Insider trading: Boom or bane for the capital market
Patrick D. Caoile, De La Salle University, Philippines

Helping a small agricultural community in Miyazaki: Analysis and suggestions for further development of their local project
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Factors affecting transient and chronic poverty in the Philippines
Cynthia P. Cudia, De La Salle University, Philippines

Accounting practices for exploration for and evaluation expenditures in Philippine mining industry
Herminigilda E. Salendrez, De La Salle University, Philippines
Alger C. Tang, De La Salle University, Philippines

Karoshi and Karou-jisatsu in Japan: Causes, statistics and prevention mechanisms
Behrooz Asgari, Ritsumeikan Asia Pacific University, Japan
Victoria Garay, Ritsumeikan Asia Pacific University, Japan
Peter Pickar, Ritsumeikan Asia Pacific University, Japan

The influence of multinationalization on tax aggressiveness
Emi Iwasaki, Kobe University, Japan
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Insider Trading: Boom or bane for the capital market

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ABSTRACT
Insider trading is simply defined as financially gaining from material information that is nonpublic. It can either be gaining financial rewards from material information that can increase the price of the publicly traded stock or cutting losses in case the news once disclosed could depress the market price. The main problem is insider trading can be considered either a boom or help the development of capital market or a hindrance to its development? There are two celebrated cases of insider trading in the Philippines and these include the case of former Minister of Trade Roberto Bobby Ongpin, involving the purchase of Philex shares of the Social Securities System financed by the Development Bank of the Philippines and approved within one day. Dante Tan and his Best World Resources that showed the stock price jumped from Php 0.80 centavos to Php 107. Methodology is the CFA Institute Code of Ethics and Standards of Professional Conduct, involving seven standards of professionalism, capital markets integrity, duties to clients and employees, investment analysis, recommendations and actions, conflicts of interest and responsibilities of a CFA Institute member and candidate. The case of Bobby Ongpin is ongoing and the Securities and Exchange Commission had fined him USD$3.6 million (Php174 million at Php 48/$) but he was able to secure a temporary restraining order from the Court of Appeals. Dante Tan secured government contracts due to his closeness to President Erap Estrada but the case against him did not prosper. The Western world and developed countries’ financial capital market is more exacting as it jailed Michael Milken and reduced the influence of his company, Drexel Burnham and Lambert. It also fined and jailed Brex officials in Canada. Insider trading stimulates the capital market in the Philippine as well as other emerging markets in the short run but the long term survival of the capital market requires perfect information made available easily to the investing public with due regard to the CFA code of ethics. The availability of perfect information is the constraint in the development of the capital market.

Keywords: insider trading, nonpublic information, manipulation, capital markets

INTRODUCTION
Is insider trading a boom or a deterrent to the development of a vibrant and active capital market? Given two cases of insider trading, what models can be developed to analyze its effects? The main purpose of regulating the trading of securities in the capital market is to prevent fraudulent and manipulative practices in the sale of securities. The Securities and Exchange Commission (SEC) Code of Corporate Governance of 2009 expressly prohibits it. The SEC Code emphasizes transparency and rectitude in the conduct of the officers, key managers, and directors. The willful manipulation of material facts must
be avoided that will cause harm to a person who reasonably relies on that misrepresentation. These includes false statements of a material fact, omitting a fact that makes a statement of material facts misleading, or engaging in any practice or scheme that would serve to defraud. Investors either buyers or sellers are particularly vulnerable to fraud because ultimately the value of the financial instruments depends almost entirely on the information that is oftentimes difficult to verify.

Insider trading is the illegal use of price sensitive, nonpublic information to buy and sells securities and other financial instruments and it has long been considered an endemic feature of the world’s financial markets despite almost universal criminalization of insider trading (Ali & Gregoriou, 2009). The key here is the information is nonpublic and it can affect the price of the financial instrument whether it is a publicly trade stock, a derivative instrument, or even a bond. Theoretically if someone stumbles into a nonpublic information and does not use it then there is no insider trading.

Nonetheless the ideal for investment instruments is that the intrinsic value is equal to the real value, given adherence to perfect and symmetric information. The Corporation Code of the Philippines Batas Pambansa 68 mentions stiff penalties under Section 31 Liabilities of directors, trustees, and officers and Section 32 Dealings of Directors, trustees or officers within the Corporation. Most of the laws in the Philippines are inspired by American jurisprudence and the corporation code is no exception. The American Section 17 (a) of the 1933 Securities Act and Section 10 (b) of the 1934 Securities Act expressly disallows insider trading and both prohibit anyone from making false statements of material fact, omitting a fact that makes the statement of material fact misleading or engaging in any practice or scheme that defrauds the investing public.

The objective in the development of the capital market is to create a level playing field that requires everyone to play by the same rules and employing similar techniques for investing. The capital market to be an efficient and a viable source of funding for expansion and development must carry only market and unsystemic risks without the risks of fraud and manipulation. However, those who are more diligent and more astute in exploring the potentials of an investment destination can be able to earn more for themselves and their investing clients. Subsequently, not all will possess the same information and symmetric information is an unrealizable ideal and consequently, the capital market whether emerging or mature is characterized by disparities and great information asymmetries. The average investor can not hope to compete on equal footing with the savvy market investor, the so called market professionals but even these market professionals oftentimes possess different information or analyze information differently based on their risk appetite that leads them to make different investment decisions.

Much of the information is in the hands of the company and issuer that it discloses to the public as soon as possible. Another source of information is the issuing agent and in the Philippines, companies who are intending to go public as well as companies that already public but increasing their capital need an investment house to firmly underwrite their shares offering. There are two types of underwriting and these are firm underwrite and best efforts but in the Philippines, companies desiring to go public and increasing their capital secure the services of an investment house to firmly underwrite its shares offering. The investment house as an issuing agent is also a good source of information. Information that is not disclosed to the public but made part of the investment decision is insider trading.
Mc Gee (2009) identified 16 countries on the extent of compliance with OECD benchmark on insider trading and while the Philippines showed that the OECD benchmark is largely observed, it is still best to emulate the examples of South Africa and Hungary, as shown in Table 1.

Table 1. OECD benchmark

<table>
<thead>
<tr>
<th>Country</th>
<th>Observed</th>
<th>Largely Observed</th>
<th>Partially Observed</th>
<th>Materially Not Observed</th>
<th>Not Observed</th>
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<tr>
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<td>Czech Rep.</td>
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<td>Egypt</td>
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<td>Hungary</td>
<td>X</td>
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<td>Korea</td>
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<td>Latvia</td>
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<td>Mexico</td>
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<td>Slovak Rep.</td>
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<tr>
<td>South Africa</td>
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METHODOLOGY AND FRAMEWORK

This research proposes two frameworks and these are the Chartered Financial Analyst (CFA) Code and its seven standards of professional conduit and the other is the theory of constraints. The CFA and its British counterpart, the Chartered Institute for Securities and Investment (CISI) are in the forefront of professionalizing and establishing ethical standards for the finance profession apart from the government regulatory that had demonstrated the susceptibility to rent seeking and lobbying activities of the investment community and the companies going public. The CFA Institute code of conduct admonishes its members and candidates to always act with integrity, competence, diligence, and respect and in an ethical manner with the public, clients, prospective clients, employers, employees, and colleagues in the investment profession, and other participants in the global capital markets. It is the holy grail of the vibrant and active capital market. Consequently, its ethical standards and paradigm can be used to evaluate violations such as insider trading. On the other hand, the Theory of Constraints (TOC) is a production tool that is applied to ethical concerns of insider trading to determine and ascertain the bottlenecks and constraints to a vibrant and active capital market.

CFA and CISI Members and candidates are expected to place integrity of the investment profession, and the interest of clients above their own personal interests, use reasonable care and exercise independent professional judgment when conducting investment analysis, making investment recommendations, taking investment actions, and
engaging in professional activities. They are likewise expected to practice and encourage others to practice in a professional and ethical manner that will reflect credit on themselves and the profession; promote integrity and viability of the global capital markets to the ultimate benefit of society; and maintain and improve their professional competence and strive to maintain and improve the competence of other investment professionals. Naturally it is best to use their ethical codes and standards to establish the ethical concerns on insider trading and the general development of the capital market.

There are seven standards of professional conduct of the CFA Institute and these are:

1. Professionalism
2. Integrity of capital markets
3. Duties to clients
4. Duties to employers
5. Investment Analysis, recommendations, and actions
6. Conflicts of interest
7. Responsibilities as a CFA Institute Member or candidate

Briefly, professionalism contained four important aspects of knowledge of the law, independence and objectivity, misrepresentation, and misconduct while Integrity of the capital market had two on material nonpublic information and market manipulation. The duties to clients include the need for fair dealing, loyalty, prudence and care, suitability, performance presentation, and preservation and confidentiality. The duties to employers mentioned loyalty, additional compensation arrangements, and responsibilities of supervisors while investment analysis, recommendations, and actions focuses on diligence and reasonable basis, communication with clients and prospective clients and record retention. Conflicts of interest touches on disclosure of conflicts, priority of transactions and referral fees while the last standard is a reminder to the CFA member and candidate to be always forthright in their transactions so as not to compromise the Institute.

The theory of constraints (TOC) espouses the view that any process or system is determined by its weakest link. Every system has constraints that prevent it from fulfilling its ultimate goal under the principal agency theory of maximizing wealth for shareholders and owners. The theory proposes that by removing the largest constraint defined as the bottleneck, will result in increases in output. The output of the system is further improved by removing the new bottleneck, resulting from previous actions. The TOC searches for the bottleneck and seeks to remove it but making sure that another bottleneck will not be created. Goldratt and Cox (1984) explained the TOC, using the example of boy scouts marching in a line formation that cannot march faster than the slowest person and any attempt to by pass the slowest person will only extend the length of the line. Allowing the bottleneck to determine the pace holds the line together. The performance of the entire line is improved by making the slowest person walk faster.

The TOC is used to maximize the output of a production system with the ultimate goal to make money and maximize shareholders value. Goldratt and Cox (1984) focused on different financial and operational indicators that contribute to that goal and these include output and throughput defined as the difference between inbound and outbound cash flow; inventory defined as the financial means invested in the system for acquiring assets that should be sold; and operational costs defined as all costs made by the system for transforming inventory into output. Goldratt and Cox (1994) stated that to generate as much money as possible, the output of the system should be maximized. Operational focus
is to improve output and throughput and operating time and not just on reducing operating costs. Instead of maximizing the output of new equipment in an assembly line of old and new equipment, it might be better to increase the output of an old and even fully depreciated machine.

There are five steps in the TOC:
1. Identify the constraints in the system.
2. Determine how exploiting the constraint can breach the constraint.
3. Subordinate other processes to the constraint.
4. Elevate and strengthen or breach the constraint.
5. Repeat the cycle and return to step 1 once the constraint is breached.

**DISCUSSION AND ANALYSIS**

The CFA Institute code of conduct and standards of professional conduct all prohibits the use and practice of insider trading, especially with respect to Standard II on the integrity of the capital market. Members and candidates who possess material nonpublic information that could affect the value of an investment must not act or cause others to act on the information. Moreover, members and candidates must not engage in practice that distort or artificially inflate the trading volume with the intent to mislead market participants. This is the essence of the insider trading case against Roberto Ongpin that involves around 550 million Philex shares for a total of 174 transactions that he sold to Manuel Pangilinan on December 2, 2009 at Php 21 per share when he was Chairman and Chief Executive Officer of Philex Mining Corporation. Ongpin was negotiating the sale of the company to Pangilinan so he knew the purchase price before hand but since the public does not know it yet at that time, this is considered insider information. Ongpin borrowed Php 510 million from a government bank, Development Bank of the Philippines that is story in itself because the loan was approved and released within one day.

The SEC fined Ongpin for Php 174 million and disqualified him from being a director of any corporation since he was adjudged to be in violation of Section 27 of the Republic Act 8799 of the Securities Regulation Code (Yamsuan, 2011 and Abadilla, 2016). The SEC Enforcement and Investor Protection Department (EIPD) initially fined Ongpin Php 17.4 million but the SEC Chairman Teresita Herbosa deemed it necessary to increase the fine to Php 174 million as a deterrent. Ongpin got a reprieve from the Court of Appeals when it issued on July 2016 a Temporary Restraining Order (Dela Paz, 2016). The case is still ongoing.

Another case of insider trading in the Philippines is the BW case that saw the stock move from Php 0.80 centavos to Php 107 per share within a few months and at its zenith had a market capitalization equivalent to Php 100 billion. BW is a good example of insider trading and stock manipulation where Dante Tan exploited his close relationships with President Estrada and his cabinet to obtain the nationwide bingo license from a Government Owned and Controlled Corporation (GOCC), the Philippine Gaming Corporation (PAGCOR) in 1998, using a penny ante stock without any asset nor track record for earnings except for the license.

Dante Tan acquired BW via a back door listing and employed now Senator JV Ejercito, the favorite son of President Estrada as one of its key officers then tied up with Stanley Ho of Macau gambling key figure. The stock manipulation lasted for about eight months and saw its price from 80 centavos to P107 per share but in its aftermath, collapsed the Philippine capital market. The Department of Justice dismissed the case in
March 2013 against Dante Tan and seven other co-accused’ that included President Estrada (Dela Pe, 2013). Only a handful of stockbrokers were indicted for stock manipulation and insider trading.

Boatright (2012) explained that manipulation generally involves the buying and selling of securities for purposes of creating a false or misleading impression about the direction of its price so as to induce other investors to buy or sell the securities and like fraud, manipulation is designed to deceived others but the effect is achieved by the creation of false or misleading appearances rather than false or misleading representations. Both are discussed in Standard II of the CFA code. While the government tries to prevent fraud and manipulation by mandatory disclosures and penalties for false or misleading statements, the more positive deterrent is to empower investors to have easy access to reliable information.

Diamond (1999) opined that the standard for stock price appreciation stills remains to be the Solow growth model. This is a long tern horizon model. The standard Solow model of economic growth does imply that slower long run economic growth with constant savings yield will also yield a lower marginal product of capital therefore lower stock returns. Diamond (1999) was investigating the trend in the light of the Federal old age survivors insurance and used the Solow growth model of 7% as the empirical growth rate manifestation in America over a long period of time of 50 years.

Mc Gee (2009) looked at insider trading as a victimless crime. He even cited the works of St. Thomas Aquinas who wrote way back in the thirteenth Century that there is no moral duty for a newly arrived grain merchant to tell the people that there are other grain merchants arriving after him so that there might be nothing inherently wrong about profiting from non public information.

Akerlof (1970) used the experience with second hand cars and the possibility of lemons among the second hand cars as analogous to the capital market when there is always the possibility of asymmetric information. Market participants safely assume that the price of a given security incorporates all known information. Grechenig (2009) dichotomized insider information into negative and positive information such that those who trade on negative insider information should not be penalized as it is akin to whistle blowing conditions while it should be made illegal for positive information.

Jenner (1986) wrote at length about the Cumulative Abnormal Returns (CAR) from insider trading, using the modified Capital Asset Pricing Model (CAPM) into this equation, 

\[ R_{it} - R_{ft} = \alpha + \beta_i (R_{mt} - R_{ft}) + \varepsilon_i \]

where \( R_{it} \) is the return on insider portfolio; \( R_{ft} \) is risk free trade; \( \alpha \)
is Jenner’s unconditional alpha; β is unconditional beta; \( R_{mt} \) is market return and \( \epsilon \) is residual error. Jenner (1986) further refined this to include French and Fama improvement of the CAPM model where

\[ R_{it} - R_f = \alpha + \beta (R_{mt} - R_f) + \beta_{i2} SMB_i + \beta_{i3} HML_i + \beta_{i4} UMD_i + \epsilon_i \]

where SMB is a mimicking portfolio long in small capital stocks and short in big capital stocks, HML is mimicking portfolio long in stocks having high ratio of book value to market value, UMD is a mimicking portfolio long in stocks with having upward trend and short in stocks with downward trends. The graphical explanation for short-term gains is shown below:

Consider two risk neutral traders who bought the stock at wealth 1 \((w_1)\) and a corresponding utility1 \((u_1)\). If one trader can benefit from insider trading at Php 1.0 million while the other will not benefit then this corresponds to Wealth H at utility H but if information is disclosed then both will receive Php 500,000. The graph follows typical diminishing returns scenario such as more wealth is added utility declines. The utility of consumption, \( U_c \) comparatively shows a lower \( U_{average} \) and the difference between utility c and \( U_{average} \) is the social sacrifice due to insider trading.

There appears to be the best depiction of short term or short run model for stock capital appreciation to account for insider trading either mathematically using Jenner or the aforementioned graph. The model is reflective of short run phenomenon and to extent this model of short run stock market price appreciation is done with the insider trading activity as perhaps a white noise or an aberration. The stock price will certainly appreciate for the short run of at least one year \((Y)\), that is, \( Y < 1 \) before it exhibits a permanent decline after one year, \( Y + 1 \). BW took only eight months, perhaps precipitated by the onset of the Asian financial crisis. This is depicted in the graphs shown below:

**Short Run Stock Price over Time**

![Short Run Stock Price over Time](image)

**Long Run Stock Price over Time**

![Long Run Stock Price over Time](image)

This is by all means a theoretical model that will eventually require an empirical validation that the researcher intends to pursue upon securing the funds for such an
endeavor or perhaps some other scholar or researcher can pursue the empirical validation in time for the summer session this year or the winter session next year.

CONCLUSION

Investors must play by the same rules and are equally equipped to compete to level the playing field. Insider trading is fostered by competition between investors with very unequal information. The possession of unequal information is indeed unfair only when the information is illegally obtained or when its use violates some obligation to others. The insider trader misappropriated the information that rightly belonged to the company. Consequently the wrongful acts of the insider trader include the violation of a moral obligation not to steal plus the fiduciary duty to serve others. Insider trading happens because others do not have equal access to information.

Investment analyses by professionals are not provided to the public but only to select clients. Now the regular investor will have to spend time and resources to put him in equal footing with the investment professionals. Assuming the government is fastidious with its regulatory functions then equal access to information appears to be the weakest link. This is a signal that the weakest link has shifted from that of inadequate regulations that allowed the BW scam. The regulations that were promulgated after the BW insider trading case plugged the hole created by information asymmetries. Thus it would appear that equal access to information is looming to be the weakest link.

Insider trading for sure has very negative effects on the capital market. It might spur the market across the board or target specific stocks, maybe in a short run like the example of Philex Mining recently and BW a few years back but the temporary gains is not matched by the backlash whether for ordinary investors and even trading professionals. BW collapsed the Philippine stock market in 1998 at the time of the Asian Financial crisis. The Philippines was relatively spared from the very negative effects of the Asian financial crisis that centered on Thailand and Indonesia. It should have made it easier and faster for the Philippines to recover if not for the BW scandal and its aftermath. The investors fleeing from Indonesia and Thailand and our other neighboring countries could have easily shifted their investments to the Philippines. There are models and literature that supports insider trading as a victimless crime (Mc Gee, 2009) or one that dichotomizes between negative and positive information (Grechenig, 2009). In the long run, the market appears resilient and has seen to weather even market meltdowns.

The insider trading of Philex Mining was centered only on one person, Ongpin, but the punitive actions just like in BW and Dante Tan had remained illusionary. Unlike in mature economies like America that saw the jailing of Michael Milken and Bernard Madoff, the Philippines capital market had not seen such jailing. Perhaps this is another weak link and constraint but unlike equal access to information, it does not encourage a long line and queuing.

There are two types of risks inherent in financial transactions and these are systemic and unsystemic. The unsystemic is found in individual companies and can be mitigated by several generations of financial models of risk mitigating strategies and tactics, starting with the Portfolio Theory of Harry Markowitz, the Capital Asset Pricing Model by William Sharpe and the Three and Four factors model by French and Fama while the systemic deals entirely with the collapse of the market.
We live in exciting times with a lot of uncertainties so there is a lot of temptation to take the easy way and perhaps a surefire approach of using and available of insider information for the needed edge. There is a caveat herein that by doing so runs counter against the common good. It casts aspersions on the integrity of the capital market that might lead to systemic conditions such that in the long run, unsystemic risks migrates to systemic risks because of insider trading. Is it more of a bane or boom? Whether on a personal level like that of the Bobby Ongpin case or system wide like that of Dante Tan and the BW, there were short term effects that can be considered as positive impact on the upward movement of capital market prices: however, in the long run the ethical concerns far outlay the initial gains.

