Independent Final Report

Management System Changes in Response to Population Aging: Case Study Analysis of Japanese Companies Focusing on Elderly Employment and the Retirement System

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March 2018

Independent Final Report Presented to

Ritsumeikan Asia Pacific University

In Partial Fulfillment of the Requirements for the Degree of

Master of Business Administration

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Certification Page

I, HEGEDUS Mitchell Dave (Student ID 52116006) hereby declare that the contents of this Independent Final Report are original and true, and have not been submitted at any other university or educational institution for the award of degree or diploma.

All the information derived from other published or unpublished sources has been cited and acknowledged appropriately.

HEGEDUS, Mitchell Dave

2017/11/30

Acknowledgements

I'd like to take this opportunity thank the many APU faculty members and students who have aided me in the completion of this final report. First I'd like to thank my advisor of one year, Professor ASGARI Behrooz, who offered me inspiration and guidance in formulating the approach to my report. His expertise in business innovation, forecasting, and trend analysis first got me started asking questions about how a big picture topic like population aging can affect businesses and their treatment of employees and efficient workforce management. He provided me so much information during a time when I was unsure about what to research. Next I must thank my current, final semester advisor, Professor YOKOYAMA Kenji, who helped me narrow the scope of my research to Japanese Human Resource Management and Elderly Employment. He provided me with the case studies with which this report is based off of and information on the numerous issues Japanese businesses and government are facing. I'd like to thank Professor BEISE-ZEE Rian, Professor GHOTBI Nader, and Professor HAIDAR Ali who were all influential in the development of my academic writing style. They all guided me through various stages while drafting my research topic.

My Japanese-English bilingual peers are deserving of acknowledgement because without their assistance I'd have been unable to translate the case studies herein. They are Brian Moran, Takuya Yamaguchi, and Ayaka Narazaki and their ability to translate Japanese business terminology and concepts into English is remarkable.

Lastly, I'd like to thank my colleagues graduating in March 2018. We've formed a unique bond, in part due to our semester batch of MBA students being so small (there are only 8 of us). We formed a supportive network that helped all of us see our reports to completion.

Summary

Motivation of the study and research background

The United Nations (UN) Department of Economic and Social Affairs Population Division has released numerous reports regarding population and aging trends. My research focuses specifically on the global, fast growing, aged-over-60 population trend. The UN's report, coupled with reports from Japan's National Institute of Population and Social Security Research (IPSS) and Statistics Bureau indicate Japan is currently leading the world with its remarkably increasing elderly population. Japanese businesses are adapting their human resource management efforts to get the most out of their workforce stock, aged and otherwise. The Japan Organization for Employment of the Elderly and Persons with Disabilities and Job Seekers (独立行政法人高齢・障害・求職者雇用支援機構) provides case studies of Japanese businesses that are working through the challenge of an aging workforce. These cases are written in Japanese and focus on Japanese business practices. By translating these cases to English and providing analysis, I endeavor to add to the understanding of the impact aging trends have on workforce management.

Upon translating the cases to English, the objective of this report has 2 parts: 1) assess the merits and demerits of the business adaptations discussed in the Japanese cases studies, and 2) focus on successful elderly employment strategies, emphasizing the practicality of these Japanese practices for other businesses experiencing workforce aging.

Methods

The primary methodology used in this report is case study analysis. The source I am drawing the case studies from includes 20 of the ”best” case studies of elderly employment (高齢者雇用の企業事例ベスト 20). Assessment of the cases based upon concepts like improved workforce productivity and global practicality of employment strategies will be supported by evidence gathered in the literature review. Supplementing this analysis will be the proposal of elderly employment “best practices” by providing management solutions to problems faced in Japan and around the world in light of demographic changes.

