanese banks: An industry case study

Mohamed Ihthisham Mohamed Ikram
Ritsumeikan Asia Pacific University
Beppu, Japan
ikramo11@apu.ac.jp

Thanh Trung Nguyen
Ritsumeikan Asia Pacific University
Beppu, Japan
trung.nt691@gmail.com

Wickramanayake Pathirannahalage Pravini
Ritsumeikan Asia Pacific University
Beppu, Japan
ppwi12@apu.ac.jp

ABSTRACT

The financial performance and stability of the banking sector plays a dominant role in the sustainable operations in Japan. This is because the debt-oriented framework in Japan reflects higher dependency of the private and the public sector corporations on Japanese banks. The large number of players in the banking industry intensifies competition and therefore, we believe that brand equity has become an important asset to differentiate themselves from their peers. In this paper, we aim to meet the following objectives: (1) determine the impact of financial performance on brand equity; (2) understand if financial performance affects brand equity positively; (3) and substantiate the financial variables affecting Japanese mega and local banks.

For the purposes of this research, we have purposively chosen a representative sample of the Japanese banking sector, which includes Mega banks (internationally and domestically operating) and local banks (domestically operating) of different regions of Japan. With a comparative period of 6 years (2005-2011), we perform a panel data regression with fixed effects on Oita bank, Okinawa bank, Iwate bank, Toho bank (Local banks), Mitsubishi UFJ Financial Group, Mizuho bank, Resona Bank, Sumitomo Mitsui Banking Corporation (Mega banks). This paper operationalizes brand equity as a construct using the Brand Perpetual Value because of its subjective nature. The financial performance measures used are: market value in terms of one year high stock price, one year low stock price, market capitalization and accounts from the statement of financial position and income statement.
Our findings revealed that financial performance affects brand equity, both positively and negatively. It also reveals that both Japanese mega and local banks behave homogeneously.

JEL Classification: Q00, Q56

Keywords: brand equity, financial performance, mega banks, local banks

INTRODUCTION

Banks are an essential part of the economy. The financial performance and stability of the banking sector plays a dominant role in the sustainable operations of a country. Banks play a key role in promoting financial and economic resilience and facilitate efficient allocation of capital to support economic growth. Further, it enables payments and safeguards savings and the integrity of financial contracts while providing financial protection, risk transfer and diversification for the economic activities (Wyman, 2013). Evidently therefore, banks are of great significance in a country’s economy.

For the purpose of this research, we limit our discussion to the Japanese Banking industry. The recent World Bank statistics for 2013 shows that Japan is ranked the third largest economy with a Gross Domestic Product (GDP) of 4,901,530 million US dollars. Japan, unlike other economies significantly relies on banks for credit. According to the Japanese Bankers’ Association (2008), the banks’ share of the total fund raising and loans market in the Japanese financial markets is 64.9% and 64.2%, respectively. The National Bureau of Asian Research (2011) indicates that Japan had a Gross Public Debt (GPD) of 220 per cent of its GDP, which is more than twice the size of its economy and is the highest GPD ratio that befell globally. Therefore, Japan is claimed to be a debt-oriented economy with banks as their chief suppliers of credit. In addition, Japan’s banking system is unique in comparison to its American and European counterparts because after the financial crisis, the Financial Services Agency (FSA) of Japan introduced 100-odd local banks in the country to reduce over-reliance on the mega banks in Japan. The large number of players in the banking industry intensifies competition and therefore, we believe that brand equity has become an important asset to differentiate themselves from their peers. Unlike in most other countries, in Japan, the Automated Teller Machines (ATM) of respective banks do not operate twenty-four hours a day. Therefore, Japanese use the ATMs at the convenient stores to deposit or withdraw money. Currently, the Japanese banks are faced with a threat in terms of convenience of the services and the wide coverage provided by convenient stores. The situation worsened when recently the convenient stores in Japan, such the Seven Eleven, began to provide certain services of banks including the acceptance of deposits and issuance of credit cards, posing an enormous threat. Convenience has become the main focus of Japanese people considering the need for finance despite their busy lives and limited time. Therefore, it is of significant importance to invest on the quality of the services provided and the coverage, to maintain customer loyalty and to promote convenience.
Strong and positive brand equity in any organization will reflect the quality of the goods or services provided. In application to the Japanese banking industry, brand equity heavily relies on the convenience of the financial services provided and such investments highly depend on the financial performance of the banks. Thus, we aim to meet the following objectives: (1) determine the impact of financial performance on brand equity; (2) understand if financial performance affects brand equity positively; (3) and substantiate the financial variables affecting Japanese mega and local banks.