NOTE
There were certain personalities, terms and phraseologies that are common and peculiar to the Philippines. Reversed take over is known more popularly in the Philippines as back door listing, the mental picture being that the Initial Public Offering (IPO) is listing through the front door. Roberto “Bobby” Ongpin or RVO is a common fixture in the Philippine finance environ. He is a Harvard educated management consultant of one of the first multinational of the Philippines, the SGV Corporation. He became a powerful person during the Martial Law years under President Marcos and with the departure of Marcos; he became a market mover and player in the capital market. He brought into the Philippines the Kuok brothers of Malaysia.

Dante Tan is a well-known Chinese Pilipino trader whose main business was importing cheap tires into the Philippine market until such time he leveraged his close relationship with President Erap Estrada to obtain gaming licenses for his listed company, BW Resources. The Philippine Gaming Corporation (PAGCOR) is a Philippine government owned and controlled corporation (GOCC) and is considered a paradigm on how the government can capture the lucrative gambling activities. The government hierarchical system borrows much from American influence. The Philippines Securities and Exchange Commission (SEC) is patterned after that of America and regulates the activities of Philippine Corporations. The Development Bank of the Philippines is one of three investment financial institutions in the Philippines that include the Land Bank of the Philippines and the National Development Company.

The Batasang Pambansa, literally means Legislative Body, was the Martial Law created Legislative Body envisioned by the President Marcos as a way to soften the stigma of the Martial law Regime. The Batasang Pambansa was a legislative assembly mainly composed of handpicked men and women by then President Marcos. The body had created and legislated a lot of laws that still exists to this day.

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Helping a small agricultural community in Miyazaki: Analysis and suggestions for further development of their local project

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ABSTRACT
This research focuses on the Mimatangoma project, developed by a small agricultural community in Mimata, a rural area of Miyazaki, Japan. The current situation of the region, the prefecture and Japan is discussed in order to understand the actual situation of the Mimatangoma project. The research follows with a quick research on Japanese basic marketing strategies for development of rural areas and an analysis of the 4P’s of marketing in regards to the Mimatangoma project. Finally, points of improvement of the Mimatangoma project are suggested. Although this research focuses on a small agricultural community of a rural area in Japan, the analysis and suggestions presented here might be applicable to local rural communities in different places.

Keywords: rural development, agricultural communities, 4P analysis

INTRODUCTION
Nowadays, Japanese local agricultural communities, including ones in Miyazaki (Figure 1), are facing challenges from globalization. In 2016, the Japanese government signed a new international trade agreement called Trans-Pacific-Partnership (TPP) (MOFA, 2016), which results in lower tariffs and trade barriers on Japan’s imports and exports with other TPP countries. Due to the estimation of the declining sales as the result of TPP, a considerable number of Japanese farmers are strongly against the agreement. This has significant implications for local agricultural communities in Miyazaki Prefecture. Miyazaki is one of the prefectures in Japan with a large number of farmers, a fast aging population, and a declining amount of young labor (Miyazaki Prefecture Agricultural and Fisheries Department, 2015). The TPP has brought challenges to Miyazaki’s local industries and finding ways to be competitive in the new environment is thus important to the survival of local communities in rural Japan.

In the following sections we are going to look into the situation of Mimata in order to understand how its project, called Mimatangoma, works, more specifically, we will be looking into the problem of how well Mimata is prepared for changes that might come from future government policies (e.g. TPP) and how it can keep itself competitive. Our
objective is to gather information pertaining the project and the community to understand how some marketing strategies might be implemented in Mimata and keep its Mimatangoma project strong.

![Miyazaki location in the island of Kyushu in Japan](https://commons.wikimedia.org/w/index.php?curid=3916748)

To understand the current situation of Miyazaki agriculture, it is enough to simply look at Miyazaki’s prefecture booklet entitled *Miyazaki-ken Nougyou-Nouson no Genjou to Kadai* (Miyazaki Prefecture Agricultural and Fisheries Department, 2015). It gives a clear picture of the prefecture’s agricultural situation. The booklet contains not only data regarding Miyazaki’s agriculture production, but also some data relationships such as the age ratio of the farming population and trends in farm management.

Looking at the data provided, it is clear how seriously we should think about the future of not only Miyazaki agriculture, but also many other areas in Japan. As shown in Source: Miyazaki Prefecture Agricultural and Fisheries Department, 2015, p.6

**Figure 2, the decreasing number of farmers, especially young farmers** (Source: Miyazaki Prefecture Agricultural and Fisheries Department, 2015, p.6

Figure 3), is a serious problem because it leads to lower agricultural production. Although the situation seems serious, the report is not solely composed of negative data. The number of agricultural corporations in Miyazaki is increasing year-by-year. The number of farms turning into company-like organizations can easily explain this trend. The number of the agricultural corporations (where farmers produce and sell their products like a company) has increased year by year. Miyazaki prefecture is promoting this flow and naming it “Food Business Promoting Plan”. In 2009, Miyazaki had 587 agricultural corporations and in 2014 this number went up to 732.

In order to improve Miyazaki’s agriculture, the prefecture has introduced several projects like supporting farmers with the 6th manufacturing and creating a Miyazaki brand, among others.

The 6th manufacturing means that farmers do their farming, processing and selling of their products like a corporation. This project has another name: “Idea of Food-Business Promotion” and it was introduced in March of 2013.
Regarding the Miyazaki brand initiative, in the period of 1994 to 2015, the prefecture had already 39 products registered and being advertised. This is one idea that could be explored by the Mimatangoma project since, by the time of this writing; none of their products have been registered with the prefecture. The biggest advantage of having products associated with the Miyazaki brand is not only to benefit from the advertisement, but also the ability to sell products at a higher price. If farmers can sell them at higher prices as a brand, their profits can also be higher.
Japanese Traditional Business Concepts

The first concept widely used by Japanese rural communities is the concept of Michi-no-Eki (or roadside station in English), where products from that local rural area are sold to traveling people (Yokota, 2006). This approach tries to utilize the stops nearby the roads as selling points for their products. The concept is very similar to the service areas in the highway: People traveling by car or bus can stop by, enter the shops and enjoy a wide range of offerings. The main differences between the two concepts are that the roadside station provides a much stronger link between the local community and the people passing by. Usually, the roadside station offers a wide-range of locally produced products, while the highway service areas might offer more common products that are sold in popular supermarkets as well. Roadside stations have been created all over Japan and even adopted by other developing countries not only in Asia (e.g. Thailand, China), but also in other regions (e.g. Turkey, Kenya, Mexico). It is recognized as one effective way to bridge the gap between the city and the rural area at the same time it promotes community-driven development.

The second strategy used by Japanese agricultural communities is the One Village One Product (OVOP) concept, which has started in Oita prefecture, Japan (Igusa, 2006) with very low incentive from government and has been used as a way to get Oita’s rural communities out of poverty. This strategy looks at the local resources that the village has and focuses on the development of local products. The initial objective is to produce products that are similar to outside ones, but with better quality and lower cost. To start developing this strategy, the village first targets close by markets in order to build up a reputation for its own brand. In the second stage, the village builds up the strategy on previously gained knowledge, and refinement of the available products takes place. The community is then able to explore the market better as they are able to supply better and cheaper products, with addition of new products eventually. This creates high pride inside the community and may even boost tourism in the region depending on the case.

METHODS

The research method focus primarily on qualitative analysis, more specific content and discourse analysis. Through the literature review, the concepts of effective marketing strategies and the key components of marketing mix (in particular the 4P) are summarized for empirical investigation. Marketing concepts and theories presented in this work (Ferrell & Hirt, 2009) will be used when analyzing the region’s marketing framework. Information and statistics from the websites of local communities and the Japanese government will be gathered and analyzed. The data will reflect the current condition and the problems that Miyazaki’s local communities (in particular Mimata) are facing.

<table>
<thead>
<tr>
<th>4P</th>
<th>Points</th>
<th>Actual situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Goods or service</td>
<td>They have both physical and emotional characteristics</td>
</tr>
<tr>
<td></td>
<td>Physical / emotional characteristic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e.g. guarantee, promises of repairing</td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>negotiation between buyer &amp; seller</td>
<td>High price and no negotiation</td>
</tr>
<tr>
<td></td>
<td>can be changed quickly to stimulate demand or respond to competitors’ actions</td>
<td></td>
</tr>
</tbody>
</table>
relates directly to the generation of revenue &
profits

<table>
<thead>
<tr>
<th>Place (Distribution)</th>
<th>physical stores</th>
<th>Just physical stores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>vending machines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>online service</td>
<td></td>
</tr>
</tbody>
</table>

| Promotion            | advertising (media like TV, radio, news, magazine, digital media like web, google AdWords, Facebook) | No TV commercials |
|                      | direct selling | No media |
|                      | publicity (public relation) sales promotion | No sales promotion |

To analyze the current situation of the research object, we will use the economical concept of the “4P’s of Marketing” from the book “Business: A Changing World. 9th Revised Edition by Ferrel, O. C., and Geoffrey Hirt”. Looking at Table 1 we can see how each concept is translated into the reality of the Mimatangoma project and it makes it easier to make suggestions to achieve a better situation.

In order to collect more information about the project, a field research had to be conducted. The leader of the Mimatangoma project, Mr. Shimoishi, was initially contacted by e-mail and later interviewed at his office. During the interview, Mr. Shimoishi brought up some positive and negative points of growing and selling sesame from Mimata, and soon the situation of the project became more complex than was expected. The information provided in the project’s Internet page does not reflect the current problems it faces.

Table 2. Positive and Negative points of Mimatangoma project

<table>
<thead>
<tr>
<th>Positive points</th>
<th>Negative points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. low cost</td>
<td>1. small production</td>
</tr>
<tr>
<td>2. easy to grow up</td>
<td>2. low popularity</td>
</tr>
<tr>
<td>3. can promote it as a brand product</td>
<td></td>
</tr>
</tbody>
</table>

RESULTS

For each “P” in the Mimatangoma promotion style, an analysis and discussion is presented below.

Product

The Mimatangoma project produces three kinds of unprocessed sesame, which are classified by color: black, white, and gold. The colors characterize which processing was used in each of the products. Black sesame is sold, as unprocessed, white sesame is the sesame, which has been boiled, and gold sesame is sold as paste. Processed sesame is also sold in the form of oil, tea, pasted cream and many others.

As the main project’s product is food, there is no guarantee and support to be given. The project’s webpage tries to emphasize how high the quality of Mimatangoma products is. Package designs and labels of Mimatangoma products are very simple. The colors used are black, white and gold (just as the products themselves). This kind of stylish design is very appealing to young consumers.
Price

As explained before, the project sells not only processed items containing sesame but also the seeds. In their local shop, packages of 20g, 50g and 100g containing raw sesame are sold for 100, 200 and 400 yen respectively. Table 3 lists the prices of some of the processed sesame goods found in the shop as well.

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sesame oil (95g)</td>
<td>2,000 yen</td>
</tr>
<tr>
<td>Pasted cream (100g)</td>
<td>1,200 yen</td>
</tr>
<tr>
<td>Sesame leaf tea (30g)</td>
<td>550 yen</td>
</tr>
</tbody>
</table>

All products mentioned above have a high price tag, especially when we consider the sesame oil, which can be bought at grocery stores for 300 yen per 100g bottle (7 times more expensive). The promotion model currently in use can justify the high price. By selling the products only in their local shop, the Mimatangoma project tries to characterize its products as high quality and unique to the region. The fact that products are sold only in the local shop also makes it impossible for buyers to do any price negotiation with farmers.

This promotion style is very similar to OVOP because the Mimatangoma project tries to characterize its own products as very high quality. The problem here is that OVOP is usually used to promote the products as high quality and low cost (as discussed before). If the Mimatangoma project expects this approach to work, the administration needs to seriously rethink their pricing policies.

Place

Regarding the distribution of Mimata branded products, the project operates a local product shop in Mimata called “Mimata-Cho-Bussanten-Yokamonnya”, where most of its products are sold. As explained before, this approach is good when considering that products sold in the shop are characterized as local-food and may allow farmers to sell it at higher price (Michi-no-Eki). Still, business wise, it greatly limits the reach of their product. Basically, people who want to get Mimatangoma’s products have to go all the way to the shop in Mimata, which for some consumers might be troublesome.

Expanding the sales of their products to other areas seems a logical step to be taken here, until we consider problems like shortage of labor and the production capacity of the region. Distribution of Mimatangoma’s products could be done slowly to nearby shops and even supermarkets. Of course, it is difficult to imagine Mimata’s sesame being sold at chain supermarkets, where daily goods are likely to have a price advantage. Still, by expanding gradually, Mimatangoma could start selling its products in smaller local shops (and even other Michi-no-Eki), and make use of periodical deliveries, which means that product continuity does not need to be kept. Deliveries could happen once a week or in different times according to personal availability and demand.

In addition, according to the webpage, they don’t offer to deliver their products to local organizations like schools and hospitals. By offering local delivery of their products, the Mimatangoma project could create a consistent source of income to its farmers as it creates a constant demand for their products. So, at this point in time, not having a local delivering system can be seen as a weak point of the Mimatangoma project, one that can easily be remediated by the administration.
The project keeps some small partnerships with local restaurants, coffee shops and bakeries. This shows the possibility of exploring even more this direct purchasing style with no middleman in the process. The project’s webpage lists many of these partner shops with pictures, comments and shop’s addresses.

Promotion

The project keeps an active online presence through their own webpage and also a Facebook account where visitors can check the newest information about the project. Regarding their Facebook page, it lacks frequent updates. At the time of this writing, the latest post was written about three months ago. On their webpage, they promote their new processed sesame products with pictures and information showing how their products are processed and produced.

Although the project tries to keep an active online presence, the project does not use other conventional promotion methods like TV commercials that might be more appealing to consumers who are not using Facebook or not using computers at all.

STRATEGIC PLAN FOR PROMOTING MIMATANGOMA

To propose good marketing strategies to improve Mimatangoma project, it is necessary to use some successful marketing ideas as case studies. As expected, the area, product, and many other conditions in the material analyzed differ from Mimatangoma. Therefore, we should analyze and compare them very carefully.

Strategy 1: Direct to school lunch

Selling and marketing Mimatangoma as local food looks easy, but according to a report (Martinez, 2010), it is not so easy for small local communities to sell their product as “local food”. They may encounter some barriers like shortage of farmers’ time and labor.

Nowadays, the word, “Chisan-Chishou”, translated as “Local production for local consumption”, is always used positively in Japan and even became a national project run by the Ministry of Agriculture, Forestry and Fisheries (MAFF, 2016). By selling agricultural products in the local area, sellers can cut the cost of transportation and deliver the products with high freshness. This consuming style is also good for the environment, because reducing the distance of transportation means reducing the emissions of CO₂.

Usually, people associate the concept of local food with products sold at local grocery stores. Although not wrong, this is a very limited definition. The concept of local food also considers the way of marketing and delivering local products. Getting orders and delivering their products to local schools, hospitals, and other organizations can be large parts of the income of local food marketing. The Mimatangoma project has already a direct delivering system with some restaurants, and this is definitely something they should not only keep but also increase as much as possible.

Some local schools already support the plan to use Mimatas’ sesame for their school lunch. Although this is really good news for sesame farmers in Mimata, it also comes with some problems. The first problem faced by farmers is that the actual production output is not enough to cover all schools located in the area. The second problem is the high possibility of students having allergic reactions caused by the ingestion of sesame. The communities in Mimata have already created some plans to solve both problems. Regarding the lack of production, the project management decided to give schools not sesame itself, but marc of sesame. When processing sesame to extract its oil, extracting
machines squeezes the sesame and the left over product is called marc of sesame. Originally, the marc of sesame was disposed, but by distributing it to schools, the community was able to help local schools financially by providing lunch that is financially accessible and also save farmers from the trouble of disposing the marc after sesame oil extraction.

This is very interesting as not only seeds, but also the oil and leaves of sesame can be used in meals since they are also edible. According to the leader of the Mimata community. The community is also cooperating with Miyazaki University and researching how to process sesame leaves in a way that they can be used like tealeaves.

The allergy problem is more difficult to solve. The majority of Japanese elementary schools have a school lunch system. At lunchtime, all students and teachers have the same meal, which comes from cooking centers or from the school’s cafeteria. The idea of having the same menu for everyone in the school helps with the budget, but students (and sometimes faculty and staff), may have an allergy to some kinds of food, the most common being allergies to dairy products like eggs, wheat, and others.

Every year around Japan there are several cases of allergic reactions among students due to mistakes during school lunchtimes (The Japan Times, 2016) (Kanagawa Shinbun, 2016). For instance, in 1988 a soba allergy shock caused the death of an elementary school student in Hokkaido (Asahi Shinbun, 2014). Although rare, sesame can also cause allergic reactions and Mimata’s strategy to provide school lunches must consider the possibility of allergies. Without strict checking and clear communication between the schools, students and cooking department, the community of Mimatangoma will not be able to start a good delivery system of the sesame marc for school lunches. Looking at previous incidents, it is clear that it is very important to avoid the same type of problem in Mimata since any allergy incident may severely damage the image of the whole project and even the region.

Strategy 2: Direct Marketing on Internet

The Mimatangoma project does not have an Internet ordering system yet; they only have the webpage of request form with their email address and phone number. This situation can be considered as one of the weak points of this project and it is highlighted in Table 1. With an Internet ordering system, the local community is able to save their time and labor (Michaela, Bryan, Jody, & Nicholas, 2010). Moreover, consumers can get the products easily, by just clicking a button on the screen and then waiting for the delivery. In most cases, it is safe to assume that an increase in sales will come as a result of introducing such a system. Year-by-year, more and more people are using the Internet to make purchases, not only young people but also mid-aged and elderly people. Large Internet shopping companies like Amazon and Rakuten have become very popular from Internet purchasing in Japan, and many shops and makers are selling their products there. Selling Mimatangoma on that kind of website would be one way to quickly reach different markets and can boost sales without time constraint.

The possibility of keeping their products only on their web page is also an alternative, but making a special page for it or using social networks to promote it might make a lot of difference. Nowadays, lots of small shops have some kinds of ordering systems on their webpage, and most of them entrust the set up job to professional IT marketing companies. These professionals have the know-how to protect customers’ information and to set up effective pages. Such online ordering systems will, of course,
incur some expenditure, but the *Mimatangoma* project could start with a simple system and upgrade it as sales increase. The main idea here is that farmers receive an order that is ready to ship, without the need to communicate many times over the phone to set details of the purchase with consumers. This direct Internet ordering service is very different from the idea of local-food, but it would be able to expand the reach of Mimata’s products and become known by people in different parts of Japan.

**Strategy 3: Agritourism**

Setting a promotional tour can be another effective way to promote the *Mimatangoma* project outside of Mimata and Miyazaki area. This kind of tourism is called Agritourism, a combination of *agriculture* and *tourism*. Agritourism can have some good effects to the project as tourists become potential buyers, farmers can show and tell the quality of their product in person, and farmers can have the chance to hear the consumers’ thoughts on what they really think about the products. However, conducting agritourism often needs the local prefectural department’s support, because it is difficult to conduct it only by a small local community. Moreover, it is difficult to think that people and companies come to Miyazaki only to visit sesame farms. It is easier and more efficient that farmers offer the idea of agritourism to their local prefectures and then the prefectural departments plan the tours for tourist so that they can go and see some farmers’ projects and products in one tour or working and conducting the tour with other local farmers, communities, or businesses.

In addition, to invite people into this agritourism, farmers and planners should make up a tour-plan, which will give tourists an enjoyable feeling. Agritourism includes various events: outdoor recreation, education, accommodation, and entertainment. Table 4 lists some examples, which may be well suited to the *Mimatangoma* project.

<table>
<thead>
<tr>
<th>Table 4. Some recreations that can be used to promote agritourism (Burden, 2016)</th>
</tr>
</thead>
</table>
| Farm tours for families and schoolchildren.  
Children’s educational day (camps)  
Hands-on U-pick “self-harvesting” and “work-on-the-farm,” as in a “pick-’n’-pick” music and harvest vineyard weekend.  
Corn mazes and haunted forests. |

When thinking about agritourism, one additional idea would be to allow visitors to harvest the products themselves. Japanese families and tourists like the idea of going to agricultural areas and doing fruit picking. This is an activity that the Japanese government uses to promote tourism in Japan (JNTO, 2016). It is easy to imagine that, allowing people to cook what they have just harvested can be transformed into a fun activity that may boost not only commerce, but also the hotel industry, as people would have to sleep over to cook dinner.

Some agricultural areas in Japan have already started agritourism, so we can bring some of their ideas to Mimata agritourism. In Sanpachi (south-east area in Aomori prefecture), Sanpachi Agricultural Tourism Promotion Association is running agritours for school children with the support of the association of Aomori Green-tourism (Aomori Prefecture, 2016).