Main Results of Research

As the population of employees age, the way business view human resources must change. People can work longer and more productively. Continuous, "age-free" employment with no age capping offers a novel solution to many of the challenges companies face in light of workforce disparities. Moving away from an age-based seniority system towards performance-based employment taps into the "limitless" potential of employees. As they acquire experience and numerous skills over their careers, they can be retained by companies and used to promote learning and grow productivity in the next generation of workers, as long as the company takes care of them. The transition of a "traditional" seniority based system to a performance and market based system has been slow going, with many companies seeking government aid during this transitional period. But companies that implement strategies to: 1) promote long-term, continuous employment, 2) reduce disparities in wages associated with age, and 3) proactively reduced age and gender based discrimination are paving the way for how businesses should change to better improve productivity and quality of their workforce and society at large.

Chapter 1: Introduction

The goal of this report is to provide background on an unprecedented real-world problem —global population aging— and provide practical recommendations and solutions businesses can adopt to improve their performance, promote economic growth, and ultimately improve the lives of people in general. Initially, the scope of this report is quite broad, addressing the facts and statistics behind global population aging and why it is of international concern. From this overview, Japan emerges as the quintessential locale for observing the effects of population aging because Japan has been and continues to lead the world in terms of elderly population numbers. Background, facts, and figures regarding Japan's population are reviewed to further explore the severity of this issue. Important factors contributing to population aging, such as trends in fertility rates and life expectancy, will be discussed. The spotlight will then be placed on Japanese business management and elderly employment. The information regarding demographics is provided to set the stage for how demographic changes have led us to this current problem. How Japanese businesses have adapted given the effects demographic changes have had on the working population becomes the focal point of this report.

Japanese government and businesses both a play a role in meeting aging population challenges. Changes to the retirement age and system in Japan have lead Japanese businesses to make human resource management changes, and these trends will be analyzed using case study analysis. Assessing what Japanese businesses have done and questioning why they did what they did can lead to the creation of general theories, models, and concepts providing a means for businesses to develop future strategies for thriving during times of uncertainty within the demography.

The Japanese business cases, which are the main research material of this report, will be translated from Japanese to English. This unlocks valuable information about Japanese employment practices that would otherwise not be available to the rest of the world. The English summarization alone could offer up further opportunities for research and discussion regarding the role demographics play in the Japanese employment system.

To understand the cases and trends in management strategies, the literature review section will compile key concepts about the necessary changes society must make to take on the challenge of unprecedented population aging. Based on the literature review and knowledge of the cases, a framework will be developed for assessing good and bad trends in Japanese businesses. It is important to note that not

all Japanese businesses are progressing towards proactive solutions to changing demographics. Some businesses are moving faster than others in terms of employment systems, while others maintain outdated employment practices.

Though wage systems and human resource management are well researched areas, the impact of modern demographic changes and the human capital of elderly workers is a newly developing field of research, which has not received much attention, though this issue has been culminating to this point for decades. Ultimately, this report strives to provide a practical approach to learning about and addressing population aging. The conclusion of this report opens up the idea that what can be learned from Japanese business employment strategies is immense, and understanding how employment is changing in Japan is just the tip of the iceberg for what business managers should be considering when it comes to efficient utilization of their workforce.

Chapter 2: Population Aging- Global Context

The United Nations (UN) Department of Economic and Social Affairs: Population Division (DESA/PD) has been releasing population estimation and projection reports since 1951, assessing comprehensive data sets and indicators to forecast global population trends (UN DESA/PD, 2017, p. 1). In short, population data indicates the world's global population, though increasing, is doing so at a decreasing rate. Population growth rate is a function of fertility rate, which is defined as live births per women in the UN DESA/PD report, and during 2010-2015, has been experiencing a declining global trend (UN DESA/PD, 2017, p. 4).

"Replacement-level-fertility" has been determined by the report to be 2.1 births per woman and is the fertility rate any population must have to maintain a "stable" population, one that remains approximately the same year to year. Analysis of fertility rates above or below replacement-level-fertility and the factors effecting changes to the fertility rate are paramount when discussing population trends.

