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Business Negotiations with Northeast Asian Businesspeople

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ABSTRACT

This article examines the negotiation practices and cultural aspects affecting business negotiations with Chinese, Japanese and Korean businesspeople. When people from different cultural backgrounds sit around a negotiation table and all speak the same language, cultural differences will appear from time to time, which often leads to misunderstanding. Negotiation patterns and practices of different cultures, such as western and oriental cultures, are different. Negotiation practices in three countries, China, Japan and Korea, are compared and contrasted to find if there are any differences in business negotiation patterns and practices in the same high-context cultures.

I. Introduction

Negotiation is an interpersonal process. By definition, then, negotiators need to understand their counterparts' perspectives to do well at the negotiating table. As Roger Fisher and his colleagues observed in *Getting to Yes*, "the ability to see the situation as the other side sees it …is one of the most important skills a negotiator can possess" (Fisher, Ury, and Patton 1991). Business negotiations are increasingly recognized as a full part of the managerial process, highly relevant to the implementation of business strategies. The dramatic growth of international trade over the last few decades has been not only in terms of volume but in complexity as well; service offerings are now mixed with products, and the technology often plays a central role as an object of the exchange. Deals are not only made through discussions of a bundle of physical attributes and a price; they are also drafted between objectives and cultural backgrounds. Establishing, maintaining and fostering relationships are therefore of prime importance for the market transaction to take place. It is more and more recognized that international trade is not only a matter of price and product but also of people who manage a complex rational process. Business negotiations occupy a prominent place in international trade because any transaction is in some way negotiated even though on a limited range of issues. Within the relational process some more complex deals are worth consideration in more detail, not only sales agreements but also the discussion of agency and distribution contracts in foreign markets and the negotiation of joint ventures and licensing agreements.

Understanding the other side's perspective isn't always easy. Often, negotiators focus narrowly on their own concerns at the expense of understanding those of their counterparts. At other times, negotiators assume they already know what motivates the other party, or they decide that the other party's perspective is irrelevant or even wrong. Sometimes, negotiators ignore relationship building and information gathering altogether, opting instead to haggle back and forth over positions.

Conducting business across international boundaries requires interaction with people and their organizations nurtured in different cultural environments. Scholars in researching international business negotiation have been acutely aware that cultural differences across societies have to be taken into account when making marketing mix decisions. With the increasing globalization of business for most industries, cross-cultural negotiations and interactions have become a "fact of life" for many companies. With the push toward increasing economic cooperation, especially among Western European economies, the importance of understanding the cultural domain of personal selling becomes even more vital

The influence of culture on negotiations has been studied in various settings, including case analysis, laboratory and classroom experiments, and recently, experiment between remote groups. Most experiments compare negotiations conducted in culture A with those conducted in culture B. Classroom experiments are typically brief and they are either repeated in different countries or involve both local and foreign students. Thus, very little can be said about the international and inter-cultural negotiation contexts. Exceptions are studies in which the intra-cultural negotiations are compared with cross-cultural ones. However, a face-to-face setting allows for natural bias since the subjects know the culture of their opponents and may try to modify their behavior to attune to their counterparts. Further, this type of negotiation makes it difficult to select participants who are representative of a foreign culture.

The purpose of this study is to present a road map that focuses on creating value while managing relationships within the norms and customs typically found in three economically dynamic Asian countries: Japan, the People's Republic of China and the Republic of Korea.

II. Negotiations with Chinese Businesspeople

2.1. Cultural Characteristics

Chinese socialize not to question the social order or try to change it. They submit willingly and relatively unquestioningly to authority and learn that group membership is more important than individuality. The actions of individuals reflect not only on themselves but on all of their compatriots in a group. The Chinese place a real premium on consensus. Matters are debated until agreement is reached on a course of action. When this happens, the decision of the leader is the final word. Individual group members are expected to embrace and act on it regardless of their personal views. The danwei (work unit) traditionally wielded tremendous power over the lives of individuals in China, controlling where one worked, where one lived, and where one could travel as well as one's ration of scarce commodities. This system is in an advanced state of decay, but the danwei can still be a potent force in controlling individuals' lives in certain situations. The Confucian system of ethics and morals governs much of the way Chinese interact with one another even today. It emphasizes duty, loyalty, filial piety, sincerity, and respect for age and seniority. Deference to authority and to elders, rank-consciousness, modesty, moderation in habits, generosity and avoidance of direct confrontation are all highly valued Confucian traits. Confucianism also helps explain China's bureaucracy-strict hierarchy, with well-defined ranks and privileges. Decision-making is strictly top-down, personal loyalty is highly valued, cronyism is rampant and innovation largely stifled. Face, or mianzi - the regard in which one is held by others or the light in which one appears - is vitally important to the Chinese. Causing someone to lose face, through a public insult or dressing-down, or by failing

to treat him or her with respect, results in a loss of cooperation and often in retaliation. If you do so, you will also lose the respect of others aware of your transgression. In China, face can not only be lost and saved, it can also be given. Doing something to enhance someone's reputation or prestige, such as lauding a worker to his or her superior is an example. Such actions carry a great deal of weight among Chinese when they come from foreigners.

Guanxi (connection) is a tit-for-tat arrangement between people or work units that makes the Chinese system go. It offers access to goods and services otherwise difficult to acquire. The currency of guanxi is normally favors, not cash. Chinese generally expect foreigners to understand guanxi and behave according to its rules. The balance sheet between two individuals or units is expected to remain in rough balance over a period of time. Beware of unsolicited favors as they usually have a price. Try not to put a Chinese in a position of being unable to return a favor and don't accept presents or favors unless you are prepared to reciprocate. Prying eyes are everywhere in China; local Chinese are watched as are foreigners. In foreigners' apartments and some hotels, service personnel keep tabs on the guests. Unlike Westerners, Chinese are socialized from birth to keep their feelings from showing on their faces. This is why they are sometimes described as "inscrutable".

2.2. Pre-Negotiation

The Chinese negotiation process starts with early contacts with the Chinese government authorities. The Chinese show keen interest in getting to know the other party during these initial contacts. They try to ascertain whether or not the foreign firm has the most advanced technology required for the project, the willingness to sell or transfer it to the Chinese side by way of, for example, joint venture, and the capacity of delivering the products on time.

Lobbying before Chinese government authorities is one of the most important marketing activities facing foreign firms that want to sell large industrial projects in Chinese key industries like telecommunications. Foreign firms must convince the Chinese that they have cutting-edge technologies that suit the Chinese government's priorities, they have a long-term commitment to the Chinese market and they are financially strong. They must present a highly reliable image before the Chinese, making them feel safe to do business with them. Lobbying must occur not only in Beijing but also in all large cities, both coastal and inland. Lobbying channels include visits to government authorities, presentations, technical seminars, advertising in Chinese professional journals and informal channels such as dinner parties.

Initial and informal discussions with Chinese organizations often occur directly after the presentations. At this early stage, the Chinese already show a keen interest for technology and price. For example, they were interested in not only the price but also in comparing the price with competitors. Ericsson succeeded in convincing the Chinese that although its price was much higher than that of the Japanese, its system capacity was more powerful and its technology was better and would facilitate future expansions.

Manners for the Chinese are more a matter of form than substance. They have as much to do with fulfilling obligations and avoiding criticism as they do kindness and solicitousness per se. Maintaining surface harmony at all times is of paramount importance to the Chinese people. Regardless of one's true feelings, one should never do anything to cause a moment of public unpleasantness or embarrassment. The need to preserve surface harmony and face often causes the Chinese to use intermediaries to carry unpleasant news. There is no premium on confrontation. Intermediaries play an important role in business, where they are used to float trial balloons and communicate bad news and serve as back channels for information. Relatives, friends, neighbors, classmates and co-workers are all people to whom one bears some form of obligation. No obligation is felt to others outside of one's circle, which explains the paucity of philanthropy in China and the tendency on the part of the Chinese to show little respect for public property or commonly held property.

Chinese society, communist and otherwise, has always had its class distinctions. Respect and deference are due to those in superior positions. Foreigners, whether they seek it or not, tend to be accorded fairly high status. The Chinese conception of the proper social distance between people is different from the Western conception; Chinese people often stand too close for Western tastes. Traditional Chinese are never demonstrative in public, though today's younger generation often violates this taboo. Chinese are more prone to touching among members of the same sex, which has no particular sexual connotations. Chinese are far more comfortable with silence than Westerners. It can be a sign of politeness, signifying that one is paying attention, but it can also be a ploy to buy time or draw the other party's position out in a negotiation. The Chinese have devised a number of methods of refusing something without exactly saying no. These include saying something is 'inconvenient' 'under consideration' or 'being discussed'. Still another way of handling an impossible request is not to deal with it at all. The Chinese may tell a lie to avoid a breach of social harmony. Lying sometimes isn't as dishonorable as it may seem on the surface. It can be used simply to spare a guest a loss of face.

2.3. Tips for Negotiations with Chinese

Driven by China Fever and the belief that China needs foreign technologies, Western businessmen rushed into the Chinese market with various advanced technological solutions. Many succeed but many others failed. An important reason for the failure is that the PRC conditions have not been paid sufficient attention. Chinese government is the biggest boss and all Chinese state enterprises do business according to the government's priorities, policies and plans. Patience is the most important qualification for successful negotiations with the Chinese. From the PRC condition point of view, China is large with many yet underdeveloped areas ranging from infrastructure to living facilities and problems of various types are bound to happen. Negotiations in China often take time because different Chinese organizations and different departments within one organization tend to be involved in negotiation processes and decision-making within the Chinese bureaucracy often takes time. The Confucian notions of relationship, face, etiquette, harmony and so forth are all time-consuming qualifications.

Price is a difficult and crucial factor in international business negotiations everywhere. However, it proves to be even more difficult and crucial in negotiating with the Chinese. If a foreign negotiator reduces the price radically, the Chinese negotiators will get suspicious and the risk is high that the negotiator will lose his or her credibility in the eyes of the Chinese. Also, the Chinese are a face-conscious people. If a foreign firm rejects any Chinese request for a price discount, the Chinese will most probably feel insulted. Once the Chinese feel they have lost face before the foreign negotiators, they will certainly try to repay by using whatever Chinese stratagems are necessary to deal with the negotiator in the next round. If the other negotiators are giving face to them, they will adjust themselves accordingly and be more helpful and friendly in the later rounds of negotiations.

The Chinese believe in people more than contracts. Foreign firms need to take a people-oriented approach and try to establish a high level of trust with their Chinese partners. A trusting relationship is also the best way to neutralize the Chinese stratagems.

III. Negotiations with Japanese Businesspeople

3.1. Cultural Characteristics

The typical Japanese negotiation may involve a series of non-task interactions and even ceremonial gift giving. Witness the media attention given to the very large kosai-hi (literally, entertainment expenses) that once were typical of business dealings in Japan. In the 1990s, following the steep decline in the Japanese economy, Japanese executives have cut back on the “excesses” of the 1980s. Even so, a greater emphasis on business entertainment by the Japanese will be

noticeable. To the western critic, this may seem a waste. However, the Japanese make a great effort in the negotiating to establish a harmonious relationship. In America, exchanging task-related information is relatively direct, with clear statements of needs and preference. For Japanese business people, this exchange of information is the main part of the negotiation. A "complete" understanding is imperative. The Japanese business people are reported to ask "endless" questions while offering little information and ambiguous responses. Japanese business negotiators spend much more time trying to understand the situation and associated details of one another's negotiating position.

3.2. Non- Tasking Sounding

The Western business negotiators always discuss items other than business at the negotiation table such as the weather, family, sport, politics, business conditions in general, but not for long. Such preliminary talk is much more than just being friendly or polite. This is not the case in Japan; the goals of the non-task sounding are identical, but the time spent is much longer. Negotiation with Japanese firms often includes three levels of executives-top executives, middle managers and operational staff. Depending on the level of the negotiations, the process of non-task sounding is somewhat different.

The role of the top executives in Japanese negotiations is usually ceremonial in nature. Top executives are brought into negotiations only to sign the agreement and this only after all issues have been settled and agreed upon by lower-level executives. The Japanese top executives are making gut-level judgements about the integrity, reliability, commitment and humility of their counterpart particularly if the Japanese negotiators are considerably older or if his company is more powerful.

3.3. Task-related Exchange of Information

Giving Information. The most obvious problem associated with providing information to Japanese negotiators will be doing so in another language. It is true that there are many more Japanese executives who understand and speak English than there are Western negotiators who understand and speak Japanese, thus a meeting on both sides usually can be handled in English. Often, confusion can result because Japanese executives are too polite to indicate they don't understand. Once comfortable with the language, attention can be turned to more subtle aspects of giving information to the Japanese negotiators. The first of these has to do with the order of presentation. Negotiators from other countries should be prepared with detailed information to back up their proposals and should include appropriate technical experts on negotiation teams as their contributions will be required. The western negotiators tend to make initial offers they consider it "fair" or near what they expect the eventual agreement to be, while Japanese negotiators expect to spend time in negotiating and tend to ask for more initially. It is advised that foreign negotiators dealing with Japanese negotiators should present second lowest offers first.

Getting Information. In situations where foreign negotiators initiate contact or try to make sales, they experience great difficulty in getting feedback on their proposals. No Japanese, especially not the boss, will venture to speak for the entire group until a consensus has been reached. The Japanese conversational style in both simulated and real business negotiations includes much less eye contact than the Western style. The Japanese report discomfort at the aggressive staring of the Western negotiators. Many Western negotiators report great frustration in trying to read Japanese negotiators' "poker faces". Management of the informal channel of communications is critical for efficient and successful negotiation.

3.4. Tips for Negotiations with Japanese

Preparation. Although there is a range of literature to draw from, some convergent prescriptions emerge with respect to preparation. In high-context cultures such as Japan, negotiators assume that the other parties understand basic information about the subject under negotiation. Specially, it is wise to review the company profile, find relevant news articles, and conduct internet

searches before the first meeting. If there are multiple potential partners whom you might approach, asses the compatibility of their corporate culture and management practice with your company, especially if your company intends to develop a long-term relationship. One key strategy in negotiating with Japanese counterparts is to emphasize the importance of the relationship.

Understanding Roles and Responsibilities. Japanese businesspeople will usually expect negotiators to understand and manage the needs and perceptions of stakeholders within their organizations. Because consensual decision-making is an important part of the organizational culture in Japanese companies, it is expected that each representative at the table will seek and achieve consensus among stakeholders who are not at the table. In Japan, the ability to orchestrate a consensus within an organization is highly valued leadership skill. More specifically, the ability to build consensus "behind-the-scene" is known as *nemawasbi* and is highly valued in Japanese business practice (Blaker, Giarra, and Vogel 2002). *Nemawasbi* involves the use of influence, but should not involve coercion. Rather, it is about setting expectations and reconciling and integrating differing interests within one's own organization. When done well, *nemawasbi* prepares negotiators to suggest mutually beneficial proposals and helps to prevent unwanted "surprises" during a negotiation. Prior to negotiation, effective negotiators will have identified and involved relevant stakeholders within their organizations, built consensus around their interests and priorities, and helped to manage expectations. As *nemawasbi* is an important process in Japanese business, it can be critical for negotiators to determine if their Japanese counterparts are truly able to commit their organizations to different proposals or options.

First meetings. Japanese negotiators prepare thoroughly and usually understand the relative strengths or weaknesses of their BATNA (Best Alternative to Negotiated Agreement). When negotiating parties are not on an equal status, these ritualistic moves are initiated by the weaker party to acknowledge this power differential and to express gratitude for the negotiation. In the first meeting, each movement acknowledges the vertical relationship. It is important to understand one's relative status to counterparts before the first contact. A middleman can help prepare parties to understand differences on power and leverage and can help prepare them to acknowledge such differences using appropriate rituals. Once bowing or other rituals have been completed, Japanese negotiators sometimes begin informal discussion on matters unrelated to the subject of negotiation. This phase is used to assess the role and character of counterparts and to gather information about perceptions of the market in general. These conversations at the outset of the negotiation may seem tangential and questions may not seem directly relevant to the issues at hand.

The Japanese negotiators, in general, tend to be very sensitive to context and behave according to the situation they are embedded in. *Ucbi* (inside) -*soto* (outside) refers to how an individual feels about others in the same place whether they are "inside" or "outside" the group that the individual belongs to. *Omote* (front) - *ura* (back) refers to the degree of public attention or exposure one feels in a given situation. Negotiations are mostly likely to be fruitful if conducted in an *ura* setting in which one develops an "intimate" *ucbi* relationship with others so that one can engage the other side in an interest-based negotiation. It helps to share an *ucbi* feeling with other side. It is often achieved by engaging in conversation or sharing in activities. The negotiation needs to be conducted in an *ura* setting. The negotiation should be conducted in a private meeting room where everyone in the negotiation can be sure that no one is overhearing the discussion. An *Ura-ucbi* situation can create too much dependence between negotiating parties in collusion and unethical business practices. However, making the other party feel comfortable and building a strong relationship helps create the trust required to candidly share interests.

Persuasion. In Japan, a clear separation does not exist between task-related exchange of information and persuasion. The two stages tend to blend together as each side defines and refines its needs and preferences.

Much time is spent in the task-related exchange of information leaving little to argue about during the persuasion stage. Japanese negotiators develop defensive arguments with no consideration of persuading, selling or converting the other side. A strong consensus is reached based on the arguments supporting their position after the leader has reviewed these and everyone notes them down.

When negotiating with Japanese negotiators, important adjustments must be made in implementing the approach. Specially, negotiators should spend extra time preparing for negotiations. They should take care to match their team to their counterparts and to set the stage for more intimate talks and they should prepare to spend more time on non-task conversation and relationship-building. Also, they should caucus away from the table to address face concerns and should understand that reciprocity and indebtedness will be salient determinants of the perceived fairness of each agreement.

IV. Negotiations with Korean Businesspeople

4.1. Cultural Characteristics

One of the most well-known and supported claims about Korean culture is that it is high context. Korea, with high-context culture, relies on indirect cues and implicit communications to send messages embedded in words. During a negotiation, this reliance on implicit communication is evident in the different styles of information exchange. Another common feature of Korea is a norm of collectivism. People in collectivist cultures are more comfortable in groups and individual interests and goals come second to the goals and interests of the group. Collectivist cultures place high value on establishing and maintaining social systems. Koreans use the word, *u-ri* (in English "our") in order to express "my". The term *Seongsil* is often used to show that all employees are willing to sacrifice personal interests to the interests of the company. Korean negotiators are less confrontational and more comfortable with the *status quo* than negotiators from low-context cultures because they need to save face for themselves and others. There are important nuances in Korean culture that distinguish it from Chinese and Japanese cultures

Korean negotiators are more logical and unpredictable than their Japanese and Chinese counterparts. They are more often perceived as relying on intuitive knowledge or "gut feeling" than logical analysis. This may be because Korean negotiators emphasize personal feeling known as *kibun*. Korean negotiators seem to rely on emotion as a guide to action more often than do the Japanese negotiators and decisions seem to be influenced by mood or mental state at the time of a negotiation. *Nunchi* refers to an ability to silently understand what the other party is thinking by reading nonverbal cues. Koran negotiators seldom hide their feelings in public and are more direct in addressing issues that Japanese or Chinese negotiators might consider too sensitive. Also, *kwankye,* which refers to connections and personal relationships, plays an important role in Korea. The outcome of a business negotiation with Korean negotiators can be affected more deeply by personal considerations than by business considerations. When making decisions, Korean business negotiators begin with the general rather than the specific. Partners who argue over specific details are often considered narrow-minded and untrustworthy and are perceived to be attempting to take advantage of the situation.

4.2. Tips for Negotiations with Korean Negotiators

Korean negotiating teams might be smaller than their Japanese or Chinese counterparts, but they do adhere to a hierarchical structure. It is assumed that Korean negotiators are more straightforward than the Japanese. It is also important to understand that introductions to possible business contacts may be based less on professional expertise than on social obligations. The opening of negotiation is also important and is designated to let parties get to know one another and enable relationship-building rituals.

Korean culture is a high risk-avoidance culture in which individuals may feel more inclined to use traditional competitive negotiating behaviors. Korean negotiators are more likely to infer interests and priorities from the history of prior offers rather than from the words that accompany the offer at hand. When negotiating with Korean partners, insisting a special issue is solved before the negotiation process is likely to be unproductive. It is wise to know that Korean businesspeople are emotionally expressive and they are sometimes influenced by *kibun*, a mood. If there appears to be poor *kibun,* it may be a good time to break for the day or to delay conversation about a difficult issue. Decision making in Korean companies is typically highly centralized in the hands of top management. Members of a Korean negotiating team often have to defer the authority to make a major decision to members of senior management. A written contract is generally not considered a binding legal document; it sometimes signifies the official start of the relationship-building process. A third party can play an important role in business negotiations. It is wise to identify potential third parties who have connections to and influence the decision makers of a Korean company.

A Korean negotiating team may be smaller than their Japanese or Chinese counterparts, but they do adhere to a hierarchical structure. Korean businesspeople are extremely sensitive about titles and status. Korean negotiators are more straightforward than the Japanese even though Korea has a high-context culture. Negotiations with Korean businesspeople tend to take longer than negotiations held in the Western countries and modesty early in a relationship is important. During the relationship-building phase, a reserved and modest approach is likely to appeal to Korean sensibilities and to pave the way for more effective negotiations.

V. Conclusions

The purpose of this study was to find out some basic differences concerning negotiation practices among Far East Asian countries such as China, Japan and Korea and to suggest some implications for negotiators from other countries. All three countries retain a high-context culture. They rely on indirect cues and implicit communications to send messages embedded in words. During a negotiation, this reliance on implicit communication is evident in the different styles of information exchange. The three countries have a norm of collectivism. Negotiators within the cultures of collectivism are more comfortable in groups and individual interests and goals come second to the goals and interests of the group. These three countries are collectivists and high-context cultures that are believed to have high levels of both power distance and uncertainty avoidance, but relatively higher levels of nurturance. Nevertheless, there are some differences in negotiation practices and behaviors among the negotiators from three countries.

Throughout dealings with future Chinese partners, care must be given to "face" issues of the Chinese partner. Simply put, "face" is a much more complicated form of honor, respect and positive recognition. These face issues can quickly destroy the negotiating process. Once a level of trust and friendship develops, the negotiations become more meaningful both at the bargaining table and at the dinner table. The Chinese term 计谋 (*jimou*) is a positive idea which must be mastered by any manager, but its corresponding equivalents stratagem, ruse and artifice are not always positive. During the process of negotiation, it is very common for one side or both sides to make a compromise, but it is a little difficult for the Chinese side to take the initial step because of the problem of being afraid of losing face. In the Chinese language, the equivalent for compromise is 让步 (*rangbu*) or 妥协 (*tuoxie*), and they both have a slightly derogatory sense and carry the implication of being forced to do so and even disablement. Therefore, taking into consideration cultural differences, if a company would like to be successful in negotiating with the Chinese, that company has to pay attention to saving the face of a partner and also giving face.

When negotiating with Japanese businesspeople, important judgements must be made in implementing the approach. Negotiators should spend extra time preparing for negotiations and they should take care to match their team to their counterparts and to set the stage for more intimate talks. Also, they should prepare to spend time on non-task conversation and relationship-building. It is important for them to caucus away from the table to address face concerns and to understand that reciprocity. Western negotiators would be wise to consider using middlemen to assess potential partners' capabilities, bridge impasses and divide value agreeably.

When negotiating with Korean businesspeople, negotiators from different cultures need to cultivate relations with Korean counterparts as well as expect that negotiations will be less time efficient and agenda-driven than in Western countries. They should be mindful not only of traditions but also of transitions. Korean negotiators are realizing some of the benefits of a more individualized and less collectivistic society. As Korean companies globalize, negotiators may be more tolerant of differences in negotiation styles than in the past. Therefore, it is important to analyze information on one's counterparts before negotiation is started.

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Decision Factors in Organic Vegetable Farming in Selected Areas of Luzon, Philippines

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ABSTRACT

Organic farming has been touted as a way to address the alarming rate of environmental degradation and changing health lifestyles of consumers the world over. This exploratory study attempted to identify the decision factors in organic vegetable farming; specifically, the motivators of vegetable farmers for engaging in and sustaining organic farms. This study also sought to determine the motivators and constraints in shifting from organic farming to conventional farming. Results showed that personal and philosophical factors and environmental factors essentially served as motivators for vegetable farmers to go into organic farming while economic and business factors figured prominently as motivators for organic vegetable farmers to sustain operations. No dominant motivating factors were noted for potential shifters to organic vegetable farming in view of numerous constraints such as the lack of awareness and information on organic farming technology, lack of financing, lack of sources of organic fertilizer, need for additional labor, land and soil-related constraints and lack of post-harvest handling facilities. Recommendations to mitigate these constraints included the provision of financial support at the start-up and implementation phases of organic farming and mentoring by established organic vegetable producers.

I. Introduction

The increasing health and environment consciousness of the world population has been continuously manifested in the changing consumer behavior toward health products and environmentally safe goods. This has also prompted concerned agencies to craft policies and strategies for meeting the objective of matching food production and changing consumption requirements given the limitations and challenges of the natural environment. Good Agriculture Practices (GAP), for example, has been developed and implemented by several countries already. There have also been adjustments or even total shifts in agricultural production systems and processes. One of the notable changes in agricultural production systems responsive to both the consumers demand for health and environment safety is organic farming.