During the interview in Mimata, Mr. Shimoishi said that there are two main reasons why Mimata cannot do agritourism. First, Mimata lacks enough places to
accommodate tourists. If Mimata starts receiving too many people suddenly it will be a problem because there are not many hotels where people can stay. The second main problem is transportation. It is very difficult to get to Mimata’s agricultural areas from the city.

Looking back at the example of Sanpachi, the Sampachi Agricultural Tourism Promotion Association found a workaround for the accommodation problem by simply asking local farmers who wanted to join the tour-project to get a qualification for running simple accommodation businesses. This simple idea was well received by the community and now 75 farmers are able to offer rooms where tourists visiting the region can stay. In theory, this idea could be implemented in Mimata as well.

Regarding the transportation problem, we firmly believe that the city of Mimata should give some incentives to promote easy access to the region. Bus companies have fixed schedules and routes for their buses, but we would suggest that some specific bus route and time table could be created in order to bring visitors from Mimata’s train station to Mimata’s agricultural areas. The city administration should be able to take care of financial details or even subsidies to bus companies to create such route.

**Strategy 4: Farmer-to-Consumer**

The first idea would be to sell *Mimatangoma* products without a middleman. Without a wholesale or supermarket between producers and consumers it is possible to offer products at lower prices to consumers at the same time as raising farmer’s profits. This interesting idea is explained in the Farmer-to-Consumer publication series by the Oregon State University (Burt and Wolfley, 2009). There the authors explore the idea of Farmer-to-Consumer marketing and argue that, because consumers tend to choose cheaper products, this marketing strategy tends to be very effective for small farmers. The reason is that without a middle-seller, products tend to be cheaper and the amount of sales is expected to increase.

The easiest way to implement a Farmer-to-Consumer marketing strategy in the Mimata region would be to increase their online presence and make online orders possible. A simple ordering system would not be too expensive and would only require that someone able to deal with email and computers to be in charge of receiving communication from the website and passing it to the farmers. The same system should be able to keep track of orders so the *Mimatangoma* project administration could check which orders have been shipped and which ones are still pending. This online system can be implemented together with the “Direct marketing on the Internet” strategy discussed before.

**Strategy 5: Organic Farming**

One of the strong sales points of *Mimatangoma* is their production method. The farmers use no agricultural pesticides during their sesame farming, and this kind of producing style is called organic farming. Now, the word “organic” is very attractive for buyers and consumers. Some foreigners say Japanese agricultural products are usually safe because of their low-pesticide use, and not only foreigners but also Japanese consumers now want to choose low-pesticide or pesticide-free products. So how can the *Mimatangoma* project promote their products’ organic sales point more effectively? On the webpage of the *Mimatangoma* project, they put some explanations of pesticide-free farming and safe farming, but on the packages of their processed products, there is not
such kind of explanation, so they lost opportunities to promote this important sales point. Accordingly, the first point is putting the word “organic” or “pesticide-free” on their products’ packages. Moreover, nowadays, many organic farmed products are sold with farmer’s pictures on their packages. By not only putting the information of production but also putting farmers’ names and faces, the project could encourage consumers to buy the products because they feel they are safe.

To implement this strategy, the Mimatangoma project just needs to start advertising its products as “organic” and make sure that this word is noticeable on the products’ package (adding farmer’s pictures can be a more effective way of doing it).

**Strategy 6: Improve their existing Michi-no-Eki**

Mimata has its own Michi-no-Eki by the side of Mimata’s train station. In September 2016, I went there to observe and noticed that most people who use that Michi-no-Eki seem to be local people and there were few tourists. One of the main reasons to put a Michi-no-Eki near a station or a national highway is to invite outsiders. The area becomes a place where local farmers can promote their products to tourists. We shouldn’t forget that this store also should be a place for local people to communicate, but to develop Mimata’s agriculture; this Michi-no-Eki needs to be a more attractive place for outsiders. In order to do that, I would suggest more heavily promoting a product that can attract many people easily. One idea would be to use Mimata’s sesame flavored ice cream. It is different enough to bring many curious people to Mimata only to try it, and at the same time, it is a unique product.

In short, to improve Mimatangoma project and Mimata city is not an easy task. By increasing their online presence, investing in infrastructure, making agreements with local businesses and improving their Michi-no-Eki is a good place to start.

**DISCUSSION AND CONCLUSION**

In the situation of aging society, slow economic growth, and declining young labor force in rural areas of Japan, it is important to understand the situation of local agricultural communities and provide a business solution to revitalize them.

During this research we came to understand that Mimata is a region that wants to grow, is supported by its people and has a good product, but that needs a little bit of support from outside for things that the community itself cannot provide to customers and visitors (e.g. hotels for larger scale tourism). The lack of infrastructure is something that regional and national governments need to actively engage.

When the Japanese government signed the TPP agreement, many people in agricultural communities were against it because they believed it was against the interests of Japanese producers. Looking at the possible impacts of the TPP it is easy to understand why so many Japanese agricultural communities felt afraid. Still, at the time of this writing, the TPP agreement is at risk of failing. The United States of America has elected their next president, one that is against the TPP agreement and that has already said in interviews that the U.S.A is going to drop out from the agreement (BBC News, 2016).

To be fair, without the USA, in the agreement, many people say the agreement will fail. In our opinion, this may be a chance for the Japanese government to rethink its strategy on development of rural areas. If the TPP agreement really fails, Japanese rural areas have the chance to prepare better for future agreements like the TPP as it is our belief that other similar agreements will come in the future. Therefore, not only Mimata,
but also other communities should use this time to make themselves stronger economically.

Looking back at our research problem, we can now understand that Mimata (and probably many other agricultural areas in Japan) is not ready for big changes without support. In addition, our simple analysis of the 4P’s of marketing for the Mimatangoma project was enough to point out many areas of improvement to current practices in the project. Although the ideas presented here are only suggestions at this point, we hope these can be a starting point to improve the region and the project. We expect to expand this analysis to the 7P’s of service marketing in future works.

REFERENCES


Factors affecting transient and chronic poverty in the Philippines

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ABSTRACT

The levels of poverty take different approaches to tackle. Poverty as a global problem can be classified into transient and chronic poverty. This study aims to examine the dynamics of poverty with some factors influencing it. Specifically, it measures the effect of some economic, demographic, and social factors on the poverty status of Filipino households. Using repeated cross section analysis from the baseline logistic model, results reveal that the factors included in the study significantly affect transient and chronic poverty status of Filipino households.

Keywords: transient, chronic, poverty

INTRODUCTION

The developing world, including the Philippines, has been described in terms of their most significant features and of their state of poverty. These economies measure poverty using various metrics, which define their state of underdevelopment (Todaro and Smith, 2011).

Across the world, measures of poverty have been based on economic indicators such as income and consumption (Arcilla et al., 2011; Estudillo et al., 2008; Mitiku, 2014; Orbeta, 2003, 2005), and also other dimensions such as capacity (Ataguba et al., 2013) and other social inclusion principles (Marlier & Atkinson, 2010; Waggle, 2008). Rivera, Pizzaro, and Aliping (2013), for instance, noted that in the Philippines, poverty is officially measured through the poverty (per capita income) and food threshold (minimum cost for food).

Kakwani (2010) supported constructing a new model for poverty lines due to differences in demographic factors. For example, while there is a standard computation for the caloric requirement per family, it will not be fair to specify similar food baskets for the population given differences in family size, regional price thresholds, and location, plus the factor of inflation, thus the need to determine different food poverty line per region. Other non-monetary measures which could define the population’s status whether poor or non-poor include water and sanitation, health, education, and shelter (Chambers, 2007).

The levels of poverty take different approaches to tackle. For example, Moreno (2011) suggested that only the enterprising poor could enjoy the benefits of microcredit to engage in entrepreneurship and not the poorest of the poor, the hardcore poor (Milgram, 2001), or the abject poor (Alvarez & Barney, 2013). Other studies (Aslanbeigui, Oakes, & Uddin, 2010; Boateng, Boateng, & Bampoe, 2014; Milgram, 2001; Shetty, 2010) also showed that those who have had experience in starting or handling one’s own business gained access to microcredit. Those who are enterprising would have an upper hand in access to a resource to grow the business. The latter could benefit more from cash transfer programs (Moreno, 2011), which could help in their day-to-day subsistence.
Economic transformation, i.e., moving households from low to high income is a concern of development economics but the new view of economics aims higher than to increase income and that is, to eliminate or reduce poverty, inequality, and unemployment (Todaro and Smith, 2011).

Of the poverty mobility options, poverty alleviation or eradication has been among the most studied and perhaps the goal as far as poverty mobility is concerned. After all, as Hulme (2009) stated in his chronicle of the Millennium Development Goals (MDG), poverty alleviation is a moral obligation. At the crux of discussions poverty is the extreme inequality of incomes that stunt macroeconomic growth and the inequitable distribution in society (Reyes et al., 2010a, b; Van den Berg, 2012). Todaro and Smith (2011) stated why extreme income inequality should be a matter of concern. First, it leads to economic inefficiency, which leads to inefficient allocation of resources. Second, inequality undermines social stability and solidarity. Generally, it means that the rich gain political power that increases their bargaining power. Consequently, the outcomes of these negotiations only benefit the rich. Lastly, extreme inequality is simply unfair.

Importance rises to explore how some factors would affect the continuous battle of an economy such as the Philippines against poverty. This study focuses not only on poverty alleviation but other poverty mobility scenarios such as no change in status, movement to further poverty, or from a state of poverty to non-poverty. Hence, this study answers the research problem, “how do some economic, demographic, and social factors affect transient and chronic poverty status of Filipino households?” It particularly aims to test whether demographic (age, size, sex, age, education), economic (wage, entrepreneurship, government support) and social (urbanity) factors affect the poverty status of Filipino households. Furthermore, it aims to test whether these factors lead to transient or chronic poverty in the Philippines. Once the relationships have been established, this will benefit not only the people who fall below the poverty line but also the policy-makers for economic development. Moreover, this will also benefit investors and businessmen, the academe and future researchers.

REVIEW OF RELATED LITERATURE

Poverty studies would usually focus on factors on why someone becomes or is poor. The literature pointed to demographic factors such as age (Estudillo, Sawada, & Otsuka 2008; Heslop & Gorman, 2002), family size (Arcilla, Co, & Ocampo, 2011; Orbeta, 2003, 2005; Son, 2013), education (Chatterjee, 2005; Hala & Ali, 2013; Kim & Terada-Hagiwara, 2013), gender (Kim, Lee, & Lee, 2010; Todaro & Smith, 2011; Dowling & Yap, 2009), race (David & Gouws, 2013; Miller, 1968), and disability (Rahman, Matsui, & Ikemoto, 2013) as determinants of poverty. Economic factors like wages (Hasan & Jandoc, 2010), entrepreneurship (Alvarez & Barney, 2013; Durrani, Usman, Malik, & Ahmad, 2011; Mitiku, 2014), and access to credit (Hudson, 2008), as well as social factors such as inequality of distribution of wealth, for example, between urban and rural centers (Koveos & Zhang, 2012; Islam, Islam, & Abubakar, 2012; Sawada & Estudillo, 2012), citizenship (Dowling & Yap, 2009; Wagle, 2008), and war (Dowling & Yap, 2009; Lim, 2009) could all contribute to poverty.

Corollary to the discussion on the MDG on poverty is the articulation of positive externalities. As determinants of poverty such as demographic, economic, and social factors contribute to poverty, among those that persistently contribute to poverty are unemployment and urbanity, i.e., social factor dictating rural poverty. Sulistyowati (2013)
discussed how investments on educational, health, and infrastructure expenditure contribute to employment and reduced poverty. His study found that increased health expenditure contributes most to increased gross domestic product (GDP), all sector workforce (regardless if industrial or agricultural), and reduced poverty. Given this increased investment, it has a positive benefit on individuals, as well as a societal effect of increased productivity through employment and reduced poverty.

Poverty as a global problem can be classified into transient or transitory poverty, and chronic or permanent poverty. Krishna (2010) classified transitory or transient poverty as one in which people’s poverty status is only for a short term. For instance, Cohen and Tyree (1986) studied characteristics of the poor and non-poor in the United States using the Panel Study of Income Dynamics from 1967 to 1978. They found that sons and daughters were able to escape poverty when their families have savings, a business or good education. They also contributed new factors for mobility such as community of origin (whether the community is affluent gauged by the median income of the neighborhood), and marriage. Furthermore, Rahman et al. (2013) in their study of poverty in Bangladesh categorized poverty as ascending poor to include household income below the poverty line 10 years ago but escaped poverty. The study cited that 76 percent upward mobility was caused by increase of work opportunity, diversified income sources, crop diversification and progress in business.

On the other hand, chronic poverty is a category to which those who have become poor remain so for a long period of time, sometimes intergenerational (Krishna, 2010; Prowse, 2009). Using panel data, Rahman et al. (2013) categorized poverty into chronically poor as those whose household income fall below the poverty line for a long period of time; and found that such state of poverty was due to high family expenses, natural disasters, loss of money for employment abroad, and high treatment cost for illnesses. Moreover, Alvarez and Barney (2013) showed the other side of microfinance, in which acquiring small loans for a business led to further poverty of the beneficiary. The authors showed that microfinance institutions were not discriminate in handing out loans to potential borrowers, even if all 10 would use the loan for opening a small store in the same neighborhood. In this scenario, some would thrive, and unfortunately, others would go bankrupt. Those who went bankrupt secured more loans to pay for the initial loan, which led them to further poverty.

Likewise, using data from the Annual Poverty Indicators Survey (APIS; 2004, 2007, and 2008), Family Income Expenditure Survey (FIES; 2003 and 2006), and combined APIS and FIES five-year panel data set, Reyes, Tabuga, Mina, Asis, and Datu (2010) also categorized poverty status of Filipino households as chronic poor those who were consistently poor in each of the covered year; and transient poor those who were poor during a given period of time and non-poor for at least one year during the year under study.

This study contributes in determining the effect of some demographic, economic and social factors on poverty mobility in the Philippines, especially in probability results such as transient and chronic poverty. Likewise, this also looks into family size, education, wage as factors of poverty and confirm the finding established in the research of Reyes et al. (2010b).
METHODOLOGY

Using data of Filipino households from Annual Poverty Indicators Survey (APIS) 2008 and APIS 2011 with 190,171 and 42,063 households respectively, this study examined poverty status of Filipino households. Specifically, this study measures the effect of some economic, demographic, and social factors on transient and chronic poverty in the Philippines. To achieve this objective, two phases of methodology were employed, namely, maximum likelihood estimation (MLE) and repeated cross-section analysis.

The first phase MLE is an alternative approach that utilizes out of sample information and provides more efficient estimates (Greene, 2013, as cited in Conchada & Rivera, 2013). The dependent variable, i.e., whether the household is poor or not, is a dummy variable that is modeled as a standard logit probability model. Hence, a logistic model was employed with the following specification:

\[
\ln \left( \frac{p_i}{1 - p_i} \right) = x' \beta + \varepsilon
\]

where \( p/(1 - p) \) measures the probability that \( y = 1 \) relative to the probability that \( y = 0 \), which is called the odds ratio or relative risk (Gujarati & Porter, 2009). For the logistic regression model, the log-odds ratio is linear in the regressors (Cameron & Trivedi, 2005).

In this study, poverty is measured in terms of per capita income based on the poverty threshold from National Statistical Coordination Board of PHP16,871.00 per year or PHP46.86 per day or the equivalent of approximately one USD. Hence, households having per capita income at poverty line of PHP16,871.00 per year is considered poor.

To measure the influence of the independent variables (i.e., demographic, economic and social factors) on the probability that a household will be poor or non-poor, the logistic specification is given by

\[
\ln \left( \frac{p_i}{1 - p_i} \right) = f(FSIZE_i, AGE_i, AGE SQ_i, EDUC_i, WAGE_i, URBAN_i, ENTREP_i, GOVS_i) + \varepsilon_i
\]

where:
- \( p_i \) is the probability that a household is considered poor while \( (1 - p_i) \) is the probability that a household is non-poor.
- \( FSIZE_i \) (family size) is the number of family members in the household.
- \( AGE_i \) indicates the age of the household head, reported in terms of the number of years completed, that is, his/her age as of last birthday.
- \( AGE SQ_i \) indicates the age-squared of the household head, which is generating a quadratic curve. Positive effect of age and a negative of age squared would mean that as household gets older, the effect of age is lessened.
- \( EDUC_i \) (education) is defined as the highest grade completed by the household head in any educational institution.
- \( WAGE_i \) refers to the gross basic salary or wage earned by the household head from all his/her jobs.
URBAN$_i$ (urbanity) is a dummy variable assigning the value of 1 if the household is residing in urban area and 0 in rural area.

ENTREP$_i$ (entrepreneurship) indicates whether or not the household is engaged in entrepreneurship.

GOVS (government support) indicates whether the household received government support under Kalahi-CIDSS program, poverty reduction project.

After employing MLE to determine whether the independent variables are significant on the probability that a household will be poor or non-poor, we proceeded to examine the mobility into and out of poverty in the Philippines using repeated cross-section analysis. For this purpose, we adapted the model from the derivation of Dang, Lanjouw, Luoto, and McKenzie (2011), an alternative statistical methodology for analyzing movements in and out of poverty based on two or more rounds of cross-sectional data. Household characteristics in round 2 that are observed in both round 1 and 2 provides linear projection of round 2 income; and gives estimation of the degree of mobility into and out of poverty. For instance, to estimate the fraction of household in the population who are poor in round 2 after being poor in round 1 could be expressed after some manipulations, as:

$$ P(\varepsilon_{11} < z_1 - \beta_1'x_{11} \text{ and } \varepsilon_{12} > z_2 - \beta_2'x_{12}) $$

which represents the degree of mobility our of poverty for households over the two periods in the study, where $x_{11}$ and $x_{12}$ represent vectors of characteristics of household $i$ in survey round 1 and 2, respectively, and $z_1$ and $z_2$ denote the poverty line in the period 1 and period 2 respectively.

Diagrammatically, the relationships between the variables tested are structured in the succeeding Figure 1 and Figure 2.

![Figure 1. Diagram of Chronic Poverty](image-url)
RESULTS AND DISCUSSION

Descriptive Statistics for Per Capita Income
Presented in the following table are the statistical information of the dependent variable per capita income using APIS 2008 and 2011 datasets.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Observations</td>
<td>Observations</td>
</tr>
<tr>
<td>Poor</td>
<td>130,135</td>
<td>22,920</td>
</tr>
<tr>
<td>Non-Poor</td>
<td>60,036</td>
<td>19,143</td>
</tr>
<tr>
<td>Overall</td>
<td>190,171</td>
<td>42,063</td>
</tr>
<tr>
<td>Mean</td>
<td>8,702.67</td>
<td>9,707.272</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>3,756.25</td>
<td>3,656.132</td>
</tr>
<tr>
<td>Minimum</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Maximum</td>
<td>16,870</td>
<td>16,870.67</td>
</tr>
</tbody>
</table>

As shown in Table 1, there were 130,135 (68.43%) poor households and 60,036 (31.6%) non-poor households from the total 190,171 households included in 2008 APIS. On the other hand, there were 22,920 (54.49%) poor households and 19,143 (45.51%) non-poor households that were included in total 42,063 households covered by 2011 APIS.
Binary Logistic Regression

Table 2. Marginal effects based on logit estimates

<table>
<thead>
<tr>
<th>Exogenous Variables</th>
<th>2008</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y=poor: Probability</td>
<td>.7416693</td>
<td>.51060522</td>
</tr>
<tr>
<td>Family Size</td>
<td>.1105319***</td>
<td>.1599913***</td>
</tr>
<tr>
<td>Age</td>
<td>-.0070555***</td>
<td>-.0070898***</td>
</tr>
<tr>
<td>Age Squared</td>
<td>.0000259***</td>
<td>.0000248 ***</td>
</tr>
<tr>
<td>Wages</td>
<td>-6.76e-06***</td>
<td>-8.69e-06***</td>
</tr>
<tr>
<td>No Grade Completed</td>
<td>.1966439***</td>
<td>.302918***</td>
</tr>
<tr>
<td>Elementary Graduate</td>
<td>.0987187***</td>
<td>.1157421 ***</td>
</tr>
<tr>
<td>High School Graduate</td>
<td>-.030664***</td>
<td>-.0694932 ***</td>
</tr>
<tr>
<td>Post-Secondary Grad</td>
<td>-.1522777***</td>
<td>-.2765478 ***</td>
</tr>
<tr>
<td>College Graduate</td>
<td>-.3701875***</td>
<td>-.3605692 ***</td>
</tr>
<tr>
<td>Urbanity</td>
<td>.221244 ***</td>
<td>.2911865 ***</td>
</tr>
<tr>
<td>Government Support</td>
<td>-.0143485***</td>
<td>.1755928 ***</td>
</tr>
<tr>
<td>Entrepreneurship</td>
<td>-.1596564***</td>
<td>-.1967397 ***</td>
</tr>
</tbody>
</table>

Note: *significant at 10%, **significant at 5%, ***significant at 1%,

Results of marginal effects after the logistic regression analysis show that the independent variables (i.e., demographic, economic and social factors) significantly influenced the decrease in poverty incidence of 74% in 2008 to 51% in 2011.