UN DESA/PD data shows that global life expectancy has been steadily increasing for decades resulting in the emergence of a greater percentage of the 60-and-over population. As the fertility rate decreases and life expectancy rises

around the world, the global phenomenon of population aging is occurring where we see the growth of the 60 or over population increasing at a rate higher than all younger populations (UN DESA/PD, 2017, p. 11). Population aging is not occurring uniformly among the nations of the world: some countries are experiencing remarkably rapid aging of their societies, while other regions with relatively high fertility rates still consistent of younger population groups. "Young" populations that result from high fertility rates are few and are localized to specific regions of the world (African countries lead the world in highest fertility rates), while low fertility rates, specifically the ones that fall below the replacement-level-fertility rate are spreading to more countries; thus the global trend is tending towards a fertility rate decline resulting in the prediction that by 2050 the world's total population will decline (UN DESA/PD, 2017, p. 7). These forecasting models are reliant upon fluctuating fertility rates, which are subject to change as more research goes into the topic, policies become reformed in response and peoples' behaviors change.

Trends in fertility rates can be observed, but what governs how the rate change is incredibly complex. A classic example of this can be found in John Sterman's book, *Business Dynamics.* In short, the Romanian government looked to boost their fertility rate by banning contraception and abortion in 1966. The immediate effect was a near

tripling of the birth rate within a year. The unintended consequence, however, was that the birth rate sharply fell a year later and continued to decline back down to the 1966 level, and then went even lower by 1989. Contraception and abortions were obtained illegally, and what was made worse was that in this unregulated environment neonatal deaths tripled and infant mortality increased 20% with children suffering in the ill-equipped health care state. This story is an example of Policy Resistance, the Law of Unintended Consequences, and the Counterintuitive Behavior of Social Systems, all of which must be taken into consideration when trying to manipulate large and complex population system (Sterman, 2000, p. 5-7).

It should be no surprise that as early 1999, the complexity of global population aging and the lack of understanding regarding the "science" of behind it was causing some to already refer to the phenomenon as a "crisis." Peter G. Peterson, chairmen at the time of the Council on Foreign Relations, asserts that the economic and political implications of global aging were on a scale never experienced (costing quadrillions of dollars over the next half century); and with no county's government having a clear agenda or policy that confronted the challenge, the problem of global aging would be so disruptive to the global economy that an economic crisis will eventually result (Peterson, 1999).

For two decades Japan has been suffering from a stagnating economy that is experiencing little to know economic growth, and could be argued to be approaching this “crisis” point. In the next chapter, context about the demographic environment Japanese businesses are operating in will be presented to better understand how human resource management systems and employment practices are being shaped in response to population aging.

Chapter 3: Population Aging- Japanese Context

The work of the National Institute of Population and Social Security Research (IPSS) is crucial to understanding Japan's population trends and can be found at http://www.ipss.go.jp/. To address demographic concerns and economic stagnation, Japan's Ministry of Health and Welfare integrated the Institute of Population Problems and the Social Development Research Institute to form the IPSS in 1996 (ipss.go.jp, 2010).

The IPSS provides population statistical data on behalf of government institutions for the purpose of formulating health, labor, and welfare policies. The Director-General, Professor Hisao Endo and IPPS is committed "to providing the basic information which contributes to policy formation, and will carry out advanced research regarding how social security should be in the future and convey such information to the public. The importance of these activities needs no reiteration, but it is a matter of course that such research is not something that can be achieved through our efforts alone. It can be met with the interest and support of many government agencies, as well as society at large" (ipss.go.jp, 2017).

The IPSS's most recent publication, *Population Projections for Japan*

(2016-2065), contains many key observations on the future outlook of Japan's population trends. Three prediction models were used to forecast population composition based on three fertility rates, low-, medium- and high-variants. The calculated fertility rates for these variants are 1.25, 1.44, and 1.65; all of which are clearly below the 2.1 rate determined by the UN needed for maintaining a replacement-level-fertility rate. The results of the IPSS's findings are summarized in the following 5 figures:

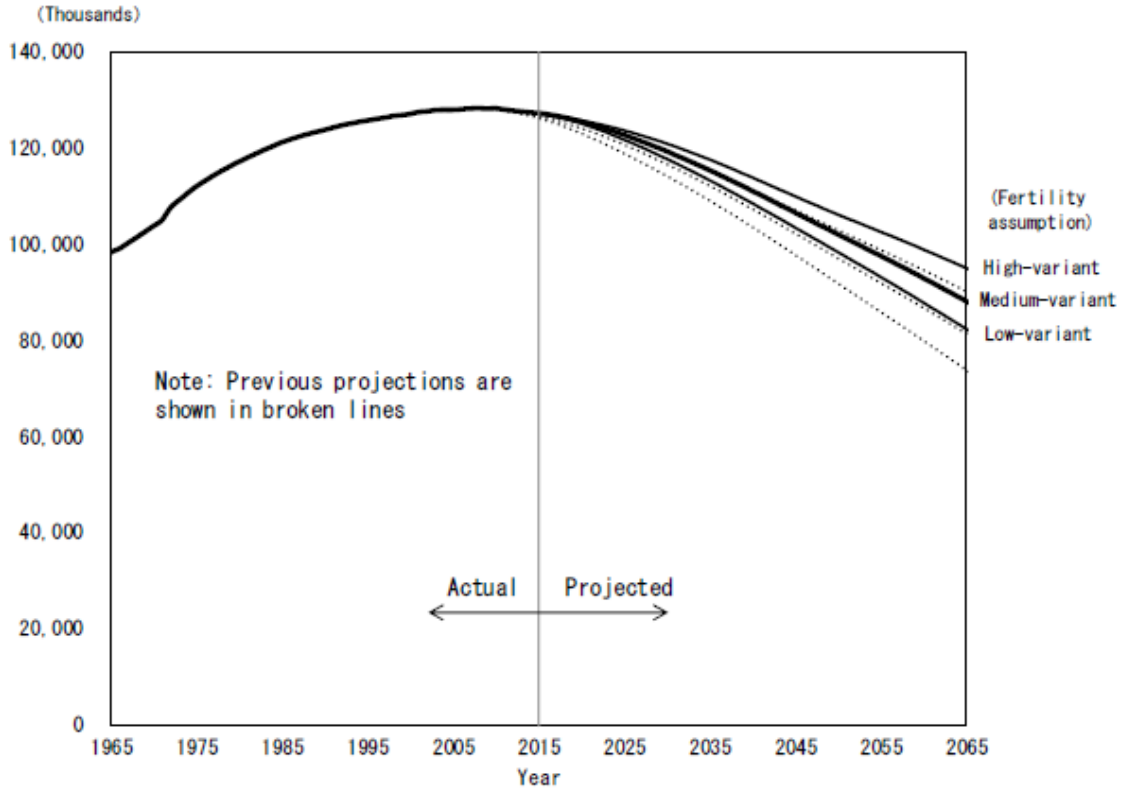

Figure 1-1. Actual and projected population of Japan: Medium-, high-, and low-fertility (medium-mortality) projections. Adapted from National Institute of Population Aging and Social Security Research (IPSS). (2017). Population Projections for Japan (2017): 2016 to 2065. Retrieved Nov 25, 2017, from http://www.ipss.go.jp/index-e.asp