REVIEW OF LITERATURE

Studies on the banking industry of Japan

The private banking system of Japan is basically classified into two kinds; mega banks and local banks. The mega banks are usually large in size and have its headquarters usually based in Tokyo or Osaka. Its branches are often located in all major cities and also in their suburbs. Market share of mega banks in Japan as a percentage of total fundraising institutions in the year 2008 was 21.9 percent and 27.9 percent of total loan providing institutions. On the other hand, the local banks are usually based on the main cities of a prefecture and conduct most of their operations within that area. They also build a very strong relationship with the local government and businesses of the relevant prefecture. Market share of local banks as a percentage of total fundraising institutions in the year 2008 was 16.4 percent and 22 percent of total loan providing institutions (JBA, 2009).

The importance of the banking industry in Japan stems from the debt-oriented economic structure that the country encountered during the past two decades due to extensive government spending on public projects across the country since 1990s (CEPR, 2013). In 2013, Japan’s gross public debt as a percentage of the GDP has risen to 228.3 percent (OECD, 2013) while the domestic credit to private sector as a percentage of GDP has reached 189 percent (World Bank, 2014) This is mainly due to the loss in government revenue and continuous budget deficit after 1990s with the collapse in stocks and housing bubble which has made the Japanese economy more dependent on its banks for credit. This reflects the higher dependency of private and public sector corporations on Japanese banks and it is clear that the financial performance and stability of the banking sector plays a dominant role in the sustainable operations in Japan.

Studies on Brand Equity

In an attempt to identify the most appropriate model of brand equity for this research, a number of perspectives were studied. One of the most commonly used perspectives of brand equity is the “customer-based perspective” which is also known as “perception perspective”. This model takes a cognitive psychological approach in defining brand equity. It asserts that brand equity is created through consumer perceptions and that the customer’s willingness to pay higher prices for brands with a favorable image. Further, it says that brand equity is an added value to the product and is an outcome of how customers respond
when a brand is being marketed (Keller, 1993). However this perspective is non-financial and fails to offer a financial value for brand equity.

Another perspective identifies brand equity as a variable that adds value or subtracts value from a product or service. This model recognizes brand loyalty, name awareness, perceived quality and associations as significant items that affect the brand value of a product (Aaker, 1991), which is known as the “premium perspective”. This theory suggests that brand equity is reflected in the price or the revenue of the product. It is also assumed that the changes in the consumer behavior are reflected in the price differences and total revenue between the selected and the benchmarked goods/services (Anderson, 2011). However proposing benchmarks in determining price and revenue can be problematic.

Financial market value of a firm is also deemed as a possible determinant in valuing brand equity. This perspective takes a financial approach where it estimates the value of a brand based on the assets of the company. The value is the difference between the firm’s tangible assets and its market capitalization. Therefore, stock premium could be reflected as a component of brand equity (Sullivan, 1993). However in this perspective computing the value of individual product-level is problematic and it excludes certain macro-economic influences.

The “Perpetuity perspective” is another model, which takes the form of a financial approach in determining the value of brand equity. In this model, a financial value is assigned to brand equity, considering the total revenue that a business could generate, in response to marketing of its brand to its customers with the capital available in the business. As a result, Brand Perpetual Value (BPV), which is the name given to the financial value of brand equity, is calculated using a formula inclusive of the three variables: total revenue, total marketing cost and Weighted Average Cost of Capital (WACC). The equation is as follows:

\[
BPV = \frac{\text{Total revenue - total marketing cost}}{\text{Weighted Average Cost of Capital (WACC)}}
\]

The total revenue in the equation defines the total cash inflow a firm could receive from a particular brand and reflects the customer response for it. The total marketing cost is the amount the firm will have to spend on marketing the brand. The net value of the numerator expresses the profit a firm could make by its marketed brand. The firm’s ability to market the brand depends on the amount it could invest through its capital and debt financing. Thus, the impact of that is taken into consideration by computing for the WACC of the firm in a given period (Anderson, 2011).