Demographic factors such as family size, age and education revealed to have significant influence on the probability of the household of becoming poor for both 2008 and 2011. The results indicate that family size contributes to the increase in the probability of the household of becoming poor. This implies that the greater the number of family members, the higher the probability that per capita income of household is below the poverty threshold.

The results also show that age and age-squared are significant to the decline in poverty incidence. Age suggests a positive effect as it decreases the probability of becoming poor for both 2008 and 2011. Age-squared has a reverse effect as family members who are very young or old rely on the household heads who are at their optimum to take on work, with their capacity and physical strength to earn an income.

Another demographic factor education as presented in Table 2 revealed to be significant with a twisting effect. Household heads whose educational attainment are below high school (secondary education) increase the probability of being poor for both 2008 and 2011 while those with higher educational attainment, i.e., higher levels of education past the secondary education, reduces the probability of being poor for both 2008 and 2011 at an increasing rate. This empirical result validates the importance of education, i.e. obtaining higher education would translate into high probability of greater capacity for earning.

As shown in Table 2, results of the marginal effects based on logistic regression analysis reveal that wages, entrepreneurship and government support are significant economic factors that influence the household of becoming poor or non-poor for both
2008 and 2011. Wages of the household head decreases the probability of the household of being poor for both 2008 and 2011. The results indicate that the 74% probability of the households being poor in 2008 decreases by 0.0007%; while 51% probability in 2011 decreases by 0.0008%. We note however that although the probabilities are statistically significant, they exhibit minimal effect on poverty status.

Also, entrepreneurship decreases the probability of the household of being poor for both 2008 and 2011. This means that if the household is engaged in entrepreneurial activities, the results indicate that 74% probability of the households being poor in 2008 decreases by 16%; while 51% probability in 2011 decreases by 20%. This suggests that the more Filipinos are involved in entrepreneurial activities, the lesser their chances of being poor.

Furthermore, government support to the households significantly decreases the 74% probability of the household of being poor by 15.8% in 2008 while 51% probability in 2011 increases by 18% as shown in Table 2. The volatility of results implies that the government support received by households for 2008 and 2011 cannot predict reliably the effect on their poverty status. Attempts should be made to reevaluate this statement as another set of data in the future becomes available.

Results of the marginal effects based on logistic regression analysis show that the social factor urbanity significantly increases the probability of the household of being poor for both 2008 and 2011. This means that if the household is living in urban area, the results indicate that 74% probability of the households of being poor in 2008 increases by 22%; while 51% probability in 2011 increases by 29%.

Bounds of Mobility
Using repeated cross-section analysis of the household data, approach proposed by Dang, Lanjouw, Luoto and McKenzie (2011) in estimating the movement into and out of poverty, we obtained the estimates as shown in Table 3. The results provide some bounds on the extent of movements into and out of poverty based on the characteristics of the cross-section data of households surveyed. The lower and upper bounds in the table are estimated using the exogenous variables listed in Table 2.

<table>
<thead>
<tr>
<th>Table 3. Bounds of mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Poor in 2008; Non-poor in 2011</td>
</tr>
<tr>
<td>Non-poor in 2008; Non-poor in 2011</td>
</tr>
<tr>
<td>Non-poor in 2008; Poor in 2011</td>
</tr>
<tr>
<td>Poor in 2008; Poor in 2011</td>
</tr>
</tbody>
</table>

Poor to Non-Poor
Results of repeated cross-section analysis, as shown in Table 3, reveal that proportion of Filipino households in 2011 that lies between the lower and upper bound estimates of 3.99% and 4.29% was above the poverty line in 2011 after being below the poverty line in 2008.
Non-Poor to Non-Poor
Estimates as presented in in Table 3 show that fraction of Filipino households in 2011 that ranges from 41.22% to 41.52% was above the poverty threshold in 2011 and 2008.

Non-Poor to Poor
Results as shown in Table 3 reveal that proportion of Filipino households in 2011 that lies between the lower and upper bound estimates of 49.18% and 49.5% was below the poverty threshold in 2011 after being above the poverty threshold in 2008.

Poor to Poor
Estimates as presented in Table 3 show that fraction of Filipino households in 2011 that ranges from 4.99% and 5.31% was below the poverty threshold in 2011 and 2008.

Poverty Mobility
In furtherance of repeated cross-section analysis, we used the probabilities in Table 3, estimating the degree of mobility into and out of poverty for households over the two periods 2008 and 2011 to categorize the households into transient and chronic poverty as presented in the succeeding table.

Table 4. Poverty mobility

<table>
<thead>
<tr>
<th>State of the World</th>
<th>2011 Households</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor in 2008; Non-poor in 2011</td>
<td>4.14%</td>
<td>Transient</td>
</tr>
<tr>
<td>Non-poor in 2008; Non-poor in 2011</td>
<td>41.37%</td>
<td></td>
</tr>
<tr>
<td>Non-poor in 2008; Poor in 2011</td>
<td>49.34%</td>
<td>Transient</td>
</tr>
<tr>
<td>Poor in 2008; Poor in 2011</td>
<td>5.15%</td>
<td>Chronic</td>
</tr>
</tbody>
</table>

Transient Poverty
Results as shown in Table 4 reveal that among the Filipino households in 2011, 4.14% of them were poor in 2008 but moved out of poverty in 2011, and therefore categorized as transient poor. Likewise, transient poverty includes 49.34% of households in 2011 that were above the poverty threshold in 2008 but became poor in 2011.

Chronic Poverty
Results as shown in Table 4 reveal that 5.15% of Filipino households in 2011 were below the poverty threshold in 2011 and 2008, and hence categorized as chronically poor.

CONCLUSIONS
Various reasons are found in the literature that point to different types and levels of poverty leading to different approaches to tackle them. This study focused on dynamics of poverty, categorized into transient and chronic poverty.

The results of this study showed that the effects of some demographic, social and economic factors are significant in reducing poverty incidence in the Philippines from 74% in 2008 to 51% in 2011. Furthermore, using repeated cross-section analysis, this study examined how demographic factors family size, age, and education; economic factors wages, entrepreneurship, and government support; and social factor urbanity influence poverty status of Filipino households involved in the study and categorized into transient and chronic poverty.
Similar to related studies, family size was found to have negative effect on poverty status. Families with large family size suffer from financial issues due to greater amount of income required for the caring of family members. It is expected that a larger family often has more expenses than a smaller family and a higher amount of income must be budgeted to meet the basic necessitates of family members. Hence, larger families are more susceptible to chronic poverty.

Age of the household head was found to have significant positive effect on poverty mobility from 2008 to 2011 while age squared posits the reverse effect. Considering that household heads included in the study aged in the range of 41 to 50 years of age, the results suggest that while household heads are at their optimum with their physical strength as a factor to earn income, such that when household heads gets older or if they are too young, there is a declining capacity to earn income sufficiently for the family. Hence, families with household heads below and above the prime age are more susceptible to chronic poverty, while those with household heads at their prime age are more likely to move out of poverty and be categorized into transient poverty.

Education as the last demographic factor in the study has been found to have significant positive effect on poverty mobility. Educational attainment of households that are past high school (secondary school) contributes to the decrease in the probability of the household of becoming poor while households whose educational attainment are high school and below revealed to increase the probability of being poor. This indicates that those with lower education would have more difficulty in moving out of poverty and susceptible to chronic poverty compared to those with higher education, which posits a great chance to be categorized into transient poverty.

Economic factors wages, entrepreneurship and government support are found to be significant in decreasing poverty incidence in the Philippines from 74% in 2008 to 51% in 2011. Household heads that lack earning power are trapped to chronic poverty due to lack of sustainable income. This study showed empirical evidence that these economic factors influence positively to transient poverty as well.

Lastly, social factor urbanity suggests a negative effect on poverty mobility. Specifically, this finding indicates that household living in urban area decreases the probability of moving out of poverty or from transient poverty and hence, susceptible to chronic poverty. This suggests that while more job opportunities are available in urban areas, competition is stiff that results in the phenomenon of urban unemployment in many developing countries like the Philippines. The inability to avail of social services such as education, health and sanitation, and housing capability are most likely to be contributors of chronically poor as they lack the earning power to lift themselves to a higher standard of living.

REFERENCES


Accounting practices for exploration for and evaluation expenditures in Philippine mining industry

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ABSTRACT
Prior to 2006, there has been no accounting standard that specifically addresses the accounting policies for mining industry in the Philippines. The Financial Reporting Standards Council (FRSC) adopted the International Financial Reporting Standards (IFRS) 6 Exploration for and Evaluation of Mineral Resources effective January 1, 2006. This paper aims to investigate the accounting practices on expenditures incurred by mining entities in connection with the exploration for and evaluation of mineral resources and its implication to the company’s firm value. Successful effort approach and Full Cost approach are the two competing approaches employed in practice to account for exploration costs. IFRS 6 does not require or prohibit any specific accounting policies for the recognition and measurement of exploration and evaluation expenditures. All listed companies in the Philippine mining sector are utilized in this paper. The authors aim to contribute useful findings to various stakeholders of extractive industries including the regulatory bodies.

Keywords: exploration for and evaluation expenditures, exploration and evaluation assets, accounting policy, firm value

INTRODUCTION
Entities operating in the mining or extractive industry are involved in the search for mineral resources, including minerals, oils, natural gas and similar non-renewable resources. The extractive industry is considered to be a dynamic industry because of its inherent risk nature (Zhou, Birt and Rankin, 2015). According to Wise and Spear (2002), companies in extractive industries have to face up to the high exploration risks, rapid technology development, dynamic market supply and demand, complex international intention, increasing operation costs and government influence.

Because of high exploration and evaluation costs being incurred by mining companies, proper accounting policy must be employed to account for these costs. Accounting policies are necessary for providing more reliable and relevant information in financial statements on the effects of transactions, other events or conditions on the entity’s financial position. The accounting policies have a very big impact on the financial
statements (Bialas, 2013). IAS 1 states that an entity should clearly disclose the accounting policies it has used while preparing the financial statements. Users of financial statements will not be able to compare the financial information with other entities if the accounting policies are not clearly outlined (Alayemi, 2015).

In 2006, the Philippines adapted IFRS 6 to account for exploration and evaluation expenditures. Based on IFRS 6, the exploration and evaluation expenditures are expenditures incurred by an entity in connection with the exploration for and evaluation of mineral resources before the technical feasibility and commercial viability of extracting a mineral resource are demonstrable. This accounting standard does not require or prohibit any specific accounting policies for the recognition and measurement of exploration for and evaluation expenditures.

IFRS 6 permits entities to continue to use their existing accounting policies for exploration and evaluation assets, provided that such policies result in information that is relevant and reliable. For this reason, our paper is aimed to investigate on how exploration for and evaluation expenditures are recognized and presented in the financial statements of listed Philippine mining companies and what kind of influence does this accounting recognition on the firm value of the mining company.

LITERATURE REVIEW

IFRS 6 - Exploration for and Evaluation of Mineral Resources

Exploration and evaluation expenditures contribute a large proportion of the total mining costs for mining companies in the exploration and evaluation phases (Zhou et al, 2015). The accounting treatment of exploration and evaluation expenditure can have a fundamental impact on the financial statements of a mining entity, particularly for junior mining companies with no producing assets (PWC, 2007). IFRS 6 prescribes that a mining entity has to determine an accounting policy specifying which expenditures on exploration and evaluation activities will be recorded as assets and apply the policy consistently. However, an entity may change the accounting policies for exploration and evaluation expenditures if the change makes the financial statements more relevant to the economic decision-making needs of users and no less reliable, or more reliable and no less relevant to those needs, judged using the criteria in IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors.

Under IFRS 6, in determining the accounting policy, an entity should consider the degree to which the expenditure can be associated with finding specific mineral resources. The following are examples of expenditures that might be included in the initial measurement of exploration and evaluation assets: acquisition of rights to explore; topographical, geological, geochemical and geophysical studies; exploratory drilling; trenching; sampling; and activities in relation to evaluating the technical feasibility and commercial viability of extracting a mineral resource. Expenditures related to the development of mineral resources shall not be recognised as exploration and evaluation assets.

Accounting policies for exploration and evaluation expenditures

All the exploration and evaluation costs associated with discovering new reserves may be written off as incurred or capitalized pending evaluation. The Full Cost method advocates capitalizing the costs of drilling all oil wells; while the Successful Efforts method
advocates capitalizing only the cost of successful wells, unsuccessful exploration are expensed as incurred. Once technical feasibility and commercial viability of production has been demonstrated, exploration and evaluation costs are reclassified as development costs and subject to impairment testing.

<table>
<thead>
<tr>
<th>Table 1. Comparison of Successful Efforts and Full Cost method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Successful Efforts</strong></td>
</tr>
<tr>
<td>• Expense exploration and evaluation costs for unsuccessful</td>
</tr>
<tr>
<td>wells</td>
</tr>
<tr>
<td>• Cannot capitalize General &amp; Administration expense</td>
</tr>
<tr>
<td>• Lower depreciation / amortization expense since dry hole</td>
</tr>
<tr>
<td>costs are expensed</td>
</tr>
</tbody>
</table>

*Source: Accounting for Exploration and Evaluation Costs, Zori (2011)*

The Full Cost method treats the expenditure as investing activity, whereas under the Successful Efforts approach companies classify it as operating activity as it is deducted from earnings before income tax.

**Prior research in the mining industry**

There have been several studies on accounting policy adopted by extractive industries. In 2000, Bryant concluded that capitalised exploration and evaluation expenditures have been found to be value relevant and useful for external users. Further, in 2003, Bryant examined the association between oil and gas firms’ market values and exploration and development costs. He claimed that the Full Cost method for accounting exploration and development expenditures provides more relevant information than the Successful Efforts method.

Berry and Wright (2001) (as cited in Zhou et al, 2015) discovered a positive association between a mining firm’s market value and resource explorations and mining field development disclosures. They examined whether the disclosures of mining companies under either the Full Cost or Successful Efforts accounting methods conveys value-relevant information of the companies’ efforts and ability to discover reserves. They hypothesised that mining firms using the Full Cost approach provide value-relevant information on proven developed reserves and undeveloped reserves to the market. Both Berry and Wright (2001) and Bryant (2003) found that disclosures of extractive firms under the Full Cost accounting method convey value relevant information to the stock market.

The argument of Berry and Wright (2001) is consistent with Healy and Palepu’s (2001) and Gul and Qin’s (2002) (as cited in Zhou et al, 2015) discussions about the impact of accounting regulations on value relevance and information asymmetry. They concluded that the disclosed exploration cost under Full Cost method appears to be a positive signal to investors about the future investment opportunity of Full Cost firms. Their study also provided supporting evidence that the market is more confident of the effort and ability of mining firms who used Successful Efforts accounting while looking for the additional information about the ability of Full Cost companies (Zhou et al, 2015).
The study of Siy in 2013 on disclosure practices of seventeen listed mining companies in the Philippines showed that sixty-five percent of companies (11 out of 17 companies) went for deferral of exploration and evaluation costs while only a handful (five out of 17 companies) expensed the said costs prior to determination of reserves.

In 2015, Zhou et al investigated the value relevance of exploration and evaluation expenditures disclosed under Australian Accounting Standards Board (AASB) 6. They showed that exploration and evaluation expenditures (both capitalised and written off exploration and evaluation expenditures) are relevant to the value of extractive firms. Second, the implementation of AASB 6 has led to an improvement in the disclosure of exploration and evaluation expenditures.

FRAMEWORK AND METHODS

The following framework (Figure 1) was used in conducting this study.

![Figure 1. Framework of the study](image)

Control variables (firm size & profitability)
- Total assets
- Total exploration & evaluation assets
- Total shareholders’ equity
- Return on assets

Our study aimed to determine the accounting policy adopted by Philippine publicly listed mining companies on exploration and evaluation expenditures, whether Full Cost or Successful Efforts. The effect of accounting policy choice on exploration and evaluation expenditures on firm value was also established in this study.

The firm value or enterprise value is an economic measure reflecting the market value of a business. Stated otherwise, firm value tells us how much a business is worth. It is a sum of claims by all claimants at market value: all creditors whether secured or unsecured, preferred shareholders and common shareholders.

We used total assets, total shareholders’ equity, exploration and evaluation assets and return on assets as control variables.

Research Design

There are twenty listed mining companies in the Philippine Stock Exchange. The study covers all Philippine listed companies in the mining sector. The 2015 annual reports of these companies were collected from PSE Edge website. Other financial data were gathered from OSIRIS database like firm value and return on assets.
The notes to financial statements were analyzed to verify the accounting policy used by the mining firms on exploration and evaluation expenditures. This study is descriptive in nature and examines the content of the 2015 notes to financial statements of the listed corporations in the mining industry. From the annual reports, the notes to financial statements disclosed the accounting policies that each company adopts. The profile of the mining companies as to the total assets (TA), exploration and evaluation assets (E&E Assets) and total shareholders’ equity (SHE) is shown in Figure 2.

To establish the effect of the choice of accounting policy for exploration and evaluation assets, we used the following regression model:

$$LFV_i = \beta_0 + \beta_1 FC_i + \beta_2 LASST_i + \beta_3 LEQTY_i + \beta_4 LEEASST_S_i + \beta_5 ROA_i + \epsilon_i$$

where: \(LFV\) = log of firm value (in P1,000s). The independent and control variables are defined in Table 2.

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC</td>
<td>Dummy variable, 1 if the entity uses the full cost method and 0 if the entity uses the successful efforts method</td>
</tr>
<tr>
<td>LASST</td>
<td>Log of total assets</td>
</tr>
<tr>
<td>LEQTY</td>
<td>Log of total shareholders’ equity</td>
</tr>
<tr>
<td>LEEASST_S</td>
<td>Log of exploration and evaluation assets</td>
</tr>
<tr>
<td>ROA</td>
<td>Return on assets</td>
</tr>
</tbody>
</table>

Figure 2. TA, E&E Assets and SHE of Philippine Mining Companies
FINDINGS

We found out that 15 companies used full cost method, 3 companies used successful efforts while the remaining 2 companies did not disclose their accounting policy, hence, excluded from this study, which is consistent with Siy (2013) that full cost is more widely used in the Philippines than successful effort.

![Accounting policy](image)

**Figure 3.** Exploration and Evaluation Costs Policy

| Table 3. Descriptive Statistics of Mining Companies |
|---------------------------------|-------|-------|-------|
| Mean                          | Std. Dev. | Min. | Max. |
| Firm Value                     | 1.77e+07  | 3.87e+07 | 364,416 | 1.60e+08 |
| Total Assets                   | 1.59e+07  | 2.23e+07 | 83,635  | 6.96e+07 |
| Total Shareholders’ Equity     | 9,472,045 | 1.21e+07 | 70,202  | 3.65e+07 |
| Total Exploration and          | 2,747,411 | 5,832,090 | 0      | 2.40e+07 |
| Evaluation Assets              |          |       |       |       |
| Return on Assets               | 2.534706 | 10.57414 | -15.21 | 30.43 |

Based from Table 3, we can see that there is a large variation in the firm value, firm size, and firm performance. This implies that the publicly listed mining companies in the Philippines are very different in terms of its size, business scope, and valuation. Furthermore, the performance of these firms varies by a large margin with a mining company reporting a return on asset of -15.21% while another reporting a return on asset of 30.43%.

| Table 4. Descriptive Statistics of Mining Companies Using Full Cost |
|---------------------------------|-------|-------|-------|
| Mean                          | Std. Dev. | Min. | Max. |
| Firm Value                     | 9,239,369 | 1.31e+07 | 364,416 | 3.90e+07 |
| Total Assets                   | 1.41e+07  | 2.07e+07 | 83,635  | 6.96e+07 |
| Total Shareholders’ Equity     | 8,872,178 | 1.18e+07 | 70,202  | 3.65e+07 |
| Total Exploration and          | 2,095,960 | 6,191,934 | 0      | 2.40e+07 |
| Evaluation Assets              |          |       |       |       |
| Return on Assets               | 2.758667 | 9.511027 | -6.09  | 30.43 |
Table 5. Descriptive Statistics of Mining Companies Using Successful Efforts

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm Value</td>
<td>8.13e+07</td>
<td>1.12e+08</td>
<td>2,423,746</td>
<td>1.60e+08</td>
</tr>
<tr>
<td>Total Assets</td>
<td>2.91e+07</td>
<td>3.96e+07</td>
<td>1,085,638</td>
<td>5.72e+07</td>
</tr>
<tr>
<td>Total Shareholders’ Equity</td>
<td>1.40e+07</td>
<td>1.83e+07</td>
<td>1,041,011</td>
<td>2.69e+07</td>
</tr>
<tr>
<td>Total Exploration and Evaluation Assets</td>
<td>1,558,300</td>
<td>2,060,743</td>
<td>101,134</td>
<td>3,015,465</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>0.855</td>
<td>22.71934</td>
<td>-15.21</td>
<td>16.92</td>
</tr>
</tbody>
</table>

Table 4 and 5 presents the descriptive statistics for mining firms that employ Full Cost and Successful Efforts, respectively. We can see here that on the average, mining firms that use Successful Efforts are larger in size (in terms of firm value, assets and equity) as compared to those that use Full Cost. Moreover, there is larger variation for the firm performance of those that use Successful Efforts that is to be expected due to the higher risk associated with such accounting policy.