Organic farming is an ecological production system that fosters the cycling of resources, promotes ecological balance and conserves biodiversity (Bingen & Reardon, 2006). There is a worldwide interest in organic farming because it is seen to be beneficial ecologically, economically and socially. A broader definition which was given by the International Federation of Organic Agriculture Movements (IFOAM) was that organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, bio-diversity and cycles adapted to local conditions rather than the use of inputs with adverse effects.

Several studies have been conducted on the decision factors for engaging in and conversion to organic farming. According to Koesling et.al. (2008) who studied the factors influencing the conversion to organic farming in Norway, organic farmers were more likely to have larger farms, more education, be located closer to urban areas, have sustainable and environment-friendly farming as a goal and hold favorable views about the values of organic farming methods. The goals and motives of organic farmers were found to be the traditional reasons of environmental food quality and philosophical concerns which were similar to earlier studies on the conversion from conventional to organic farming. They also cited that a considerable proportion of potential converters is attracted to organic farming for financial reasons. Gray et.al. (2007), on the other hand, cited that economic factors such as higher prices for organic products, high income for organic farmers and reduction of input cost have the highest role for motivating conventional farmers to convert to organic production.

Fairweather (1997) cited that organic farming is a decision making process and that there were a variety of motivators and constraints in organic farming. The important motivators and constraints faced by one farmer may be different from the other farmers. The diverse set of motivators are organic philosophy, concern for chemicals in food, concern for personal health, organic premiums, and concern for soil quality. The identified constraints were personal and financial factors.

Khaledi et.al. (2007), in their assessment of the barriers to organic farming in Canada, pointed out that economic factors were the most important motivators in the conversion from conventional to organic farming. They also cited that the most important barriers in implementing organic farming practices were control of weeds, insects and diseases; uncertainty about economic returns; and complications in the process of becoming an organic producers. Another challenge faced by the conventional farmers was the need for more labor upon conversion to organic farming. The Survey Report on the Organic Agriculture in Michigan by Bingen et.al. (2007) has similar findings and pointed to weed control, costs of organic seeds, cost of inputs, insect damage, labor cost and irrigation as the top production problems in organic agriculture.

Engaging in organic farming as a production system is both a farming and a farmer's decision. It may necessitate investing in organic agriculture as an entry point to farming or conversion from conventional farming to organic farming. Likewise, sustaining organic farms is also a production decision. Whichever decision a farmer will be making will help determine the prospects of organic farming in the country. A number of studies which dealt with decision factors for organic farming and for shifting from conventional to organic farming have already been conducted in developed countries where organic agriculture has already taken off, which have longer experience in organic farming and which have established systems of certification for organic products. There are no studies of this type yet for developing economies like the Philippines where organic farming is still in its early stage and where production conditions are largely different from those of the developed economies.

The organic industry in the Philippines is still small despite government and private sector efforts to fuel its growth. The industry market is estimated to grow at 10-20% annually. Despite the increasing demand, however, production in 2006 only represents less than 1% of the total agricultural land area.

In view of the above, a study was conducted to determine the farmer's decision factors in investing in organic farming, sustaining organic farms and shifting from conventional to organic farming in the Philippine setting. Results of this study may be used not only in formulating strategies to encourage new entrants in vegetable production and current conventional farmers to engage in organic farming but to add to the existing literature from an Asian developing economy's perspective

II. Objectives

This study primarily aimed to identify the decision factors in organic vegetable farming; specifically, vegetable farmers' motivators for engaging in and sustaining organic farms. This study also sought to determine the motivators and constraints in shifting from conventional farming to organic farming.

III. Methodology

This research was partly based on the framework developed by Fairweather (1997) in his study entitled "Prospects of Conventional Farmers Adopting Organic Production Techniques". In his research he described the decision making process of farmers in relation to the motivators for growing organic products and the constraints to the organic farming decisions. He then described the elimination criteria for decision making in organic farming. This study focused only on the decision factors of both the organic vegetable farmers and the conventional farmers in relation to organic farming and did not proceed to the actual decision making process of farmers in organic production.

Fairweather (1997) focused only on two organic farming decisions – engaging in and conversion from conventional to organic farming. This study added to the organic farming decisions by including decision factors for sustaining the organic farming system. Hence, this study focused on three organic farming decisions – engaging in, sustaining and shifting to organic farming. This research is exploratory in nature and tried to make a preliminary investigation of the motivating factors of both the organic and conventional vegetable farmers with respect to organic farming. However, this did not deal with the determination of the strength of motivation and their impacts on decision making.

A total of 36 vegetable farmers (9 organic and 27 conventional) were included in the study. These farmers were key farmers and farming leaders in selected areas of Luzon. Based on the list of organic vegetable farmers provided by the Organic Producers and Traders Association, respondents in selected areas of Luzon were interviewed. A number of organic farms could not be accessed due to physical barriers like mountainous terrains and lack of navigational maps, and these were not included in the study.

IV. Results and Discussion

4.1. Characteristics of Vegetable Farmers

The organic vegetable farmer-respondents were key farmers who taught other farmers to adopt the organic farming technology. They started as organic farmers and were not shifters. They were mostly 51-60 years old, college graduates, some with post-graduate education, and had other sources of income. More than 60% of the farmers had an annual income of more than PhP100,000 or U.S.$2,222 from farming operations. More than 55% of these organic farmers were owner-operators and had farming experience of more than 10 years.

The 27 conventional farmers were younger as a majority of them were 21-30 years old. They attained lower education levels, more than 33% of whom only reached the elementary level but were not able to graduate. They did not disclose their income from farming operations. Almost 60% had less than 10 years of farming experience.

4.2. Characteristics of Farms

More than 50% of the organic farms were 1-2 hectares in size while 33% were more than 4 hectares. The conventional farms were smaller, more than 88% of which were one hectare and below. Both the organic and conventional vegetable farms were planting the same categories of vegetables such as leafy greens, fruit, root and leguminous vegetables, but the organic vegetable farms produced a wider mix or more varieties in each category. Organic farms also produced more high-value vegetables.

A sample organic farm and conventional farm were chosen to determine indicative costs and sales given the two production systems. Results showed that although an organic farm is producing less in terms of volume, its sales are higher due mainly to the mix of high value vegetables and the corresponding prices of the produce. In the case of conventional vegetable farms, volume is higher but prices were lower, hence the lower sales.

The cost of operating an organic farm was found to be higher as compared to a conventional vegetable farm. The major contributing factor of the higher cost is the cost of labor, which is due to additional labor requirements for farm operations and maintenance.

Results showed that on the average, in a one-hectare vegetable farm using the conventional farming method, 50% of the cost was for synthetic fertilizers while in an organic farm, the cost of organic fertilizers was only 10-20%. Labor costs in organic farms ranged from 51-60% of the total cost because aside from the owner-operator, laborers were hired for farm operations. On the other hand, the conventional farmers did not give information on the cost of labor as almost all of the farm activities were done by the owner-operator.

4.3. Organic Farming Practices

The farming practices adopted by organic farming served three purposes. The first is to control pests that bring damage to the plants; second, to maintain soil fertility and to properly condition the soil; and third, to provide nutrition to the plants. These are all needed for proper and balanced nutrition for the healthy growth of the plants. All of the farmers use a combination of all these practices.

The organic vegetable farmers build greenhouses (open or closed type), provide a natural habitat for predators, plant insect repelling crops and plant host plants for pests to biologically control pests. The practices that the farmers adopt to maintain soil fertility were vermiculture, composting, and treatment of seeds to avoid contamination and increase seed viability. In order to nourish the plants, the organic farmers made use of natural ways of utilizing plant parts, vermity and molasses as organic NPK source. Some farmers make use of fermented plant juices (FPJ), fermented fruit juices (FFJ) and indigenous microorganisms (IMO)

4.4. Decision Factors in Organic Farming

The organic vegetable farmers were driven and/or motivated by several factors when they decided to engage in organic farming. These factors were categorized into personal, economic and environmental factors.

4.4.1. Personal Factors

Awareness of organic farming and its benefits. Seven out of the nine organic vegetable farmers said that awareness of organic farming and its benefits motivated them to venture in this production system. This awareness has stirred their interest and became a primary driving force for organic production. They cited specifics such as love of nature, the view that

organic farming is a healthy and meaningful food production system, and they want to personally benefit from the fruits of their farms by eating what they planted.

Technical preparedness for organic vegetable production. The organic vegetable farmers believed that they were technically equipped for organic farming. They were exposed to the various technologies in organic agriculture. Some of them attended training programs on organic production.

Health and safety concerns. All of the organic vegetable farmers mentioned that organic farming is a healthy alternative production system. They became aware of the harmful effects of synthetic fertilizers and their toxic effects on the soil and vegetables that they produce. Not only did they want to protect their health but other people's health as well. Eating organic vegetables is believed to help them maintain a healthy lifestyle. Eight out of the nine organic vegetable farmers cited health concerns an important motivating factor in organic farming.

4.4.2. Environmental Factors

One basic driving force in organic agriculture is good soil quality. Since soil quality is the heart of organic farming technology, those farmers whose farms have fertile soils were motivated to adopt the organic farming system. In relation to this, locational considerations, which include favorable weather conditions and nearness to markets, were also cited as important considerations in venturing into organic farming.

4.4.3. Economic Factors

Potential demand for organic vegetables and availability of markets and distribution outlets were cited as the economic factors for motivating a farmer to engage in organic farming. The increasing health consciousness of the consumers positively affects the demand for organic vegetables. The market was found to be available and there were willing distribution outlets to absorb organically grown vegetables. One example of these outlets is the Organic Producers and Traders Association which operates Saturday markets in several areas in Metro Manila.

Table 1. Motivational Factors in Engaging In Organic Farming*

MOTIVATIONAL FACTORS	FREQUENCY	PERCENTAGE
Personal and Philosophical Factors		
Awareness on organic farming	7	77.8
Interest in organic farming	8	88.9
Technical preparedness	6	66.7
Health and safety concerns	8	88.9
Environmental Factors		
Locational factors	7	77.8
Concern for soil quality	8	88.9
Ecologically sound production system	9	100.0
Soil fertility	3	33.3
Healthy alternative	9	100.0
Economic/Business Factors		
Availability of markets and distribution outlets	7	77.8
Financial capability	4	44.4
Cost reduction through non-use of chemicals	7	77.8
Premium prices for organic vegetables	7	77.8

*multiple responses

4.5. Reasons for Sustaining Organic Vegetable Farming System

It could be noted that many of the reasons for sustaining or maintaining organic vegetable farms are the same reasons that farmers mentioned as their driving forces in investing in organic production systems. However, economic factors were found to be more dominant than the other factors as shown by the responses and cited specific motivators in this category.

4.5.1. Personal Factor

Personal Satisfaction

A majority of the respondents said that organic farming is personally satisfying. They were satisfied with the volume and quality of their vegetables and they found it fulfilling that they had a regular supply of organic vegetables for their own consumption. Some even mentioned that organic farming is a stress reliever.

4.5.2. Environmental Factor

Concern for the Environment

This was cited as the most important reason for sustaining organic farms. The farmers agreed that they should "return" to nature what comes from nature and this is basically referred to as the natural production system. For the natural production system to work, the farmers wanted to maintain soil quality for longer term productivity.

4.5.3. Economic Factors

The identified economic factors for sustaining the organic production system include stability of the market, premium prices for organic products, higher profitability of organic farming and the financial capability to maintain an organic production system.

Market Stability and Higher Prices

Six out of the nine farmers cited that they continue organic farming because they have stable markets for their produce. They regularly supply hotels, restaurants and organic products stores. Coupled with the stable market are the premium prices for organic products. Since the buyers of organically grown vegetables are health conscious and less price sensitive, they are willing to buy these vegetables at higher prices. They are willing to pay a premium for health. Since organic vegetables are considered a health product, they are regarded as a specialty food, commanding premium prices. The higher prices that farmers can charge for organic produce was the most important contributory factor to the higher profitability of organic vegetable production. It was mentioned earlier that despite the lower volume produced in organic farms, profitability was higher due to the higher prices. In addition to this, there was a cost reduction in fertilizing the farm since the farmers need not put up with the soaring prices of synthetic fertilizers. Higher profitability increases a farmers' financial capability to sustain organic farming. Although they have to spend more for additional laborers and the required facilities, the additional costs were recovered by increased revenues through higher prices.

4.5.4. Knowledge and Experience in Organic Vegetable Farming

Knowledge of the organic production system was one important factor in sustaining organic production. The organic farmers have already learned the rudiments of organic vegetable production which mainly includes soil fertility management, pest and disease control and post-harvest handling. Aside from these technical concerns, they have already developed market linkages and the business strategies for their farms.

Table 2. Motivational Factors in Sustaining Organic Vegetable Farming System*

MOTIVATIONAL FACTORS	FREQUENCY	PERCENTAGE
		88.9
Personal Factor - Personal satisfaction	8	
Environmental Factor - Concern for the environment	9	100
Economic/Business Factors		66.7
Stability of the market	6	
Premium price for organic vegetables	7	77.8
Higher profitability	5	55.6
Financial capability	4	44.4
Knowledge and experience	3	33.3
Market networks	7	77.8

*multiple responses

4.6. Motivating Factors for Shifting to Organic Farming

More than 25% of the conventional farmers interviewed considered shifting to organic farming. The following were the motivating factors for the decision to shift. They are called potential shifters. Three categories of factors such as personal, environmental and economic were given by the potential shifters as motivating factors to shift to organic farming.

4.6.1. Personal Factors

The first personal factors cited as a motivator for making the shift from conventional farming to organic farming were health and safety concerns. These conventional farmers said that organic vegetable farming is less hazardous since they do not have to deal with chemical inputs and its bad effects such as making the soil acidic and causing wilting of vegetables. At the same time they are assured of chemical-free outputs. They were aware of the negative effects of fertilizers and pesticides in vegetables on human health. The second personal factor given was the farmers' desire to innovate. They had been adopting conventional farming technologies since childhood and they wanted to try new or innovative farming systems.

4.6.2. Environmental Factors

All of the potential shifters mentioned that through organic farming they can take care and improve the quality of the soil which had been badly affected by using chemical fertilizers. They all believe that the use of organic fertilizers will prolong soil productivity therefore increasing yield in the long term. They also mentioned that through organic farming, they can help take care of the environment by not polluting the air, water, trees and soil which are currently the issues related to conventional farming systems.

4.6.3. Economic Factors

Four out of the seven potential shifters cited market opportunities as an important economic motivating factor. They were aware of the opportunities in tapping the higher segment of the vegetable market and therefore offer vegetables at premium prices if they shift to organic farming. They were also pointing to cost reductions which will mainly come from the non-use of highly priced synthetic chemicals fertilizers and pesticides. These conventional farmers perceived that organic farming was a cheaper way to farm.

Table 3. Motivational Factors in Shifting to Organic Farming*

MOTIVATIONAL FACTORS	FREQUENCY	PERCENTAGE
Personal Factors		
Health and safety concerns	7	100
Desire to innovate	5	71.42
Problems in conventional farming	2	28.57
Environmental Factors		
Concern for soil quality	7	100
Concern for environment safety	7	100
Economic Factors		
Opportunity to tap the higher segment of the market	4	57.14
Premium prices for organic vegetables	5	71.42
Cost reduction due to non-use of chemicals	7	100

*multiple responses

From the above discussions, it could be noted that generally, there are similarities in the motivational factors in making decisions in organic vegetable farming. These decisions could either be engaging in, sustaining, shifting to and not engaging at all in organic vegetable farming. What served as driving forces when a farmer engaged in organic farming also served to sustain organic farming operations. In the same way, what served as motivators in engaging in and sustaining organic farming operations served as motivators for conventional farmers to shift to organic farming.

A common motivational factor in all of the organic farming decisions was the concern for ecologically sound production system or concern for the environment. One important observation though was that there were more concerns about economic/business factors compared to personal and environment factors in the decision to sustain organic farming operations. The organic farmers will continue producing organic vegetables if these factors are in place.

Table 4. Motivators for Engaging In, Sustaining and Shifting to Organic Farming

MOTIVATIONAL FACTORS	ORGANIC VEGETABLE FARMING DECISIONS		
	Engaging in	Sustaining	Shifting to
Personal and Philosophical Factors			
Awareness on organic farming	◙		
Interest in organic farming	◙		
Technical preparedness	◙		
Health and safety concerns	◙		◙
Personal satisfaction		◙	
Knowledge and experience		◙	
Desire to innovate			◙
Problems in conventional farming			◙
Environmental Factors			
Locational factors	◙		
Concern for soil quality	◙		◙
Ecologically sound production System/Concern for the environment	◙	◙	◙
Soil fertility	◙		
Healthy alternative	◙		

Economic/Business Factors			
Availability of markets and distribution outlets	◙		
Financial capability	◙		
Cost reduction through non-use of chemicals	◙		◙
Premium prices for organic vegetables	◙	◙	◙
Stability of the market		◙	
Higher profitability		◙	
Financial capability		◙	
Opportunity to tap higher segment of the vegetable market			◙
Market networks		◙	

4.7. Constraints in Shifting to Organic Farming

Seventy-four percent of the conventional farmers interviewed do not have the intention to shift to organic farming because of the following constraints.

4.7.1. Lack of Awareness and Information on Organic Farming Technology

Having been used to conventional farming since childhood, shifting was considered to be difficult since they do not have technical knowhow of the production system. Some of them have heard about organic farming but lack the information on how to go about it.

4.7.2. Lack of Financing

It was presented earlier that although the non-use of synthetic chemicals will result in a big reduction in the cost of fertilizing an organic farm, shifting to an organic production system entails investment in greenhouses and additional costs due to increased labor requirements and utilities. Due to these additional requirements, the cost of production more than doubled. Lack of financing will therefore make it difficult for a conventional farmer to shift.

4.7.3. Lack of Sources of Organic Fertilizers

This was also mentioned as one of the constraints for shifting to organic farming. There is a need for a sizeable volume of organic raw materials to produce organic fertilizers. The farmers said that they do not have such sources for organic fertilizers.

4.7.4. Need for Additional Laborers

The need for additional laborers due to labor intensiveness of organic agriculture was also cited by the conventional farmers as a barrier for the adoption of organic farming. This was not consistent with the findings of Khaledi (2007) that labor consideration becomes a challenge after conversion.

4.7.5. Land and Soil Quality-Related Constraints

Over one half of the respondents mentioned that they are constrained by the smallness of their farms to engage in organic farming. Aside from this, their soil is already laden with synthetic fertilizers like urea and tricaphos so much so that they found it impractical to shift to organic farming.

4.7.6. Lack of Post-Harvest Handling Facilities

Good post-harvest handling of organic vegetables is a must to maintain freshness and overall produce quality. This becomes more important as the farmers have to deal with the health conscious and discriminating upper segment of the vegetable market. The lack of post-harvest handling facilities, specifically refrigerators, was considered by the conventional farmers as one constraint in organic farming.

With the exception of concern for soil quality and the lack of awareness and interest in organic farming technology, the above constraints were economic/ business-related. Lack of financing limits potential shifters to avail of services and facilities necessary for organic farming.

Table 5. Constraints in Shifting to Organic Farming*

CONSTRAINTS	FREQUENCY	PERCENTAGE
Unawareness and lack of information	11	55
Lack of technical knowhow	13	65
Lack of financing	20	100
Lack of sources of organic fertilizers	7	35
Need for additional laborers	10	50
Land and soil related constraints	15	75
Lack of post-harvest facilities	20	100

*multiple responses

4.7.7. Problems of Organic Farmers

The problems of organic vegetable farmers were mainly related to production. Changes in climatic conditions proved to be a challenge since there were cases of drought and heavy rains which had adverse effects in production volume, particularly in leafy vegetables. Birds, pests and diseases also reduced the yield of organic vegetables. The identified production problems were similar to the problems identified in previous studies. Although there were efforts to biologically control pests, these problems were not totally addressed.

Organic farming does not guarantee the marketability of the produce. Aside from seasonality factors, uncontrollable production conditions affect the volume and produce quality. These factors affect organic vegetable prices. Organic vegetable farmers cited lack of control of pricing as their most important marketing problem.

4.8. Summary and Conclusions

Organic vegetable farmers were older, had higher education, larger farms and had been in the farming business longer than the conventional farmers. Some of these characteristics were consistent with the findings of Koesling, et.al. (2008). Organic vegetable farms were found to carry a wider variety or mix of higher-value vegetables as compared to conventional farms. Although organic farms produced lower volume of vegetables, these farms generated more sales due to higher produce prices.

The higher cost of operations in an organic farm is attributed to the higher labor cost. However, the positive effect of this production system is higher sales and income. These findings are consistent with the results of the evaluation made by IFAD (2005) which state that the conversion from organic agriculture tends to increase labor costs but had positive consequences in terms of yield and higher incomes.

Three major decisions related to organic farming were discussed in this study. These were the decisions to engage in organic farming, sustain organic farming operations and shift from conventional to organic farming systems. The factors related to these three decisions were determined. These factors were classified into personal and philosophical factors, environmental factors and economic/business factors. Results showed that farmers who decided to engage in organic vegetable farming for the first time were motivated by more personal/philosophical factors and environmental factors as shown by more responses regarding these motivational factors. Awareness and interest in organic farming, health and safety concerns

and the potential of practicing an ecologically sound and healthy alternative production system were determined to be popular motivators. It could be implied that these factors arouse general interest in going into organic vegetable production. When the farmers have already engaged in organic farming and were already maintaining or sustaining operations, organic farmers were more driven by the economic and business factors. Although they consider personal satisfaction a driver for continuing organic farming and although concern for the environment were still mentioned, they became more concerned with the stability of the market, access to market networks, prices, profitability and financial capability for continuing or sustaining organic farming operations.

Only about 25% of the conventional farmers expressed interest in shifting to organic farming. However, no dominant motivational factor in shifting from conventional to organic farming system was determined. All the three major factors were identified to motivate a conventional vegetable farmer to shift to an organic production system.

More conventional farmers (75%) were not willing to shift to organic farming due to many constraints. The conventional farmers mostly mentioned economics/business-related factors such as lack of financing and inadequate post-harvest facilities (which may also be related to lack of financing) as the top constraints in shifting to organic farming. Other constraints like need for additional laborers and lack of sources of organic fertilizers may also be addressed if the financial issues are tackled. While Khaledi et.al. (2007) cited that economic factors were motivators for shifting or conversion to organic farming, in this study, economic/business factors were considered constraints.

Based on the results, it is recommended that efforts towards the encouragement of conventional farmers to shift to organic farming should be directed towards the provision of financial support in the start-up and implementation of organic vegetable farming. The Organic Producers and Traders Association can motivate the potential shifters by closely mentoring them and providing moral and technical support.

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A Study on the Hedging Effectiveness of Exotic Currency Options: KIKO, Pivot, and Snowball

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ABSTRACT

The objective of this study is to examine the hedging effectiveness of the exotic currency options, especially circulated as in Korea prior to and during the global financial crisis of 2006~2008. In the view that the primary goal of hedging is to reduce the volatility of the portfolio with hedging instruments and hedged instruments combined, hedging effectiveness should be screened on three matching principles: first, there should be a match of duration between the hedging and hedged. Second, there should be a match between the money amount of the hedged instrument and the hedging instrument. Third, the material characters of the hedging and hedged should be matched throughout the hedging period. The three exotic currency options, which were introduced and damaged significantly many small and medium sized Korean firms, a lack of the three hedging principles in the three matching principles is noted. Thus, it can be concluded that those exotic currency options should not have been used as hedging instruments for non-financial exporting firms at all.

I. Introduction

OTC (over-the-counter[1]) derivatives have been a focal point among regulators and practitioners as to their uses and risk characteristics, especially following the crash of global financial markets since 2007. Originally, OTC derivatives were introduced into the markets to mitigate various risks such as market, credit and liquidity risks among other risks. However, OTC derivatives have shortcomings, along with their usefulness, as ideal hedging instruments, frequently magnifying a derivative holder's risks to the contrary.

Since OTC derivatives are not traded in the formal exchanges, they normally lack transparency and incur liquidity problems. Also, they are hard value fairly and properly due to the lack of market transactions,

[1] Over-the-counter derivative is a type of financial derivative that has its transaction directly negotiated between two parties rather than through an exchange. Some financial derivatives, such as a swap, a forward rate agreement or an exotic option, are usually done over the counter.

augmented by informationally asymmetric situations between originators and end clients. Due to the complexity and obscure risk characteristics of OTC derivatives, numerous legal disputes[2] have arisen in the domestic financial markets as well as in the international financial markets, especially in the emerging markets (Dodd, 2009). Those derivatives of the OTC currency derivatives such as KIKO, Snowball and Pivot, which were introduced in Korea in 2005 as alternative hedging instruments, have provoked a tremendous amount of financial damages to small and medium sized firms. The total loss has increased to more than several billion dollars in Korea.

This paper attempts to look into the hedging effectiveness of some of the FX OTC derivatives, such as KIKO, Pivot, and Snowballs. Considering that the primary goal of hedging is regarded as reducing the volatility of the derivatives and underlying positions combined to a minimum, those three OTC currency derivatives lack three matching properties as proper hedging instruments, which are 1) amount matching, 2) duration matching and 3) characteristics matching between the derivatives and underlying securities.