For the purpose of this study, we utilize the “perpetuity perspective” to give a financial value to brand equity, which in turn will allow us to generate quantitative statistics for more accurate comparisons when determining the impact of financial performance on brand equity. Further, we find this model to be the more appropriate model for our research because it removes the concern of brand equity as an absolute measure rather than a relative one, as with the premium perspective. BPV also captures the features of the perception
perspective where it recognizes brand equity as the brand image association that is in customers’ minds which helps the firm to generate revenue by adding in the ‘total revenue’, as part of the equation when calculating BPV. In addition, financial market approach stated above is also captured in BPV by taking into consideration the WACC, which accounts for investment portfolio of the firm concerned. Hence, it could be comprehended that this model captures all the shortcomings of other three prospective while it defines brand equity in numerical values for the purpose of this comparative research, making it the most appropriate definition of brand equity for our study.

**Studies on Brand Equity and financial performance**

Studies have validated the impact of brand equity on financial performance. Components of brand equity, which includes brand attitude, perceived quality, brand loyalty and brand awareness have been significant with changes to financial performance in firms. Studies prove that changes in brand attitude are closely associated with stock returns and that helps predict financial performance of firms (Jacobson, 2001). At the same time perceived quality, brand loyalty and brand awareness are predictors of firm performance, customer value and willingness to pay (Artur Baldauf Karen, 2003). The BPV model used in this paper denotes the above in terms of numerical value.

**Research Design and Methodology**

This industry case study aims to capture firm specific factors for the selected banks in our research. We generated secondary data using Business Insight Compustat and S & P Capital IQ for the comparative period of six years from 2005 to 2011 in the form of panel data.

We have purposively chosen four mega banks and four local banks which are regarded as giant players in the banking industry and are geographically well spread around Japan, for our sample. The selected mega banks are Mitsubishi UFJ Financial Corporation, Mizuho Bank, Resona Bank and Sumitomo Mitsui Banking Corporation. The local banks we chose for sample are Oita Bank, Bank of Okinawa, Bank of Iwate and Toho bank.

For the purpose of operationalizing brand equity as a construct, we used quantitative data to gather information on revenue, marketing cost and WACC to calculate BPV of the selected banks. Measures used for financial performance includes market value in terms of one year high stock price, one year low stock price, market capitalization and accounts from the statement of financial position and income statement.

In addition, we derived qualitative data from the notes to the consolidated financial statements in the annual financial reports of these banks. The level of disclosure and discussions on the selected financial variables were also influenced in the choice of the sample. Further, we used descriptive statistics with table and charts of comparative information to identify the significance of the banking industry.

Finally, brand equity was set as the independent variable and was compared with the financial variables using panel data regression with random
effects and firm specific factors to determine the impact of financial performance on brand equity for the selected banks.

**Hypothesis**

The studies of Aaker and Jacobson (2001) on the value relevance of brand attitude suggest that it is closely associated with stock returns and helps predict financial performance of firms. Further, their study also states that brand equity, which includes brand attitude, perceived quality, brand loyalty and brand awareness have been significant with changes to financial performance in firms. Hence we hypothesize that

**H1: Financial performance affects brand equity of Japanese banks**

The BPV model uses ‘total revenue’ as a variable in its calculation. This variable reemphasizes the importance of consumer awareness and loyalty, which helps firm generate revenue (Sullivan, 1993). With the importance of customers, the perceived quality of a service is positively correlated with organizational performance indicators such as sales margin (Twan der Wiele, 2002). Furthermore, customers as mediators or customer’s satisfaction which is a major component of brand equity plays an important role in understanding financial performance in banking automated services which are an outcome of better financial performance of banks. (Al-Hawari, 2006). Hence, we hypothesize that:

**H2: Financial performance positively affects brand equity of Japanese banks**

One of the main differences between the mega and local banks is their size. This has an impact on the way they operate in the market and also their approach to customers and the size of the customer base itself. Firm size and financial performance is believed to affect the firm’s Corporate Social Performance (CSP), which mainly consists of social issues, environmental concerns and stakeholder concerns where customers are greatly involved. Firms that are larger in size have higher levels of profitability and CSP. At the same time a positive relationship exist between CSP, sales and profitability (Stanwick, 1998). Customer’s involvement in CSP and with the relationship between firm size and CSP, we could hypothesize that