To support the initial findings in the descriptive statistics, we employed regression analysis to determine any significant difference in the firm value between mining companies that use Full Cost and mining companies that use Successful efforts.

Table 6. Results of the Regression Analysis

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Model 1 (with all independent variables)</th>
<th>Coefficient</th>
<th>p-value</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td></td>
<td>1.051363</td>
<td>0.694</td>
<td></td>
</tr>
<tr>
<td>FC</td>
<td></td>
<td>-1.596729</td>
<td>0.010</td>
<td>***</td>
</tr>
<tr>
<td>LASST</td>
<td></td>
<td>1.529413</td>
<td>0.003</td>
<td>9.09</td>
</tr>
<tr>
<td>LEQTY</td>
<td></td>
<td>-0.5711579</td>
<td>0.148</td>
<td>9.10</td>
</tr>
<tr>
<td>LEEASSTS</td>
<td></td>
<td>0.0226846</td>
<td>0.824</td>
<td>1.21</td>
</tr>
<tr>
<td>ROA</td>
<td></td>
<td>0.0015606</td>
<td>0.955</td>
<td>1.60</td>
</tr>
</tbody>
</table>

The variance inflation factors of the independent variables were all less than 10 indicating that the model does not suffer from problems associated with severe multicollinearity. The Breusch-Pagan test for heteroscedasticity yielded a p-value of 0.5185 indicating that the model does not suffer from violations of constant variance. The Ramsey RESET test also resulted in an insignificant p-value of 0.1166 thereby, we fail to reject the hypothesis that our model has no omitted variables.

The results of the regression analysis show that firms that use the Full Cost method have a -1.60% lower firm value than those that use the Successful Efforts method. This is consistent with the findings of Bialas (2013) and Zhou et al (2015) that accounting policies impact the financial statements as well as decision-making by investors. However, the results of our study contradict the earlier findings of Berry and Wright (2001), Healy and Palepu (2001) as well as Gul and Qin (2002). This may be because one of the largest mining firms in terms of firm valuation, SCC Mining, makes use of the successful efforts method. SCC Mining is also involved in the power industry and is the only power producer in the country that was able to conduct backward horizontal integration which may have caused the high firm value.
CONCLUSIONS

Our findings suggest that the policy choice in accounting for exploration and evaluation efforts have a significant effect in the valuation of the company. We found that firms using the successful efforts method have a significantly higher firm value as compared to firms that use full cost method. Future research may expand this current study by incorporating more time periods as well as a cross-country study.

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Karoshi and Karou-jisatsu in Japan: causes, statistics and prevention mechanisms

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ABSTRACT
It has been long known that Japan has a penchant for work and loyalty. While hard work and loyalty are generally a positive trait, there is a fine line between productivity and overwork which results in negative side effects and health issues, often leaning to premature death or suicide. This effect has been known in Japan as “karoshi”, a word meaning death due to overwork; or in the case of suicide due to overwork, “karo-jisatsu”. This paper aims to explore the surrounding causes, background, current data and prevention mechanisms that afflict Japan and its culture of “salary-man sudden death syndrome”.

Keywords: karoshi, karo-jisatsu, syndrome

BACKGROUND
Japan has a long history of loyalty and servitude stemming from its pre-war days and Code of Bushido, where “citizens lived in circumstances bordering on poverty” (Herbig & Palumbo, 1994). During these times, daily necessities were in short, with only the basics to live being in supply. The mentality of this time was to “self-sacrifice for the country” (Herbig & Palumbo, 1994) in an expression of loyalty, so the country could move forward in their endeavors. This generation was known as the “have” generation and their traits of loyalty and self-sacrifice were transferred forward to the ensuing generation.

The post-war generation known as the “do” generation, appeared when the first baby-boom phenomenon “reached maturity in the height of Japan’s economic growth in the 1960’s” (Herbig & Palumbo, 1994) and readily applied their previous generations way of thinking to the business world. The “do” generation differed greatly from the “have” generation in the fact that all their basic needs were met with abundance, and instead of a desire to serve their country, their aim was to serve their company through loyalty and hard work, with an interest in self-advancement. The new mentality was “those who work long hours are positively rewarded” (Herbig & Palumbo, 1994). This generation was also dubbed as the “workaholic” generation, and was the first to suffer from karoshi and karo-jisatsu.

Karoshi is loosely defined as death due to overwork, or more specifically the “fatal condition in which the living rhythm of a human being is collapsed due to excessive fatigue
and the life maintenance function is ruined” as defined by the Council for Karoshi Victims in 1989. The major medical causes of death due to karoshi are “heart attack and stroke due to stress” (Der-Shin, 2012) attributed to [1] long working hours and [2] stress. For karo-jisatsu, death is a combination of physical and psychological ailments such as failure to meet employer’s expectations, increase in job responsibility or work related to psychological stress which result in suicide due to overwork.

The term karoshi first appeared around the early 1970’s and stems from the word “kacho-byo” which literally translates to bosses-disease. Kacho-byo was meant to define the “psychological and moral ailment of middle managers resulting from stress, worry about promotion, fate, making it or not” (Herbig & Palumbo, 1994) coupled with little rest that ailed Japanese management. The first case of karoshi was reported in 1969 of a 29-year-old male who suddenly died in a shipping department of a major Japanese newspaper company. Japan has been reluctant to address karoshi and it was not until the late 1980’s when “several business executives who were in the prime of their years suddenly died without any previous signs of illness” (Der-Shin, 2012). This finally attracted media attention to the issue with the government dragging its feet to address the issue and only finally beginning to publish data on karoshi in 1987.

Outside pressure on the government to address karoshi and karo-jisatsu have been mounting over the decades. The Ministry of Health, Labor and Welfare (MHLW) have only recently defined karoshi as “sudden death of any employee who works an average of 65 hours per week or more for more than 4 weeks or on average of 60 hours or more per week for more than 8 weeks” (Hiyama & Yoshihara). The government’s reluctance to address karoshi and karo-jisatsu cannot be pinned to one problem, but rather to a eulogy of problems such as the reluctance to pay out workers compensation or benefits, disturb the economy or business culture, international image and fear of mass compensation claims.

### Table 1. Major medical causes of death and symptoms in karoshi

<table>
<thead>
<tr>
<th>Major medical causes of death (%)</th>
<th>SAAP (18.4%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerebral hemorrhage (17.2%)</td>
<td></td>
</tr>
<tr>
<td>Cerebral infarction (6.4%)</td>
<td></td>
</tr>
<tr>
<td>Myocardial infarction (9.8%)</td>
<td></td>
</tr>
<tr>
<td>Heart failure (18.7%)</td>
<td></td>
</tr>
<tr>
<td>Other causes (29.1%)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pre-event condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common symptoms and signs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Burnout symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy fatigue, forgetful, tight neck and shoulder, headache, myalgia, chest tightness, body weight change.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor concentration, feels blue easily, insomnia, suicide idea or attempt</td>
</tr>
</tbody>
</table>

*SAH : subarachnoid hemorrhage

**Source:** Overwork, Stroke and Karoshi-death from Overwork (Der-Shin, 2012)

Medically speaking, death by karoshi can be attributed to several symptoms, most notably, acute heart failure and subarachnoid hemorrhage. This can be seen in Table 1 below, as well as symptoms of burnout and depression. Karoshi is said to be a silent killer with little to no symptoms being present before death. Workers may present no obvious symptoms or signs of heart or brain problems but can be visibly present with depression or burn-out syndrome (Der-Shin, 2012) such as stiffness of joints and neck, frequent
headaches, changes in weight, lack of concentration, insomnia, fatigue or chronic depression.

Karoshi strikes victims in the prime of their working years and in every occupation, although the “white-collar salary-man is most susceptible” (Herbig & Palumbo, 1994). It has been noted that since the economic bubble burst, Japan has tried to increase productivity by increasing working hours rather than hiring new employees that further afflict the white-collar workplaces.

CAUSES

The symptoms building-up to karoshi and karo-jisatsu are not without cause. Two major causes of stress and long working hours can be credited to both cultural and psychological factors.

Cultural factors

Culture factors play a major role in the prevalence of stress and long working hours leading to karoshi and karo-jisatsu in Japan. As mentioned above, Japan’s culture has evolved around loyalty and servitude to the country, which was later, translated to loyalty and servitude to the workplace. In Japan, “loyalty to the organization is often measured by the time spent at one’s desk” (Herbig & Palumbo, 1994). This loyalty is often seen as the reluctance to go home until their boss goes home – and their boss is typically unwilling to go home until his boss goes home. This leads workers to “stay on until 10:00 or 11:00pm or later merely to impress the boss or the few who actually work” (Herbig & Palumbo, 1994). During this time productivity is low, with workers often doing menial or unrelated tasks to look busy in the eyes of the boss and fellow co-workers. If a worker has the notion of leaving early, they risk losing credibility in the eyes of their peers and managers. More often than not, this unpaid overtime is expected as an “expression of dedication to their companies and a criterion for promotion” (Herbig & Palumbo, 1994).

Another cultural factor is the unpaid extracurricular activities or “service overtime” that are, more often than not, required of workers. These extracurricular activities include entertaining customers, rounds of golf with bosses, karaoke, nomihodai, etc., which are “expected of conscientious employees which adds considerably to the official work hours” (Herbig & Palumbo, 1994). These activities typically take place outside the workplace and work hours resulting in little rest and down time for workers.

The social culture of family and masculinity in Japan are of no help to the salary-man either. In Japan, it is expected that the man of the family should be the breadwinner thus “the company is one’s first priority; social, peer and family pressures abound; anything different will be shunned by peers” (Herbig & Palumbo, 1994). Deviation from this is seen as callous where it is the women’s job to raise the children and take care of the home. In principle, the workaholic culture is endorsed by the family and seen as a given duty. In short, the life-style and culture of a typical salary-man in Japan can be captured in this simple quote:

“[The salary-man] is typically involved neither in the education nor the upbringing of his children, who are virtually unknown to him. He holds his wife responsible for their children’s success or failure. He toils six days a week with only Sundays off; even then a round of company golf may be dictated. He suffers through Sundays, eyes bleated from rounds of corporate drinking the night before. Often he spends all of Sunday
sprawled out on the tatami, dead tired, attempting to recover from a week’s work and readying himself for another week” (Herbig & Palumbo, 1994).

Vacation or down time is quite taboo among salary-men as well. With a culture pointed to loyalty and the display of it, companies often let their employees know that “vacations are not welcome” (Herbig & Palumbo, 1994). A study performed around 1994 by the Japan Federation of Employers’ Association, found that 15 percent of companies do not favorably look upon vacation time and less that 30 percent of workers observe all three holidays; New Year’s holiday, Golden Week and a week rest in summer. Although workers are permitted to two weeks paid leave during summer, hardly any workers take the full time “because of fanatical company loyalty, most take only two or three days if that many” (Herbig & Palumbo, 1994).

With little down time, a work environment based on “desk time” and a culture which endorses it, it is the Japanese who bring upon themselves this culture of long work hours and stress which lead to physical and mental health issues resulting in karoshi, depression and burnout which lead to karo-jisatsu.

Psychological Factors

The Japanese are a very self-conscious people, often extremely conscious of what other people think. A typical saying in Japan is “the nail that sticks up gets hammered down”, implying someone “out of line” will be forced to return to the status quo of the society. This applies for the salary-man as well. In a highly culturally appointed society, where everyone is expected to work hard, the “salary-man often thinks he too must work hard or else he will feel guilty” (Herbig & Palumbo, 1994). This notion leads to overwork and stress but moreover, psychological side effects where the salary-man feels it is their duty to fit in and perform to expectations. This mentality makes it hard for workers to stop, say “no” or confronts their bosses when faced with excessive overtime, or the need to take time off.

In numerous cases, companies which are built upon traditional Japanese values are very concerned with order, structure and power. This notion originates from the Code of Bushido where the “Japanese believe they are creating conditions for happiness and making a moral person happy by allowing him to work hard” (Herbig & Palumbo, 1994). Work is considered almost a religious experience where peer pressure to conform to these rigorous and culture expectations of the job are expected. To deviate is considered disloyal and to question otherwise is considered morally unsound. Rather it is “what one does if one is a respected member of the community, regardless of whether or not anything productive is accomplished” (Herbig & Palumbo, 1994). To push workers to psychologically implement unhealthy practices can only lead to depression and burnout – two major causes of karo-jisatsu.

**KAROSHI CASES AND GOVERNMENT IDENTIFICATION OF KAROSHI**

Death by overwork (Karoshi) in Japan has recently increased. Based on the Ministry of Labor data, work-related suicides have risen to 45% in past four years (2011 to 2014) among those who were 29 years old and younger – additionally among women, increasing up to 39%.

Due to the shrinking population in Japan, the labor demand has increased to the highest levels since 1991, with 1.28 jobs per applicant. Some businesses are simply
squeezing more out of their employees, which occasionally ends with tragic consequences. At the same time, based on the Ministry of Labor data, claims for compensation for Karoshi rose to a record of 1,456 cases in March 2015.

According to Hiroshi Kawahito, the secretary-general of the National Defense Counsel for Victims of Karoshi who has been dealing with cases since the 1980s, believes that the true figures could be 10 times higher than official records. He believes that the government is reluctant to recognize such cases. He further added that the governments hosts a lot of symposiums and makes posters about this issue but this is propaganda. Kawahito claims that the real problem is reducing working hours and government is not doing enough. On other hand, according to the Ministry of Labor, the number of compensation claims related to death from overwork, or Karoshi, has risen. Figure 1 below shows the number of compensated cases for Karoshi and Karo-jisatsu that were compensated by the Ministry of Labor.

![Figure 1. Number of compensated cases (Karoshi and Karo-jisatsu). Source: Ministry of Labor http://www.mhlw.go.jp/english/](image)

In November 2014, the Tokyo District Court ordered a restaurant chain operator to pay 57.9 million yen in damages to the family of a former manager of one of its outlets in Tokyo, who hanged himself in 2010. According to the Japan Times, the 24 years old manager had worked an average of more than 190 hours overtime monthly, in last seven months prior to his death. At the same time, the Kumamoto District Court ordered a local bank to pay 130 million yen in compensation to the family of 40 year old employee who committed suicide after suffering from depression that the court determined had been induced from overwork.

Japan has no legal “limits” on working hours, but the Ministry of Labor recognizes two types of Karoshi: death form cardiovascular illness linked to overwork and suicide due work related mental stress. A cardiovascular death is likely to be considered as Karoshi if an employee works 100 hours of overtime in the month before the death, or 80 hours of overtime work in two or more consecutive months. In addition, a suicide is considered as Karoshi if an employee works 160 hours or more of overtime in one month or more than 100 hours of overtime for three consecutive months.
According to the former “Standards on Recognition” of Labor accidents (Labor Standard Bureau Notification No. 38 and No. 30) issued in 1995 and 1996 respectively, excessive work during very short period of time before the disease onset (the previous day or within a week) was accepted as a direct cause of cerebrovascular disease, ischemic heart malfunction and arrhythmias (Araki, & Iwasaki, 2005).

In contrast, based on the result of epidemiology research conducted later, the Expert Study Committee on Standard Recognizing Brain and Heart Diseases of the MHLW reached a new conclusion this time, that overwork carried out over a long period of time, from one to six months prior the onset of the disease, could be deemed as the principal cause of ailment. Furthermore, based on this new accession, excessive working hours were introduced as an indicator of accumulated fatigue, thus, enabling clear and prompt judgment of the extend of overwork when certifying labor accidents (Araki, S., & Iwasaki, K. 2005).

Every year in Japan, thousands of workers are dying from overwork. According to a U.K news agency, Kiyotaka Serizawa was one of them. In July 2015, Serizawa killed himself after working 90 hours per week in a company that provided residential building maintenance. His father, Kiyoshi Serizawa, said in an interview at their family home: "They said they'd never seen anyone who didn't even own the company work so hard". In 2015, the MHLW classified 189 deaths as Karoshi, which were either from a fatal heart attack or stroke, or a suicide triggered by overwork.

According to the International Labor Organization (ILO), karoshi stems from overwork and the buildup of work-related stress which manifest itself through following forms (International Labor Organization, 2013):

1. Excessive hours at the workplace. Especially seen in workers who perform all-nighters, late night or holiday work, outside their normal hours of operation. This results directly from the long-term economic recession after the collapse of the bubble economy in in the 1980’s and 1990’s. During this period, firms reduced staff while maintaining workloads to meet ever-tightening budgets, requiring staff to work harder and longer.

2. Not being able to meet company goals or objectives plays a direct effect on the stress level of workers. This accumulated stress of frustration from not being able to meet company expectations vastly increases psychological burdens placed on employees.

3. The culture of lifetime employment places workers at odds with ever-shrinking shoe string budgets that result cutbacks. Loyal employees who gave the company years of service were forced to resign, or were bullied into resignation causing deep psychological stress and damage.

4. Middle management was caught in the crosshairs of protecting their staff and corporate restructuring. This resulted in emotional distress of having to bear the responsibility of targeting workers for layoffs, as well as bearing the brunt of the protests against the new corporate restructure. Many of these karoshi cases resulted in karō-jisatsu.

**GOVERNMENT POLICY AND LABOR STANDARDS**

Japan's long work hours generate both high human and economic costs. Even between 2002 and 2008, when Japan enjoyed a growing economy, the media regularly reported
cases of workers who suffered from strokes and heart attacks or were driven to depression or suicide by unrelenting job demands. Work hours are a major impediment to equal opportunity, since working mothers cannot devote the long hours expected of professional employees and so must opt for low-paying, low-status jobs (Scott, 2009/2010). Family life is affected because many younger individuals postpone or abandon hopes of marriage and children as they sacrifice their personal lives to stay employed. Furthermore, while long work hours and overwork are common in many countries, notably the US and Britain, only in Japan has karoshi been officially recognized as a medico-legal phenomenon for the past two decades, and only [Japan] has spawned a social movement to combat it (North, 1999).

Japan's employers and conservative policymakers have long held that the country's pattern of incremental and consensual policy making is effective in improving employment conditions, while avoiding the economic rigidities of western nations. The result since the 1950's has been labor legislation that consistently lags behind labor market trends, or seeks merely to defuse complaints from trade partners that poor labor standards constitute unfair trade practices (Manabu). Work-hour-related policy making closely matches this pattern: long work hours have provoked consistent attempts at reform since the late 1960s, and reformers made several significant revisions to labor laws between 1987 and 1993, but failed to significantly affect actual practice. While many large manufacturing firms did reduce working hours around this time, they were reacting not to legislation, but rather to labor shortages and economic stagnation (Foote, 1997). Some official statistics, along with numerous reports of uncompensated overtime, suggest that work hours lengthened over the past decade, despite a record-long six-year economic expansion that should have generated pressure for improving work conditions. Workplace stress-related illnesses and deaths are at record high levels (Kenji Iwasaki & nakata, 2006).

Below Figure 2, shows the trend in suicide death in Post war Japan (Period: 1949 – 1999).

![Figure 2. Trend in suicide death in Post war Japan (1947-99).](http://karoshi.jp/english/overwork2.html)

Figure 3 below shows trends in suicide and unemployment rate from 1949 to 1999. The suicide rate is displayed as the number of suicides per 100,000 people. This suicide rate calculation based on data from the National Police Agency and the Statistics Bureau of...
the Management and Coordination Agency (‘population estimate as of October 1 every year’) for year from 1949 to 1999.

The unemployment rate (ratio of wholly unemployed) was provided from the data from the Japanese Statistics Bureau of the Management and Coordination Agency (‘statistics on labour force review’ 1955 – 1999).