Through the analysis of three cases on OTC currency options which were introduced in 2007 and 2008 in Korea, the hedging effectiveness of KIKO, Pivot, and Snowball is to be investigated in depth. The structure of this paper is organized as follows. Section II describes OTC currency derivatives and their risk characteristics. Section III describes the hedging effectiveness of the OTC currency options. Section IV deals with analysis of the three OTC currency options, in the view of hedging effectiveness. Section V comes up with summary and conclusion.

II. OTC Foreign Exchange Derivatives and their Risk Characteristics

2.1. OTC Foreign Exchange Derivatives

A foreign exchange derivative is a financial derivative where the underlying is a particular currency and its exchange rate. These instruments are used for either currency speculation and arbitrage or for hedging foreign exchange risk. The types of foreign exchange derivatives include currency futures, currency swap, currency swap, and foreign exchange options.

2.2. Exotic Foreign Exchange Options

Standard options, which are also known "vanilla options", have clearly defined characteristics. The purchaser of the option has the right to exercise the option while the seller, acting as the writer, has an obligation to purchase or to sell. For many corporate clients who want to hedge currency risks, however, the premiums of the classical options are too high. Thus, ways of reducing the premiums have been sought through exotic options. An exotic currency option is an option that has some nonstandard feature that sets it apart from ordinary vanilla currency options. First, generation exotic options are all options beyond plain vanilla options that started trading in 1990s: in particular, barrier options, digital and touch products, average rate or Asian options, lookback and compound options. Some of the second generation of exotic currency options are range accruals and faders. Further extensions are target redemption products, whose notional amounts increase until a certain gain is reached. The most popular exotic currency options is the barrier option. The following explains some of the exotic currency options.

2.2.1. Barrier Options

Barrier options contain a trigger in addition to the strike price. When this trigger level is reached, the option expires without value (knock-out) or it is only then activated (knock-in). KIKO is one of the barrier options.

[2] While legal authorities in India supported the arguments of the firms, most exporting firms at stake in Korea lost in their first round of legal disputes.

2.2.2. Average-Rate Option

An average rate option (ARO) is a call or put option whose strike price is compared not with the exchange rate at maturity but with the average rate during the term. If the option is exercised, the purchaser receives the difference between the strike price and the average rate.

2.2.3. Compound Option

The compound option is an option on an option. The purchaser is entitled to purchase a call option (put option) with a fixed strike price and fixed at an agreed premium at the pre-determined future date. In this case, the premium at which the agreed option may be purchased is the strike price (compound strike). At maturity, the current premium is compared with the agreed premium. If the market premium is lower than the compound strike, the client allows the option to expire; if the compound strike is lower than the market premium, the client achieves cost-effective hedging.

2.2.4. Payout Option

Payout options are not used for hedging exchange rate risks, but are normally used in a highly speculative manner to profit from expected price trends. They do not have a nominal amount, but involve a premium and pay out a fixed amount at maturity or when a specific condition is met. This distinguishes them from standard options, where the difference between the strike price and the spot rate at maturity reflects a profit (or a loss). Payout options are most suitable when used as non-matching hedges (proxy hedges).

2.2.5. Quanto Option

The quanto option behaves like a classical option, but the payout of any profit is in a third currency. If a Swiss company is facing Japanese competition in the US market, it is exposed to the USD/JYP rate. It can hedge its economic risk with a quanto option by purchasing a USD/JYP call option, paying the premium in CHF and having any profit paid out in CHF. The profit compensates it for worse conditions vis-a-vis its Japanese competition in the event of an isolated increase in the USD/JYP rate.

2.2.6. Lookback Option

At maturity, the lookback call option pays the difference between the strike price and the best possible spot rate at which the client could have bought during the term. The lookback put compares the strike price with the highest possible rate during the term. This option is rather more expensive than a comparable standard option. This type of option can be advantageous as a precaution against more turbulent times, particularly in calm phases with low volatility.

2.2.7. Installment Option

This compound option includes several decision dates and corresponding premium payments. On each date, the purchaser of the option can decide whether he wants to pay another tranche of the premium and retain the rights to the option. All details of the option are determined in advance when the transaction is concluded.

2.2.8. Forward Starting Option

The forward-starting option is a classical option that only kicks in on a predetermined future date. The strike price is fixed at this time. For example, it is agreed in advance that the strike price will equate to an at-the-money forward, or a fixed delta. The maturity and volatility are also determined when the transaction is concluded. This option is attractive in the event of an extremely inverse volatility curve.

2.2.9. Option on Outright Forward

With this option, the purchaser obtains a forward transaction if he exercises it at maturity. With the classical option, he would receive a spot transaction and would have to conclude a swap at daily prices. If an

exporter makes a bid, he does not know in advance whether he will actually need the hedge. If he receives the order, he can conclude a forward transaction and thus have a more reliable basis for calculation than a competitor with a put option. This could be advantageous in the event of a distorted interest rate constellation.

2.3. Risk Characteristics of the Exotic Currency Options to the Non-financial Firms

2.3.1. Lack of Transparency

Since the exotic options are not traded in the exchanges where standardization and a certain level of regulation are deemed to exist for investors, they lack transparency in terms of valuation methods and risk characteristics associated with their contracts. From the perspective of non-financial investors, it is difficult to figure out the real value of the options they are going to engage, and other processes such as the products' hedging and leverage effects, except for the information their counterparties, banks, offer. To many Korean exporting firms which purchased the exotic currency options and suffered from large losses, such a contract seemed to be regarded as one of routine deals with banks in 2007, 2008 and 2009.

2.3.2 Difficulty in Valuation

Valuation of exotic options requires more than understanding of the Black-Sholes option models. Those exporting firms which purchased KIKO and other exotic options do not seem to have a sufficient level of knowledge on the valuation of even plain vanilla options. There are two key reasons why they are unlikely to be able to figure out the true value of the products. First, they do not have enough manpower with knowledge and experience regarding these products. What they had experienced to hedge their exchange rate risk were largely currency forwards, which are simpler to figure out than the plain vanilla options. Second, valuation of the exotic options requires a number of assumptions regarding the underlying products, interest rates, and other factors. However, the exporting firms could not access the necessary information on the assumptions. One of the exotic options, KIKO, had been introduced to the exporting firms as zero-cost or zero premium products by their banks. It was an attempt to mislead the exporting firms to believe that the products are of no cost and are cheaper than other hedging instruments. This is quite an "optic" product, which can be disguised like teaser products, which are frequently introduced in the subprime markets in the US.

2.3.3. Liquidity Risk

The exotic options, which are OTC products, have less liquidity than the exchange traded options per se. In effect, KIKO and other exotic currency options were traded between the exporting firms and local banks directly; any exit from the contract could be done only through the negotiation with their counterparties, banks, which would not do it due to their "Back to Back contracts"[3] with foreign investment banks or hedge funds. While banks can automatically obtain an exit opportunity when the exchange rate decreases less than the knock-out point, firms do not have this automatic exit.

2.3.4 Gearing (leverage) Risk

Most of the exotic options Korean exporting firms held have a gearing feature in that, once knocked in, they have to sell to the banks in US dollars two or three times the nominal value at the strike price. These gearing covenants have made the non-financial firms fall into the over-hedging position when the exchange rate increased substantially higher than the knock-in point. Over-hedging means that the firms are left in a

[3] Local banks, which have sold those derivatives to the non-financial exporting firms, take an opposite position right away against global investment banks in order to avoid any market risks over the life of the products.

naked short-call position that may incur, theoretically, an unlimited loss for exporting firms when coupled with a rising exchange rate.

2.3.5 Asymmetry in the Information and Bargaining Power

Diamond (1984), Fama (1985), and James (1986) hold that there is an informational asymmetry between firms and their main banks. Banks are in a position to process the information of the company for a long time so that they can accumulate the information and generate private information. Thus, banks can assess additional information on the company with less cost than other banks can do for the firms. Thus, firms are reluctant to shift their main banks to other banks as the information processing by other banks is relatively costly. In the KIKO case, many firms were engaged in transactions with their main banks which can assess the firms with their private information processing position and thus with superior bargaining power. It seems that many of the firms have been engaged in contracts with their main banks without due evaluation of the products.

2.3.6 Dynamic Hedging Risk

Since the exotic options have not only delta risk but also other Greek risks such as gamma and vega risks, firms have to mitigate their positions dynamically by adjusting gamma and vega positions, which is almost impossible for the exporting firms. Their future dollar inflows have a linear position against the foreign exchange rate movement which can be simply delta hedged by the currency forward even though there is a higher initial cost for the forward contract. However, the combination of their delta position with the exotic options requires the dynamic hedging risk to the exporting firms.

2.3.7 Herding Risk

The introduction of KIKO in Korea was made by Citi in 2003 for the first time. The product gained an increased popularity as the exchange rate continued to decline. Most of the firms purchased KIKO in 2006 and 2007 and thus had to sell US dollars to the banks at the strike price, which was around 950~1,000 won per dollar, with the market exchange rate hovering over 1,200 won. This concentration of contracts had made the KIKO firms purchase dollars in the market in which the demand was already high relative to the supply of the dollar, mainly caused by the then international financial crisis. Such a rush for the dollar by firms made the dollar more expensive in the Korean exchange market, which is called the herding effect, and could cause the rise of the dollar value in turn.

III. Hedging Effectiveness of the OTC Currency Options

3.1. Losses by Non-financial Firms

An international pattern of exotic derivatives trading appears to have helped transmit the financial crisis from the US and the European countries to many emerging market economies. The direct cost to non-financial firms of these derivatives losses by 50,000 firms in at least 12 economies is approximately $530 billion. [4] Among the emerging economies, Korea includes 571 small and medium sized firms that have lost $2billion or more.

3.2. A Descriptive Analysis of KIKO, Pivot, and Snowball

3.2.1 KIKO (Knock-Out and Knock-In) Options

A KIKO is a barrier option in that if the underlying currency appreciates beyond a specified exchange rate, the put options are knocked out, and that if the

[4] Dodd, Randall, 2009, "Exotic Derivatives Losses in Emerging Markets: Questions and Suitability, Concerns for Stability", IMF Working Paper.

underlying currency depreciates beyond a specified exchange rate, the call options are knocked in. The synthetic futures contract can be created by combining a long and short position of options. The positive gains from the long futures or long put options on the Korean Won (KRW) begin accumulating once the exchange falls below the strike price of a certain pre-designated KRW per US dollar, and the losses from the short call begin accumulating as it rises above the KRW strike price. The gains from the long put options are limited in that as the exchange rate declines over a certain point, the Knockout condition sets in to terminate the contract for that effective month.

The second concept of KIKO is that of gearing. A KIKO option involves selling calls with a notional value two or three times that of the puts. This results in asymmetric potential gains and losses. A KIKO, like a target redemption forward or swap, is structured in an asymmetric way so that losses occur at a faster rate for a given change in the underlying asset price. The third concept is the role of the barrier points that cause the gains to be knocked out and determine when the losses begin to be knocked in. Gains on the hedge or speculative position cease when the price touches or passes the knock-out barrier price.

3.2.2 Pivot Option

A Pivot is similar to the strangle position which has a combination of long or short calls and puts at the same time. In the exchange traded options, dealers normally take a short strangle position which involves short calls and short puts, aiming at the limited gains when the volatility of the underlying securities is expected to be relatively small. On the other hand, individuals take a long strangle position by purchasing calls and puts, limiting their losses within a certain range and targeting big gains when the market volatility is expected to rise a lot. The Pivot contract Korean exporting firms took is similar to the short strangle position. To be more specific, their position was more similar to short straps in that they had one short put position and two or three short call positions. By holding this short pivot position, the exporting firm suffered from significantly large losses when the exchange rate rose and was hovering over 1,500 won per US dollar in the latter half of 2008 and in the early of 2009. Taesan LCD, Korea's third largest start-up, filed for bankruptcy due to the losses from Pivots.

3.2.3 Snowball

Snowball has turned out to be a dangerous exotic currency option to some Korean exporting firms which took the short position on the Snowball. Snowball is similar to KIKO in that there are limited gains in the long position of the puts due to the knockout feature and unlimited losses in the two or three times geared short position of the call options. However, there is a striking difference between the KIKO and Snowball in that the Snowball's strike price is inversely tied to the previous month's exchange rate, being reduced as the exchange rate rises, as seen in 2008. This feature made some exporting firms fall under the severe financial distress as the strike price had been reduced to be zero when the exchange rate rose over 1,500 won in 2008. Another toxic feature snowball is its condition for the extension of the contract. The extension over another 12 months is dependent upon the level of the exchange rate. If the exchange rate is high enough to hurt the exporting firms, the extension becomes effective, while if the exchange rate declines, there is no extension; this is also beneficial for the bank to the detriment of the exporting firms.

3.3. Hedging Effectiveness

The primary purpose of hedging with derivatives is to mitigate the risk of the portfolio which combines the profit/loss profile of the underlying securities and hedging derivatives. That is, mitigating the risk of the portfolio is equivalent to reducing the volatility of the combined position. While the risk position of the underlying securities is relatively simply reduced to a minimum with such derivatives as futures and forwards, it is difficult to the match risk profile of the underlying securities with exotic options, mainly due to the non-linear characteristics of options which are also OTC products lacking liquidity and transparency.

In order to minimize the risk profile of the combined portfolio, three structures of matching should be secured. First, matching should come from the duration of the underlying securities and that of the derivative. Any mismatching of the duration may cause a basis risk, which can reduce the hedging effectiveness. Second, a match should be made between the amount to be hedged and that of the hedging instruments. Thirdly, there should be a match between the characteristics of the hedged and that of hedging instrument. If one of matching principles between the hedged and the hedging instrument is not met, there may arise a basis risk.

IV. Analysis of KIKO, Pivot, and Snowball

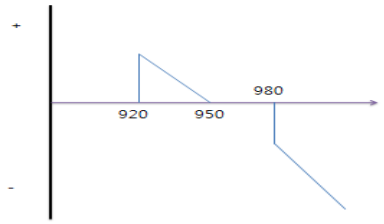
4.1. Case 1: KIKO

A KIKO is a barrier option in which the buyer of the product takes a long position on one put and a short position on two calls. The put option is knocked out if the exchange rate declines to or passes over the designated point. The call options will be knocked in when the exchange rate rises over some point. The following shows one example of a real contract which was made by one exporting firm and a local bank.

Buyer: Company A
Seller: Bank B

<Provisions>
Maturity: 2 years
Nominal Value: $500,000 per month
Strike Price: 950 won per US dollar
Window Knock Out: 920 won per US dollar
Knock In: 980 won per US dollar (Once knocked in, the buyer should sell twice the dollar of the nominal amount at the strike price for the effective month)
Valuation Date: September 20, 2007
Expiry Date: September 21, 2009

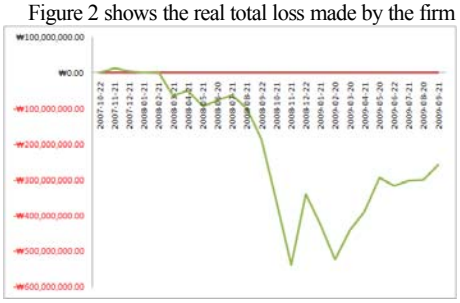
Figure 1: KIKO Option: Hypothetical Payout



As we see in Figure 1, KIKO provides the firm with a very limited hedging range, just 30 won. Considering that the average lifespan of most KIKOs is two years, the hedging range of 30 won is too limited to offer any effective hedging. Also, below the KO, firms are exposed to the exchange rate risk, while over the KI firms have to suffer from a significant loss due to the gearing (leverage) effect. In sum, KIKO offers a very limited hedging effect while increasing a firm's risk below KO or over KI. These characteristics of KIKO do not pass the three matching principles as an effective hedging instrument.

Figure 2: KIKO Option: Actual Payout

Figure 2 shows the real total loss made by the firm



which had a KIKO with the provisions detailed above. Over the two year span, from September 2007 to September 2009, the total loss was 5,095,550,000 won.

4.2. Case 2: Pivot

A Pivot is similar to the strangle position as it has a combination of long or short calls and puts at the same time. In the exchange traded options, dealers normally take a short strangle position, which involves short calls and short puts, aiming at limited gains when the

volatility of the underlying securities is expected to be relatively small.

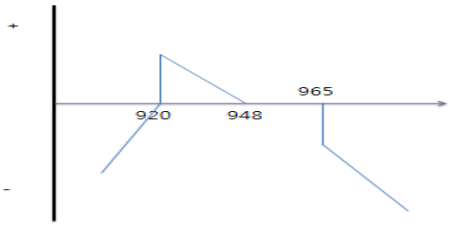
Buyer: Company C
Seller: Bank D

<Provisions>
Maturity: 2 years
Nominal Value: $500,000 per month
Strike Price: 948won per US dollar
Window Down Trigger(Knock In): 920 won per US dollar (Once knocked in, the buyer should buy double the dollars at the strike price for the effective month)
Window Up Trigger (Knock In): 965 won per US dollar (Once knocked in, the buyer should sell the dollar at the strike price for the effective month)
Valuation Date: September 20, 2007
Expiry Date: September 21, 2009

Figure 3: Pivot Option: Hypothetical Payout

Figure 4: Pivot Option: Actual Payout

Figure 3 shows the theoretical payoff from Pivot. There is a striking similarity between KIKO and Pivot except that below the KO, Pivot holders lose while KIKO holders remain neutral. Figure 4 shows the loss made by a Pivot holder with the nominal amount equal to 500,000 USD per month. The loss is 5,139,850,000 won over two years, which is slightly more than the KIKO holders have to endure. As we see in this



example, Pivot also failed to become an effective hedging instrument, not passing the three principles of good hedging properties.

4.3. Case 3: Snowball

Snowball has turned out to be the most dangerous exotic currency option for some of the Korean exporting firms which took the short position on the Snowball. Snowball is similar to KIKO in that there are limited gains in the long position of the puts due to the knockout feature and unlimited losses in the two or three times leveraged short position of the call options. However, there is a striking difference between a KIKO and a Snowball in that a Snowball's strike price is inversely tied to the previous month's exchange rate, being reduced as the exchange rate rises as seen in 2008.

Buyer: Company E
Seller: Bank F

<Provisions>
Monthly Notional: USD 250,000
Trade Date: 2007-5-21
First Expiry Date: 2007-6-21
Last Expiry Date: 2009-6-22 (if extended to the second 12 months)
At Expiry KO Level: USD/KRW 900 at each expiry date
Premium: Nil
Settlement: Physical Delivery
Extension Barrier: 985 at each expiry date
Monthly Strike Price[5] = Max[MIN(Previous Strike+955-USDKRW fixing, 963),0]

[5] Monthly strike price is subject to change depending upon the previous month's strike price. Thus, as the exchange rates rise, the strike price is reduced, ultimately to zero.

Monthly Delivery:

- On each monthly expiry date, if at expiry the KO event has not occurred,

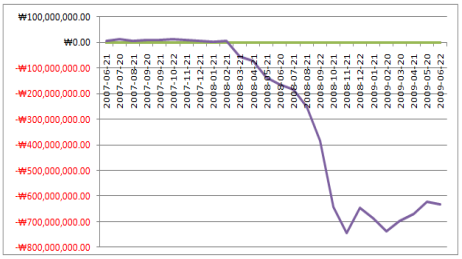
- If the monthly USD/KRW fixing is equal to or less than USD/KRW Strike Rate,

Party E sells Monthly Notional against KRW at USD/KRW Strike Rate on respective delivery date,

- Otherwise, if the monthly USD/KRW fixing is greater than USD/KRW Strike Rate, Party E sells 2 x Monthly Notional against KRW at USD/KRW Strike Rate on respective delivery date.

- Further, if at expiry the KO event has occurred, there will be no obligation between Party E and Party F for that respective month's position

Figure 5: Snowball Option: Actual Payout



Snowball turns out to be the worst hedging instrument among the three exotic currency options. The monthly strike price of a Snowball is subject to change depending upon the previous month's strike price. Since the USD/KRW rate has risen continuously over 2008, the strike price has been reduced to be zero, which means that the Snowball holding firm has to sell two times the dollars of the nominal amount to the bank each month at the price of zero. The total loss of the Snowball holder for the two year span has become 7,248,825,000 won, which is far more than KIKO and Pivot have incurred in spite that the nominal amount for the Snow is half of KIKO and Pivot at 250,000 USD. As we see in Figure 5, Snowball not only failed to become any effective hedging instruments but also fell short of any effective speculative instruments.

V. Summary and Conclusion

An international pattern of exotic derivatives trading appears to have helped transmit the financial crisis from the US and the European countries to many emerging market economies. The direct cost to non-financial firms of these derivatives was losses by 50,000 firms in at least 12 economies totaling approximately $530 billion.[6] Among emerging economies, Korea included 571 small and medium sized firms that have lost $2billion or more as some of the contracts have not expired even into 2010.

This study examined the hedging effectiveness of exotic currency options which had been introduced specifically in the Korean market several years before and during the financial crisis in 2007 and 2008. Hundreds of Korean small and medium sized firms have suffered significantly from the exotic currency derivatives in the form of KIKO, Pivot, and Snowball. Recently, heated debates have been underway, in and out of legal courts, between non-financial exporting firms and banks which have introduced such exotic derivatives to the exporting firms as hedging instruments. One of the debates focuses on the hedging effectiveness of the exotic options.

Even though the definition of hedging may slightly differ, the goal of hedging should come down to the basic principle of whether the hedging instruments can reduce the volatility of the combined portfolio to a minimum with little difficulty. To the exporting firms, the appropriate hedging instruments should provide at least three matching properties against their underlying future currency positions. First, matching should be based on the currency amount a firm will have in the future. Second, there should be a duration or timing match between the firm's future cash inflow and the

[6] Dodd, Randall, 2009, "Exotic Derivatives Losses in Emerging Markets: Questions and Suitability, Concerns for Stability", IMF Working Paper.

derivative. The third match should be made between the characteristics of an underlying currency position and the derivative. With these three perspectives, KIKO, Pivot, and Snowball, which were circulated in Korea during the financial crisis, are considered not to be appropriate hedging instruments. Except for a small range of exchange rate movements, those options do not provide a hedging function to the exporting firms. Instead, as the exchange rate rises, they are designed to incur a large amount of financial damage to the exporting firms.

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Seeking a Path Towards Philippine Rural Economic Development: Value-added Agriculture in the Goat Milk-based Food Industry

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and gross margin

ABSTRACT

With economic recession felt in 2007 and onwards, rural poverty in the Philippines is expected to worsen. Goat production enterprises proved to be an attractive alternative venture, providing affordable meat and milk for the poor man's family needs and simultaneously, providing a good income. The Philippines is still an insignificant producer of goat's milk compared to major goat milk producing countries such as India, Bangladesh, and Sudan. Through strategic alliances, small farmers and their respective farmers' cooperatives may explore the prospects of value added products and "niche" markets in goat milk-based drinks and food products and thus, help improve marketability and income. This study focused on goat milk-based drinks and food products such as pasteurized goat milk and cheese for reasons of nutrition. It aims to show how value-added agriculture can improve the profitability of farmers. The gross margin and capital budgeting approach was used to illustrate the impact of value-adding activities. This conceptual paper on value-added agriculture has been done already in many developed countries such as New Zealand and Australia. However, this paper is an initial attempt to explore value-added agriculture through goat milk-based products in the Philippines.

I. Introduction

Small farmers raising rice, corn or onions as a main crop are constantly seeking alternative enterprises that would give them better returns for the little investments they make. Goat production enterprises proved to be an attractive venture as it gives affordable sources of meat and milk for the poor man's family needs and requirements and simultaneously provide good profits. With effective goat production technologies introduced by a government research institution, Philippine Council for Agriculture, Forestry and Natural Resources Research and Development – Department of Science and Technology (PCARRD-DOST), and the

local government units (LGUs), productivity and efficiency in raising goats has been enhanced tremendously over the years. Despite these developments in production technologies, Philippine goat meat and milk production is still very small compared to its Asian neighbors such as India and Bangladesh.

The main objective of this paper was to assess the benefits of the value-added approach and niche marketing as a concrete means to reduce the poverty of the small farmers. Specifically, the objectives were as follows: a) to assess the rural poverty incidence and explore goat milk-based beverages and food enterprises as added sources of income; b) to study the concepts of the value-added approach and niche marketing relative to its applications in allied goat milk-based beverages and food industries and enterprises; c) to identify and analyze strategic concerns and some policy implications on the abovementioned industries and enterprises; and d) to recommend policy actions aimed at further boosting the goat milk-based food industry.

II. Literature Review

The agricultural sector must pursue "healthy" signs of transformation to bring about desired economic development, moving from a subsistence primary product-oriented system to commercialized agriculture producing high value and processed products (Basil & Hans, 2008). Seen as parameters of modern business, farmer-entrepreneurs gradually realized the very importance of quality changes and value addition during times of crisis and uncertainty. This brings about higher incomes, increased employment and more so, increased urbanization which leads to higher demand for processed foods. In return, potential high demand in domestic and export markets can contribute significantly to enhanced farm incomes and employment generation *(*Amanor-Boadu, 2003*)*. Given the potential of beverage and food processing in the Philippines, it is now recognized as a sunrise industry and the national government has given the industry a high priority status.