**H3: The brand equity of Japanese Local banks and Mega banks are affected by different financial variables**

**RESULTS AND DISCUSSION**

**Data Presentation**

Although, brand equity is an intangible asset itself, in this research, we generate a financial result for it, to determine the impact of financial performance on brand equity for each of the chosen banks. Based on our literature review, we calculate the value of brand equity by using the BPV. This study considers BPV as the dependent variable and the chosen financial performance measures to be the
independent variables. BPV is placed against the independent variables, which are the other financial performance measures, to identify the impact of financial performance on brand equity of the Japanese mega and local banks. By carrying out both quantitative and qualitative analysis, we chose the significant variables with a p-value typically less than or equal to 0.05 (p value ≤ 0.05). The coefficient result shows whether the selected financial variables are negatively or positively significant to brand equity. Then, the sample was tested for its statistical reliability and its accuracy using two statistical quality-checks, namely, Variance Inflation Factor (VIF smaller than 10) and Generalized Least Square method. The former was used as an indicator of multicollinearity to identify outliers in our data set, if any, and to ensure that the variables we used in our sample is rather consistent and do not significantly vary from one another. The latter was used as a measure of the statistical behavior of the selected banks based on the tested variables. If the generated result is “homoscedastic”, it implies that the selected banks behave consistently. In contrast, if the generated result is “heteroscedastic”, it infers that the selected banks behave inconsistently. All of the results with a high p-value (typically > 0.05) are considered to be insignificant against the financial performance measures used, and is therefore, not taken into consideration in our study.

Panel Data Regression Result

Table 1.1. Positively Significant Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>P value</th>
<th>VIF</th>
<th>Generalized Least Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>30.19737</td>
<td>0.000</td>
<td>5.70</td>
<td>Homoskedastic</td>
</tr>
<tr>
<td>SG&amp;A</td>
<td>-76.55718</td>
<td>0.002</td>
<td>9.78</td>
<td>Homoskedastic</td>
</tr>
<tr>
<td>Common Equity</td>
<td>17341.99</td>
<td>0.000</td>
<td>5.93</td>
<td>Homoskedastic</td>
</tr>
<tr>
<td>Book Value of Debt</td>
<td>2.470391</td>
<td>0.000</td>
<td>5.74</td>
<td>Homoskedastic</td>
</tr>
</tbody>
</table>

*SG&A: selling general and administrative expenses
VIF: Variance Inflation Factor

Table 1.2. Negatively Significant Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>P value</th>
<th>VIF</th>
<th>Generalized Least Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Expense</td>
<td>-71.30164</td>
<td>0.000</td>
<td>2.48</td>
<td>Homoskedastic</td>
</tr>
<tr>
<td>1 Year Stock High Price</td>
<td>-5662.716</td>
<td>0.007</td>
<td>3.21</td>
<td>Homoskedastic</td>
</tr>
<tr>
<td>1 Year Stock Low Price</td>
<td>-5644.063</td>
<td>0.054</td>
<td>3.01</td>
<td>Homoskedastic</td>
</tr>
<tr>
<td>Market Capitalization</td>
<td>-5.404392</td>
<td>0.002</td>
<td>2.63</td>
<td>Homoskedastic</td>
</tr>
</tbody>
</table>

*SG&A: selling general and administrative expenses
VIF: Variance Inflation Factor
The regression results can be categorized into two groups, namely, positively significant and negatively significant variables.

The positively significant variables include revenue, SG&A (selling, general and administrative) expense, common equity and book value of debt (table 1.1). All of these four variables shared similar characteristics including a positive coefficient and a p-value smaller or equal to 0.05 featuring its significance. The banks with positively significant variables had a VIF of less than 10 and the generalized least square proved to be homoscedastic.

On the other hand, four financial variables, namely, the interest expense, the one-year stock high price, the one-year stock low price and market capitalization appeared to have a negatively significant correlation against brand equity (table 1.2). As it was with the positively significant variables, these other four negatively significant variables also share similar characteristics among them. They had a significant p-value, a negative coefficient, a VIF smaller than 10 and was homoscedastic in behavior.

The outline of these variables and its relationships for all of the banks in our statistical results suggests a valid outcome in which, financial performance and brand equity could be interrelated both positively and negatively.

DISCUSSION

As mentioned in the purposes of this study, researchers in the recent past have already identified the impacts of brand equity on an organization’s financial performance. Hence, in our analysis, we aim to highlight the impact of financial performance variables that affect brand equity. The statistical results show that financial performance is both positively and negatively significant to brand equity.