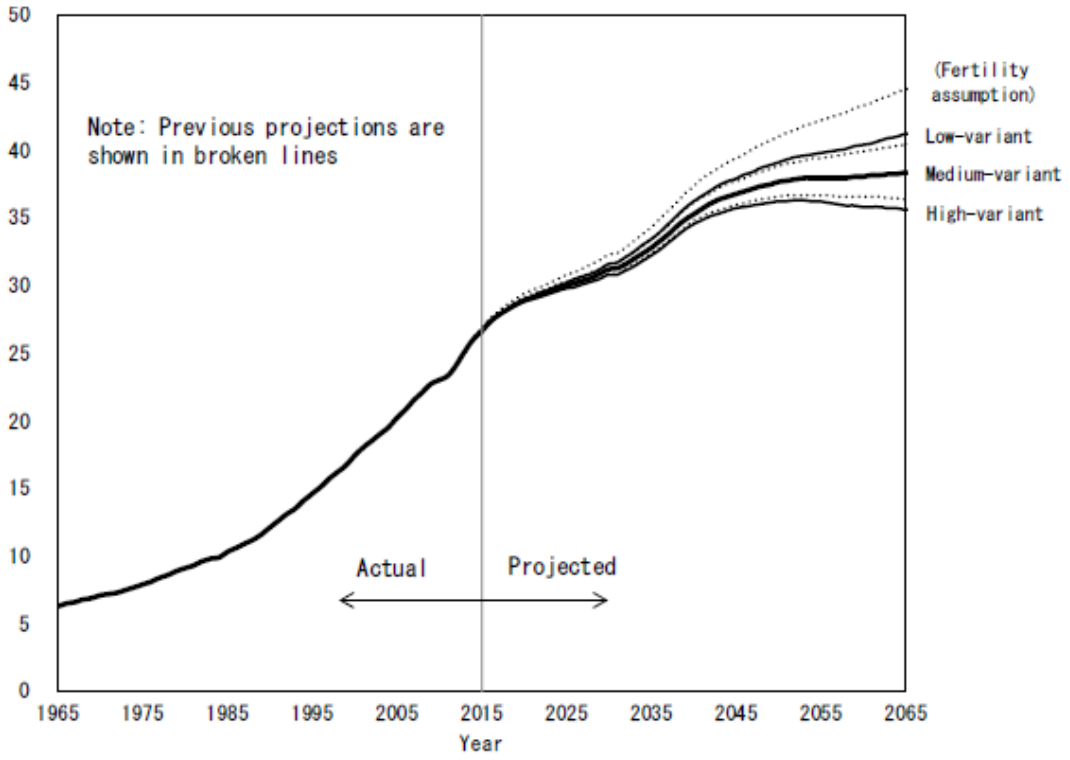

Figure 1-2. Trends in the proportion of elderly (aged 65 and over): Medium-, high-, and low-fertility (medium-mortality) projections. Adapted from National Institute of Population Aging and Social Security Research (IPSS). (2017). Population Projections for Japan (2017): 2016 to 2065. Retrieved Nov 25, 2017, from http://www.ipss.go.jp/index-e.asp