Value-added refers to the additional value of a commodity over the cost of commodities used to produce it from the previous stage of production (Nakamoto, 1996). Traditional agriculture does not consider the intrinsic value of the commodity. Products are sold right after they are produced on the farm. However, according to Boland (2009), "the produce-and-then-sell mentality of the commodity business is being replaced by the strategy of first determining what attributes consumers want in their food products and then creating or manufacturing products with those attributes." Because of global trade, the market for value-added agricultural products has been growing. Value may be added to agricultural commodities by processing, packaging and marketing. There are several value-adding activities before reaching the final consumers such as: (1) physically changing the form of raw materials or the intermediate product; (2) known also as location and time values, transporting and storing goods so that they are conveniently available; (3) known also as possession value, wholesalers, retailers and others (e.g. credit, insurance and the transfer of ownership) facilitate trade; (4) information about the products such as promotion and advertising, grades and standards, trademarks and labels.

To be considered a value-added action, it must meet or satisfy the following criteria: (1) the customer is willing to pay for the value-adding activity; (2) it must be done right the first time; and (3) the action must change the product and/or service in some manner (Nakamoto, 1996). Some concrete examples are grown peppers made into hot sauce and hot salsa; butchering beef; strawberries made into sweet preserves; milling wheat into flour; canning pineapple slices and milk made into pasteurized milk, ice cream, and cheese. Consequently, value-added activities convert a commodity into greater economic value and enhance attractiveness or appeal of the agricultural products to the final consumers.

III. Methodology and Data

This study assessed the financial performance of value-adding activities by looking at gross margins of goat milk-based food products. The data on this analysis were lifted from Villanueva (2009) which was supervised by the authors of this paper. Contribution margin refers to the difference between selling price and variable costs. Though bottling and labelling of fresh milk is in itself a value-adding activity, this paper will look at additional benefits from processing milk. It is important to note that this study considered revenues and production costs of one firm only. Moreover, a store check was conducted to further explain the findings of the profitability assessment. The findings could not be generalized for all firms that process goat milk. However, this study may be viewed as an initial attempt to highlight certain issues and prospects of value-added agriculture. As shown in Figure 1, value addition through technological advancement is the approach of this analysis. Value may be added to goat-related products by processing, packaging and marketing and thus, achieve greater economic value and an increase in the attractiveness of the products to the final consumers. This could pave the way for more comprehensive research on value-added goat dairy processing.

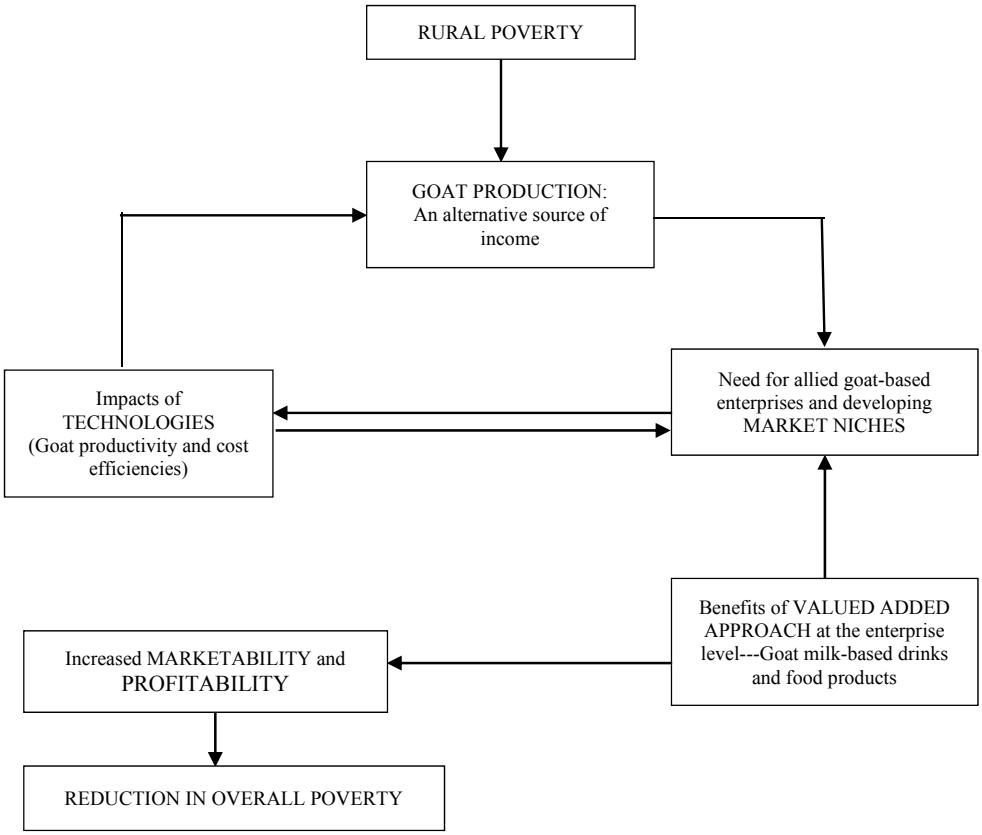

Figure 1. Conceptual Framework

The conceptual framework shows the attractiveness of such a venture. Financial viability indicators such as Net Present Value (NPV), Internal Rate of Return (IRR) and Payback Period were derived using some assumptions from the study by Guarin in 2009. To capture changes in important economic and production variables, a sensitivity analysis was also incorporated.

Statistics from the National Dairy Authority (NDA) and the Bureau of Agricultural Statistics (BAS) in the Philippines were obtained to provide an overview of the industry. Given all the statistics on rural poverty, and some important technical and market information, the strategic problems, issues and concerns pertaining to processed goat milk-based food industries and enterprises were discussed and analyzed to determine policy implications affecting key stakeholders.

IV. Poverty Incidence in the Rural Areas

Agriculture is the primary source of income for rural poor people as they depend for their livelihood on subsistence farming and fishing. Most are landless and depend for their livelihood on work as tenant farmers or paid agricultural workers. Poverty is highest in agriculture, with an incidence of 46.6 percent of farmers and 50.8 percent of fisherfolk, thus contributing to the country's high poverty rates in rural areas (Table 1).

The causes of poverty in rural areas are varied, namely: a) declining public services due to overall national growth, political instability and fiscal restrictions; b) policy biased towards capital-intensive industries and enterprises; c) lack of social infrastructures and services; d) lack of access to investment and credit; e) lack of access to market information; and f) lack of opportunities to develop skills (IFAD, 2007). Furthermore, most farming activity is carried out on a subsistence level due to key farm enterprise-related factors, such as the highly seasonal nature of agriculture, low farm productivity, access to land, market distortions, its vulnerability to price fluctuations, generally low prices offered for raw products, structural deficiencies, lack of price support, and trade barriers.

Table 1. Rural Poverty in the Philippines.

GNI per capita (current US$)	1,390
Total population (million) (2006)	86.3
Rural population (million) (2006)	31.5
Number of rural poor (million, estimate) (2006)	11.6
Rural population below the poverty line (%) (2007)	36.9
Employment in agriculture (thousands) (2007)	11,786
Wage rate (2007)	
All farm workers	171.79
Rice workers	184.07
Corn workers	153.85

Source: IFAD (2007) and Bureau of Agricultural Statistics (2008)

Based on Gross Value Added (GVA) in agriculture statistics, real improvements in agriculture were observed. Rice and corn contributed about 27.87 percent of GVA in agriculture in 2008, from 24.4 percent in 2001. Modest average annual growth rates in GVA of 12.6 percent and 16.2 percent were noted in agriculture as a whole and for rice and corn, respectively (BAS, 2008). Due to the aggressive pursuit of diversification schemes, other high value crops contributed a significant 28.48 percent share of GVA for agriculture in 2008, indicating an annual average growth rate of 10.63 percent (Table 2). On the other hand, livestock contributed a 13.96 percent share of GVA in agriculture in 2008 from 16.49 percent in 2001, showing an annual average growth rate of 8.78 percent.

Table 2. Gross Value Added in Agriculture, Forestry and Fishery, 2001-2008. (Current Prices, Millions of Pesos)

	2001	2002	2003	2004	2005	2006	2007	2008
Agriculture	461,802	506,757	534,111	620,203	657,779	718,154	788,856	928,997
Other Crops	143,041	160,156	173,264	183,831	193,571	221,819	239,092	264,636
Livestock	76,170	79,335	82,192	103,760	110,832	111,361	116,897	129,720
Poultry	49,557	51,233	52,739	60,637	61,727	63,972	68,650	76,018
Agric. Activities & Services	25,962	27,833	29,236	34,485	36,353	39,731	43,430	51,515
Fishery	84,846	90,281	95,593	110,497	116,340	129,823	143,426	170,165
Forestry	2,465	1,812	2,265	3,472	4,251	4,822	4,133	4,358
GVA in Agriculture, Fishery & Forestry	549,113	598,850	631,970	734,171	778,370	852,800	936,415	1,103,519

Source: Bureau of Agricultural Statistics (BAS), 2009.

V. The Philippine and International Dairy Industries

5.1. Philippine Supply and Imports of Milk and Milk Products

With an annual milk production of 13 million liters, or barely 35,600 liters per day, the Philippines' milk production in 2006 was way below current demand for milk and milk products, producing only one percent of the total annual dairy requirement (Table 3). Filipinos consumed equivalent to about 1.5 billion liters of liquid milk. Based on milk consumption alone, the country still imported about 99% of milk and milk products. This was worth one billion U.S. dollars, mostly imported from New Zealand (50 percent), USA (20 percent), Australia (16 percent), China (11 percent) and France (3 percent).

The economic meltdown has shown negative impacts on imports since New Zealand (44 percent), U. S. (18 percent), and Australia (13 percent) are also key sources of milk and cream products for the Philippines (BAS, 2008). The crisis led to a decline in consumer confidence worldwide and thus, caused the peso-dollar rate to slide, meaning a weaker peso and higher costs and prices of imports of milk and cream products. Yet, surprisingly, the high price of liquid milk in supermarkets at about Php70 per liter has to attract more investments in order to attain greater productivity and gain better income for the local dairy farmers and processors.

Table 3. The Philippine Dairy Industry

Year	2003	2004	2005	2006	2007	2008
Local Production	11.25	11.61	12.34	12.79	13.43	13.81
Imports	1,889.64	2,110.82	1,604.61	1,773.32	1,739.87	1,618.71
Gross Supply	1,990.89	2,112.43	1,616.95	1,786.11	1,753.30	1,632.52
Exports	208.59	258.69	251.22	262.64	283.80	298.85
Net Supply	1,692.30	1,863.74	1,365.73	1,523.47	1,469.50	1,333.67
Gross Demand	-	2,527.50	2,586.30	2,647.20	2,661.30	2,718.00
Human Population	-	84.25	86.21	88.24	88.71	90.46
Per Capita Consumption (liters per year)	-	22.12	19.0	17.27	16.57	14.74

Note: Quantity is in liquid milk equivalent and expressed in terms of thousand metric tons. Gross demand is computed and estimated by multiplying 30 kg/year RDA requirement to the population. It is approximated that one liter is equal to 1 kilogram.

Source: National Dairy Authority (NDA), 2009
Bureau of Agricultural Statistics (BAS), 2008

5.2. Demand and Growth Potentials of Milk and Milk Products

The Philippines, with an estimated population of 86 million in 2005 and still growing annually at 2.36 percent, is a large market for milk and milk products. Per capita milk intake increased from 16 liters per year in 1991 to 19 liters per year in 2005, an annual average increase of 1.34 percent. Total dairy imports in 2007 reached US$152 million, up nearly 58 percent from 2006. In the same year, the NDA estimated total domestic dairy requirements to be about 2.635 million MT, growing at about 2 percent yearly. However, this trend is best described as a flat growth rate in comparison with emerging Asian dairy markets, particularly China.

The volume increase in local production that has been realized since 2003 is due to a government program through the NDA that has played a role in boosting the country's milk production. This was accompanied by a decline in imports of ready-to-drink (RTD) milk by 17 percent, resulting in an increase of the share of local production of the total liquid milk supply of 25 percent from the previous year level of 21 percent (BAS, 2008). With increases in both output and prices, the total value of production amounted to PhP372.20 million. The sector came up with price gain of 3.69 percent from PhP27.89 per liter to PhP28.92 per liter. To improve the processing capability of the dairy sector, new processing facilities were established in various parts of the country through the initiatives of LGUs, non-government organizations (NGOs) and the NDA.

5.3. Export Markets for Milk and Milk Products

The Philippines exported milk in the form of whole milk and ice cream to Indonesia (50 percent), Malaysia (25 percent), South Africa (11 percent), Thailand (4 percent), Vietnam (2 percent) and other neighboring countries (FAO, 2007). To illustrate, exports of whole milk powder (98% of total exports) were pegged at a volume of 32.27 million kilograms valued at US$92.69 million (FOB). This represented an increase of 8 percent over the previous year's exports of 29.84 million kilograms valued at US$75.37 million. With other new products like buttermilk powder amounting to 3.02 thousand kilograms, total export volume of milk and dairy products reached 34.04 million kilograms.

5.4. The Global Goat Milk Industry

The global production of goat milk is dominated by India, followed by Bangladesh and Sudan (Table 4). According to Dubeuf, et al. (2009), "the Mediterranean area is the main goat milk and goat cheese producer (18%) outside of India (22%), which has the greatest goat milk volume of all countries, but keeps mainly only dual purpose goats (meat and milk)". However, the Philippines is still an insignificant player in world goat milk production. In fact, the total goat inventory of 4.20 million heads in 2010 was 0.44 percent lower than last year's record of 4.22 million. Of the total goat population, 99.02 percent were raised in backyard farms (BAS, 2010). This implies that any improvement in farm productivity will primarily benefit small backyard farmers. "The local initiatives to promote quality labels and innovative products for cheeses, meat and fibers could help goats in keeping a role for sustainable development in an eco-friendly environment all over the world" (Dubeuf et al., 2009).

Table 4. Global Goat Milk Production (2007)

Rank	Area	Production (Int $1000)	Production (MT)	Flag
1	India	1205760	3890000	
2	Bangladesh	607703	2016000	F
3	Sudan	425729	1456000	
4	Pakistan	205582	682000	
5	France	174232	571000	*
6	Greece	137146	498000	*
7	Spain	127509	591090	
8	Iran, Islamic Republic of	123590	410000	F
9	Somalia	118465	393000	F
10	Russian Federation	78281	259693	

* : Unofficial figure

F : FAO estimate

Fc: Calculated data

M : Data not available

Source: FAO 2009

VI. Enterprise-Level Value-Added Approach and Niche Marketing Strategy

6.1. Profitability Assessment

In the Philippines, goat milk is usually not marketed commercially. It is being produced by backyard farmers for subsistence only. However, over the years, goat milk has started to gain popularity among health-conscious Filipinos. For this reason, commercial scale production of goat milk started to emerge. Moreover, some firms also engaged in milk processing. This is a significant step to poverty reduction since most studies revealed that the transformation of goat milk increases the value of the product. For example, Nencioni and Rubino (1994) as cited by Rubino and Haenlein (1995) showed that the gross margin per liter of milk is much higher on farms transforming milk than those who sell it. Their survey, which was carried out on 1,500 sheep and goat farms, proved that the greater value added to the milk through transformation increased gross margin. Other factors that enhance gross margins include production technology and final destination of milk.

Value-adding activities are being implemented to take advantage of a wide retail price spread. This translates to higher income. It also provides marketing alternatives for the farms. According to Streeter and Bills (2003), "the term value-added strategy implies a return to farmers that exceeds what they can hope for in the marketplace for standardized or bulk commodities." However, "the term may (also) lead to the false hope that higher prices automatically equate to higher profit."

Goat's milk could be transformed into an array of milk-based food products. Table 5 shows the gross margins of producing various goat milk-based products. This paper looked at the gross margins of the following goat milk-based products:

A. Cajeta (Goat's Milk Caramel Candy) – A thickened syrup that is made of sweetened caramelized milk. It resembles the Philippine pastillas, a type of soft, milk-based candy.
B. Soft Goat Cheese – This product is similar to the famous "kesong puti" (white cheese) from cow's milk.

C. Herbed Goat Cheese – This cheese made of goat's milk and contains rennet and salt with herbs.

D. Herbed Goat Cheese (Feta Cheese) in Olive Oil – A semi-hard goat cheese in olive oil. It may be used for salads, breads and crackers.

E. Whole Goat Milk Ricotta – This type of cheese is best for pastries, stuffed and baked pastas and pizzas.

Table 5. Gross Margin of Various Goat Milk-Based Products

	Fresh Milk (200ml.)	Cajeta (one pack = 12 pcs)	Soft Goat Cheese (150g)	Herbed Goat Cheese (150g)	Herbed Goat Cheese in Olive Oil (200g)	Whole Goat Milk Ricotta (200g)
Selling Price	PhP35.00	PhP66.00	PhP130.00	PhP130.00	PhP165.00	PhP115.00
Less: COGS						
Materials	16.07	39.60	30.22	33.71	74.74	38.74
Labor	2.25	5.00	2.25	2.25	2.25	2.25
Overhead	10.00	10.00	20.00	20.00	20.00	10.00
Total Cost	28.26	54.60	52.47	55.96	96.99	50.99
Contribution Margin	PhP6.74	PhP11.40	PhP 77.53	PhP 74.04	PhP 68.01	PhP 64.01
Gross Profit Margin	19.27%	17.27%	59.63%	56.96%	41.22%	55.66%

Source: Villanueva (2009)

The profitability of processed milk can be best analyzed by comparing its gross margin with that of raw and unprocessed milk. In the absence of such data, this study used the bottled fresh milk as a benchmark. It is clear from Table 5 that there are some advantages in engaging in value-adding activities. The gross margins of soft goat cheese, herbed goat cheese, herbed goat cheese in olive oil and whole goat ricotta are significantly higher compared to fresh milk. This supports the conjecture that processing adds value to products. The higher price translates to a higher contribution margin. However, it is important to note that not all processing activities lead to higher margins. For example, cajeta provides a gross margin of 17.27% which is lower than fresh milk. One possible reason is its low selling price. This result exemplifies the point that processing does not always provide higher margins. The price of the product should satisfactorily cover the high processing costs. In other words, a value-adding activity is justified by sufficient market demand.

It is also important to look at the financial viability of engaging in a goat milk-based enterprise. Such information will help investors assess the attractiveness of this venture. The level of investment in goat dairy production is largely affected by the herd management system implemented. An intensive system (i.e. complete confinement) requires a higher initial capital outlay. For example, a 150-doe level dairy goat farm under an intensive system would require a PhP 5,332,000 initial investment (Guarin 2009). However, it provides satisfactory returns. Table 6 shows some financial viability indicators for a 150-doe level goat herd.

Table 6. Financial Viability Indicators for a 150-Doe Level Farm

Scenario	Assumptions	Net Present Value at 12% cost of capital	Internal Rate of Return	Payback Period (years)
Base	One percent decrease in sales due to milk wastages caused by animal diseases and milk expiration.	PhP 6,309,769.10	30.67%	4.02
Scenario 1	A 10 percent decrease in sales will be experienced by the project due to competition, lack of patronage from customers and milk wastages due to milk expiration. Production expense and processing expense will increase by 5.5 percent.	PhP 4,003,696.33	25.35%	4.49
Scenario2	A 10 percent decrease in total milk production will be experienced by the project due to environmental factors. Production expense and processing expense will increase by 5.5 percent.	PhP 5,789,103.40	29.29%	4.15
Scenario 3	Milk sales increase by 5 percent due to improve productivity of animals together with increasing demand and patronage for goat milk. All expenses will increase by 5.5%.	PhP 6,910,938.56	31.81%	3.94

Source: Guarin (2009)

6.2. Market Analysis and Competition

The high price of most value-added products makes marketing a challenging task. According to Hyde (2008), one key success factor in value-added agriculture is developing a product that is demanded by the market. Holland et al. (2007) believes that "many consumers in today's marketplace have 'special' needs and wants. That is, they prefer a product that is 'specialized' in some way or they are a 'specialized' group with a well-defined demand." In other words, one segment of the market will be willing to buy a product at a high price as long as it satisfies their unique preference. This slice of the market is probably small, but they are ready to pay for the higher margin. In most instances, their demand is not sufficiently met by existing industry players.

To appreciate the market potential of goat milk and related products, it is important to look at its unique features. In supermarkets, fresh goat milk is said to be priced higher than cow's milk. To verify this, a store check was conducted in a major supermarket. Table 7 shows the results of the store check.

Table 7. Comparison of the Average Price for 1 Liter Milk

Product	Retail Price (Php)
Goat's Fresh Milk	**150.00**
MM's Cow Fresh Milk	67.00
Carabao's Fresh Milk	125.00

Source: Store Check (2009)

It is apparent that goat's milk is priced significantly higher than cow's milk. One probable reason is the relatively underdeveloped goat's milk industry in the Philippines. Economies of scale are a distant goal given the current state of the industry. Based on the data of the National Dairy Authority (2009), goats account for only 3% of the dairy inventory by animal type. It also contributes only 1% of the total dairy production of the country. Productivity is also low since superior dairy breeds of goats are not yet common, especially among backyard farmers. On the other hand, the well-developed cow's milk industry in the international market will continue to make cheap, fresh milk available in the market.

Does it mean that the considerably higher price of goat's milk will hamper the growth of the industry? According to Hyde (2008) and Holland (2007), niche marketing is an important key success factor for value-added agriculture. Goat milk and related products could

focus on market segments that appreciate the distinct features of the product. For example, the University of Granda (2007) carried out a comparative study of goat's milk and cow's milk. The results showed that goat's milk could help prevent diseases such as anemia and bone demineralization. It also helps with the digestive and metabolic utilization of minerals such as iron, calcium, phosphorus and magnesium. Some periodicals also report that goat's milk is alkaline compared to the more acidic cow's milk. Goat's milk is also a good alternative to those with lactose intolerance. The acid buffering capacity of goat's milk is said to help cure ulcers and hyperacidity.

VII. Conclusion and Recommendation

Marginal and small dairy goat farmers cannot compete outright with big, privately owned ones; not even with the large multinational companies (MNCs) that produce and market innovative dairy products locally and globally. Clearly, the marginal and small dairy goat farmers cannot meet or satisfy the desired economies of scale, expected quality standards and competitive prices. To cope with low margins, they must develop and implement value-added initiatives and strategies by having a strong focus on quality control and developing market niches, through the support and assistance of their dairy cooperatives and associations.

Specifically, small-scale dairy farms are confronted with numerous problems. On the operations side, the small-scale goat milk processors lack a supply of fresh milk, particularly during peak seasons and lack proper storage for fresh milk and milk products as these are highly perishable (requires investment into cold facilities or freezers). They also lack the capacity to produce finished products and meet the high demand for milk and milk products. Moreover, they have ascertained that the goat's milk supply coming from other farms was not of the same quality as that of the company's own source of milk.

Recommendations are suggested to help address the various strategic issues and policy implications of the goat dairy industry in the Philippines. One positive direction is for backyard and small-scale goat farmers to contribute to consistent volume and quality through active participation in farmers' dairy goat cooperatives in their locality or area and/or establish key strategic alliances with larger, privately-owned dairy goat farms, premised upon big brother-little brother relationships (e.g. technology transfer, food safety and standards) - a concrete way of getting into the mainstream of the value chains. Discipline and human relations must be given special attention to ensure the very sustainability of such supply contract or arrangement.

Small dairy goat farmers must voluntarily link or network directly or indirectly with the niche markets through support and assistance extended by the NGOs, donor groups from international sources and relevant government agencies (e.g. Department of Trade and Industry (DTI) in the Philippines). They must actively participate in agricultural trade fairs, organic product trade centers and value-added centers so that they will obtain fair prices for their productive efforts. For example, health and wellness products in specialty shops now include goat milk-based soap, lotion and other beauty products. Goat milk and cheese are also prevalent in major supermarkets. These products are priced considerably higher than other milk-based products. However, a segment in the market is willing to pay the premium for the perceived additional benefits from goat's milk.

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An Analysis of the Competitiveness of Korea's Domestic Car Component Industry with those of China and Japan

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ABSTRACT

The results of several of the core matters examined through this research work, which attempts a situation check and competitiveness analysis of Korea's domestic car engines and components, can be presented as follows: Firstly, the position of Korea's domestic car engines and car components in 2009 accounted for 5.9% of its trade surplus with China with regard to the component material industry, and for 4.2% of its trade deficit with Japan as regards the component material industry. Secondly, although Korea's global trade balance in 2009 with regard to car components recorded an enormous surplus of 7.96 billion dollars, the country's trade with Japan still could not avoid a deficit of 740 million dollars. This research proposes that component enterprises exert a total force on the electrification of car components. Further, component enterprises shall merge into a large component enterprise through mergers and acquisitions (M&A). .

I. Introduction

1.1. Necessity of Research

In the year 2009, against the backdrop of the global financial crisis, Korea was able to record a remarkable global trade balance of 40.45 billion dollars, resulting in the biggest trade surplus recorded in history. The country's component material industry was a significant contributor to this global trade surplus through its recorded trade balance surplus of 51.25 billion dollars.

Korea's enormous trade surplus with China also contributed greatly to the country's global trade surplus. Its recorded trade balance with China showed a decreasing surplus from its peak at 23.27 billion dollars in 2005 to 14.46 billion dollars in 2008; however, it showed a trade surplus of 32.46 billion dollars in 2009—more than double that recorded in the previous year.