Positively significant variables

Total revenue is defined as the total cash inflow from a brand (Anderson, 2011) as it is defined in the Premium Perspective of brand equity. It is stated that revenue has a positive effect on brand equity. High revenue at the end of the fiscal year is an indication of an increase in sales due to customer loyalty, increase in the number of new customers or a potential increase in price. Therefore, evidently, an increase in revenue leads to an increase in BPV, which in turn, uplifts the image of the brand and the company itself justifying the positive relationship between revenue and brand equity (See Diagram 1).

Next variable in this group is SG&A expense, which is defined as the sum of all direct and indirect selling expenses and all general and administrative expense of a company. According to Dowling (1998), Dacin and Smith (1994), marketing activities and advertising, in particular, have a positive impact on the perceptions over the organizational image. In addition, these activities facilitate in creating an efficient and an effective workforce to provide better services (Fombrun & Shanley, 1990; Gatewood et al., 1993). In the case of Japanese banking industry, SG&A expense is used to invest in employee training, maintaining new ATM machines and increase employee salaries. All of these actions are carried out to increase the service quality of the banks, which in turn would increase consumer satisfaction and convenience. This will make customers
loyal to the bank and hence, increase the brand equity value justifying the positive significant relationship (See Diagram 2).

The regression results also show a positive significant relationship between common equity and BPV. Common equity in our research refers to tangible common equity and it is explained clearly in Diagram 3.

According to Yates (1996), capital gains increase equity, which provides an opportunity for the bank to make new investments on projects that generate higher revenue. Reinvested gains are the engine of a growing portfolio. In other words, it suggests that the cash of the bank is effectively and efficiently used as investments to generate profit in the long run. As a result, common equity increases the quality of service, generates higher revenue, attracts more customers and in turn positively uplifts the BPV value (See Diagram 4).

The last variable that is positively significant is the book value of debt. It is commonly known as the total debt on the balance sheet. Generally, it is the sum of Notes Payable, Current Portion of Long-term Debt and other non-current liabilities (business.fullerton.edu, 2014). As Japan is a debt-oriented economy, the book value of debt in Japanese banks is often bigger than the banks in other countries. When banks do not have enough common equity to generate higher revenue, they will usually loan out from other banks in Japan or from the Japanese central bank. The amount loaned out will be used by the banks to reinvest in projects that generate higher revenue and increases in quality in the service provided. Therefore, it is clear that the book value of debt also positively affects the BPV (See Diagram 5).

Negatively significant variables

Negatively significant variables include interest expense, one-year stock high price, one-year stock low price and market capitalization. Interest Expense, is the cost incurred by an entity for borrowed funds. With the debt-oriented economy, Japanese banks provide a low interest rate to make easier way of borrowing money for individual/entrepreneurs and to boost their economies (Mariko Oi, 2012). However, more borrowings will increase the interest expense that a bank has to pay. The money that could have otherwise been spent on investments on marketing the brand would be used to pay for interest expenses, hence, there is an opportunity cost involved. Further, as interest expenses are deducted from revenue, lesser profits will be available for the banks for reinvestments to improve customer satisfaction and convenience. As a result, there would be a drop or no improvement in the quality of the services provided and the banks would be left at stake of losing its competitive advantage over other banks in terms of holding a favorable brand image. This will bring down the brand perpetual value and therefore the brand image of the bank. Hence, it is clear that a negative relationship exist between interest expense and brand equity (See Diagram 6).

Further, one-year stock high price and one-year stock low price are also negatively significant to BPV. In the case of one-year stock high price, a higher price of stock causes an over-valuation of stocks. As stocks are valued more than what it is supposed to be, equity issuance and total financing by firms increase with equity overvaluation in order to avoid sudden fall in the stock prices (Dong et
On the contrary, a low stock price can cause an under-valuation of stocks. According to the National Bureau of Asia Research (2011), during periods of economic booms in Japan, rapid growth of both the economy and tax revenues means that those regions or sectors that were relative losers could be easily compensated through transfers, public works spending, and subsidized lending through policy banks. It includes financial institutions oriented towards farmers, housing, small or medium-sized enterprises and under-developed regions. In other words, even if stocks of banks are under-valued, the banks still have the two options of either making an equity issuance or debt financing. Given that Japan is a debt-oriented economy, Japanese banks opt for debt financing rather than equity issuance. As a result, this decision causes an increase in interest expense and as explained above, the interest expense has a negative impact on the BPV. Therefore, all in all, both one-year stock high and low prices will negatively impact BPV (See Diagram 7).