![Figure 3. Trends in suicide rate and unemployment rate (1949-99). Source: http://karoshi.jp/english/overwork2.html](image.png)

**Japan Plans Action to Counter Death from Overwork**

*An excerpt from The Japan News and Asia News Network Monday by Mioko Bo and Katsuro Oda, July 27, 2015*


As mentioned previously, karoshi, or “death by overwork”, first became a recognized problem in the 1980’s when several prominent businessmen, in the prime of their life suddenly passed-away. In the years since, death due to overwork has been on the rise in Japan, with recent figures suggesting karoshi being the cause of death for over 200 people in the past year. To cope with the rising numbers of death by overwork and claims of workers compensation, the Japanese cabinet passed a new legislation in July 2015 to investigate the causes of karoshi and other work-related problems (Bo & Oda, 2015). This legislation marks the first time in Japan, that the government has become serious in conducting research surrounding karoshi and the investigation of prevention mechanisms.

The announcement of this legislation has been long sought by families and friends who have lost loved ones to karoushi, or been denied rightful settlements due to the ridged and often unfair laws defining karoushi. Such example of this can be seen the 2015 case of a 33-year-old man who suddenly died of ischemic heart failure, after working excessive hours in a phone sales company in Kobe. Because his circumstances did not meet the required laws to receive workers compensation - namely exceeding 80 hours of overtime on average, in the two to six months prior to death, the labor standards inspection office turned down the case for eligibility. Outraged, his family members filled a lawsuit with the Osaka District Court system to overturn the labor standards inspection officer’s judgment regarding the case. The Osaka Dist. Court overruled the labor standards findings on
grounds that a wider variety of factors needed to be taken into consideration, such as the worker had averaged 89 hours of overtime monthly in the three years prior (Bo & Oda, 2015). Judgment on working conditions was also made, with the court finding the victim worked under excessive stress from having to respond regularly to customer claims.

The response to recognize and address karoshi from the government has been slow and deliberate, namely due to the fear that it would stagnate Japan’s high economic growth. This was especially true during the pre-bubble Japanese economy and it wasn’t until 1995 that the government finally settled on a limited definition of karoshi, which required conditions to be present one week before the development of death. These regulations and limitations were gradually relaxed, and in 2001 new limitations were introduced which specified an extended period of six months be taken into consideration.

In the 2014 fiscal year, it was reported by the MHLW that 121 cases of death were recognized due to karoshi. Of these cases, 99 were documented as karu-jisatsu, (suicide caused by overwork). However, these statistics are only thought to be the tip of the iceberg due to the Japanese government’s stringent definition of karoshi. When compared with statistics from the National Police Agency and other relevant authorities, it shows around 2,000 workers annually commit suicide because of trouble at their workplaces.

![Figure 4. Worker compensation claims and those legally recognized.](http://business.asiaone.com/news/japan-plans-measures-against-death-overwork)

To demonstrate the lack of a fair and well-defined criterion to judge karoshi, the verdicts of 74 cases of workers death, judged not to have been the result of karoshi were overturned in the five-year period from 2009 to 2014. These overturned cases disputed the original findings of the labor standards inspection office and were principally achieved through lawsuits mandating reexamination of the circumstances surrounding the workers death. Because of the governments lack or thereof to fully recognize karoshi as a serious cause of death, there lies a deep distrust between the families of victims of karoshi, that government’s legislation actually reflects reality. This notion of distrust and evermore frequent upending of karoshi cases in court has prompted the Japanese government to finally address karoshi by implementing large-scale research.

The government’s research into karoshi and other work related issues was slated to start in 2015, and begin with the examination of worker’s compensation claims that led to the development of karoshi. The research aims to gather data on working hours, working
conditions before and after the symptoms surfaced, as well as problems in the past to identify common trends that result in karoshi and karu-jisatsu. The research additionally aims to expand its horizons to cases in which workers’ compensations claims were turned down, in addition to the study of self-employed workers and public servants.

At present, the Labor Standards Act of 1947 stipulates that employers shall not have workers work more than 8 hours a day, for each day of the week, resulting in a 40-hour workweek. While a 40-hour workweek is most unheard of in Japan, the effective overtime a company can force its employees to perform can be extended indefinitely if employers and labor unions sign agreements. This deceitful method has left Japan’s workers suffering the burden of excessive involuntary overtime compared to their European and American neighbors.

While the government’s research is still incomplete, many Japanese companies are starting to recognize the detrimental effects of excessive overtime. Corporations such as Kao are beginning to look into the actual time workers spend at their jobs, rather than the self-reported figures, through electronic entries and exits of office buildings. The company is additionally concerned with the amount of stress employees confront in an effort to reduce the likelihood of karoshi on multiple fronts. Additionally, corporations such as KDDI and Joyful have begun to implemented different measures, such as a interval system that forbids employees to return to work until a eight-hour period has passed to combat fatigue.

CURRENT KAROSHI DATA FROM MHLW

On 25 June 2015 the MHLW of Japan released the “Status of Occupational Compensation for Karoshi” report related with brain and heart diseases among Japanese workers. Please note that female cases are indicated with parentheses.

The following data summarizes the main parts of the report:

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>N° of claims</td>
<td>802</td>
<td>898</td>
<td>842</td>
<td>784</td>
<td>763 (92)</td>
</tr>
<tr>
<td>N° of approved cases</td>
<td>696</td>
<td>718</td>
<td>741</td>
<td>683</td>
<td>637 (67)</td>
</tr>
<tr>
<td>N° of compensation granted (of those approved)</td>
<td>285</td>
<td>310</td>
<td>338</td>
<td>306</td>
<td>277 (15)</td>
</tr>
<tr>
<td>(Of total approved)</td>
<td>[40.9%]</td>
<td>[43.2%]</td>
<td>[45.6%]</td>
<td>[44.8%]</td>
<td>[43.5%] (22.4%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deaths</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>N° of claims</td>
<td>270</td>
<td>302</td>
<td>285</td>
<td>283</td>
<td>242 (17)</td>
</tr>
<tr>
<td>N° of approved cases</td>
<td>272</td>
<td>248</td>
<td>272</td>
<td>290</td>
<td>245 (14)</td>
</tr>
<tr>
<td>N° of compensation granted (of those approved)</td>
<td>113</td>
<td>121</td>
<td>123</td>
<td>133</td>
<td>121 (3)</td>
</tr>
<tr>
<td>(Of total approved)</td>
<td>[41.5%]</td>
<td>[48.8%]</td>
<td>[45.2%]</td>
<td>[45.9%]</td>
<td>[49.4%] (21.4%)</td>
</tr>
</tbody>
</table>


In 2014, the total number of claims regarding brain and heart diseases as consequences of overwork totaled 763 cases. Out of this number, 637 cases were approved by MHLW. Decisively, only 277 cases received compensation: a rate of only
43.5% from approved cases (where female cases accounted for 22.4%). There was a decrease of 21 claims in comparison with the previous year (2013) and a third consecutive reduction of total claims.

Regarding deaths from overwork (caused by brain or heart diseases) the total number in 2014 was 242 claims, which had 245 approved cases and 121 cases where compensations was given. This classification also experienced a third year consecutive reduction from 302 cases in 2011, to 242 cases in 2014 as mentioned previously.

Graph 1. Evolution of occupational compensation cases related with brain and heart diseases.

The graph above represents the evolution during the 2010-2014 period, for total number of claims, approved cases and compensations granted. Despite not having a significant variation there is shrinkage of 39 claims from the beginning (2010) to 2014.

Table 3 provides insight regarding the type of industries involved in karoshi cases. The industry that received the most claims during 2014 was transport and postal services with 168 cases, followed by wholesale and retail industry with 126 cases and the construction industry with 97 cases. This represents a similar trend with respect to the previous year. It is interesting to note that construction and wholesale and retail industries received the same number of approved cases, (i.e., 88).
### Table 3. Brain and heart diseases according to industry type

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N(^0) of Claims</td>
<td>N(^0) of Approved Cases</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>Agricultural, wood, fishing, mining, quarrying, extractive industries</td>
<td>103</td>
<td>86</td>
</tr>
<tr>
<td>Manufacturing Industry</td>
<td>122</td>
<td>91</td>
</tr>
<tr>
<td>Construction Industry</td>
<td>182</td>
<td>167</td>
</tr>
<tr>
<td>Transport and Postal Activities</td>
<td>110</td>
<td>104</td>
</tr>
<tr>
<td>Wholesale and Retailing industry</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Financial and Insurance Services Industry</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>Education and Learning Support Industry</td>
<td>32</td>
<td>39</td>
</tr>
<tr>
<td>Medical, Health Care and Welfare</td>
<td>28</td>
<td>19</td>
</tr>
<tr>
<td>Information and Communications</td>
<td>40</td>
<td>32</td>
</tr>
<tr>
<td>Accommodations, Eating and Drinking Services</td>
<td>137</td>
<td>122</td>
</tr>
<tr>
<td>Others</td>
<td>784</td>
<td>683</td>
</tr>
</tbody>
</table>


### Graph 2. Composition Ratio by Industry Type

From the graph above, we can appreciate the dynamic of claims and compensations granted - in general, the total number of claims have decreased (agriculture, manufacturing, construction, transport, etc.), however, wholesale and retail industry added 3% (from 14 to 17%) as well as accommodations, eating and drinking services (from 5% to 8%). On the other hand, the total number of compensation granted (right side) slightly decreased for transport and postal activities by 2% and increased for construction, wholesale and retail industry.

**Table 4. Claims related with brain and heart diseases according to industry type**

<table>
<thead>
<tr>
<th>Type of Industry (macrotaxonomy)</th>
<th>Type of Industry (sub-classification)</th>
<th>No of Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Transport and Postal Activities</td>
<td>Road freight transport</td>
<td>120 (1 )</td>
</tr>
<tr>
<td>2 Services, N.E.C</td>
<td>Miscellaneous business services</td>
<td>48 (10 )</td>
</tr>
<tr>
<td>3 Construction</td>
<td>General construction work</td>
<td>42 (1 )</td>
</tr>
<tr>
<td>4 Accomodations, eating and drinking services</td>
<td>Eating and drinking places</td>
<td>39 (11 )</td>
</tr>
<tr>
<td>5 Transport and Postal Activities</td>
<td>Road passenger transport</td>
<td>33 (1 )</td>
</tr>
<tr>
<td>6 Construction</td>
<td>Equipment installation work</td>
<td>30 (0 )</td>
</tr>
<tr>
<td>6 Wholesale and retail trade</td>
<td>Retail trade, general merchandise</td>
<td>30 (7 )</td>
</tr>
<tr>
<td>8 Medical, Health Care and Welfare</td>
<td>Social insurance and social welfare</td>
<td>28 (15 )</td>
</tr>
<tr>
<td>9 Construction</td>
<td>Construction work by specialist contractor</td>
<td>25 (0 )</td>
</tr>
<tr>
<td>10 Wholesale and retail trade</td>
<td>Miscellaneous retail trade</td>
<td>23 (4 )</td>
</tr>
<tr>
<td>11 Services, N.E.C</td>
<td>Miscellaneous services</td>
<td>17 (3 )</td>
</tr>
<tr>
<td>12 Wholesale and retail trade</td>
<td>Wholesale trade(food and beverages)</td>
<td>16 (5 )</td>
</tr>
<tr>
<td>12 Accomodations, eating and drinking services</td>
<td>Accomodations</td>
<td>16 (2 )</td>
</tr>
<tr>
<td>14 Medical, Health Care and Welfare</td>
<td>Medical and other health services</td>
<td>15 (5 )</td>
</tr>
<tr>
<td>14 Wholesale and retail trade</td>
<td>Machinery and equipment</td>
<td>15 (0 )</td>
</tr>
</tbody>
</table>


Looking further at the sub-classification of industry type, road freight transport, miscellaneous business services and general construction works obtained the highest number of claims submitted with 122, 48 and 42 respectively. It is noteworthy that medical, health care and welfare industry ranks as the industry with the greatest number of claims coming from female workers (15 out of 28), followed by the service industry (not elsewhere classified) with 10 cases.
Table 5. Compensation grants related with brain and heart diseases according to industry

<table>
<thead>
<tr>
<th>Type of Industry (macrotaxonomy)</th>
<th>Type of Industry (sub-classification)</th>
<th>No of Compensations Granted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Transport and postal activities</td>
<td>Road freight transport</td>
<td>77 (1)</td>
</tr>
<tr>
<td>2 Accommodations, eating and drinking services</td>
<td>Eating and drinking places</td>
<td>18 (2)</td>
</tr>
<tr>
<td>3 Construction</td>
<td>General construction work</td>
<td>16 (0)</td>
</tr>
<tr>
<td>4 Transport and postal activities</td>
<td>Road passenger transport</td>
<td>12 (0)</td>
</tr>
<tr>
<td>5 Services, N.E.C</td>
<td>Miscellaneous business services</td>
<td>10 (0)</td>
</tr>
<tr>
<td>6 Construction</td>
<td>Construction work by specialist contractor</td>
<td>8 (0)</td>
</tr>
<tr>
<td>7 Manufacturing</td>
<td>Manufacture of fabricated metal products</td>
<td>6 (0)</td>
</tr>
<tr>
<td>8 Information and communications</td>
<td>Information services</td>
<td>5 (0)</td>
</tr>
</tbody>
</table>


In the case of compensations granted, transport and postal activities again reached the first position with 77 cases and construction in third place with 16 cases. However, second place was occupied by accommodation, eating and drinking services, with 18 cases. This industry obtained fourth place in regards of total claims (see previous table).

Table 6. Brain and heart diseases-related cases according to job classification

<table>
<thead>
<tr>
<th>Year</th>
<th>Claims</th>
<th>Approvals</th>
<th>Compensation Granted</th>
<th>Year</th>
<th>Claims</th>
<th>Approvals</th>
<th>Compensation Granted</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>101</td>
<td>91</td>
<td>37</td>
<td>2014</td>
<td>102</td>
<td>91</td>
<td>44</td>
</tr>
<tr>
<td>2014</td>
<td>59</td>
<td>45</td>
<td>27</td>
<td>2014</td>
<td>58</td>
<td>45</td>
<td>37</td>
</tr>
<tr>
<td>2014</td>
<td>79</td>
<td>62</td>
<td>26</td>
<td>2014</td>
<td>62</td>
<td>48</td>
<td>15</td>
</tr>
<tr>
<td>2014</td>
<td>80</td>
<td>85</td>
<td>38</td>
<td>2014</td>
<td>77</td>
<td>85</td>
<td>26</td>
</tr>
<tr>
<td>2014</td>
<td>82</td>
<td>82</td>
<td>27</td>
<td>2014</td>
<td>125</td>
<td>85</td>
<td>30</td>
</tr>
<tr>
<td>2014</td>
<td>170</td>
<td>145</td>
<td>95</td>
<td>2014</td>
<td>149</td>
<td>140</td>
<td>88</td>
</tr>
<tr>
<td>2014</td>
<td>64</td>
<td>48</td>
<td>19</td>
<td>2014</td>
<td>52</td>
<td>45</td>
<td>14</td>
</tr>
<tr>
<td>2014</td>
<td>27</td>
<td>31</td>
<td>11</td>
<td>2014</td>
<td>47</td>
<td>31</td>
<td>3</td>
</tr>
<tr>
<td>2014</td>
<td>81</td>
<td>68</td>
<td>17</td>
<td>2014</td>
<td>65</td>
<td>57</td>
<td>11</td>
</tr>
<tr>
<td>2014</td>
<td>41</td>
<td>26</td>
<td>9</td>
<td>2014</td>
<td>25</td>
<td>33</td>
<td>9</td>
</tr>
<tr>
<td>2014</td>
<td>764</td>
<td>683</td>
<td>306</td>
<td>2014</td>
<td>763</td>
<td>637</td>
<td>277</td>
</tr>
</tbody>
</table>

When considering job classification, transport and machine operators have the greatest number of claims for both, 2013 and 2014 with 170 and 149 cases respectively followed by service, and professional and engineering workers. Nonetheless, in regard to approved cases, professional and engineering workers occupied second place and service workers, third. When it comes to granted compensations, administrative and managerial workers occupy third place with 37 cases.

Graph 3 (below) shows a visual representation of job classification percentages to number of claims and compensations granted:

Graph 3. Composition Ratio by Job Classification
Source: Ministry of Health, Labor and Welfare (2016)
Tables 7 and 8 display the fact that transport and machine operation workers are the jobs with the highest levels in number of claims as well as compensations granted (being “driver” the profession considered in both of them). Sales workers occupy the third place in claims considering salesman, however the business workers are the ones that obtained the greater number of compensations during 2014. A significant number of women (12), in comparison with other cases, submitted claims to the MHLW identifying “salesman” their profession.
The age group with the most cases of Karoushi claims and compensations granted, either by brain and heart diseases or death caused by overwork, is predominantly for individuals aged 50 to 59 years old, with 33% of claims and 40% of compensations granted in 2014. The second age group at risk is conceded to be 40 to 49 year old individuals, with 29% and 34% respectively. Workers less than 19 years old have a virtually zero cases of diseases and deaths caused by overwork.

Table 9 (below) shows the monthly average overtime work considering brain, heart diseases and number of deaths for karoshi compensations granted in 2014. Most workers (105) have an overwork time of 80 to 100 hours, or an average of 5 hours extra per day considering 20 working days a month. The second case, considers 120 to 140 extra hours per month and 25% of people who overworked more than 160 hours monthly (8 hours extra approximately) died because of this situation.
Table 9. Overtime work (monthly average) related with brain and heart diseases (granted compensations)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Year</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Deaths</td>
<td>Deaths</td>
</tr>
<tr>
<td>Below 45 hours</td>
<td>0</td>
<td>0</td>
<td>0(0)</td>
</tr>
<tr>
<td>From 45 to 60 hours</td>
<td>0</td>
<td>0</td>
<td>0(0)</td>
</tr>
<tr>
<td>From 60 to 80 hours</td>
<td>31</td>
<td>16</td>
<td>20(0)</td>
</tr>
<tr>
<td>From 80 to 100 hours</td>
<td>106</td>
<td>50</td>
<td>105(5)</td>
</tr>
<tr>
<td>From 100 to 120 hours</td>
<td>71</td>
<td>28</td>
<td>66(4)</td>
</tr>
<tr>
<td>From 120 to 140 hours</td>
<td>21</td>
<td>8</td>
<td>32(1)</td>
</tr>
<tr>
<td>From 140 to 160 hours</td>
<td>22</td>
<td>8</td>
<td>23(1)</td>
</tr>
<tr>
<td>Over 160 hours</td>
<td>34</td>
<td>13</td>
<td>20(3)</td>
</tr>
<tr>
<td>Others</td>
<td>21</td>
<td>10</td>
<td>11(1)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>306</td>
<td>133</td>
<td>277(15)</td>
</tr>
</tbody>
</table>


In all, from the information presented in this section, we can observe that transport and postal services represented the industries with the highest number of claims due to brain and heart diseases caused by overwork (excluding deaths), followed by the wholesale and retail industry and the construction industry. When considering age composition, workers between 50 and 59 years old were identified to be the most affected, working a monthly average of 80 to 100 extra hours.

RECOMMENDATIONS AND PREVENTION MECHANISMS

As described thus far, karoshi is a problem striking all Japanese working classes, blue and white collars alike, that is merely being recognized by the government itself. The first advise that will be given here is to call a spade a spade, and thus to fully recognize karoshi as being a compound problem that is deeply rooted in Japanese business ethics and cultural behavior. As every person is endowed with a bare minimum of wisdom would say: “half of every problem’s solution resides in the acknowledgement of the problem itself”. Thus said, both the government and the working class should act towards making karoshi a well-defined matter, with full recognition through law and juridical systems, as well as industry. Additionally, the government should stop ignoring the never ending cases of suicide or death of overwork under excuses such as the lack of evidence that the source of death is indeed karoshi, or that death is a noble way to end a servitor’s work that devoted
his life to his country and/or his company. The Japanese government should be the one that pioneers changes that bring improvements in citizen's quality of life, not the opposite.

The government in Japan is trying to cut the expenses on a matter that it judges has no impact on the working force and its efficiency. However, when considering efficiency, the Japanese work force is considered one of the less efficient ones in the entire globe, which is a real shame coming from a country that is leading the world in terms of innovation and good business practices. In fact, western countries have the highest worker efficiency in the world because they don’t do much overwork - and if they do, they are more productive during normal hours because they need to get it done in no time so as to meet strict deadlines. In Japan, overwork is the norm and leaving at 5pm or 6pm is a transgression. Employees are totally unproductive and often find themselves hanging around their desks waiting for their bosses to go home, which drop their efficiency sharply. The Japanese government doesn’t seem to include the notion of efficiency and productivity in its current definition of karoshi, which is why we recommend revising and recognizing the full picture, in order to obtain a well-rounded definition of karoshi, as well as to acknowledge its various side effects.