Korea's trade balance with China with regard to the component material industry mirrored the pattern of the country's global trade balance. The trade surplus decreased from its peak at 20.02 billion dollars in 2005 to 13.48 billion dollars in 2008. Then, the recorded trade surplus in 2009 amounted to 33.7 billion dollars, which

was far greater than the one recorded in the previous year.

This established pattern of Korea's trade balance surplus with China has continued into 2010, with the trade surplus scale in the first quarter of 2010 standing at 11.26 billion dollars—a record peak. This is a 37.8% increase as compared to the 4.26 billion dollars in the recorded trade surplus in the first quarter of the previous year. Moreover, Korea's trade surplus with China as regards the component material industry in the first quarter of 2010 was recorded at 11.35 billion dollars, surpassing the country's total trade surplus scale with China and making for a 44.7% increase as compared to the 5.08 billion dollars recorded in the first quarter of the previous year.

Meanwhile, in contrast to the country's trade with China, Korea's trade balance with Japan in 2009 recorded a 27.66 billion dollar deficit. This was less than the trade deficit (32.74 billion dollars) recorded in 2008; a reduction that did not result from a change in the basic import-export structure between the two countries, but from the decrease in imports owing to the effect on the exchange rate of the strong yen and weak won resulting from the global financial crisis. In fact, the enormous scale of Korea's trade deficit with Japan is by no means a recent occurrence. Since the conclusion of the ROK-Japan Basic Relations Treaty in 1965, Korea has never recorded a trade surplus with Japan in any year thereafter.

In addition, going by the export recovery trend originating in 2010, the scale of Korea's trade balance deficit with Japan is rapidly widening. Korea's trade deficit with Japan in the first quarter of 2010 was recorded at an all-time high at 8.86 billion dollars—a massive 48.1% increase as compared to the 5.98 billion dollars recorded in the first quarter of the previous year. Going by the current trend, Korea's trade deficit with Japan in 2010 is expected to break all previous records.

The weakness of Korea's domestic component material industry forms the crux of this trade deficit situation. This industry accounted for 5.63 billion dollars of the 8.86 billion dollars making up Korea's total trade deficit with Japan in the first quarter of 2010. Of the country's total trade deficit with Japan, 64% can be traced to the component and material field.

This research aims to determine the causes or glean information from the situation regarding Korea's competitiveness with China and Japan in connection with the domestic car component industry and to suggest the direction the component industry needs to take in the future while focusing on the fact that as of 2009, car engines and car components accounted for as much as 5.9% of Korea's trade deficit with China with regard to a single item in the component material industry and for 4.2% of the same as regards the country's trade deficit with Japan.

1.2. The Current Import-Export Trend Regarding Car Components and Resulting Problems

The car component industry has the following commonly known features. Firstly, it is a capital goods industry and thus shows a broad industrial connection effect with the material industry as a rear industry and with the complete car industry as a front industry. Secondly, it plays an important role in the development of the car industry while having an organic relationship with the material industry, mechanical industry, electrical/electronic/IT industry, petrochemical industry, etc. Thirdly, it is an industry of diverse items that range from simple functional components to precise components.

In addition, the component industry forms a core trade production structure. That is, it is composed of the first component enterprise supplying components directly to a complete car enterprise, the second component enterprise supplying components to the first component enterprise, and the third component enterprise supplying components to the second component enterprise. Therefore, the car industry as a whole cannot be expected to show any growth in the absence of corresponding growth of its component industries and enterprises.

Then, let's take a look at the import-export scale of Korean-made car engines and components (see Table 1). First of all, we can observe that as regards the

number of car engines imported and exported globally by Korea in 2009, the amount in exports totaled 380 million dollars, while the same in imports totaled only 310 million dollars, thus resulting in a recorded trade balance surplus of 65.64 million dollars.

Table 1. The import-export scale of Korean-made car engines and components by regions (2009)

(Unit : 1000 USD, %)

Classification			Export	Import	Trade balance
Car engines			375,370 (100)	309,727 (100)	65,643
	Region	**Advanced**	13,618 (3.6)	279,499 (90.2))	-265,881
		USA	3,063 (0.8)	21,278 (6.9)	-18,215
		Japan	2,679 (0.7)	99,340 (32.1)	-96,661
		Germany	1,721 (0.5)	15,369 (5.0)	-13,648
		Developing	361,510 (96.3)	30,228 (9.6)	331,282
		Asia	24,525 (6.5)	183 (0.06)	24,342
		China	30,887 (8.2)	15,803 (5.1)	15,084
		India	33,398 (8.9)	13,369 (4.3)	20,029
Car components			11,548,581 (100)	3,590,144 (100)	7,958,437
	Region	**Advance**	3,479,050 (30.1)	2,441,464 (68.0)	1,037,586
		USA	2,073,141 (18.0)	229,976 (6.4)	1,843,165
		Japan	372,939 (3.2)	1,113,186 (31.0)	-740,247
		Germany	219,373 (1.9)	705,190 (19.6)	-485,817
		Developing	8,065,792 (69.8)	1,148,308 (32.0)	6,917,484
		Asia	456,839 (4.0)	63,846 (1.8)	392,993
		China	2,676,319 (23.2)	717,753 (20.0)	1,958,566
		India	1,054,435 (9.1)	40,624 (1.1)	1,013,811

Reference: ( ) is a weight versus the total amount.
Source: Calculated and reorganized from Ministry of Knowledge Economy (www.pmsd.or.kr/) by the author.

Next, as regards the total number of car components imported and exported by Korea globally in 2009, the amount in exports totaled 11.55 billion dollars, while the same in imports stood at only 3.59 billion dollars, thus making for a recorded trade balance surplus of 7.96 billion dollars. It is surmised that this trade balance surplus can be traced to the increase in supply due to the increase in overseas production and repair component export pursuant to the increase in complete car exports by domestic complete car makers over several years in the recent past. Our study of the import-export scale of each region shows that 13.62 million dollars' worth of car engines were exported by Korea to the world's advanced countries while 280 million dollars' worth of the same commodity were imported, thus accounting for a 270 million dollar deficit. Furthermore, with regard to Korea's import-export scale with developing countries, the amount in exports totaled 360 million dollars while the same in imports was 30.23 million dollars, thus accounting for a 320 million dollar deficit.

Next, as regards the import-export scale of car components by region, 3.48 billion dollars' worth of car components were exported by Korea to the world's advanced countries while 2.44 billion dollars' worth of the same were imported, thus making for a trade balance deficit of 1.04 billion dollars. Nevertheless, the country's trade balance deficit with Japan in connection with car components totaled 740 million dollars (800 billion won). As regards Korea's import-export scale with developing countries, the amount in exports stood

at 8.07 billion dollars while the same in imports totaled 1.15 billion dollars, making for the enormous deficit of 6.92 billion dollars. Among the above, Korea's trade balance surplus with China was 1.96 billion dollars (an overwhelmingly high surplus), with India was 1.01 billion dollars, and with Asia was 390 million dollars.

It should be noted that although Korea's global trade balance in car components in 2009 made for a 7.96 billion dollar surplus, its trade with Japan still showed a 740 million dollar deficit. In addition, the country's global trade surplus in connection with car components was achieved through its exports to developing countries such as China, India, Asia, etc. Of this, the trade balance surplus with China accounted for 28.3% of the total trade balance surplus with developing countries, which shows the existence of a preponderance phenomenon with respect to China. These points provided the impetus for this research to study China and Japan with the view of analyzing the level of competitiveness between Korea and these two countries as well as other related trends.

II. Research Method and Positive Analysis

2.1. Research Method and Analysis Technique

This research aims to collect the following research objects and data and determine the competitiveness level between Korea and China, Korea and Japan and trends regarding car engines and car components by using an analysis technique, among other methods.

(1) Analysis objects: The analysis objects were largely classified into "car engines" and "car components", and the car engines were further divided into "spark ignition type" and "compressive ignition type." The car components were also further divided into three kinds—"car engine components," "car body components," and "other car components"—and then analyzed.

(2) Data collection: The related statistical data for the 2000-2009 decade were collected by using the "statistical information of components and materials" (www.pmsd.or.kr/) sourced from the Ministry of Knowledge Economy and their import-export scales with the world, China, and Japan were derived in order to dynamically observe the changes in Korea's import-export scales with China and Japan regarding car engines and components.

(3) Analysis technique: Korea's domestic competitiveness with the world, China, and Japan in regard to car engines and car components was compared and analyzed through either the TSI (Trade Specialization Index) or CI (Competitiveness Index), both of which concepts were deformed from the GL Index (Intra－Industry Trade Index) developed by Grubel & Lloyd (1975). This index indicates whether the corresponding item displays relative export competitiveness for the relevant country, which can be calculated by

$$CI_{i,jk} = (X_{i,jk} - M_{i,jk}) / (X_{i,jk} + M_{i,jk})$$

where $X_{i,jk}$ is the *i* item export amount of *j* country to *k* country and $M_{i,jk}$ is the *i* item import amount of *j* country to *k* country. This index always has a value of 「$-1.0 \leqq CI \leqq 1.0$」, which means that a value approaching 1.0 indicates a high level of export competitiveness for the relevant item. On the other hand, a value approaching -1.0 indicates a low level of export competitiveness. For example, an item that is exclusively exported overseas has a competitiveness index of 1.0 whereas an item that is exclusively imported has a competitiveness index of -1.0.

2.2. Positive Analysis

The analysis results of the determination of the competitive level of Korea's domestic car engines and car components with the world, China, and Japan are presented below in Tables 2, 3, and 4, respectively.

According to the analysis results, while the global competitiveness index of Korea's car engines in 2000 was -0.52 (amounting to negative (-) competitiveness), it was 0.10 in 2009—a remarkable improvement. The

country's competitiveness index relative to China with regard to these components was 0.72 in 2001 but 0.32 in 2009, while that with Japan was -0.99 in 2000 and -0.95 in 2009—an almost negligible change.

Next, the global competitiveness index of Korea's car components was 0.13 in 2000 and 0.53 in 2009, showing a big improvement in competitiveness. The competitiveness index of these components relative to China was 0.38 in 2000 and 0.58 in 2009, and that with Japan was -0.64 in 2000 and -0.50 in 2009, showing no big change in competitiveness.

Table 2. Competitiveness Index and Import & Export Scale of Car Engines and Car Components with the World

Year	Code	Classification	World (1000 USD)		Competitiveness Index
			Export	Import	
2000	27010	Car engines	83,253	263,230	-0.52
	27011	Spark ignition type	71,331	223,985	-0.52
	27012	Compressive ignition type	11,922	39,244	-0.53
	27020	Car components	2,139,536	1,643,730	0.13
	27021	Car engine components	78,192	225,796	-0.49
	27022	Car body components	175,656	101,830	0.27
	27029	Other car components	1,885,688	1,316,103	0.18
2001	27010	Car engines	82,267	122,939	-0.20
	27011	Spark ignition type	69,752	92,252	-0.14
	27012	Compressive ignition type	12,516	30,687	-0.42
	27020	Car components	2,257,592	1,738,337	0.13
	27021	Car engine components	70,373	276,174	-0.59
	27022	Car body components	215,860	97,840	0.38
	27029	Other car components	1,971,358	1,364,323	0.18
2002	27010	Car engines	77,534	108,280	-0.17
	27011	Spark ignition type	64,091	74,936	-0.08
	27012	Compressive ignition type	13,443	33,344	-0.43
	27020	Car components	2,714,939	2,249,353	0.09
	27021	Car engine components	72,294	404,097	-0.70
	27022	Car body components	260,031	125,659	0.35
	27029	Other car components	2,382,613	1,719,596	0.16
2003	27010	Car engines	93,957	117,623	-0.11
	27011	Spark ignition type	83,665	89,381	-0.03
	27012	Compressive ignition type	10,292	28,242	-0.47
	27020	Car components	4,240,418	2,567,645	0.25
	27021	Car engine components	108,306	448,787	-0.61
	27022	Car body components	275,916	149,993	0.30
	27029	Other car components	3,856,195	1,968,864	0.32
2004	27010	Car engines	217,831	193,221	0.06
	27011	Spark ignition type	201,342	152,376	0.14
	27012	Compressive ignition type	16,489	40,845	-0.42
	27020	Car components	5,949,255	2,969,229	0.33
	27021	Car engine components	120,229	564,350	-0.65

27022	Car body components	378,416	234,524	0.23
27029	Other car components	5,450,610	2,170,355	0.43

Source: Calculated and reorganized from Ministry of Knowledge Economy (www.pmsd.or.kr/) by the author.

Table 2. (*Continued*)

Year	Code	Classification	World (1000 USD)		Competitiveness Index
			Export	Import	
2005	27010	Car engines	212,609	254,426	-0.09
	27011	Spark ignition type	199,739	196,851	0.01
	27012	Compressive ignition type	12,870	57,575	-0.63
	27020	Car components	8,461,130	3,221,339	0.45
	27021	Car engine components	152,523	595,333	-0.59
	27022	Car body components	508,670	309,139	0.24
	27029	Other car components	7,799,937	2,316,867	0.54
2006	27010	Car engines	385,549	342,816	0.06
	27011	Spark ignition type	351,660	269,143	0.13
	27012	Compressive ignition type	33,889	73,673	-0.37
	27020	Car components	10,229,162	3,673,186	0.47
	27021	Car engine components	161,247	683,648	-0.62
	27022	Car body components	281,447	343,753	-0.10
	27029	Other car components	9,786,468	2,645,785	0.57
2007	27010	Car engines	262,102	505,948	-0.32
	27011	Spark ignition type	201,002	354,392	-0.28
	27012	Compressive ignition type	61,101	151,556	-0.43
	27020	Car components	12,250,160	4,325,355	0.48
	27021	Car engine components	204,774	821,203	-0.60
	27022	Car body components	421,097	151,820	0.47
	27029	Other car components	11,624,288	3,352,332	0.55
2008	27010	Car engines	371,862	603,105	-0.24
	27011	Spark ignition type	287,760	328,687	-0.07
	27012	Compressive ignition type	84,102	274,419	-0.53
	27020	Car components	13,756,672	4,700,995	0.49
	27021	Car engine components	251,219	869,640	-0.55
	27022	Car body components	678,566	159,668	0.62
	27029	Other car components	12,826,887	3,671,687	0.55
2009	27010	Car engines	375,370	309,727	0.10
	27011	Spark ignition type	323,332	163,574	0.33
	27012	Compressive ignition type	52,038	146,153	-0.47
	27020	Car components	11,548,581	3,590,144	0.53
	27021	Car engine components	221,364	649,159	-0.49
	27022	Car body components	710,279	135,488	0.68
	27029	Other car components	10,616,938	2,805,498	0.58

Source: Calculated and reorganized from Ministry of Knowledge Economy (www.pmsd.or.kr/) by the author.

Table 3. Competitiveness Index and Import & Export Scale of Car Engines and Car Components with China

Year	Code	Classification	China (1000 USD)		Competitiveness Index
			Export	Import	
2000	27010	Car engines			
	27011	Spark ignition type			
	27012	Compressive ignition type			
	27020	Car components	65,129	29,258	0.38
	27021	Car engine components	228	1,478	-0.73
	27022	Car body components	5,419	193	0.93
	27029	Other car components	59,482	27,588	0.37
2001	27010	Car engines	5,401	895	0.72
	27011	Spark ignition type	5,390	883	0.72
	27012	Compressive ignition type	-	-	-
	27020	Car components	72,359	15,485	0.65
	27021	Car engine components	571	1,724	-0.50
	27022	Car body components	15,466	189	0.98
	27029	Other car components	56,322	13,572	0.61
2002	27010	Car engines	2,802	3,179	-0.06
	27011	Spark ignition type	934	3,178	-0.55
	27012	Compressive ignition type	1,868	1	0.99
	27020	Car components	147,522	26,403	0.70
	27021	Car engine components	748	3,164	-0.62
	27022	Car body components	24,136	139	0.99
	27029	Other car components	122,637	23,101	0.68
2003	27010	Car engines	26,029	93	0.99
	27011	Spark ignition type	23,926	89	0.99
	27012	Compressive ignition type	2,103	5	0.99
	27020	Car components	928,447	46,750	0.90
	27021	Car engine components	7,151	3,511	0.34
	27022	Car body components	13,395	378	0.95
	27029	Other car components	907,901	42,831	0.91
2004	27010	Car engines	86,370	219	0.99
	27011	Spark ignition type	85,806	203	0.99
	27012	Compressive ignition type	563	17	0.94
	27020	Car components	1,716,026	79,368	0.91
	27021	Car engine components	8,685	3,622	0.41
	27022	Car body components	42,083	2,201	0.90
	27029	Other car components	1,665,257	73,545	0.92

Source: Calculated and reorganized from Ministry of Knowledge Economy (www.pmsd.or.kr/) by the author.

Table 3. (*Continued*)

Year	Code	Classification	China (1000 USD)		Competitiveness Index
			Export	Import	
2005	27010	Car engines	77,010	187	0.99
	27011	Spark ignition type	74,994	176	0.99
	27012	Compressive ignition type	2,016	11	0.99
	27020	Car components	2,671,199	174,988	0.88
	27021	Car engine components	8,959	6,682	0.15
	27022	Car body components	82,300	10,182	0.78
	27029	Other car components	2,579,939	158,124	0.88
2006	27010	Car engines	72,572	872	0.98
	27011	Spark ignition type	58,407	836	0.97
	27012	Compressive ignition type	14,165	36	0.99
	27020	Car components	2,642,905	362,389	0.76
	27021	Car engine components	17,182	24,190	-0.17
	27022	Car body components	121,174	34,527	0.56
	27029	Other car components	2,504,548	303,673	0.78
2007	27010	Car engines	42,155	51,236	-0.10
	27011	Spark ignition type	32,875	51,214	-0.22
	27012	Compressive ignition type	9,279	22	0.99
	27020	Car components	2,293,455	634,076	0.57
	27021	Car engine components	44,859	47,056	-0.02
	27022	Car body components	177,857	49,096	0.57
	27029	Other car components	2,070,738	537,923	0.59
2008	27010	Car engines	21,837	37,328	-0.26
	27011	Spark ignition type	14,176	36,743	-0.44
	27012	Compressive ignition type	7,661	585	0.86
	27020	Car components	1,967,748	814,485	0.41
	27021	Car engine components	72,682	49,796	0.19
	27022	Car body components	372,114	56,013	0.74
	27029	Other car components	1,522,952	708,677	0.36
2009	27010	Car engines	30,887	15,803	0.32
	27011	Spark ignition type	22,704	15,013	0.20
	27012	Compressive ignition type	8,183	790	0.82
	27020	Car components	2,676,319	717,753	0.58
	27021	Car engine components	82,473	41,604	0.33
	27022	Car body components	386,205	50,436	0.77
	27029	Other car components	2,207,640	625,714	0.56

Source: Calculated and reorganized from Ministry of Knowledge Economy (www.pmsd.or.kr/) by the author.

Table 4. Competitiveness Index and Import & Export Scale of Car Engines and Car Components with Japan

Year	Code	Classification	Japan (1000 USD)		Competitiveness Index
			Export	Import	
2000	27010	Car engines	169	31,554	-0.99
	27011	Spark ignition type	86	11,495	-0.99
	27012	Compressive ignition type	84	20,059	-0.99
	27020	Car components	164,913	755,884	-0.64
	27021	Car engine components	24,973	93,686	-0.58
	27022	Car body components	6,611	12,153	-0.30
	27029	Other car components	133,329	650,045	-0.66
2001	27010	Car engines	147	14,875	-0.98
	27011	Spark ignition type	3	2,454	-0.99
	27012	Compressive ignition type	144	12,422	-0.98
	27020	Car components	176,852	825,429	-0.65
	27021	Car engine components	22,609	131,642	-0.71
	27022	Car body components	7,309	11,049	-0.20
	27029	Other car components	146,935	682,738	-0.65
2002	27010	Car engines	1,100	16,899	-0.88
	27011	Spark ignition type	909	7,573	-0.79
	27012	Compressive ignition type	191	9,326	-0.96
	27020	Car components	221,438	982,214	-0.63
	27021	Car engine components	21,191	189,969	-0.80
	27022	Car body components	9,783	7,815	0.11
	27029	Other car components	190,463	784,430	-0.61
2003	27010	Car engines	97	10,111	-0.98
	27011	Spark ignition type	12	4,072	-0.99
	27012	Compressive ignition type	84	6,039	-0.97
	27020	Car components	289,448	1,079,430	-0.58
	27021	Car engine components	30,434	208,104	-0.74
	27022	Car body components	7,107	8,396	-0.08
	27029	Other car components	251,908	862,929	-0.55
2004	27010	Car engines	37	15,024	-0.99
	27011	Spark ignition type	14	3,313	-0.99
	27012	Compressive ignition type	23	11,711	-0.99
	27020	Car components	357,927	1,072,174	-0.50
	27021	Car engine components	35,864	234,450	-0.73
	27022	Car body components	7,892	15,065	-0.31
	27029	Other car components	314,171	822,659	-0.45

Source: Calculated and reorganized from Ministry of Knowledge Economy (www.pmsd.or.kr/) by the author.

Table 4. (*Continued*)

Year	Code	Classification	Japan (1000 USD)		Competitiveness Index
			Export	Import	
2005	27010	Car engines	584	20,382	-0.94
	27011	Spark ignition type	554	3,455	-0.72
	27012	Compressive ignition type	30	16,927	-0.99
	27020	Car components	379,255	1,106,066	-0.49
	27021	Car engine components	36,619	217,309	-0.71
	27022	Car body components	11,119	25,374	-0.39
	27029	Other car components	331,517	863,383	-0.45
2006	27010	Car engines	122	19,593	-0.99
	27011	Spark ignition type	94	3,283	-0.94
	27012	Compressive ignition type	28	16,310	-0.99
	27020	Car components	440,428	1,226,873	-0.47
	27021	Car engine components	40,292	197,525	-0.66
	27022	Car body components	14,065	29,896	-0.36
	27029	Other car components	386,071	999,452	-0.44
2007	27010	Car engines	60	21,063	-0.99
	27011	Spark ignition type	46	2,958	-0.97
	27012	Compressive ignition type	14	18,106	-0.99
	27020	Car components	473,544	1,290,684	-0.46
	27021	Car engine components	44,017	200,866	-0.64
	27022	Car body components	24,818	31,468	-0.12
	27029	Other car components	404,709	1,058,351	-0.45
2008	27010	Car engines	46	56,617	-0.99
	27011	Spark ignition type	35	27,578	-0.99
	27012	Compressive ignition type	12	29,039	-0.99
	27020	Car components	552,141	1,380,307	-0.43
	27021	Car engine components	61,081	193,135	-0.52
	27022	Car body components	41,751	47,848	-0.07
	27029	Other car components	449,310	1,139,325	-0.43
2009	27010	car engines	2,679	99,340	-0.95
	27011	Spark ignition type	14	37,957	-0.99
	27012	Compressive ignition type	2,666	61,383	-0.92
	27020	Car components	372,939	1,113,186	-0.50
	27021	Car engine components	37,401	167,242	-0.63
	27022	Car body components	50,470	29,596	0.26
	27029	Other car components	285,068	916,348	-0.53

Source: Calculated and reorganized from Ministry of Knowledge Economy (www.pmsd.or.kr/) by the author.

III. Verification and Interpretation of Analysis Results

Based on the previously presented positive analysis result, the competitiveness index (CI) of Korea's domestic car engines and car components with respect to the same of China and Japan for the past decade (2000–2009) and Korea's import dependence on China and Japan were determined.

3.1. Competitiveness with the World

As a result of analyzing the competitiveness of Korea's domestically produced car engines and car components globally and with China and Japan as well as its associated trends, the following four representative properties were found (see Figure 1).

▪Property 1. The global competitiveness of the country's car engines has shown a negative (-) index for a long time, but is showing a positive (+) index at present.

▪Property 2. Of the current car engines, the global competitiveness of Korean-made spark ignition type engine was represented by a positive (+) index, but that of the compressive ignition type engine continued to show a negative (-) index.

▪Property 3. The global competitiveness of Korean-made car components has showed steady improvement year upon year and has currently reached a remarkable level.

▪Property 4. Of all the Korean-made car components, only the car engine component shows a negative (-) competitiveness index.