The last negatively significant financial performance variable is Market Capitalization. A firm’s market capitalization is calculated by multiplying the company’s outstanding shares by its current market stock price. One year stock high/low price is also at one point in time the current stock price of the company. Given that, in the case of Japanese banks, one-year stock high/low price have a negative impact on brand equity, it could be concluded that market capitalization also negatively effects brand equity as it reflects the overall market condition of the Japanese banks in terms of stock price (See Diagram 8).

However, the recent marketing studies show that, brand equity is promoted using the marketing mix (Wood, 2000). Marketing activities such as advertisement, promotion and public relations can add more value into a brand and creates a price premium compared to other brands. Hence, these activities will be calculated as marketing expense. In general, marketing expense has a positive impact on brand equity. In fact, our regression results depict a positive significant correlation of marketing expenses with brand equity. However, in the BPV formula that we used in our study, the marketing cost is subtracted from the total revenue to generate brand equity. Therefore, evidently, it is quite contradictory as to whether the marketing expenses affect brand equity positively or negatively in reality. Nonetheless, this controversial topic has been already studied and discussed by other researches. According to Touminen (1999), brand equity is measured by using incremental cash flows of a brand, which comes from the premium price and also the reduction of expense related to the product over time. Therefore, in order to maximize the brand equity, he suggests that expenses should be reduced, which includes marketing cost as well. Furthermore, according to MARKSURE method (The Marketing Surplus & Efficiency), an increase in brand equity occurs when the firm can reduce marketing costs at present due to the cost incurred in the past, which in turn will increase revenue. This also means that the increased revenue without an associated increase in marketing costs could have a positive impact on brand equity (Park, Deborah, Xavier & Jonathan, 2008). These studies support our model where marketing cost is reduced from the total revenue to derive BPV and further supports that these costs do not have a negative impact on BPV, thus, helps to increase brand equity in the long run as
these costs starts providing benefits through increased revenue which may not be visible at the moment when the cost is incurred in the bank.

**CONCLUSION**

We have identified that financial performance impacts brand equity. Hence, our first hypothesis was proved to be right. However, it is noteworthy that only certain financial variables affect brand equity and not all the selected financial variables. Although initially we developed a hypothesis based on the assumption that financial performance affects positively, our study ascertained that financial performance affects brand equity both positively and negatively. Among the financial variables that affect brand equity positively are revenue, SG&A (selling, general and administrative) expense, common equity and book value of debt. On the other hand, it was attested that financial variables such as interest Expense, one-year stock high price, one-year stock low price and market capitalization affects brand equity negatively. Hence, the second hypothesis was rejected. In addition to that, considering the large differences in the size and scope of operations of both mega and local banks, we developed our third hypothesis; assuming that both mega and local banks are affected by different variables, thus behave differently from each other. However, interestingly, based on the statistical quality check measures that we used in our study, we found out that both local and mega banks behave homogeneously and that its brand equity is affected by the same variables regardless of the large differences in the size and scope of operations rejecting our third hypothesis as well. The VIF factors of each financial variable that we tested against BPV for the selected local and mega banks were less than 10 suggesting co-linearity. Further, the generalized least square of each financial variable that was tested against BPV was demonstrated as homoscedastic result. In other words, it suggests that both mega and local banks act alike and that the selected financial variables affect these banks in the similar way. Nevertheless, we understood that the size of the bank is less significant to the brand equity in terms of financial performance.

For further studies, we would like to focus on measures other than financial performance affecting branding equity of the Japanese mega and local banks to uplift the qualitative revision of this research. We also hope to advance our research into a cross-country comparison study with that of the mega and local banks currently in operation in the United States of America. We find the banking system in the United States of America to be the exclusively contradictory with that of Japan, as US is not a debt-oriented economy and is significantly dependent on mega banks unlike Japan (Baily, 2013). Hence, we would like to see what different variables cause this and to see if the financial variables affecting brand equity of banks in both countries differ.