Once Karoshi is defined, plans should be sketched in order to eliminate, or more realistically, minimize the frequency and the amplitude at which it occurs. Here we will provide some prevention mechanisms that will act towards this goal. Nonetheless, we should bear in mind that these are mere suggestions and that we are outsiders that are trying to solve problems of a nation that couldn’t find solution itself. A problem that is deeply rooted in consciousness, history, culture, ethics, behavior, psychology, business, management and so many other aspects that make it a difficult puzzle to solve. However, we attempt to scratch the surface of the spectrum of possibilities and solutions. We will divide our suggestions to two main parts; the first regarding the prevention of Karoshi using a comprehensive industrial health service which will try to impose order in the working environment. The second approach is a broader view of the situation, where we offer measures to be taken by different parties of the working environment, namely the government, labor unions and employers.

**Comprehensive Industrial Health Service**

A comprehensive industrial health service crafted to counter Karoshi was at first released by the general director of the Labour Standards Bureau of the MHLW. Based on this fully fledged program, the goal was to show the intrinsic correlation between several health diseases and hours spent working overtime as well as the preventive measure to be taken by managers in order to deal with such cases in the most effective way. These first part only offers preventive mechanisms for employers and managers - it does include the overhaul of the work place. Such issues will be dealt with in the second part of this section where a broader picture is envisioned.

The source from which the data has been taken that served as a milestone for setting up an entirely new approach of acknowledging work incidents, was severely hindered by the already existing cases of this kind of work and labor problems studied by reports and other papers. In fact, there were only a handful of papers that have actually given a clear definition of how sudden health disorder correlates with the variation of hours spent working overtime. Brain and heart related disorders were taken into account to define a mechanism of causality between overwork and health changes. The next step would to define the relationship between overwork and karoshi as an industrial health measurement.
that uses qualitative and quantitative studies to realize countermeasures for every type of health disorder, and thus a more legitimate mechanism of detection and prevention can be settled. The summary of results obtained is given in Table 10 below.

Table 10. Onset of Brain and Heart Diseases and Preventive Measures

<table>
<thead>
<tr>
<th>Category</th>
<th>Hours of overtime work</th>
<th>Relation of hours of overtime work to onset of brain and heart diseases</th>
<th>Preventive measures to be taken by employers</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Basically 45 hours or less per month for the past one or six months</td>
<td>Weak</td>
<td>None</td>
</tr>
<tr>
<td>II</td>
<td>Basically 45 to 100 hours for the past one month or 45 to 80 hours per month for the past 2 or 6 months, prior to onset of disease</td>
<td>Becomes gradually stronger as overtime working hours increase</td>
<td>Employers shall provide industrial physicians or physicians qualified to be selected as industrial physicians such as physicians registered with local industrial health centers in the case of workplaces without any obligation to select industrial physicians (hereinafter, “Industrial physicians etc.”) with information about the work environment, working hours, number and hours of night work, past medical examination results, etc. concerning workers who are involved in the work. Employers shall be advised and instructed by industrial physicians etc. concerning health management at the workplaces (Measure A).</td>
</tr>
<tr>
<td>III</td>
<td>Basically more than 100 hours for one month or more than 80 hours for the past 2 or 6 months prior to onset of diseases</td>
<td>Strong</td>
<td>In addition to Measure A mentioned above, employers shall provide workers involved in the concerned labour with health guidance through meetings with the industrial physicians etc. When the industrial physicians etc. recognize such as necessary, the workers shall have medical examinations which the industrial physicians etc. judge to be necessary. The opinion of the industrial physicians etc. shall be sought concerning the results of medical examinations and the necessary measures to be taken by employers (Measure B).</td>
</tr>
</tbody>
</table>


Measures to be taken by all different players:

In addition to the preventive measures suggested earlier for employers, in this section we will present measures to be taken by all different players of the problem such as government officials, company managers, labor unions, and individual workers. These measures are a combination and compilation of the papers which references can be found at the end of this paper. As a context for the measures that will be given later, we have to understand that Japan has already known a minor reduction of “official” working hours from 2052 hours in 1990 to 1972 hours in 1992, this was mainly due to the collapse of the bubble economy during this period, but this didn’t yield the expected reduction of “observed actual” working hours in workplaces. In fact, there was a negative correlation between overtime payments increase and hours spent working overtime. A similar situation was observed during the early 1970’s oil crisis where Japan was trying to employ the minimum needed workforce just to put its head out of the water in a survival instinct to stay in the world market. It seems that this philosophy is still carried on to this day, and that the most critical problem is the actual idea of labor.

Japan should adjust its notions regarding labor, so working hours can be adjusted too, and karoshi can be minimized if not eliminated. International organizations might claim fair competition and try to ensure same working rules in Japan as in western countries, but this would only make nationalists rise from their ashes within the country creating even more
turbulence than what is already there. Lawyers of karoshi hotline have actually put on the table some solutions to counter of the stressful workaholic society that Japan has created, which leapfrogged the government initiatives and programs acting towards solving this problem. Table 5.2 represents the compiled measures to be taken by the actors of the karoshi scene.

**Table 11. Measures to be taken by Government, Labor Unions, Employers and Individual Employees**

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**CONCLUSION**

This report reviewed incidents of karoshi and karo-jisatsu among the Japanese working population. The trend in reported cases (claims and actual compensations) of karoshi and karo-jisatsu appears to be on the rise over the past decade, despite measures taken by various stakeholders, namely government, labor unions and academia to combat this phenomenon (Araki & Iwasaki, 2002). This could mean that a higher level of collaboration between core stakeholders is urgently needed. The Japanese working population is already troubled by their fast aging structure and more so by premature salary-man death.

A government approach to solving this problem is rather bleak and seems to depend on how much pressure they receive from the public and the international community. There is large gap between number of karoshi and karo-jisatsu claims, approved, and actual compensation granted as revealed in this study.

Japan like many Asian countries has weak and isolated worker’s organization (union). Workers have little bargaining power to negotiate their working hours or effect payment for extra working hours. This structure should be revisited including enacting strict law to support stronger workers freedom and combat overtime or service overtime. This should begin with the employee knowing his or her legal working rights and being able to follow them without fear of repercussion.
Due to the government dragging its feet in acknowledging karoshi and karo-jisatsu, as well as stymieing claims for compensation, has caused organizations and institutions to exploit workers by avoiding workers compensation payouts. Mechanisms for quick compensation as well as fines should be enacted to deter further incidences of karoshi in the workplace and promote a healthier work environment from inside companies.

On the other hand, it also appears that victims and the victims’ family misunderstand what killed them, or their loved one. Likewise, some organizations may be ignorant or do not fully understand the dangers of overwork and stress in the workplace. Therefore, we propose that if proper education is given to both employers and employees about the link between long work hours and karoshi, hopefully a meaningful internal change will occur. Although karoshi and karo-jisatsu are starting to be recognized in Japan as a serious problem, it is not an issue easily overcome due to the social, cultural and psychological stigmas surrounding the issue. Moreover, it is the Japanese who subject them to this rigor, and the Japanese who suffer and grieve from it. In all, it will be the Japanese who have to finally decide to either continue this practice or join the rest of the modern world where we “work to live”, not “live to work”.

In summary, a work environment based on “desk time” and a culture that endorses it (long work hours and unhealthy practices) causes stress which leads to physical and mental health issues resulting in karoshi, depression and burnout which leads to karo-jisatsu. The Japanese government should seek to improve current prevention mechanisms that are mainly based on secondary prevention (mainly detection and support) such as the Comprehensive Industrial Health Service and the Basic Act of Suicide Control of 2006. The government should determine the root cause of the problems and determine ways to quickly address workplace conditions that could be resulting in karoshi and karo-jisatsu in Japan.

To conclude, some initiatives for government and business management to help combat and reduce the rising number of karoshi and karo-jisatsu cases are suggested:

<table>
<thead>
<tr>
<th>Government Initiatives</th>
<th>Business and Management Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Seek change in labor policy to protect workers and amend laws to better define karoshi and serve the citizens of Japan</td>
<td>• Increase internal processes efficiencies so workers can complete their jobs in a reasonable amount of time</td>
</tr>
<tr>
<td>• Seek change in work culture</td>
<td>• Implement RFID system to fully monitor workers time spent in the office</td>
</tr>
<tr>
<td>• Increase liability of firms in workers compensation payments where karoshi is determined to be cause of death and by imposing hefty fines to those who abuse overtime.</td>
<td>• Implement 1 or 2 days a week where there will be no overtime – “lights out at 6”</td>
</tr>
<tr>
<td>• Advance and increase mental and psychological care awareness by investing in mental health initiatives</td>
<td>• Amend company policy to address overtime, over-work, stress and burnout</td>
</tr>
<tr>
<td>• Improve current mechanisms that focus on secondary prevention (such as the Comprehensive</td>
<td>• Switch from age-based promotion system to performance based</td>
</tr>
<tr>
<td></td>
<td>• Provide incentive to managers to comply with overtime rules and regulations</td>
</tr>
</tbody>
</table>
Industrial Health Service and the Basic Act of Suicide Control of 2006) thus moving from treatment to prevention and support
• Provide third party legal assistance to those seeking workers compensation for karoshi
• Provide mental and psychological health care
• Implementation of interval system to guarantee workers do not return to job until a 8 hour period has passed

ACKNOWLEDGEMENTS
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REFERENCES
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The influence of multinationalization on tax aggressiveness

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ABSTRACT
I examine the influence of multinationalization on tax aggressiveness in Japan. Since the Japanese corporate tax rate is higher than that in other countries, multinational companies can reduce the tax burden of the entire corporate group by using the differences in tax rates among several countries. Therefore, I analyze whether multinational companies reduce their tax burden due to factors other than the differences in tax rates among countries. I reveal that multinational companies are more tax aggressive. As a result, my findings suggest that multinational companies reduce tax payments by conducting dubious international transactions. My findings contribute to the tax planning of companies and reformation of the tax policy by the government.

Keywords: multinationalization, tax aggressiveness, dubious international transactions

INTRODUCTION
In this study, I reveal whether multinationalization of Japanese companies tends to reduce their tax burden, after adjusting for the difference in tax rates among countries. Multinationalization means that the parent company of a Japanese company has one or more subsidiaries or affiliated companies in foreign countries.

The motivation for this study is as follows. First, researchers analyzing tax avoidance have revealed that multinational companies are aggressive in tax burden reduction (e.g., Rego, 2003; Wilson, 2009; Lisowsky, 2010; Onuma, 2015). However, it is natural that the tax burden of multinational companies is reduced, because the Japanese corporate tax rate is higher than that of other countries. Moreover, even if the tax burden of Japanese multinational companies is reduced, we do not know whether it is the result of intentionally establishing subsidiaries in countries with low tax burdens. Therefore, in research on tax aggressiveness in Japan, it is necessary to clarify whether multinational companies tend to reduce their tax burden just except for the difference in tax rates.

In fact, tax avoidance activities have become a problem because companies increasingly use complex schemes with great skill1 (Yatsuo, 2014, p. 47). For example, U.S. Apple Inc. paid taxes of only 2% on income from transactions through its foreign subsidiaries (The Nikkei, 2014a). In addition, the European Commission (EC) indicated there had been a violation of the regulations of the tax system that Luxembourg applied to Fiat (The Nikkei, 2014a). Therefore, the Organisation for Economic Co-operation and Development (OECD) started the Base Erosion and Profit Shifting (BEPS) project to address these problems, and confirmed the necessity of countermeasures to prevent tax evasion by

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1 I describe the definition of tax avoidance in Section 2. Almost all tax avoidance is legal, although some of the schemes may be illegal (OECD/G20, 2014, p. 13).
multinational companies. This BEPS project has already published its final report on the BEPS action plan, and it is expected that OECD member countries and other "Group of 20" member countries will reconsider existing international tax rules and revise their domestic tax laws. In fact, based on the recommendations of the BEPS project, the exclusion of foreign subsidiary dividends from the gross revenue system has been reconsidered to prevent a double tax exemption in Japan. Therefore, based on the taxation revision in 2015 (Ministry of Finance, 2015), dividends to be included in non-taxable expenses in the country where the foreign subsidiary is located will be included in the gross revenue of the parent company in the country that received payment.

In addition, while many countries are required to respond to tax avoidance, the extent of the problem of lower taxes caused by using tax havens became evident with the leak of the Panama Papers (The Nikkei, 2016). Moreover, the International Consortium of Investigative Journalists revealed that the taxing agency of Luxembourg contracted tax preferential treatments with about 340 global companies, including Japanese companies. Thus, I think that Japanese companies may also conduct tax avoidance.

As the research results, I reveal that multinational companies display more tax aggressiveness, despite controlling for the differences of tax rates among countries. Thus, this result suggests that multinational companies reduce tax payments by conducting dubious international transactions.

The rest of this paper proceeds as follows. The next section explains the research background and develops the hypothesis. The third section outlines the research design. The subsequent two sections outline the results and additional analysis. The final section concludes.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Relationships among tax saving, tax evasion, and tax avoidance

Companies undertake tax saving, tax evasion, and tax avoidance to reduce their tax burden. Tax saving is the act of reducing the tax burden according to the existing tax law (Kaneko 2016, p. 125), because the act of tax saving does not satisfy taxation requirements and tax duty does not occur (Nakazato et al., 2015, p. 50). On the other hand, Kaneko (2016) states that tax evasion is an act of concealing all or part of the fact that the taxation requirements are satisfied. In addition, Tanaka (1998) describes tax evasion as an illegal act that prevents the fulfillment of an established tax obligation. Obuchi et al. (2009) refer to tax evasion as a case where some disguised act avoids satisfaction of the taxation requirement provision. In other words, although a tax payment obligation is established, tax evasion is the act of keeping that fact secret, as if the tax obligation had not been established. Therefore, tax saving and tax evasion are distinguished by whether the act is legal or illegal (Nakazato et al., 2015, p. 50).

However, whether the concept of tax avoidance is legal or illegal is an ambiguous gray zone, and the definition based on theory also varies because tax avoidance is a boundary concept (Nakazato et al., 2015, p. 50). For legal purposes, Kaneko (2016) and Kiyonaga (2013) define tax avoidance as the adoption of an unusual form that does not satisfy taxation requirements. In addition, Matsuzawa (1983) and Yatsuo (2014) define tax avoidance as the adoption of an abnormal form of the law that does not satisfy taxation requirements.

There are also several definitions of tax avoidance in accounting research. Rego (2003) describes tax avoidance as an act to reduce income tax legally. Dyreng et al. (2008,
2010) refer to tax avoidance as the act of reducing the corporate tax burden corresponding to pretax income. Hanlon and Heitzman (2010) define tax evasion as reducing explicit tax and do not distinguish whether it is legal or illegal. Thus, tax avoidance as defined by Rego (2003) is an act of reducing the tax burden according to tax regulations and the satisfaction of the taxation requirement. On the other hand, tax avoidance, as defined by Dyreng et al. (2008) and Hanlon and Heitzman (2010), includes all tax burden reductions, whether legal or illegal. Therefore, there are various definitions in accounting research about the reduction of the tax burden.

In this section, examination of the definition of tax savings, tax evasion, and tax avoidance leads to the finding that tax avoidance has no definite provision under the law, and the theory definition is also inconsistent. Thus, it is expected that confusion will arise from using the terms tax saving, tax evasion, and tax avoidance. Therefore, in the following subsection, I use the term tax aggressiveness to refer to reduced taxable income and tax payment using any method, including legal, illegal, or unclear gray zones.²

The factor of tax aggressiveness

Problems related to tax aggressiveness have raised concern that multinational companies have not paid much tax in countries where they operate most of their business, while after the Lehman shock in 2008, the world economy has stagnated and each country has sought to increase tax and reduce spending (The Nikkei, 2014b). In fact, some prior studies have examined whether multinational versus domestic companies have different tendencies toward tax aggressiveness. Rego (2003) includes elements of foreign business in an extended model, which were not considered in Gupta and Newberry (1997), and examines whether multinational companies avoid tax payments more than domestic companies do. As a result, Rego (2003) finds that multinational companies display tax aggressiveness.

Relatively recent studies have revealed that domestic companies also have opportunities to reduce their tax burden by utilizing tax shelters and profit shifting (Wilson, 2009; Lisowsky, 2010). Dyreng et al. (2017) investigate changes in the effective tax rate of companies over the past 25 years, and examine whether time trends and corporate characteristics are factors of tax aggressiveness. From a sample of 54,005 company-years from 1998 to 2012, Dyreng et al. (2017) find that multinational companies and domestic companies display more tax aggressiveness over time. However, the results from examining the sample suggest that multinational companies display less tax aggressiveness, because there is a significantly positive relationship between tax aggressiveness and multinational companies. Therefore, Dyreng et al. (2017) indicate that focusing on tax aggressiveness of only multinational companies may be misguided.

In addition, Onuma (2015) uses a sample of 6,225 company-years from 2004 to 2008 to examine whether tax aggressiveness is related to corporate foreign investment and business development assuming foreign sales are greater than zero. He finds that foreign business is a factor in tax aggressiveness. Therefore, he estimates that geographical conditions influence tax aggressiveness, and includes six regional dummies by utilizing segment information. Furthermore, Onuma (2015) includes areas listed as tax havens by Japan’s National Tax Agency. He finds that business in Asia prevents tax aggressiveness, but business in the United States and tax havens display a strong factor of tax aggressiveness.

² The term “tax aggressiveness” is mentioned for the first time in Frank et al. (2009).
Considering prior literature, the research results on corporate multinationalization and tax aggressiveness are mixed. However, unlike in the United States, corporate tax rates in Japan do not vary much among prefectures. In addition, although domestic companies can reduce tax burden by dividends, special depreciation, reserves for reduction entry, and research and development tax deductions, multinational companies have opportunities to reduce tax burdens through overseas transactions that domestic companies do not have. Therefore, in Japan, it is considered that multinational companies have more tax planning opportunities to reduce tax burden than domestic companies do. Thus, I examine the following hypothesis.

**H1:** Even after adjustment for difference in tax rates among countries, multinational companies display more tax aggressiveness than domestic companies.

Companies might use foreign subsidiaries to conduct their main economic activities, rather than using foreign subsidiaries with low tax rates to reduce tax burdens. Therefore, tax aggressiveness in this study does not include the reduction of tax burden by using tax rate differences among countries.

**RESEARCH DESIGN**

**Measure of tax aggressiveness**

Among the measures used in prior literature, measurements of tax aggressiveness include the effective tax rate under Generally Accepted Accounting Principles (GAAPETR), the current effective tax rate (CurrentETR), the cash effective tax rate (CASHETR), the book-tax difference (BTD), the residual book-tax difference (ResidualBTD) and the discretionary portion (DTAX).

**GAAPETR** captures permanent tax differences because it is defined as current and deferred tax expense divided by pretax income. Thus, **GAAPETR** is not an appropriate measure, because it does not reflect deferral of taxation (Hanlon and Heitzman, 2010).

**CASHETR** is frequently used in some prior literature targeting foreign companies (e.g., Dyreng et al., 2008, 2017; Chen et al., 2010; Badertscher et al., 2013; Hoi et al., 2013). **CASHETR** captures temporary and permanent differences, because it is defined as cash taxes paid divided by pretax income. However, an ordinary corporation should file an interim return form to the tax office director within two months of the day on which six months have elapsed from the first day of said business year (Article 71 of the Corporation Tax Act). In addition, a domestic corporation should file a final return form submitted to the director of the tax office within two months of the day following the last day of each business year (Article 74 of the Corporation Tax Act). Thus, when tax aggressiveness by percentage is calculated, Yamashita (2010) and Okuda and Yamashita (2011) show it is desirable to use **CurrentETR** instead of **CASHETR** in Japan, because the numerator and denominator do not correspond in the latter ratio, since cash tax paid is the tax payment of prior and current fiscal years.

Therefore, I utilize the current effective tax rate for three years (CurrentETR3) to calculate the percentage of tax aggressiveness. Using an effective tax rate measure over a three-year horizon avoids annual volatility in effective tax rates, and mitigates concerns
about earnings management through accrual effects present in current tax expense. \(^3\) \(CurrentETR3\) is defined as:

\[
\text{Current effective tax rate for three years (CurrentETR3)} = \frac{\sum \text{Corporate, inhabitant, and enterprise taxes}}{\sum \text{Net income before income taxes}}
\]

A smaller \(CurrentETR3\) means more tax aggressiveness.