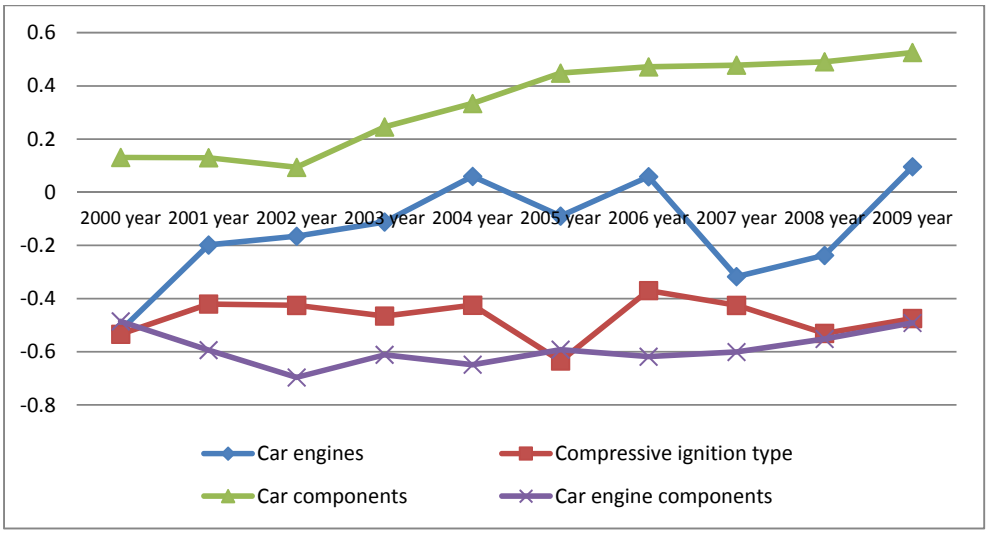
First of all, as regards the details of Property 1, the global competitiveness index of Korean-made car engines was -0.52 in 2000, -0.09 in 2005, and 0.10 in 2009, thus having progressively changed into a positive (+) index.

As for the details of Property 2, the competitiveness index of Korean-made spark ignition engines was -0.52 in 2000, 0.01 in 2005, and 0.33 in 2009, thus showing remarkable improvement. Nevertheless, the competitiveness index of the compressive ignition engine produced in Korea was -0.53 in 2000, -0.63 in 2005, and -0.47 in 2009, thus showing negligible change.

As for the details of Property 3, the competitiveness index of car components was 0.13 in 2000, 0.45 in 2005, and 0.53 in 2009—a significant, steady improvement.

Lastly, as regards the details of Property 4, of all the Korean-made car components (car engine components, car body components, and other car components), the only ones showing nil improvement in competitiveness were the car engine components, whose competitiveness index was -0.49 in 2000, -0.59 in 2005, and -0.49 in 2009. The other two items maintained a high competitiveness index, as is evidenced by the score of 0.68 for car body components and 0.58 for other car components in 2009.

Figure 1. Competitiveness Index of Car Engines and Car Components with the World



Source: Calculated and reorganized from Ministry of Knowledge Economy (www.pmsd.or.kr/) by the author.

3.2. Competitiveness with China

As a result of the analysis of Korea's competitiveness with China and its movement, the following three properties could be derived. We unfortunately could not source any related material from the Ministry of Knowledge Economy for reference purposes in this context as the said ministry's "statistical information on components and materials" did not comprise China related data in 2000 (see Figure 2).

▪Property 1. The competitiveness indices of Korean-made car engines relative to Chinese-made car engines showed very severe ups and downs.

▪Property 2. The competitiveness indices of Korean-made car components relative to Chinese-made car engines maintained a positive value throughout the analysis period.

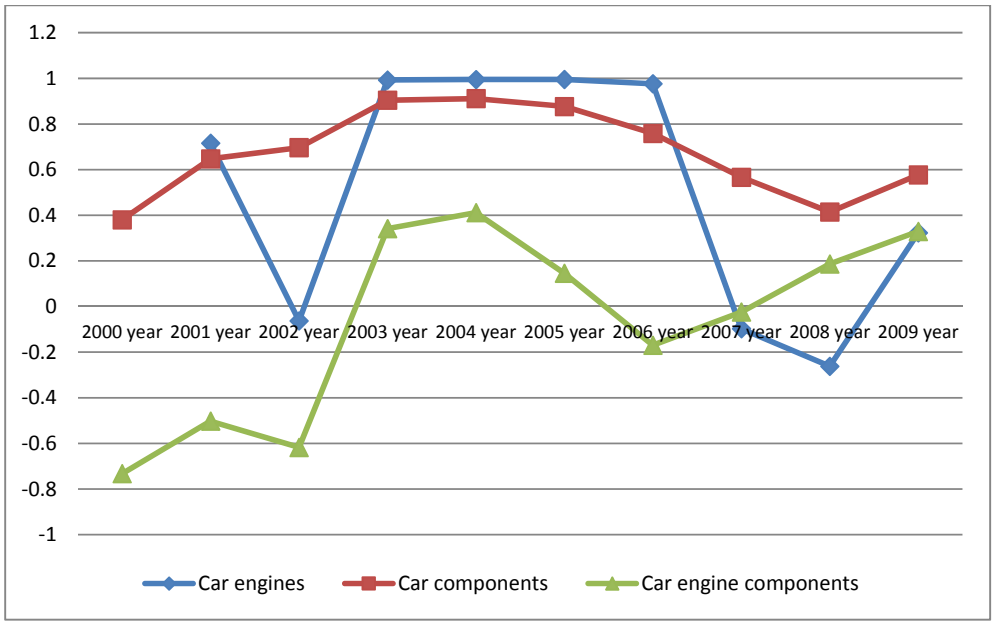
▪Property 3. Of the car components, the competitiveness indices of Korean-made car engine components relative to Chinese-made car engine components alternated between positive (+) and negative (-) indices during the analysis period.

First of all, regarding the details of Property 1, the competitiveness indices of Korean-made car engines relative to Chinese-made car engines was 0.10 in 2001, 0.99 in 2005, -0.10 in 2007, and 0.32 in 2009.

With regard to the details of Property 2, the competitiveness indices of the car components was 0.38 in 2000, 0.88 in 2005, and 0.58 in 2009, all of which though veering a little toward the lower side, were still quite high.

As for the details of Property 3, of the car components, only the car engine components showed a very steep competitiveness index. Actually, it was -0.73 in 2000, 0.34 in 2003, -0.15 in 2005, -0.02 in 2007, and 0.33 in 2009.

Figure 2. Competitiveness Index of Car Engines and Car Components with China



Source: Calculated and reorganized from Ministry of Knowledge Economy (www.pmsd.or.kr/) by the author.

3.3. Competitiveness with Japan

Finally, the analysis of Korea's competitiveness indices relative to Japan resulted in the following three properties being confirmed (see Figure 3).

▪Property 1. The competitiveness indices of Korean car engines in relation to those of Japan were extremely inferior during the analysis period.

▪Property 2. The competitiveness indices of Korean car components in relation to those of Japan were inferior during the analysis period.

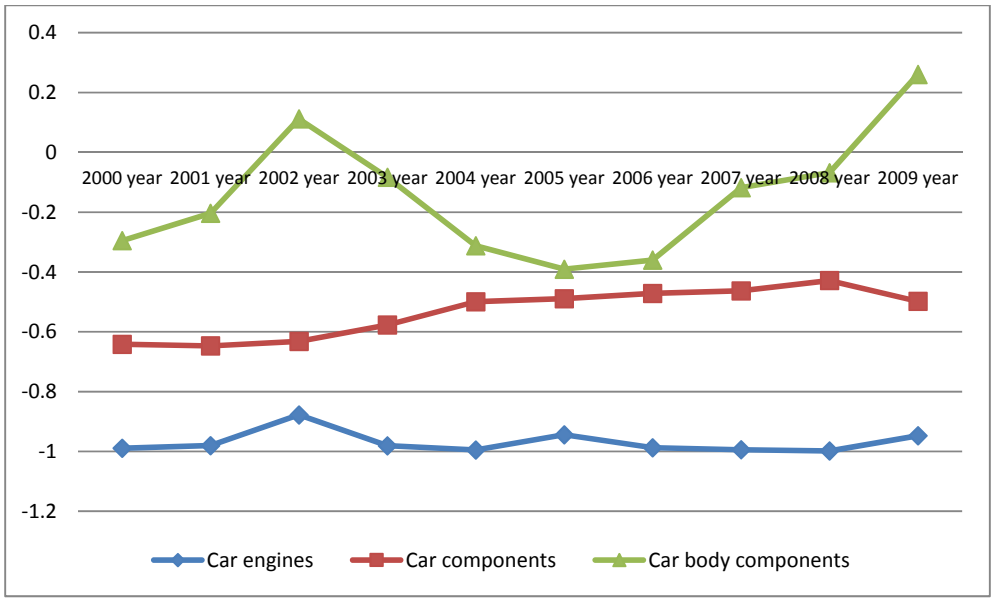
▪Property 3. Of the car components, presently only the Korean car body components maintained a positive (+) competitiveness index in relation to those of Japan.

As regards the details of Property 1, the competitiveness indices of Korean car engines in relation to that of Japanese ones was -0.99 in 2000, -0.94 in 2005, and -0.95 in 2009, with the ones less than -0.90, indicating their extreme relative inferiority.

As for the details of Property 2, the competitiveness indices of Korean car components in relation to those of Japan was -0.64 in 2000, -0.49 in 2005, and -0.50 in 2009, and continues to remain inferior today.

As regards the details of Property 3, the car components, only the Korean car body components could be said to be giving some competition to the Japanese. It was -0.30 in 2000, -0.39 in 2005, and 0.26 in 2009, and has since changed into a positive (+) index.

Figure 3. Competitiveness Index of Car Engines and Car Components with Japan



Source: Calculated and reorganized from Ministry of Knowledge Economy (www.pmsd.or.kr/) by the author.

3.4. Analysis of Dependence on Imports

Let us take a look at the changes in the trends regarding Korea's dependence on imports from China and Japan over the past decade. As a rule, a high level of dependence on imports from a particular country can be interpreted in two ways. One is the case where the relevant components cannot but be imported from a particular country owing to the differences in technical ability between the two. The other, which can be regarded as a far more beneficial scenario than the first, involves the importing of the relevant components from a particular country because of costs, production areas, etc.

First of all, Korea's dependence on Chinese imports with regard to car components increased greatly in 2002 as compared to the previous eight years. In particular, for car body components and other car components, it was only 0.1% and 1.3%, respectively, in 2002, but increased to 37.2% and 22.3%, respectively, in 2009. This dependence stemmed from the fact that Korean domestic component enterprises advanced into China due to the local production there by domestic complete car enterprises—a fact that also suggests that the Chinese car component industry has shown a great amount of growth.

Next, while Korea's dependence on Japanese imports in connection with car engines has increased over the past decade, the same in connection with car components has dropped (see Table 5). The country's dependence on Japanese car engine exports has greatly increased from 12.0% in 2000 to 31.0% in 2009. To elaborate further, the dependence on the import of spark ignition engines has greatly increased from 5.1% to 23.2%, while the dependence on the import of compressive ignition engines has dropped marginally, going from 51.0% to 42.0%. Korea's dependence on the import of Japanese car components dropped from 46.0% in 2000 to 31.0% in 2009. Nevertheless, the dependence on car body components increased from 11.9% to 21.8%. Although the competitiveness index of Korean car body components relative to Japan is positive (+), the high dependence on imports means that there exist components that cannot but be imported from Japan.

Table 5. Dependence on Imports with China and Japan

(2000 year)

Code	Classification	Dependence on import (%)		Competitiveness Index		
		China	Japan	World	China	Japan
27010	Car engines	2.9	12.0	-0.52	-0.06	-0.99
27011	Spark ignition type	4.2	5.1	-0.52	-0.55	-0.99
27012	Compressive ignition type	0	51.0	-0.53	0.99	-0.99
27020	Car components	1.2	46.0	0.13	0.70	-0.64
27021	Car engine components	0.8	41.6	-0.49	-0.62	-0.58
27022	Car body components	0.1	11.9	0.27	0.99	-0.30
27029	Other car components	1.3	49.4	0.18	0.68	-0.66

(2009 year)

27010	Car engines	5.1	32.1	0.10	0.32	-0.95
27011	Spark ignition type	9.2	23.2	0.33	0.20	-0.99
27012	Compressive ignition type	0.5	42.0	-0.47	0.82	-0.92
27020	Car components	20.0	31.0	0.53	0.58	-0.50
27021	Car engines	6.4	25.8	-0.49	0.33	-0.63
27022	Car body components	37.2	21.8	0.68	0.77	0.26
27029	Other car components	22.3	32.7	0.58	0.56	-0.53

IV. Conclusion and Suggestion

4.1. Research Result

The results of several of the core matters examined through this research work, which attempts a situation check and competitiveness analysis of Korea's domestic car engines and components, can be presented as follows:

Firstly, the position of Korea's domestic car engines and car components in 2009 accounted for 5.9% of its trade surplus with China with regard to the component material industry and for 4.2% of its trade deficit with Japan as regards the component material industry.

Secondly, although Korea's global trade balance in 2009 with regard to car components recorded an enormous surplus of 7.96 billion dollars, the country's trade with Japan still could not avoid a deficit of 740 million dollars.

Third, Korea's current global trade surplus in car components has been achieved through the country's export of the same to developing countries such as China, India, Asian, etc. Of them, China has accounted for 28.3% of the total trade balance surplus with developing countries as the country is a major player in this context.

Fourth, according to the analysis result regarding the competitiveness index (CI), the global competitiveness of Korean-made car engines has

improved with each passing year to reach the present positive (+) index. On the other hand, the global competitiveness of compressive ignition engines continues to have a negative (-) index. Moreover, of the car components, the global competitiveness of car engine components has a unique negative (-) index.

Fifth, the competitiveness of Korean-made car components with Chinese-made car components continues to be at a high level. However, of the car components, the car engine components showed alternate positive (+) and negative (-) indices during the analysis period.

Sixth, the competitiveness of Korean-made car engines and car components with those Japanese-made showed the former to be absolutely inferior. However, of the car components, only the Korean-made car body components have recorded a positive (+) competitiveness index relative to the Japanese-made ones from 2009 onward.

Finally, the dependence of Korean-made car engines on Japanese imports has increased greatly over the past decade, going from 12.0% in 2000 to 31.0% in 2009. The dependence on the import of spark ignition type engines has increased from 5.1% to 23.2%.

4.2. Suggestion and Counterproposal

A country need not independently produce and supply all the components and materials required for the production of complete products domestically. This is because proper division of labor can further enhance the efficiency of management and production. However, the inevitable dependence on overseas imports due to differences in technology cannot help but be a big issue for Korea, a country that is looking at the establishment of a stable state on the basis of export.

According to the result of an investigation by the Ministry of Knowledge Economy into 100 items worth 24.4 billion dollars, which accounted for 80% of Korea's total Japanese imports regarding components and materials in 2009, of these 100 items, the import items pursuant to a pure difference in technology accounted for 12.3 billion dollars. The fact that Korea's dependence on Japan for components and materials continues to become progressively greater over the years cannot be anything but a serious issue. It is adjudged that the updating of the component material industry pursuant to selection and concentration is a pressing issue for the country. Therefore, this research aims to present three counterproposals to raise the current level of competitiveness in the Korean car component industry.

Firstly, this research proposes that component enterprises exert a total force on the electrification of car components.

Globally, car components are speedily electrified owing to the fact that electronic technology is incorporated into the countries' traditional mechanical technology. Now, a car is not a simple mechanical device; it is more of an electronic device. In addition, as the competition in developing sustainable cars such as a "hybrid car" that in turn uses an existing fossil fuel (gasoline or diesel) engine and an electric battery, a "fuel cell car" that moves by an electric motor using a fuel cell, accelerates, etc., only the leading component enterprises in the field of electronic technology will survive. According to a prediction by McKinsey, the best consulting company in the world, although the relative importance of electronic components in the car production cost accounted for 19% in 2004, the same has increased to 30% recently and is expected to reach 40% in 2015; the relative importance of electronic components in an engine has increased from 4% to 9% of the total production cost; and the relative importance of electronic components in interior components is expected to expand from 12% to 24%.

Secondly, component enterprises shall merge into a large component enterprise through merger and acquisition (M&A).

According to KIAT, of the 38,159 component material enterprises (as of 2006), 37,775 are small or medium businesses, while only 414 are large businesses. Specifially, enterprises comprising less than 50 employees account for 98% of the total, and more than a half of the enterprises have less than 5 billion won in the form of annual revenue. Consequently, the M&A of overseas enterprises has recently been attracting

attention as a plan to secure a source technology while transforming into a large component enterprise so as to be able to counter global enterprises in a short period. For the attainment of this objective, specific related information and aid from administrative institutions will prove to be indispensable tools. The 100 greatest component enterprises, ranked thus by Automotive News, an American car professional magazine, included 30 American enterprises, 26 Japanese enterprises, and 21 German enterprises, but included only 2 Korean enterprises, i.e., Hyundai Mobis (27th) and Mando (76th). Particularly, as mentioned before, a large scale investment is essential in developing an advanced technology that will speed up the process of car electrification. This needs to be done so that enterprises can be reborn as a big component enterprise as soon as possible.

Third, large scale R&D and investment should be realized for the Korean component industry.

According to the R&D investment situation (1996–2007) with regard to the domestic component material enterprises investigated by KIAT, Hyundai Mobis accounted for 60 million dollars (1.58% of the total revenue) and Samsung Electric accounted for 150 million dollars (6.26% of total revenue). However, for the same period, Bosch—a promising overseas component enterprise—invested 2.78 billion dollars (7.09% of total revenue) in R&D, Denso invested 1.78 billion dollars (8.42% of the total revenue), and Intel invested 3.95 billion dollars (12.7% of total revenue)—all of these occurrences show a remarkable difference in approach as compared to Korea's domestic enterprises. Many of the small and medium enterprises invest no money or 1% of the total revenue in R&D. It is judged that the M&A of overseas enterprises has a very big synergy effect in that it is possible to explore core technology of components and materials by enhancing the absolute amount of investment in R&D.

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Remittances, Consumption, Savings and Investment in the Philippines, 1985-2006

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ABSTRACT

This paper examined how international remittances affect the savings and spending behavior of receiving households in the Philippines on a number of consumption and investment goods. Using a cross-sectional analysis of the Family Income and Expenditures Survey (FIES), the paper specifically looked at the difference in expenditure behaviors on food, education and health of households receiving and not receiving international remittances. The empirical evidence showed that remittances have indicated a positive effect on food, education and health expenditure levels and the savings behavior of remittance-receiving households in various years considered in the study. Results also showed that remittances increase the expenditure share of education and health of remittance-receiving households and lowers expenditure shares on food as compared to non-receiving households as income increases.

I. Introduction

International remittance plays a vital role in the growth and development of the Philippine economy. It augments the income of many households and at the same time, is essential as one of the major sources of external financing in the country. As a matter of fact, international remittance is the second largest source of foreign currency inflow, next to manufacturing exports. It grew at an average of 14.96% a year for the past 6 years and in 2009, remittances reached 17.35 billion dollars. Data from the United Nations Conference on Trade and Development (UNCTAD) and Migration Policy Institute (MPI) showed that remittances surpassed inward foreign direct investment in terms of being a source of external financing in the past 3 decades. Moreover, these inward flows of income via remittances (vis-à-vis FDI) also directly reach poor families and somehow temporarily alleviate the widespread poverty in the country.

Theoretical literature suggests that the relationship between remittances and economic growth depends on the microeconomic channels through which the former impacts on the macroeconomy. This provides a rationale for looking at how remittances affect the

spending and saving behavior of households receiving this income. The decision to save, for instance, would be an important source of domestic capital formation together with direct investments. Looking back at Solow's growth model (1956), at lower levels of savings, which are evident in developing countries, an increase in savings would result in long-run economic growth via higher production and consumption levels in the future. Thus, it would be vital to assess whether increased income via remittances translates to spending on productive economic goods or just increases in consumption spending. From these, one can conclude whether international remittance, at present, is just leaning towards a short-run, one-time alleviation of poverty (consumption-based spending) or is now geared towards a long-run dynamic process of development (investment-based spending).

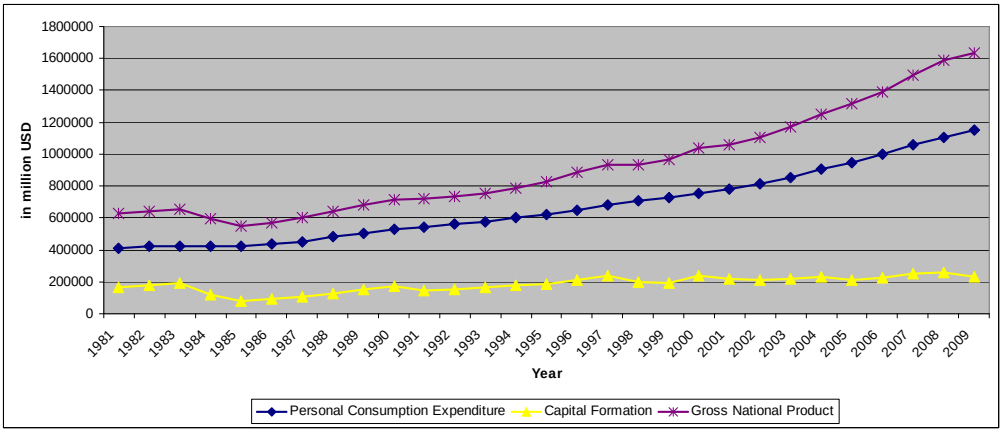
Knowledge on the spending and saving behavior of households brought about by the increasing remittances through the years can be helpful in formulating policies that can enhance the benefits derived from these foreign currency inflows. Changes in the savings and spending behavior may then be translated to economic growth via various growth models like that of Solow (1956) and Lucas' (1988) human capital model. Also, via the multiplier effect, we can show the short-term macroeconomic impacts of increased income brought about by remittances.

The study utilized data from the Family Income and Expenditures Survey (FIES) from 1985 to 2006 in looking at the spending and savings behavior of families receiving and not receiving international remittances. Other data necessary for the study, like annual data on remittances and number of Overseas Foreign Workers (OFWs) deployed, were obtained from the relevant government agencies like the Bangko Sentral Pilipinas (BSP), National Statistical Coordination Board (NSCB), National Statistics Office (NSO) and Overseas Workers Welfare Administration (OWWA). To demonstrate the saving and spending behavior, a cross-sectional analysis for various years were employed with remittances, income and demographic factors as explanatory variables. The paper also examined whether there are differences in the marginal spending patterns between remittance-receiving and non-remittance-receiving households in the Philippines.

II. Consumption and Investment in the Philippines

Personal Consumption Expenditure (PCE) constitutes the largest share in the gross national product of the Philippines. According to NSCB, consumer spending continued to expand in the first quarter of 2010 to 5.9% from 3.0% for the same period in the previous year due to the continuous hike in remittances from the country's OFWs. First quarter data from 2010 also showed that food expenditures, which accounted for about 53% of total PCE, grew by 6.1% from 2.2% in the first quarter of 2009. Other expenditure items like beverages, tobacco, clothing, household operations and miscellaneous expenses also exhibited an accelerated growth while fuel, light and water, household furnishings and transportation and communication posted a decelerated growth. Fixed Capital Formation also increased by 15.7% in the same period together with investments in construction and durable equipment. Figure 1 shows that personal consumption expenditure grows continuously though the years together with the growth in the country's GNP.

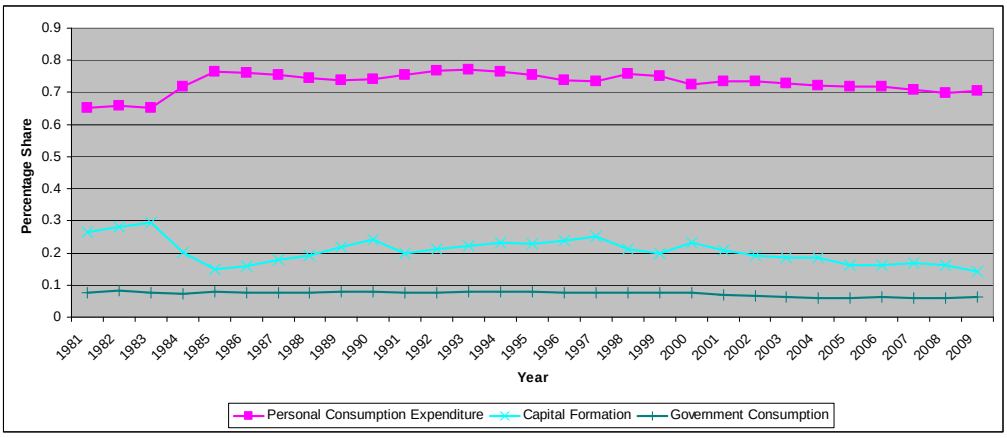
Figure 1: Gross National Product, Personal Consumption Expenditures and Fixed Capital Formation, Philippines, 1981 -2009.



Source: BSP,PIDS

However, even though PCE levels continuously grew with GDP, the share of PCE to total expenditures did not change so much for the past 2 decades as shown in Figure 2. This means that the rate at which personal consumption expenditure increases through time is somehow similar to the rate at which households increase their total expenditures. Similar expenditure share trends are exhibited for domestic capital formation and government spending.

Figure 2: Percentage Share of Consumption Expenditures and Domestic Capital Formation and Government Spending to GNP, Philippines, 1981 -2009.