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APPENDIX

Common Equity = Company Book Value - \[ \text{Intangible Assets} + \text{Goodwill} + \text{Preferred stock} \]

Figure 1: Common equity formula

Diagram 1

Revenue \rightarrow \text{Reflect Customer Loyalty (customer base)} \rightarrow \text{BPV}

Diagram 2

SG&A \rightarrow \text{Investments in Employee Training, ATM Maintenance, Salaries etc...} \rightarrow \text{Quality of Services} \rightarrow \text{BPV}

Diagram 3

Common Equity \rightarrow \text{Investments in Projects that Generate Revenue} \rightarrow \text{Quality of Services} \rightarrow \text{BPV}

Diagram 4

Book Value of Debt \rightarrow \text{Investments in Projects that Generate Revenue} \rightarrow \text{Quality of Services} \rightarrow \text{BPV}
Diagram 5

Diagram 6

Diagram 7

Diagram 8
Contributors

Cynthia P. Cudia is an Assistant Professor of Accountancy at De La Salle University, Manila, Philippines. She took her Master of Science in Accountancy from De La Salle University. She is currently finishing her Doctor of Philosophy in Economics from the same university. Her research interests include econometric modeling, statistics, and financial performance analysis.

Michael Angelo A. Cortez is an Associate Professor of Finance and Accounting at the Graduate School of Management, Ritsumeikan Asia Pacific University, Japan. A certified public accountant by profession, he earned his Doctor of Business Administration degree from De La Salle University, Manila, Philippines. His research interests include: sustainable manufacturing, sustainable fashion, innovation, valuation, and financial performance.

Raymund B. Habaradas is the Director of the Center for Business Research and Development (CBRD) of the Ramon V. del Rosario College of Business of De La Salle University (DLSU). He teaches Management Research, Action Research, Management of Organizations, and Corporate Social Responsibility at the Management and Organization Department of DLSU. He received both his Master of Business Administration (MBA) and Doctor of Business Administration (DBA) degrees from the same university. His research outputs are in the areas of corporate social initiatives, national innovation systems, city innovations, innovation of firms, upgrading in global value chains, and SME development.

Daniel S. Hofileña graduated with honors from De La Salle University in Manila on 2010 with a degree in Business Management. He received his Masters in Applied Economics from the same university on 2011. For several years, he taught Econometrics, Time-series analysis, Macroeconomics, and Microeconomics at the De La Salle University - School of Economics, where he is currently on leave. He worked for the Angelo King Institute for Economic and Business Studies as a researcher. He is also a second-year student at the Ateneo de Manila University - College of Law.

Nobuaki Hori is an Associate Professor of Kyushu University, School of Economics. He graduated from Graduate School of Economics, The University of Tokyo. His research interests include Applied Microeconomics Theory, Political Economics, and Industrial Organization.

Pia T. Manalastas is the Chair of the Management and Organization Department of the Ramon V. del Rosario Sr. College of Business, De La Salle University. Her research interests include Corporate Social Responsibility and Values education, Environmental Management, and Sustainability. She is completing her Doctor in Business Administration degree at the De La Salle University. She has an MBA, major in International Business and an M.A. in Public Policy, major in
Environmental and Natural Resources Policy from The George Washington University in Washington, D.C., and a B.S. in Management from the Ateneo de Manila University.

**John Andrew See** is a faculty member of the Management and Organization Department of De La Salle University-Manila’s Ramon V. Del Rosario College of Business, where he teaches Strategic Human Resource Management, Human Behavior in Organizations, and Management and Organization. He received both his Master of Business Administration (MBA) and his Bachelor of Science in Commerce with specialization in Applied Corporate Management degree from the same university, where he graduated Magna cum Laude and was also awarded membership in the Jose Rizal Honors Society. His research interests also include family business, organizational behavior, corporate social responsibility, strategic management, and human resource management.

**Peseth Seng** is a Ph.D. student from Graduate School of Economics, Kyushu University, Fukuoka, Japan. He obtained his Master Degree of Economic Engineering from Kyushu University. His research interests include FDI, Economic Development and Political Economics.

**Deborah Kim S. Sy** received her degree in Management of Financial Institutions with honors from De La Salle University in Manila on 2013. She holds a Masters degree in Applied Economics from the same university. Currently, she is a junior financial officer of Unison Commercial Incorporated.

**Mohamed Ihthisham Mohamed Ikram, Thanh Trung Nguyen, and Wickramanayake Pathirannahalage Pravini** were undergraduate students of Ritsumeikan Asia Pacific University, Beppu, Oita, Japan. They were mentored by Dr. Michael Angelo A. Cortez.
Guidelines for Contributors

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For correspondence, contact:

THE EDITOR
Asia Pacific Business & Economics Perspectives
Ritsumeikan Asia Pacific University
Faculty Offices, B425
1-1 Jumonjibaru, Beppu, Oita, 8748577, Japan
Telephone No. +81977 78 1074
perspectives@apbersociety.org