**Empirical model**

To test Hypothesis 1, I estimate the following pooled cross-sectional regression:

\[
\text{Model1. CurrentETR3} = \beta_0 + \beta_1 \text{MNC}_{it} + \beta_2 \text{SIZE}_{it} + \beta_3 \text{FORTAX}_{it} + \beta_4 \text{STAT}_{it} \\
+ \beta_5 \text{R&D}_{it} + \beta_6 \text{LEV}_{it} + \beta_7 \text{INCOME}_{it} + \beta_8 \text{NOL}_{it} + \epsilon_{it} \tag{1}
\]

Where:

- \(CurrentETR3\) refers to the measure of tax aggressiveness; \(MNC\) refers to multinationalization of companies; and \(SIZE, FORTAX, STAT, R&D, LEV, INCOME\) and \(NOL\) are control variables.\(^4\) Table 1 presents the detailed definitions of the independent and control variables.

Multinationalization (\(MNC\)) is the independent variable. Prior literature uses foreign assets (Rego, 2003), existence of a foreign subsidiary (Markle and Shackelford, 2012) and pre-tax profit (Dyreng et al., 2017) as proxies for multinational companies. However, in Japanese financial statements, there are no data available on pretax foreign income and foreign assets, because the information is not published. Thus, I use the following method. First, I confirm whether the tax rate difference of foreign subsidiaries (\(FORTAX\)) \(^5\) (see Table 1 for this variable) is adjusted between the statutory effective tax rate and the corporation tax rate after tax-effect accounting is applied based on the tax-effect accounting relationship in the notes to the consolidated financial statements. \(MNC\) equals 1 if the tax rate difference of foreign subsidiaries is adjusted. Second, I confirm whether the foreign currency conversion adjustment account is recorded in the consolidated financial statements, and \(MNC\) equals 1 if it is recorded in the statements.\(^6\) Third, in “the status of affiliates of the securities report,” I confirm whether the company has foreign-consolidated subsidiaries or foreign-affiliated companies, and if so, \(MNC\) equals 1.\(^7\) Therefore, if multinational companies with foreign subsidiaries and foreign-affiliated companies display more tax aggressiveness, I expect a negative relationship between \(CurrentETR3\) and \(MNC\).

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\(^3\) In prior literature in other countries, a long-term cash effective tax rate of three to ten years is used, depending on the research (Hanlon and Heitzman, 2010). In this study, I use the average effective tax rate for three years to avoid the economic impact caused by the Lehman shock.

\(^4\) \(CurrentETR3\) was adjusted to fall within the range of zero to one to adjust for the influence of outliers.

\(^5\) Tax rate differences of foreign subsidiaries include “tax rate differences with subsidiaries,” “tax rate differences with consolidated subsidiaries,” and “tax rate differences of foreign subsidiaries.”

\(^6\) When using foreign sales as the proxy for multinational companies, it should include companies that export only; however, these companies do not have foreign subsidiaries. Thus, in this study, I use the foreign currency conversion adjustment account.

\(^7\) Foreign currency translation differences arising from hedging instruments that target investments in subsidiaries as hedges can be included in the foreign currency translation adjustment account; thus, the foreign currency translation adjustments on the consolidated financial statements may be recorded as 0. Therefore, I confirm whether the company has foreign consolidated subsidiaries or foreign affiliates.
SIZE is included to control for firm size. I expect a negative relationship between CurrentETR3 and SIZE if the company prioritizes tax-planning opportunities over political costs. On the other hand, I expect a positive relationship between CurrentETR3 and SIZE if the company prioritizes political costs over tax planning opportunities.

Table 1. Description of variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition of variables</th>
<th>Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>MNC</td>
<td>An indicator that equals 1 if there are tax rate differences of foreign subsidiaries, the foreign currency conversion adjustment account is reported in the financial statements, or there are foreign-consolidated subsidiaries or foreign-affiliated companies, and 0 otherwise.</td>
<td>−</td>
</tr>
<tr>
<td>SIZE</td>
<td>Natural logarithm of total assets at prior year fiscal year-end.</td>
<td>?</td>
</tr>
<tr>
<td>FORTAX</td>
<td>FORTAX is the tax rate difference of foreign subsidiaries less the national statutory effective tax rate for each fiscal year shown in Table 2.</td>
<td>+</td>
</tr>
<tr>
<td>STAT</td>
<td>National statutory effective tax rate for each fiscal year. It was 40.49% from February 2011 to February 2012 and 35.42% from March 2012 to February 2015.</td>
<td>+</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and development expenses divided by current average total assets at fiscal year-end.</td>
<td>−</td>
</tr>
<tr>
<td>LEV</td>
<td>Total liabilities at fiscal year-end divided by total assets at prior fiscal year-end.</td>
<td>−</td>
</tr>
<tr>
<td>INCOME</td>
<td>An indicator that equals 1 if pretax net income is more than the median, and 0 otherwise.</td>
<td>−</td>
</tr>
<tr>
<td>NOL</td>
<td>NOL is the difference between prior and current fiscal year-end loss carryforward divided by current average total assets.</td>
<td>+</td>
</tr>
</tbody>
</table>

I include the tax rate difference of foreign subsidiaries (FORTAX) and the national statutory effective tax rate (STAT) to control for difference of tax rate. FORTAX is taken from data disclosed in “the tax-effect accounting relationship” of the notes to the consolidated financial statements. I control STAT, because the corporate tax rate in Japan changed during the analysis period in this research.

I include research and development expenditure (R&D), leverage ratio (LEV), Income dummy (INCOME), and the amount of loss carried forward (NOL) to control for incentives of tax planning.

I expect a negative relationship between CurrentETR3 and R&D, LEV, and INCOME. I expect a positive relationship between CurrentETR3 and FORTAX, STAT and NOL.

Table 2. National statutory effective tax rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Corporate tax rate</th>
<th>Prefectural taxation of corporate tax rate</th>
<th>Municipal taxation of corporate tax rate</th>
<th>Business tax rate</th>
<th>Statutory effective tax rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>From March 2011 to</td>
<td>30.0</td>
<td>6.0</td>
<td>14.7</td>
<td>7.2</td>
<td>40.49</td>
</tr>
<tr>
<td>February 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
From March 2012 to September 2015  
25.5  6.0  14.7  7.2  35.42  

Year is the fiscal year end in that period. Prefectural taxation of corporate tax rate is a restricted tax rate. Municipal taxation of corporate tax rate is a restricted rate. Business tax rate is standard taxation.

RESULTS

Sample
The sample period for the current study spans 2011—2015, as shown in Table 3. I collect my data from “Nikkei NEEDS” and use securities reports to compute tax aggressiveness, the hypothesized moderating variable, and the control variables used in the regression analysis. Collection of the tax rate difference of foreign subsidiaries (FORTAX) data relies on manual procedures from securities reports.

I utilize consolidated financial statement data to reveal the tax aggressiveness of the entire corporate group, and if these are not available, I use non-consolidated financial statement data.

Table 3. Sample selection

<table>
<thead>
<tr>
<th>Sample</th>
<th>Company-year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed companies from the fiscal year ended March 2011 to the fiscal year ended February 2015 (excluding bank, security, and insurance firms)</td>
<td>14,138</td>
</tr>
<tr>
<td>Companies that changed accounting periods</td>
<td>(409)</td>
</tr>
<tr>
<td>Companies with pre-tax profit of less than zero</td>
<td>(1,783)</td>
</tr>
<tr>
<td>Companies with missing values</td>
<td>(1,582)</td>
</tr>
<tr>
<td>Companies that undertook corporate reorganization</td>
<td>(50)</td>
</tr>
<tr>
<td>Samples (from 2011 to 2015)</td>
<td>10,314</td>
</tr>
<tr>
<td>Final samples (from 2011 to 2014)</td>
<td>7,037</td>
</tr>
</tbody>
</table>

Samples are not restricted to companies within the fiscal year ended in March, and include 4 years from the fiscal year ended March 2011 to the fiscal year ended February 2015. I exclude bank, securities, and insurance industries from the sample. The result is 14,138 company-years. The sample with 12 months in settlement month is 13,729 company-years. When the effective tax rate is used as the dependent variable, the variable is not a meaningful index if the pretax net income is zero or negative (Yamashita and Otogawa, 2009; Dyreng et al., 2017; Onuma 2015). Thus, excluding these cases, the samples amount to 11,946 company-years. When I exclude samples for which the necessary data for the analysis are not available, there are 10,364 company-years. When corporate restructuring is conducted, the amount of tax payment changes owing to changes in the asset structure. Thus, excluding samples with 50% or more changes in total
assets, the sample size is 10,314 company-years, and 3,215 companies when I use \textit{ResidualBTD} and \textit{DTAX} (see the additional analysis in the following section). In the main analysis, the final sample size is 7,037 company-years, because I use \textit{CurrentETR3}.

\textbf{Descriptive statistics}

Table 4 reports descriptive statistics on the regression variables. The mean and median tax aggressiveness (\textit{CurrentETR3}) are 37.4\% and 39.3\%, respectively, which are comparable to the results reported in prior literature (e.g., Markle and Shackelford, 2012).

\textbf{Table 4. Descriptive statistics}

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>25th percentile</th>
<th>Median</th>
<th>75th percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{CurrentETR3}</td>
<td>7,037</td>
<td>0.374</td>
<td>0.136</td>
<td>0.306</td>
<td>0.393</td>
<td>0.449</td>
</tr>
<tr>
<td>\textit{MNC}</td>
<td>7,037</td>
<td>0.544</td>
<td>0.498</td>
<td>0.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>\textit{SIZE}</td>
<td>7,037</td>
<td>10.502</td>
<td>1.574</td>
<td>9.411</td>
<td>10.384</td>
<td>11.441</td>
</tr>
<tr>
<td>\textit{FORTAX}</td>
<td>7,037</td>
<td>0.358</td>
<td>0.043</td>
<td>0.354</td>
<td>0.354</td>
<td>0.405</td>
</tr>
<tr>
<td>\textit{STAT}</td>
<td>7,037</td>
<td>0.370</td>
<td>0.023</td>
<td>0.354</td>
<td>0.354</td>
<td>0.405</td>
</tr>
<tr>
<td>\textit{R&amp;D}</td>
<td>7,037</td>
<td>0.012</td>
<td>0.019</td>
<td>0.000</td>
<td>0.003</td>
<td>0.016</td>
</tr>
<tr>
<td>\textit{LEV}</td>
<td>7,037</td>
<td>0.500</td>
<td>0.214</td>
<td>0.334</td>
<td>0.497</td>
<td>0.658</td>
</tr>
<tr>
<td>\textit{INCOME}</td>
<td>7,037</td>
<td>0.506</td>
<td>0.500</td>
<td>0.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>\textit{NOL}</td>
<td>7,037</td>
<td>-0.004</td>
<td>0.024</td>
<td>-0.004</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The sample period used for the study spans from 2011 to 2014. The descriptive statistics for all variables are based on the final sample when tax aggressiveness is measured by \textit{CurrentETR3}. All continuous variables are trimmed at the 1st and 99th percentiles. The detailed definitions of the variables are provided in Table 1.

Table 5 reports the Pearson correlations among the regression variables used to estimate Eq. (1). The correlation between \textit{MNC} and other control variables is not large. However, the correlation between \textit{SIZE} and \textit{INCOME} is large. Thus, I also show the variance inflation factor (VIF) in following section, because the variables potentially introduce issues related to multicollinearity.
Table 5. **Pearson correlations**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
<th>(9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current ETR3 (1)</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MNC (2)</td>
<td>-</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIZE (3)</td>
<td>-</td>
<td>0.383***</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FORTAX (4)</td>
<td>0.121***</td>
<td>-</td>
<td>-0.0251**</td>
<td>-</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAT (5)</td>
<td>0.062***</td>
<td>-</td>
<td>0.007</td>
<td>0.514***</td>
<td>-</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R&amp;D (6)</td>
<td>-</td>
<td>0.275***</td>
<td>0.124***</td>
<td>-</td>
<td>0.003</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEV (7)</td>
<td>-</td>
<td>-0.024**</td>
<td>0.157***</td>
<td>-0.001</td>
<td>-</td>
<td>-</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INCOME (8)</td>
<td>-0.007</td>
<td>0.303***</td>
<td>0.686***</td>
<td>-</td>
<td>-</td>
<td>0.096***</td>
<td>-0.029**</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>NOL (9)</td>
<td>0.320***</td>
<td>0.061***</td>
<td>0.130***</td>
<td>-</td>
<td>-</td>
<td>0.015</td>
<td>-</td>
<td>0.114***</td>
<td>1.000</td>
</tr>
</tbody>
</table>

This table reports the Pearson correlations between the variables used in the regression analysis. ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively (two-tailed). The detailed definitions of the variables are provided in Table 1.

**Results from estimating Eq. (1)-Test of H1**

This subsection reports the results for the test of H1, which examines the relationship between tax aggressiveness and multinationalization. As shown in Table 6, MNC is negatively and significantly associated with the CurrentETR3 (t-statistic = -2.39). The effect of multinationalization on tax aggressiveness is also economically significant. Thus, I find a negative relationship between tax aggressiveness and multinationalization, which is consistent with my cross-sectional hypothesis. The result of tax aggressiveness does not include the reduction of tax burden due to the difference in tax rates among countries, because this study excludes the influence of companies that are establishing foreign subsidiaries and foreign affiliated companies to in fact conduct economic activities. Thus, I reveal that multinational companies display more tax aggressiveness even if I adjust for the difference in tax rates among countries. This result suggests that transactions with foreign companies conducted by multinational companies are complicated and lack transparency, and that there are delays in developing legislation.

The coefficients of the other control variables in Table 6 are almost significant and are consistent with predictions. Specifically, I find that large companies (SIZE) and companies with higher tax rate differences of foreign subsidiaries (FORTAX), a higher national statutory effective tax rate (STAT), and loss carryforward (NOL) are associated with more tax aggressiveness, while leverage (LEV) and the income dummy (INCOME) are associated with less tax aggressiveness. In addition, the variables potentially would not introduce issues related to multicollinearity, because the VIF value among variables is less than 2.53 of SIZE.
Table 6. Tax aggressiveness and multinationalization (H1)

<table>
<thead>
<tr>
<th>Exp. Sign</th>
<th>Coeff.</th>
<th>t-Stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.207</td>
<td>6.63**</td>
</tr>
<tr>
<td>MNC</td>
<td>-0.009</td>
<td>-2.39**</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.004</td>
<td>2.82***</td>
</tr>
<tr>
<td>FORTAX</td>
<td>0.264</td>
<td>4.78***</td>
</tr>
<tr>
<td>STAT</td>
<td>0.176</td>
<td>2.01**</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>-0.116</td>
<td>-1.08</td>
</tr>
<tr>
<td>LEV</td>
<td>-0.015</td>
<td>-1.82*</td>
</tr>
<tr>
<td>INCOME</td>
<td>-0.008</td>
<td>-1.91*</td>
</tr>
<tr>
<td>NOL</td>
<td>1.858</td>
<td>21.1***</td>
</tr>
</tbody>
</table>

Year Dummy: Yes
Industry Dummy: Yes
Adj. R² (%): 20.12
n: 7,037

***, **, and * Denote significance at the 1%, 5%, and 10% levels, respectively. This table reports the regression results of the relationship between tax aggressiveness and multinationalization. The dependent variable is multinationalization (MNC). This table shows the results using CurrentETR3 to proxy tax aggressiveness. The t-statistics are based on robust standard error. The detailed definitions of all variables are provided in Table 1.

Additional analysis: other measures of tax aggressiveness

I examine the robustness of my results using two alternative measures of tax aggressiveness. The first measure is the residual book-tax difference (ResidualBTD), which I define similarly to Desai and Dharmapala (2006) as follows:

\[ BTD_t = \beta_1 TA_t + \beta_2 m_t + \varepsilon_t \]  (2)

ResidualBTD is defined as an error term from equation (2), where TA refers to total accruals and BTD is scaled by lagged total assets. Thus, ResidualBTD captures the unexplained tax burden using total accruals of temporary and permanent differences.

The second measure is the discretionary portion (DTAX) of the PERMDIFF measure. PERMDIFF is essentially the difference between the effective and statutory tax rates multiplied by pretax accounting income. I define this measure similarly to Frank et al. (2009). ⁸

\[ PERMDIFF_t = \alpha_0 + \alpha_1 INTANG_t + \alpha_2 UNCON1_t + \alpha_3 UNCON2_t + \alpha_4 MI_t + \alpha_5 CSTE_t + \alpha_6 LAGPERM_t + \varepsilon_t \]  (3)

⁸ DTAX by Frank et al. (2009) includes loss carryforward (NOL); however, I exclude NOL, because it represents a temporary difference in this study.
DTAX is defined as an error term from equation (3), where INTANG represents goodwill and other intangibles divided by lagged total assets, UNCON1 represents income reported under the equity method divided by lagged total assets, UNCON2 represents loss reported under the equity method divided by lagged total assets, MI represents income (loss) attributable to minority interests divided by lagged total assets, CSTE represents current state income tax expense divided by lagged total assets, and LAGPERM represents lagged PERMDIFF divided by lagged total assets. Thus, DTAX captures the effect of tax credits and any other item that affects GAAPETR. 

ResidualBTD and DTAX capture greater tax aggressiveness than does CurrentETR3, which captures the total tax burden of companies.9

| Table 7. Tax aggressiveness and multinationalization (H1) |
|-----------------|----------------|-----------------|-----------------|----------------|
|                | TAX=ResidualBTD |                | TAX=DTAX        |                |
|                | Exp. Sign      | Coeff.         | t-stat          | Coeff.         | t-stat          |
| Intercept      | ?              | -0.039         | -7.76***        | -0.011         | -2.74***        |
| MNC            | +              | 0.001          | 2.01**          | 0.001          | 3.38***         |
| SIZE           | ?              | 0.001          | 4.56***         | -0.001         | -6.99***        |
| FORTAX         | -              | -0.056         | -8.29***        | -0.031         | -4.95***        |
| STAT           | +              | 0.129          | 9.71***         | 0.090          | 8.00***         |
| R&D            | +              | 0.080          | 4.08***         | 0.083          | 5.70***         |
| LEV            | +              | -0.001         | -0.92           | -0.001         | -0.75           |
| INCOME         | +              | -0.003         | -5.36***        | 0.000          | 0.19            |
| NOL            | -              | -0.418         | -25.01***       | -0.118         | -8.90***        |
| Year Dummies   | Yes            |                | Yes             |                |
| Industry Dummies | Yes          |                | Yes             |                |
| Adj. R² (%)    | 25.33         |                | 10.28           |                |
| n              | 10,314         |                | 10,314           |                |

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. This table reports the regression results of the relationship between tax aggressiveness and multinationalization. The dependent variable is multinationalization (MNC). This table shows the results using ResidualBTD and DTAX to proxy for tax aggressiveness. The t-statistics are based on robust standard errors. The detailed definitions of all variables are provided in Table 1.

As shown in Table 7, MNC is positively and significantly associated with the ResidualBTD (t-statistic = 2.01) and DTAX (t-statistic = 3.38). Thus, my result is also robust to utilizing other measures of tax aggressiveness.

CONCLUSION

I examine the influence of multinationalization on tax aggressiveness in Japan. This is the first study that directly examines, in Japan, the relationship between

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9 ResidualBTD and DTAX indicate that larger values represent more tax aggressiveness. Thus, the sign of the prediction is opposite to the sign of CurrentETR3.
multinationalization and tax aggressiveness controlling for the tax rate differences of foreign subsidiaries. My specific research goal is to analyze whether multinational companies reduce their tax burden even after adjusting for the difference in tax rates among countries.

I utilize the current effective tax rate for three years to calculate the percentage of tax aggressiveness to test my hypothesis. As a result, I find that, even after controlling for the difference of tax rates among foreign subsidiaries, multinational companies reduce their tax burden, which can give rise to the transactions underlying international tax strategies. Thus, this result suggests that Japanese multinational companies may reduce tax burden through dubious international transactions, because transactions with foreign companies conducted by multinational companies are complicated and lack transparency and there are delays in developing legislation. This result is robust to using two alternative measures of tax aggressiveness.

This study contributes by providing useful knowledge for tax planning by companies, as well as for the reform of government tax policy. The results point out that transactions conducted by multinational companies with foreign companies are complicated and may lack transparency, and that there are delays in developing legislation. Thus, the tax authorities must develop Japanese corporate tax law, and Japanese companies should conduct tax-planning corresponding to development of tax law.

There are several limitations in this study. First, Japanese companies themselves may not have substantially reduced their tax burden, because the corporate tax rate was being lowered during the analysis period. Second, as information on tax haven taxation and reduced tax rates of subsidiaries is not considered, the results may not accurately indicate the tax burden of the entire corporate group.

REFERENCES


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