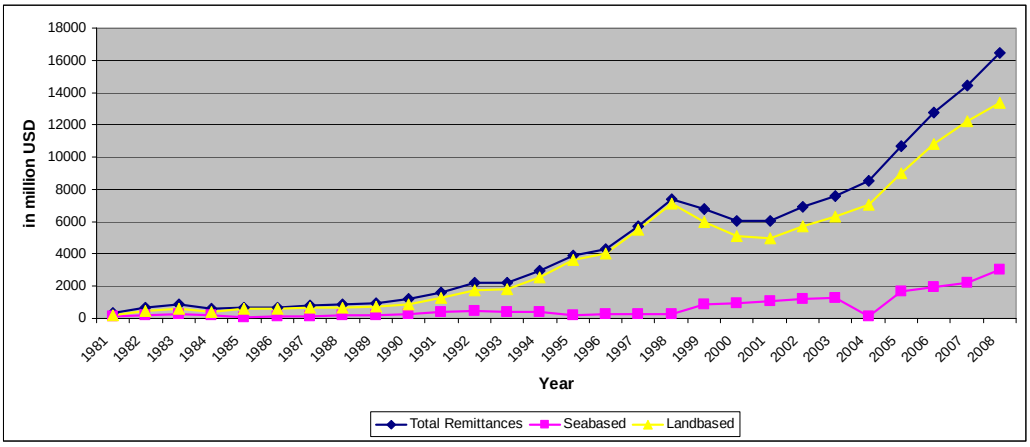


Source: BSP,PIDS

III. International Remittances in the Philippines

Inward international remittances in the Philippines had been continuously increasing since the middle of the 1980s and have been a significant source of income for many households and one of the major sources of external financing in the country. In 2008, remittances grew by 13.68% and have reached 16.43 billion dollars for that year. Figure 3 shows the increasing trend of inward international remittances for the past 3 decades.

Figure 3: Inward International Remittances, Philippines, 1981 - 2008



Source: BSP, PIDS

It will be noted from the figure that much of the inward remittance comes from land-based workers, a majority of which are laborers and non-skilled workers (32.4%), trades and related workers (15.7%) and services and market sales workers (14.3%).

Results from the Survey on Overseas Filipinos in 2008 have also showed that almost half (49.1%) of the total OFWs work in the middle east, particularly in Saudi Arabia (20.3%) and United Arab Emirates (14.6%). Data also showed that there were more males (51.7%) than female OFWs (48.3%) during the period April to September 2008. Around 46.7% of the OFWs were between 25 to 34 years of age.

Various remittance-related studies in the case of the Philippines have looked at the determinants and impacts of remittances on both the macro and micro levels. Micro level studies, such as that of Tabuga (2007), found that while there is evidence that households receiving remittances tend to consume more conspicuously on consumer items, they also invest more on education, housing, medical care and durable goods. Tabuga also found no clear relationship between remittances and consumption of vices like alcohol and tobacco. In another study, Yang (2005) examined Philippine households' responses to overseas members' in the 1997 Asian financial crisis and found that appreciation of migrant's currency against the Philippine peso led to increases in household remittances received from overseas. Yang also found that positive income shocks led to enhanced human capital accumulation via greater child schooling, reduced child labor, and increased educational expenditures in origin households. Macro level studies, such as those of Rodriguez (1996) and Tan (2006) identified the determinants of remittances while other studies look at the impact of remittances. Burgess and Haksar (2005), for instance, looked at the impact of remittances on growth and found no evidence that

remittances lead to lower economic growth in the Philippines. On the other hand, Pernia (2006) examined the impact of remittances on poverty and found out that it helped lift Philippine households out of poverty.

IV. Contrasting Literature on Impacts of Remittances

Various studies have conflicting findings on the effect of remittances on economic growth due to different channels in which remittances affect the economy like spending behavior, decision to work and loss of competitiveness brought about by currency appreciation.

Rajan (2007) suggested that at a micro-level, there is a moral hazard problem providing less incentive for the person receiving remittances to enter the labor force. The same conclusion was made by Bussolo and Medvedev (2007) in their study and attributed such results to the increase in the reservation wage of the recipient of these remittances. At a macro-level, large-scale remittances could lead to overvalued real exchange rates leading to a loss of export competitiveness, over-consumption and under-investment, also known as the "Dutch Disease" phenomenon (Rajan, 2007; Acosta et. al., 2007).

Despite the negative impacts on growth, there are also positive effects that may help promote economic growth in the recipient country. In the case of the Philippines, remittances may have helped the country stabilize its currency. Amidst the increasing world oil prices in the third quarter of 2008 and the on-going global financial crisis, foreign currency inflows from remittances dampened what may have been adverse effects on the peso from these worldwide phenomena. This corresponds to Ambrosius' (2006) and Ratha's (2006) conclusion that remittances have a high potential for stabilizing the financial system as it eases the foreign exchange constraint of a country. It may also promote financial development, which in turn can enhance economic growth.

Kihangire and Katarikawe (2008) found that remittances contribute positively and significantly to the rural poor and tend to increase trade and increase growth of GDP per capita. Ratha (2006) claimed that remittances could have a positive effect on economic growth to the extent that remittances finance education, health and increase investment, though it should be noted that remittances on human and physical capital are realized over a very long time.

In terms of spending/savings behavior brought about by remittances, Adams et. al. (2008) concluded that households receiving remittances spend their remittance income just like any source of income. On the other hand, a more optimistic view claimed that remittances are beneficial in terms of human capital accumulation via investment on education and increased savings. For example, Kihangire and Katarikawe (2008) saw a positive and significant effect on growth of the base money, all measures of broad money and total deposits of the banking system resulting from higher remittances. In another study, Edwards and Ureta (2003) found out that remittances have a large, significant effect on school retention. Also, Yang (2005) concluded that favorable migrant shocks lead to greater child schooling, reduced child labor, and increased educational expenditure in origin households.

V. Empirical Analysis

Various empirical studies demonstrated contrasting effects of remittances on the behavior of receiving households in terms of consumption spending, investment spending and savings. Though remittances tend to increase income of receiving households and thus one may expect an increase in total spending, the study also looked at the marginal impacts of remittances on receiving households relative to non-receiving households. It is interesting to provide a summary of the behavior of remittance-receiving households and non-receiving households in various years given that

remittances have shown significant growth through the years.

The study utilized a cross-sectional analysis on the impact of remittances to food consumption, education and health expenditure and savings behavior of households in the Philippines in various years. Table 1 shows the summary of variables used in the analysis.

Table 1: Summary of Variables Used.

Variable	Category	Description
Food	Total food expenditures	food consumed at home and regularly eaten outside
foodsh	Share of food to total expenditures	foodsh = food expenditures/ total expenditures
Educ	Total expenditures on education	tuition fees, study allowance, books, school supplies and other educational supplies
educsh	Share of education to total expenditures	educsh = education expenditures/ total expenditures
medic	Total expenditures on health (medical care)	drugs and medicines, hospital room charges, medical charges, dental charges and other medical goods and supplies, other medical health services and contraceptives
medicsh	Share of health to total expenditures	medicsh = health expenditures/ total expenditures
lntoexp	Logarithm of total expenditures	ln(toexp)
remitd	Intercept dummy for remittances	=1 for remittance-receiving household, =0, otherwise
remitsd	Slope dummy for remittances (interacted with lntoexp)	remitsd = (remitd)(lntoexp)
wages	Wage income	income of the family from salaries and wages from employment received by family members
Fsize	Family size	Total family members (average for the two survey visits)
hhage	Age of household head	Age of household head
hhms	Household head's marital status	=1 when married, =0, otherwise
hheduc	Household head's level of education	=1 for high school graduate and below, =0, otherwise
hhtype	Type of Household	=1 for extended family, =0, otherwise
urban	Location dummy	=1 for rural, =0, otherwise
employed	Household head's employment status	=1 if unemployed, =0, otherwise
minsr	Main source of income	=1 if remittance is the main source of family income, =0, otherwise

Total expenditures for food, education, health and savings were used to look at the impact on the actual levels of expenditure for remittance-receiving households. On the other hand, expenditure shares were used to assess the changes in the household's budget allocation for a particular expenditure item as a result of receiving remittances. A dummy variable for remittance-receiving households was used to be able to compare the behavior of remittance-receiving and non-remittance receiving households in various years. A set of demographic variables, such as household head's age, status, level of education, status of employment, were also used as explanatory variables for the analysis. The size, type and location of the household were also considered in the analysis as described in Table 1.

From the total samples collected, 23.3%, 20.7%, and 18.1% received international remittances for the years 2006, 2003 and 2000, respectively. The sample shows that, on average, a higher percentage of remittance-receiving households have the household head at least reach college relative to non-receiving households for the selected years. Also, based on the summary statistics, 37.3%, 35.7% and 41.3% of the interviewed households receiving remittances had it as their main source of income for 2006, 2003, and 2000, respectively. In agreement with the national statistics on expenditure shares, the survey statistic showed that food expenditures comprised around 50% of the total household expenditures for the selected years. Data also showed that, on average, remittance-receiving households tend to spend more on food, education and medical care as compared to non-receiving households given that, on average, also have higher levels of income. However, in terms of expenditure shares, the summary statistics showed that non-receiving households spend a greater share of their total income on food, but less on education and medical care compared to receiving households. This shows that increasing total expenditure by a percentage would change a budget share for a commodity in some proportions. Empirical results in the next section would verify whether these observations provide statistically significant differences among remittance-receiving and non-remittance receiving households' spending behavior.

Remittances add to household income and would therefore, affect expenditure behaviors of receiving households. Economic theory suggests that higher income results in higher levels of consumption. However, much more interesting is to look at how remittances changes income allocation by a remittance-receiving household for a particular expenditure item. To analyze the marginal expenditure patterns of remittance-receiving and non-receiving households, a modified version of the Working-Leser model was used as the basic form for our analysis. Adams (2008) enumerated all of the criteria needed for a similar marginal expenditure analysis such as (1) providing a good statistical fit to a wide range of goods (2) allowing for rising, falling or constant marginal propensities to spend over a broad range of goods and expenditure levels and (3) conforming to the criterion of additivity; and suggested that the Working-Leser model, which relates budget shares linearly to the logarithm of total expenditure, meets these criteria. First, to measure the level effects, the study used the following regression equations:

$$food = \alpha0+\alpha1lntoinc+\alpha2remitd+\alpha3remitsd+\alpha4fsize+\alpha5hhage+\alpha6hhms+\alpha7hheduc+\alpha8hhtype+\alpha9employed+\varepsilon \quad (1)$$

$$educ = \alpha0+\alpha1lntoinc+\alpha2remitd+\alpha3remitsd+\alpha4fsize+\alpha5hhage+\alpha6hhms+\alpha7hheduc+\alpha8hhtype+\alpha9employed+\varepsilon \quad (2)$$

$$medic = \alpha0+\alpha1lntoinc+\alpha2remitd+\alpha3remitsd+\alpha4fsize+\alpha5hhage+\alpha6hhms+\alpha7hheduc+\alpha8hhtype+\alpha9employed+\varepsilon \quad (3)$$

$$inv = \alpha0+\alpha1lntoinc+\alpha2remitd+\alpha3remitsd+\alpha4fsize+\alpha5hhage+\alpha6hhms+\alpha7hheduc+\alpha8hhtype+\alpha9employed+\varepsilon \quad (4)$$

To measure effects on expenditure shares, the following equations were used:

$$foodsh = \alpha0+\alpha1lntoexp+\alpha2remitsd+\alpha3fsize+\alpha4hhage+\alpha5hhms+\alpha6hheduc+\alpha7hhtype+\alpha8employed+\varepsilon \quad (5)$$

$$educsh = \alpha0+\alpha1lntoexp+\alpha2remitsd+\alpha3fsize+\alpha4hhage+\alpha5hhms+\alpha6hheduc+\alpha7hhtype+\alpha8employed+\varepsilon \quad (6)$$

$$medicsh = \alpha0+\alpha1lntoexp+\alpha2remitsd+\alpha3fsize+\alpha4hhage+\alpha5hhms+\alpha6hheduc+\alpha7hhtype+\alpha8employed+\varepsilon \quad (7)$$

As explained earlier, the dummy variables were used to compare spending and savings behavior of

remittance-receiving and non-receiving households. Though it is hypothesized that remittance-receiving households would tend to have higher levels of expenditures, especially if remittances increase family income, the expenditure shares on food, education, and health may vary depending on how much of this income goes to each of these items. For instance, if a parent decided to work overseas in order to provide better quality education for his/her children, then it can be hypothesized that the expenditure share for education would increase while the shares for other expenditure items may decrease. It is also hypothesized that log of income, family size, household head education, employment status and household type would have a positive relationship with level of expenditures.

It is important to note that even though it is more ideal to do a panel data analysis so that changes in the behavior of households may be tracked, it is not possible given the data that was used in the study. Thus, even if it is interesting to look at the changes in the household behavior through time, limitations in the data would not allow for such comparison. Instead, the study provided a summary of the behavior of households in the Philippines in various eras under different circumstances and sample households.

VI. Results and Discussion

6.1. Level Effects

The empirical results showed that 67.5% of the variation in food expenditures can be explained by the explanatory variables while only 20.3%, 6.67% and 6.69% for education, health and savings, respectively. Table 2 presents a summary of the regression results for 2006 with the use of equations (1), (2), (3) and (4).

Table 2: Regression Results, Expenditure Levels, 2006.

Variable	food	educ	Medic	inv
Lntoinc	30781.67**	6848.668**	4412.763**	16548.14**
	(193.1201)	(148.1628)	(178.7413)	(441.8782)
Remitsd	7313.207**	7420.254**	6060.555**	7920.574**
	(339.2558)	(260.2789)	(313.9965)	(776.2516)
Fsize	3650.985**	191.6422**	-380.3671**	-1202.008**
	(58.64957)	(44.99627)	(54.28281)	(134.1961)
Hhage	-17.63199	52.1289**	89.35258**	127.1285**
	(9.096284)	(6.978719)	(8.419021)	(20.81322)
Hhms	-377.4976	377.1211	484.857	-57.35792
	(314.4596)	(241.2551)	(291.0465)	(719.5154)
Hheduc	2194.238**	4740.384**	-149.1375	52.65545
	(300.8822)	(230.8385)	(278.48)	(688.449)
Hhtype	1394.91**	-1685.202**	439.4758**	-1903.133**
	(286.8412)	(220.0661)	(265.4844)	(656.3216)
Urban	-5761.191**	1950.49**	858.8302**	5978.545**
	(251.6659)	(193.0794)	(232.9281)	(575.837)
Employed	387.2982	1009.801**	-1079.352**	127.4559
	(344.3206)	(264.1647)	(318.6843)	(787.8405)
Remitd	-87669.82**	-71360.2**	-71360.2**	-99021.3**
	(4061.107)	(3758.737)	(3758.737)	(9292.223)
_cons	-314154.6**	-80548.52**	-50226.04**	188676.3**
	(2259.159)	(1733.239)	(2090.953)	(5169.184)
N	38483	38483	38483	38483
Adj R-squared	0.6751	0.2030	0.0666	0.0690

Results showed that the estimated coefficients for food, education, health expenditure and savings are all positive as hypothesized. Consistent with economic theory, an increase in income led to higher levels of consumption on the various expenditure items. The estimates showed that a one percent increase in total

income increases the food, education and health expenditures by PhP307.81, PhP68.48 and PhP44.13, respectively. Likewise, an increase in income led to a higher level of savings. Table 2 shows that a one percent increase in total income increases savings by PhP165.48.

Results also showed that remittance-receiving households tend to spend more on food, education, and medical care as compared to non-receiving households as income increases. This was demonstrated by the positive coefficient of the remitsd variable. For instance, estimates showed that a remittance-receiving household increases food expenditures by PhP380.95 while non-receiving households increases food expenditures by PhP307.81 given a one percent increase in total income. Also, empirical estimates showed that remittance-receiving households tend to save more relative to non-receiving households as income increases. Although it is still worth noting that non-receiving households have higher spending on food, health and higher levels of savings, on average, due to the negative coefficient of the variable remitd.

Tables 3 and 4 present a summary of the regression results for 2003 and 2000, respectively. It is noticeable that the conclusions for 2006 results also apply for 2000 and 2003. In fact, a positive relationship between income and expenditures was also observed for the data used in the 1980s and 1990s as summarized in Table 5. In summation, income levels have consistently showed positive relationships with food, education and health expenditure levels in the past two decades. Moreover, remittance-receiving households show a higher level of increase in consumption spending for each expenditure item as income increases as compared to non-receiving households.

Table 3: Regression Results, Expenditure Levels, 2003.

Variable	Food	educ	Medic	inv
Lntoinc	27638.01**	5104.874**	2578.671**	18359.21**
	(145.0629)	(101.9881)	(96.17788)	(647.3717)
Remitsd	8570.125**	5852.14**	3361.41**	12854.58**
	(289.9056)	(203.8214)	(192.2098)	(1293.761)
Fsize	2699.752**	201.5457**	-139.0868**	-1595.84**
	(47.37995)	(33.31101)	(31.41329)	(211.4423)
Hhage	-20.06209**	57.64269**	52.78352**	145.8565**
	(7.150717)	(5.027392)	(4.740983)	(31.91148)
Hhms	-361.5163	153.5784	232.9522	2299.572*
	(262.4011)	(184.4841)	(173.974)	(1171.016)
Hheduc	3325.423**	4092.735**	164.9908	-608.4237
	(258.3733)	(181.6523)	(171.3036)	(1153.042)
Hhtype	1716.075**	-1063.042**	367.9167*	-1927.37
	(243.6019)	(171.2671)	(161.51)	(1087.121)
Employed	-469.56	-1222.036**	1286.661**	115.0915
	(298.8936)	(210.1405)	(198.1689)	(1333.871)
Remitd	-100448.3**	-67958.85**	-39347.08**	-158837.9**
	(3441.066)	(2419.28)	(2281.454)	(15356.43)
_cons	-279278.2**	-58375.18**	-29346.46**	-203122**
	(1603.304)	(1127.221)	(1063.004)	(7155.059)
N	42094	42094	42094	42094
Adj R-squared	0.6859	0.2066	0.0651	0.0395

Table 4: Regression Results, Expenditure Levels, 2000.

Variable	Food	educ	Medic	inv
Lntoinc	28177.38**	5805.731**	2308.07**	12999.77**
	(160.6825)	(100.7727)	(85.65405)	(382.9428)
Remitsd	7795.787**	4090.106**	3235.981**	7714.718**
	(353.638)	(221.7855)	(188.5117)	(842.7997)
Fsize	2573.185**	173.8817**	-126.3564**	-1140.008**
	(53.64202)	(33.64181)	(28.59463)	(127.8411)
Hhage	-7.20395	49.93217**	47.17078**	117.6705**
	(8.641339)	(5.419451)	(4.606387)	(20.59427)
Hhms	-402.0338	128.8505	7.819098	-786.4077
	(296.2916)	(185.8205)	(157.9424)	(706.1302)
Hheduc	2185.901**	3359.448**	99.03023	1042.866
	(281.0286)	(176.2482)	(149.8062)	(669.755)
Hhtype	1180.033**	-1820.784**	-7.090437	-705.0047
	(271.1399)	(170.0465)	(144.5349)	(646.188)
Employed	62.84642	-1524.33**	948.4602**	-1298.84
	(316.9189)	(198.757)	(168.9381)	(755.2897)
Remitd	-92308.11**	-47316.51**	-37619.85**	-94634.88**
	(4208.982)	(2639.68)	(2243.657)	(10030.96)
_cons	-285925.1**	-65395**	-26197.64**	-142328.5**
	(1802.831)	(1130.653)	(961.0246)	(4296.556)
N	39615	39615	39615	39615
Adj R-squared	0.6341	0.1956	0.0607	0.0541

Table 5: Summary of Regression Results, Expenditure Levels, 1985 – 1997.

Year	Variable	food	Educ	medic
1997	lntoinc	25077.86**	4329.975**	2347.099**
		(142.5968)	(74.80743)	(87.00045)
	remitsd	4291.918**	2581.933**	2245.43**
		(325.94)	(170.9908)	(198.8609)
1994	lntoinc	20047.78**	3713.551**	2136.472**
		(141.1399)	(84.48191)	(84.83063)
	remitsd	3941.17**	1274.257**	1869.532**
		(304.1259)	(182.0402)	(182.7916)
1991	lntoinc	16707.94**	1921.682**	1446.864**
		(143.5989)	(45.58212)	(111.6969)
	remitsd	3678.148**	1153.922**	425.6995**
		(316.3364)	(100.4136)	(246.059)
1988	lntoinc	10973.19**	1495.451**	653.5113**
		(87.17697)	(40.37145)	(34.87274)
	remitsd	2372.477**	568.3606**	791.0129**
		(200.5649)	(92.88114)	(80.23047)
1985	lntoinc	9164.756**	1500.034**	724.2333**
		(71.75805)	(35.55181)	(28.72912)
	remitsd	2040.69**	725.5836**	347.7716**
		(170.7063)	(84.57473)	(68.34414)

6.2. Expenditure Share Effects

The empirical results showed that 54.53% of the variation in food expenditures can be explained by the explanatory variables while only 10.7% and 4.39% for education and health expenditures can be explained, respectively. Table 6 presents a summary of the regression results for 2006 with the use of equations (5), (6) and (7).

Table 6: Regression Results, Expenditure Shares, 2006.

Variable	foodsh	educsh	medicsh
Lntoexp	-0.1165741**	0.01766**	0.0083578**
	(0.0008019)	(0.0004516)	(0.0004179)
Remitsd	-0.0011083**	0.0009081**	0.0002984**
	(0.0001052)	(0.0000593)	(0.0000548)
Fsize	0.0209942**	0.001714**	-0.0020108**
	(.000262)	(0.0001476)	(0.0001366)
Hhage	-0.0007789**	0.0001512**	0.0003401**
	(0.0000406)	(0.0000229)	(0.0000212)
Hhms	0.0115067**	0.001012	0.0013143
	(0.0014049)	(0.0007913)	(0.0007322)
Hheduc	-0.0274299**	0.0137706**	-0.002004**
	(0.0013434)	(0.0007566)	(0.0007002)
Hhtype	-0.0012678	-0.007455**	0.0019192**
	(0.0012813)	(0.0007217)	(0.0006678)
Urban	-0.0033742**	0.0093452**	0.0036135**
	(0.001124)	(0.0006331)	(0.0005858)
Employed	0.0084335**	0.0051829**	-0.0105549**
	(0.0015376)	(0.000866)	(0.0008014)
_cons	1.790819**	-0.2068685**	-0.077363**
	(0.0093996)	(0.0052941)	(0.0048991)
N	38483	38483	38483
Adj R-squared	0.5453	0.1070	0.0439

Results showed that the estimated coefficient for the expenditure share of food is negative while positive coefficients were found for expenditure shares for education and health. This implies that an increase in total expenditures of household decreases the budget share for food and increases the budget shares for education and health. The estimates show that a one percent increase in total expenditures decreases the budget share for food by 0.001166 or 0.1166 percentage points. This supports the results of Tabuga (2007) and Adams (2008) that international remittances induce households to decrease the budget allocated for food. It should be noted that even though an increase in income results in an increase in expenditure levels for food as shown earlier, expenditure shares may not necessarily increase. It may be the case that, as the rate of increase in total expenditures rises, budget allocated for food may not be increasing at a similar rate. Households also tend to change budget allocation at higher levels of income as basic needs, like food, are already satisfied. This is consistent with Engel's law that states that the share of budget allocated to food tends to decline as income rises.

On the other hand, empirical results showed that an increase in total expenditures of households increase the budget share for education and health. The estimates show that a one percent increase in total expenditure increase the budget share for education and health by 0.000177 or 0.0177 percentage points and 0.0000836 or 0.00836 percentage points, respectively.

Results also showed that remittance-receiving households tend to decrease the budget share of food at a higher rate as compared to non-receiving households as income increases. Estimates showed that remittance-receiving household decreases budget share of food by 0.1177 percentage points while non-receiving households decreases food share by 0.1166 percentage points given a one percent increase in total expenditures. On the other hand, remittance-receiving households tend to increase the budget share of education and health at a higher rate as compared to non-receiving households as income increases. For instance, empirical evidence showed that remittance-receiving household increases budget share of education by 0.0186 percentage points while non-receiving households decreases food share by 0.0177 percentage points given a one percent increase in total expenditures. This was demonstrated by the positive coefficient of the remitsd

variable for education and health shares while negative for the food share.

Tables 7 and 8 present a summary of the regression results for 2003 and 2000, respectively. Similar to the level results, the conclusions for 2006 expenditure share results also apply for the other years that the study looked at. Table 9 summarizes the empirical results for 1997, 1994, 1991, 1988 and 1985. In sum, total expenditures consistently showed a negative effect on food expenditure shares while education and health expenditure shares have been consistently showing positive relationship with total expenditures for the various years considered in the study. Moreover, remittance-receiving households tend to allocate a bigger share of their income to education and health expenditures and less to food expenditures as compared to non-receiving households as income increases.

Table 7: Regression Results, Expenditure Shares, 2003.

Variable	foodsh	educsh	Medicsh
Lntoexp	-0.1083492**	0.0129874**	0.0050185**
	(0.0007139)	(0.0003549)	(0.0003109)
Remitsd	-0.0011971**	0.0007555**	0.0002457**
	(0.0001065)	(0.0000529)	(0.0000464)
Fsize	0.0188041**	0.0023276**	-0.0013333**
	(0.0002489)	(0.0001238)	(0.0001084)
Hhage	-0.0006201**	0.0002279**	0.0002328**
	(0.0000376)	(0.0000187)	(0.0001084)
Hhms	0.0087588**	-0.0012415	0.0028011**
	(0.0013787)	(0.0006854)	(0.0006003)
Hheduc	-0.032678**	0.0134703**	-0.0016614**
	(0.0013564)	(0.0006743)	(0.0005906)
Hhtype	-0.0037973**	-0.0062994**	0.0023117**
	(0.0012797)	(0.0006362)	(0.0005572)
Employed	-0.0079991**	-0.0048575**	0.0097979**
	(0.0015699)	(0.0007804)	(0.0006836)
_cons	1.70245**	-0.1460722**	-0.0484402**
	(0.0078528)	(0.0039038)	(0.0034194)
N	42094	42094	42094
Adj R-squared	0.5238	0.1075	0.0334

Table 8: Regression Results, Expenditure Shares, 2000.

Variable	foodsh	educsh	Medicsh
Lntoexp	-0.1098597**	0.014335**	0.0044721**
	(0.00075)	(0.000393)	(0.000307)
Remitsd	-0.001461**	0.0008902**	0.0002659**
	(0.0001197)	(0.0000627)	(0.000049)
Fsize	0.0174909**	0.0019771**	-0.0011925**
	(0.0002642)	(0.0001384)	(0.0001081)
Hhage	-0.0006884**	0.0002029**	0.0002463**
	(0.0000426)	(0.0000223)	(0.0000174)
Hhms	0.0069107**	0.0010032	0.0019098**
	(0.0014592)	(0.0007647)	(0.0005972)
Hheduc	-0.0343084**	0.0111929**	-0.0001154
	(0.001384)	(0.0007253)	(0.0005664)
Hhtype	0.0005896	-0.0091145**	0.0008277
	(0.001335)	(0.0006996)	(0.0005464)
Employed	-0.0059666**	-0.0079466**	0.0083308**
	(0.0015606)	(0.0008178)	(0.0006387)
_cons	1.738825**	-0.1565324**	-0.0451731**
	(0.0083925)	(0.0043979)	(0.0034348)
N	39615	39615	39615
Adj R-squared	0.5060	0.0930	0.0310

Table 9: Summary of Regression Results, Expenditure Shares, 1985 – 1997.

Year	Variable	foodsh	educsh	Medicsh
1997	**lntoexp**	-0.1064177**	0.0122879**	0.004077**
		(0.0007607)	(0.0003598)	(0.0003039)
	remitsd	-0.0011728**	0.0006568**	0.0002602**
		(0.000127)	(0.00006)	(0.0000507)
1994	**lntoexp**	-0.110886**	0.0118711**	0.003579**
		(0.0009755)	(0.0004347)	(0.0004106)
	remitsd	-0.0011932**	0.0007276**	0.000173**
		(0.0001573)	(0.0000701)	(0.0000662)
1991	**lntoexp**	-0.0990082**	0.0082394**	0.0019271**
		(0.0009904)	(0.0003847)	(0.000339)
	remitsd	-0.001413**	0.0008042**	0.0001577**
		(0.0001711)	(0.0000665)	(0.0000586)
1988	**lntoexp**	-0.1007292**	0.0086366**	0.0019058**
		(0.0011286)	(0.0004222)	(0.0003799)
	remitsd	-0.0015609**	0.0007083**	0.0002841**
		(0.0002092)	(0.0001451)	(0.0000704)
1985	**lntoexp**	-0.1062442**	0.0124689**	0.003682**
		(0.0011861)	(0.0004857)	(0.0004486)
	remitsd	-0.0016109**	0.0008557**	0.0001192**
		(0.0002246)	(0.000092)	(0.0000849)

VII. A Final Note

Increases in expenditure shares for education and health provide an indication of households' investment in human capital, which is essential for a more productive workforce and vital for a developing country like the Philippines. The knowledge that remittance-receiving households tend to spend more on education and health can be useful for the government to promote policies that would enhance the benefits from international remittances. Providing a desirable climate for remittances to be able to provide not only consumption-based growth but also investment-based growth is critical to capitalize on the benefits from this external source of income. However, despite the positive impacts that remittances may bring to Philippine economic growth, many are still concerned with the social impact that this has brought to Filipino families. The effects of the lack of parental guidance, brought about by family members working abroad, are starting to show in terms of what children are becoming nowadays. Even though remittances provide a spur in the country's development, the long-run social implications should not be ignored.

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A Case Study in the Tourism Industry for the Promotion of Inbound Tourism to Japan

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ABSTRACT

Sightseeing is receiving attention in Japan now. A movement to attract inbound foreign tourists to Japan is becoming more actives in Japan in the year 2010. The purpose of this thesis is to devote attention to peculiar tourist resources in the region with the aim of activation of rural regions as the population decreases. It is one to consider the case of the private company and to advocate the ideal way to promote local sightseeing in the future. In this case, attention to tourist resources cannot be lacking. From the standpoint of this sightseeing study, the one aspect that shines, if any, is a standpoint of being. It discusses tourism based on the history and geographic elements of each region.

I. Introduction

Speaking tourism in Japan, it has mainly focused on outbound tourism strategies, such as the 10 mill five year plan which began in 1986. After its declaration by Prime Minister Junichiro Koizumi in January 2003, the "Tourism Nation Promotion Basic Law" was published and the government set the mood for tourism. Finally, in 2008, the Tourism Agency was established. As tourism business surrounding circumstances are becoming brighter, this study is to consider of the private sector approach to inbound tourism. First of all, to introduce the attractiveness of Japan to foreign visitors, we need to reconsider the attractiveness of Japan for ourselves.

In this study, rather than general concepts for tourists from China, visiting Tokyo, Osaka and other city tourism an or Akihabara shopping tour, a new inbound tourism perspective for the country side with the possibility that tourism could make contributions to help and support social problems, such as depopulation in rural area, should be considered. However, it has been said that it is very difficult to establish a profitable business model in this area and thus has discussion in this area been avoided.

In the field of tourism management, a profit business model has dominated this area. Although it has been not successful, discussions have been avoided. In this paper, only a tourist village that has truly sustainable tourism is challenging this stance.

II. Research Methods

- Interviewed Neo Showa Ltd. CEO Murayama
- Trial at Showa village weaving village in Fukushima Prefecture Bug. 1st trial conducted on April 11, 2009
- Earth Arts Festival visited August 2009
- Conducted field research in South Korea on March 15, 2010.Visited the area, Sochon Korea Hansan
- Corporation Kakutou farm coverage Chief Sato

III. Efforts of Neo Showa Ltd.

3.1. As a tourism resource, "*Karamushi*"

Tokamachi, located in the Niigata Prefecture, a private company called Neo Showa Ltd. "*Karamushi*", a textile made from flax, is the traditional fabric of Niigata. "*Echigo chijimi*" material was used, as tourism has been developing and aiding in selling products. We are developing and selling these products.

3.2. What is "*Karamushi*"?

A type of hemp, flax (cho) is a breed also called the spot. Ramie is "*Karamushi*" that comes from inventory management. Fibers are taken from the skin of the insect and woven over a strong twisted weft. Having distinctive wrinkles, it is primarily being used as summer clothing and for textile fiber. "*Karamushi*" material is transmitted to Niigata "*Echigochidimi*" The Edo period was followed by regional specialties *Uonuma Ri*. From insect farming, tourism clearly has a position in the region. To pass down the history of the insect, we consider the possibility of using tourism.

3.3. History of "*Karamushi*"

The archaeological shell mounds of the Torihama Fukui Prefecture were confirmed at present at the extrusion site in the Yamagata Prefecture. The *Acaso* (Insect from the Middle Ages) fiber *Angin* was woven as a raw material. Fragments have been found and excavated. Throughout the Japanese archipelago, widely seen to have been wild, long before the formation of the nation, the *Karamushi* was undoubtedly used as a textile material fee. The Age and Nanyoshu book also has an article concerning this.

3.4. As a Tourism Resource

In July 2009, *Karamushi* was registered in the country as a regional resource of the Tokamachi Niigata Prefecture. This is not the only thing that companies are developing from tradition and history in Tokamachi, Niigata Prefecture. Neo-Showa, who make washcloths and body towels, are also making tapestries. A "skin-friendly textile" has been commercialized as socks, gloves, and the *Nekkuuoma* stomach band Wristlet. Recently, in addition to traditional clothing, there are noodles, bread, candy, cookies, tea and other new products known as the "Tokamachi specialties", which are beginning to sell primarily in Niigata Prefecture where they have been developed.

As the experience has grown now to where you can experience the culture around *Karamushi*, in Showa village in Fukushima Prefecture "*Karamushi* -woven from the village" is growing. In Showa Village, a married man from the village is spinning *Karamushi*; "*Orihime*," is what the most popular is called. Now, young urban runoff due to traditional cultivation techniques means the lack of successors is serious. Therefore, Showa village is emphasizing local tradition from the insect. Currently, the insect weaving village is making the course a one day trial. This operation is the third sector of The Village Development Corporation, Ltd. Showa Okuaizu.

Neo-Showa Co., Ltd. *Karamushi* (tourism) and people have to understand, especially considering the conduct business growing experience. Currently, facilities for the mentally retarded called the "NPO Support Center Japan Anshin" began to grow about 600 square meters in FY 2009. The three-year plan includes efforts to make a serious insect field. Guests are invited

for cutting, spinning, and weaving experience. A noodle and *Karamushi* dinner with tempura leaves collected from the insect is served, all with plans to experience the environment and green tea. The site is currently for students and people sympathetic to the local Chamber of Commerce, and the mill has been promoting the reform. "*Karamushi* room" used as a hearth where you are supposed to talk about "*Karamushi*".

Neo Showa president Mr. Murayama held in November 2009 in Kyoto, Japan an exhibition of natural materials. Taking place during the day so the time limit creates a panic reaction, visitors can experience rural areas for insects and enough the of the idea and expected story.

In addition, *Karamushi* room will next be in the Niigata Prefecture, Echigo Tsumari in 2012 at a scheduled international art event, the "Land Art Festival".

3.5. South Korea and "*Karamushi*" tourists

Korean *Seocheon* (*Sochongun*) *Hansan*, cultivated 1,500 years ago, has been handed down in the area. Korean mountain flax (*Karamushi*) fabric was a summer tradition that symbolizes the beauty of Korea. In the Baekje era a textile plant was created. With high historical value, to protect technology, the Korean government has designated as it as an important intangible cultural heritage for management.

In the definition of the word *Hansanmosi* comes from hemp in Korea "*Mosi*" (*Karamushi*) and this area, "*Hansan*"; it has a similar meaning to *Karamushi*,. Currently, those who hold traditional textile skills opened in August 1993 the Hansanmoshi Textile Museum with a tradition of *Seocheon*. At the museum, the people from this region taught students spinning technology. Additionally, guests visiting Seocheon get to know more about the bug fabric spinning experience. To teach about *Karamushi* at the "Konji mountain", was built the slope of the Pavilion textile, a traditional, educational theater instruction, and facilities such as folk theater. The museum education instruction, *Karamushi* traditional students are learning *Moshi* as a proud local treasure. They will continue to care about traditional craftsmanship and carry on learning every three days here. When compared to Japan, because the tradition that should be passed down, rather than a sense of responsibility, with local pride gratitude, and willingness to learn. Honestly, many feel that this is the natural position for a tour event. Future exchanges with human Seocheon Korean tourism has become a growing popular movement. Murayama, the president, said that colleagues who go to the *Hansanmoshi* museum say the situation is many things. First, it is a natural materials National Exhibition, which will begin interaction with volunteers. Achievements are made and to Tokamachi, it encourages initiatives in the form of sister city partnerships. Tokamachi City became sister cities through silk with Como in Italy.

In Korea, during this investigation, the Seoul office asked Niigata *Karamushi* about targeted tourism, and our efforts, which the Secretary-General introduced.

	Tradition recognition	Traditional Spinning engineer promotion	Product	Large area Sightseeing charm degree
Korea	○	○	○	△
Japan	△	×	○	△

*The author made through the local exhibition observation and the interview.

IV. Case Corporation farm Kakautou farm

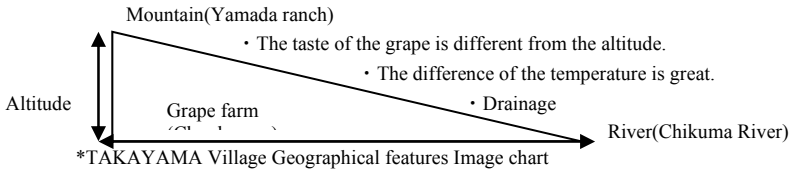
4.1. Construction Industry Diversification Strategy

Kakautou Farm Co., Ltd. engages in the sale of construction materials and Kakautou processing industries, and a 100% owned subsidiary was established. Behind the establishment, and the aging of the alpine village, there is an increase of idle arable farmland. The village is to promote sustainable agriculture, labor saving cultivation, wine grapes possible, and is positioned to promote the village crops. The entry of private companies was called. For Viticulture, Inc. Kakautou sought, along with the promotion policy of the village wine, Chardonnay, Sauvignon, and Merlot started viticulture and wine.

- Entry Municipality : Takayama Village Nagano Prefecture
- Corporate name : Kakautou farm
- Main business : crop production and marketing
- Borrowing farmland : R 857
- The main crop : Grapes

4.2. Viticulture

Takayama Village in the Nagano Prefecture, east of the Chikuma River alluvial fan spread with good drainage, a large temperature difference between day and night, the land is suitable for wine grape cultivation. Kakautou farm has grown quality grapes here. The farm foreman, in an interview with Sato, felt a passion for growing grapes. Then the grapes are transported to the winery for wine, nurses, and to be processed. Nagano is a testament to production and is sold with the certificate of origin seal attached.



*TAKAYAMA Village Geographical features Image chart

4.3. Making Tourism Area

Full-scale entry into farm tourism, says Sato, "Agriculture is the same as building a house. I made this the basis of past work. Then, build the next generation column, the next generation, it is desirable to build a roof." Viticulture is easily convinced that making a grape is a difficult thing. That said, Sato has an interest in farm tourism. Grapes, to grow stronger, the experience helped us connect the branches. Branch A and B, connected to the operation of equipment, can connect and experiences fit like a puzzle, are then valuable as a target for attracted tourists.

The village, with population decline, has a sense of decline. For the village people, there is the feeling that things change somehow. Therefore, many tourists are invited to the mountain village, vineyards and farms as well as hot springs, museums and high added value in neighboring municipalities should make a tourist area. In the alpine village, the on way to the spa Yamada, "*kaminaridaki*", there is a scenic spot "purring". A little lady in the souvenir hut said recently that there are more Chinese and Korean tourists. In Japan, non-tourist areas are well-known and that also visited by inbound visitors to that place.

V. Conclusion

Karamushi is a new resource that captures inbound tourism. As private sector initiatives, some comparisons between Japan and Korea, while

incorporating village tourism in the region were discussed. Among them, the *Karamushi* product type, sold almost as planned, and rare natural products, are sold at luxury hotels and tourist attractions. *Karamushi* has been cultivated in China. In East Asia it has historical ties as fiber materials.

These two projects are just beginning in Japan now in order to continue to develop sustainably. The villages plan to become the inbound tourism through private sector initiatives and business initiatives. For the problems of Japanese society, inbound tourism, should be the solution. As a result, it is the way of new inbound. Tourism Agencies are highly competitive internationally, so we aim to form an attractive tourist destination. Currently, the tourism area Tokamachi has "Snow Country tourism area" belonging to the area. Tourism in the village, inbound business model for establishing a successful model, the government bureaucracy industry must work on knowledge on tourism. From abroad, invited guests, the village population exchanges in the region increase companies and regions to be happy.

Tourism is a peace industry, tourism is said to be the passport to peace.

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The Impact of Socio-economic Changes on the Innovation Strategies of Firms

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ABSTRACT

This research has the purpose of building the logic of the social strategy about the studies and development in the company considering the influence of the reform of the business process, the society and the economic system after innovation, which was not taken into consideration in the existing social research.

I. Introduction

Since the 21st century, the importance of the innovation (Innovation) ,which contributes in realizing the sustainable society in the phenomenon prompting the paradigm conversion by the large society, where is faced with the development of the information technology and the existence of the environmental problems, has been increasingly expanded. (Kanda, 2006, p.13) Since the second half of the 1970s, mainly in the development of the VLSI, the microelectronic technology showed rapid a spread and the interest of a lot of people centered on the computer network, the advanced electronic data processing system, the new media, automation with robots, biotechnology and so on.

The social impact of the technology reaches a mental and cultured side in addition to the material life of the human being. The technology system is increasingly strengthening a social character more. A lot of people in companies have begun to notice the importance of deep consideration on not sticking to the immediate profit. (Stillerman, 1975)

In order to find out the directions in talking about innovation from now on, we are required to deeply detect the relationship between the enterprise which gives the place to create it and the society that accepts it and yields the following innovation at the same time. However, the optimization of the organization and the structure of the enterprise in the society, the improvement of the management capability in the context of the social responsibility, and also the personnel training to enhance productivity are the

indispensable requirements for the great existence of the enterprise in the society.

After satisfying these requirements, both processes to create the knowledge of the innovation and to develop it quickly and effectively in order to meet the requirements of the market in the society, hold an important position.

Further, the success or failure of the extensive research and development activities in a respective company affects its competitiveness, and moreover, it has a great influence even on the rise and fall of the country economy. Such facts show the necessity of the social strategy to effectively realize the definite purpose of the studies and developments in the company.

The historical fact that innovation has contributed greatly to societal development can be easily understood. For the country which has a large population with little natural resources like Japan, it is essential to keep creating innovation through their own efforts.

Specifically, since the 1990s when it became difficult for Japan to expect growth to continue catching up with European and American countries, the importance of innovation very much increased; however, it can be said that not enough attention was paid to the society's long process until a technical invention bears fruit in industrial development, though the innovation itself was treated only in the domain of technology development, since our understanding of the process of innovation generation was poor.

It can be said simply that the historical concept of innovation is "bringing a new profit source to the company by succeeding in merchandizing a new idea". (Urabe, 1993, p.205). In short, innovation means to create the additional profit by "introducing successfully" (Goto, 2000, p.22) the new products, production processes and others .

It is considered that innovation is the only way of assuring sustainable growth by increasing the productivity in the long run. Therefore, it is emphasized by Schumpeter that the role of innovation by the entrepreneur is the motive power of economic development. (Takahashi, 2004, p.57)

According to Dr. Hirota (1988:p.4) and, Hirota (2004:p.133), it is specifically called "the social innovation" that innovation reorganizes society and the economic system by innovating the accompanying information by the reevaluated sense of value and by the innovated flow of goods.

There are three phases of social innovation to be recognized in existing research; the reformation to the society to promote innovation, the reformation of the society and the economic system after innovation, and finally, the social innovation as a new mechanism which helps to solve the social problem (Omuro, 2004:p.186). The phenomenon which this research tries to find out is how the innovation, which has potential influence to reform the business process of its own company and to be able to reform the society and the economic system of the society, can create influence over the research and development activity of the company. In other words, business process after innovation was overlooked in the past social innovation theory, and therefore this has intentions to bring it up for studying, as the social strategy of the research & development in business, the question of how the business process after innovation and the change in the system of the society and the economic system can motivate the research and development activity, and also how the company can react actively and passively against such a change.

II. Research Purpose

In this research, it has a purpose of building the logic of the social strategy regarding the studies and development in the company considering the influence of the reform of the business process, the society and the

economic system after innovation, which was not taken into consideration in the existing social research. The aim of this study is to investigate the possibility of building up the strategy based on the interaction between the company and the society and economic system by exploring innovation, which has been analyzed based on the competition superiority in the market, not only by the pressure on the society and economic system, but also by the pressure from the society and economic system.

III. Current Literature

This section organizes information about the innovative theory. Joseph Alois Schumpeter introduced a concept, "the innovation", into the economic theory first and built the theory that the constant innovation (the innovating) brings changes to the economy. Drucker clarified the three kinds of important practices; the practice of the innovation, the practice of the enterprise culture and the strategy having to do with an entrepreneur, while he paid a respect to the achievements of Joseph Alois Schumpeter. Afterwards, Dr. Abernathy and Utterback clarified creative destruction by dividing the product innovation referred by Joseph Alois Schumpeter and the gradual process of innovation, and it was emphasized that the company has to balance the two kinds of innovation above. Dr. Chesbrough Henry emphasized the importance of "Open Innovation", which starts innovation by adopting the study results in the other company and/or the university against "Closed Innovation", which develops innovation depending on the internal studies, including marketing, in one company. According to Dr. Christensen, the reason of the dilemma in innovation was explained in the way that a giant company selling commodities with distinguished characteristics shows its keen interest only in improving its characteristics without taking the demand by respective customers into consideration will lose its strength against an emerging enterprise that starts selling new characteristic commodities with inferior quality. It seems that these innovation theories were discussed based on the creator of innovation, its contents and its methods.

On the other hand, it is said that the characteristic of the theory of Ikujirou Nonaka (1990) in Japan depends on how to create better knowledge in "the knowledge society", where the knowledge is regarded as the most important management resource. Specifically, the knowledge creation was argued by paying due attention to the middle of the organization.

As the source of the corporate advantage, Dr. Ikejima Masahiro (1999) analyzed innovation focusing on the relation between the innovation and the top of the organization, arguing about the importance of establishing competitiveness and its maintenance. Dr. Sakakibara Kiyonori (2005) made a skillful approach to try to unite innovation with the profitability from a wide range of cases in the inside and outside of the country vividly. However, it is possible to say that these studies on innovation were argued mainly based on competition in the market.

IV. Case Analysis

In taking up the case of the innovations that have succeeded in innovating society, there is the case of Unilever, which is a major multi-national corporation of the daily necessities such as food and toiletries. The same company opened up a new market in India by attempting to solve the social problem with which the customer is confronted. A lot of young lives were lost every day in the rural area in India, where the sanitary conditions weren't satisfactory in those days.

Also, it was a social problem that the autarky of the women hadn't yet established.

Since 2000, Unilever has developed activity to enlighten the consciousness of the people's sanitation improvement and also has worked on the project to utilize sales-women by training women, which is called "Project Sakti ", under the social purpose to support the autarky of women.

The effective way the sanitation improvement has helped to back up the sales of the products of the same company, such as soap and so on. In the case of Unilever, it brought in further effect under the strategy by obtaining the cooperation of 400 groups of NGOs on site. As the result, in 2005, it could successfully approach about 70,000,000 new customers and it accomplished the market cultivation. (Ibuki, 2007, p.4)

Such social innovation developed by the company has been discussed under the name of the social innovation theory. Social innovation theory is one of the fields of study to discuss that social innovation is accomplished through the evolving process that miscellaneous problems, which faced the present society and economic system, have been gradually dissolved through the activities of the entrepreneur and then of the consumer.

The process that social innovation is achieved is shown in the following figure

[On the other hand, as the source of the corporate advantage, Dr. Ikejima Masahiro (1999) analyzed it focusing on the relation between the innovation and the top of the organization arguing about the importance of establishing competitiveness and its maintenance.]

However, the conventional research doesn't consider the influence that the formation of the new society and economic system, as shown with the arrow of the heavy line in this figure, gives over the new product and the new service under the basis of the system innovation of the enterprise. To review mainly this point in this research, I would like to explore problems to be studied.

According to Dr. Kusunoki (2001), the present research on innovation is to study the process that "Something New" is created, which gives influence over the society and economic system. The social innovation theory, too, corresponds to this, and there is an interest in the point of how to produce social innovation. However, the negative effect as shown in this thick arrow isn't conscious. In other words, there is an importance to be conscious of the negative effect derived from the society and the economic system, too.

V. Conclusion

At this point, the issue will be to identify the case of the negative or positive effect from the society and the economic system, which will affect the firm in a negative or positive way. The judgment in the standards of the society on the innovation seems to be related to this. Therefore, in this study, the search is from the firm's ethics standard and corporate social responsibility point of view to evaluate the firm's actions and the result. As a firm should have a limited line, when it has gone over the line such as in the case of the Enron scandal, the BP oil spill in the Gulf of Mexico, etc, a negative effect would occur and impact the firm's activity. So, the General ethics is the line that clarifies the dead line of corporate activities and Social responsibility is the line that clarifies the corporate responsibility. In this study, these two will be considered as the main drivers.

When corporative innovation effect on social or economics could be regarded as a positive effect to the firm, it has to be within the Social Ethics and Responsibility standard. At least it should have a non-negative effect, but on the other hand, if it not sufficient, could create a negative impact or image. The firms should need to recognize the standard in advance. It is important to have a future social innovation strategy as those are related with innovated social and economics, and firms own innovative business strategy. Japanese network carrier NTT DoCoMo leads and invented "i-mode", a famous innovation sample. "i-mode" is a mobile network internet service, and truly an epoch making innovation which led the new market and industry growth and changed the personal lifestyle. According to ONO (2007), the "i-mode" innovation is reported as a very successful case in young generation users and easy adaptable contents software, which

created excellent positive feedback between the user and the content creator. Also, ONO (2007) pointed, with the development and spread of "i-mode", has created a social issue that youth generation could access hazardous web sites, then a further innovation was requested from society to protect the youth generation through access filtering service. By the enforcement published on 1st Apr 2009, "Regulation on Youth using safe internet access", new service "limited access service for youth user" was announced with free charge, but the user has to apply for the service, which is a further innovation. With this innovated service start, subscriptions of parents who have youths under eighteen years old enormously increased from this case; moderate adoption to society and economics is the basis for strategic planning, which is a mutual function for a society and economics, and companies.

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