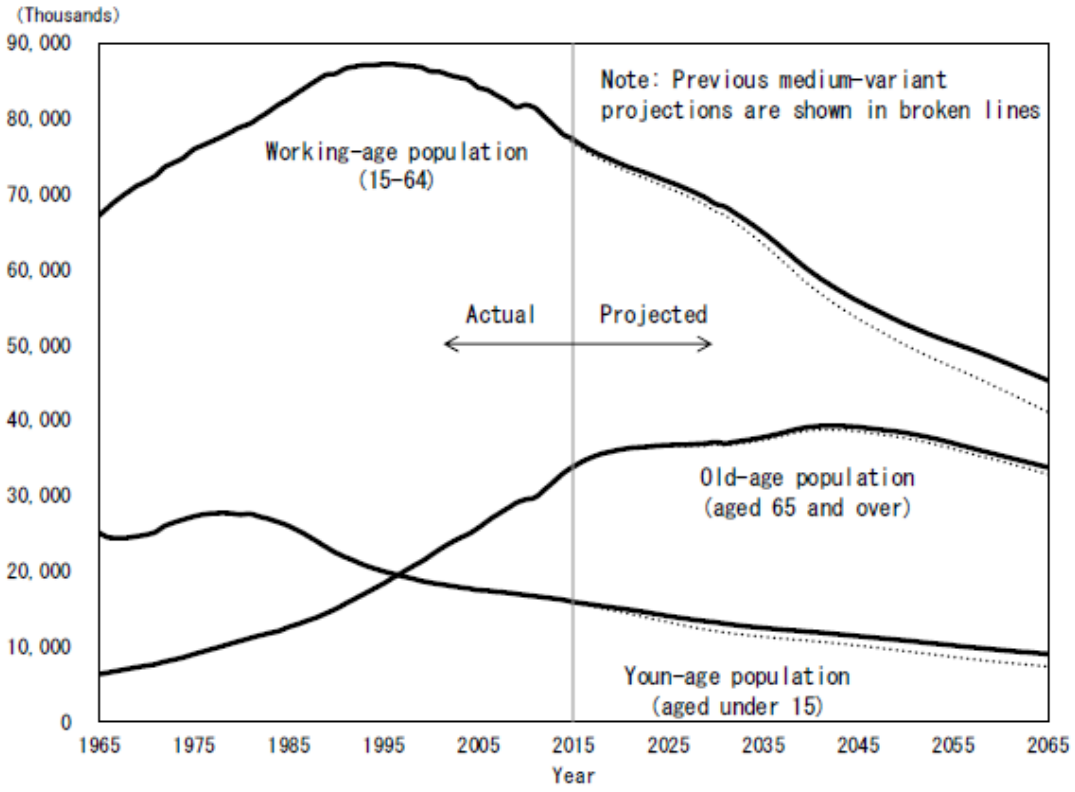

Figure 1-3. Trends in the population of major three age groups: Medium-fertility (medium-mortality) projections. Adapted from National Institute of Population Aging and Social Security Research (IPSS). (2017). Population Projections for Japan (2017): 2016 to 2065. Retrieved Nov 25, 2017, from http://www.ipss.go.jp/index-e.asp

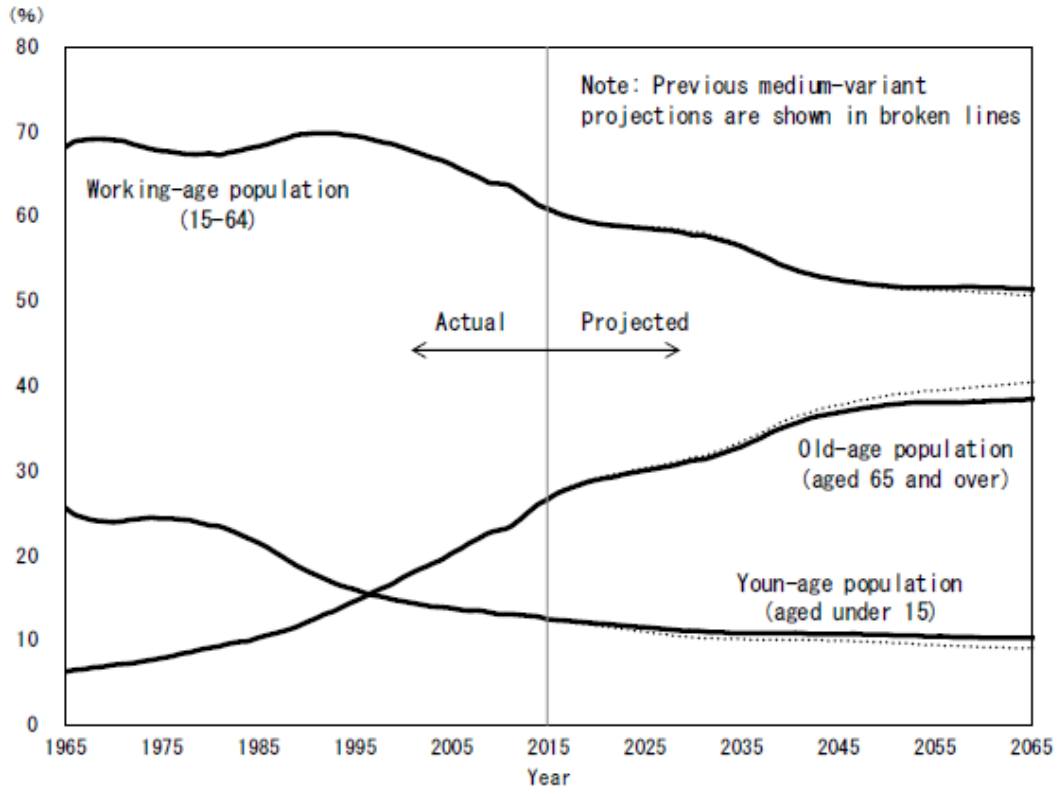

Figure 1-4. Trends in the proportion of major three age groups: Medium-fertility (medium-mortality) projections. Adapted from National Institute of Population Aging and Social Security Research (IPSS). (2017). Population Projections for Japan (2017): 2016 to 2065. Retrieved Nov 25, 2017, from http://www.ipss.go.jp/index-e.asp

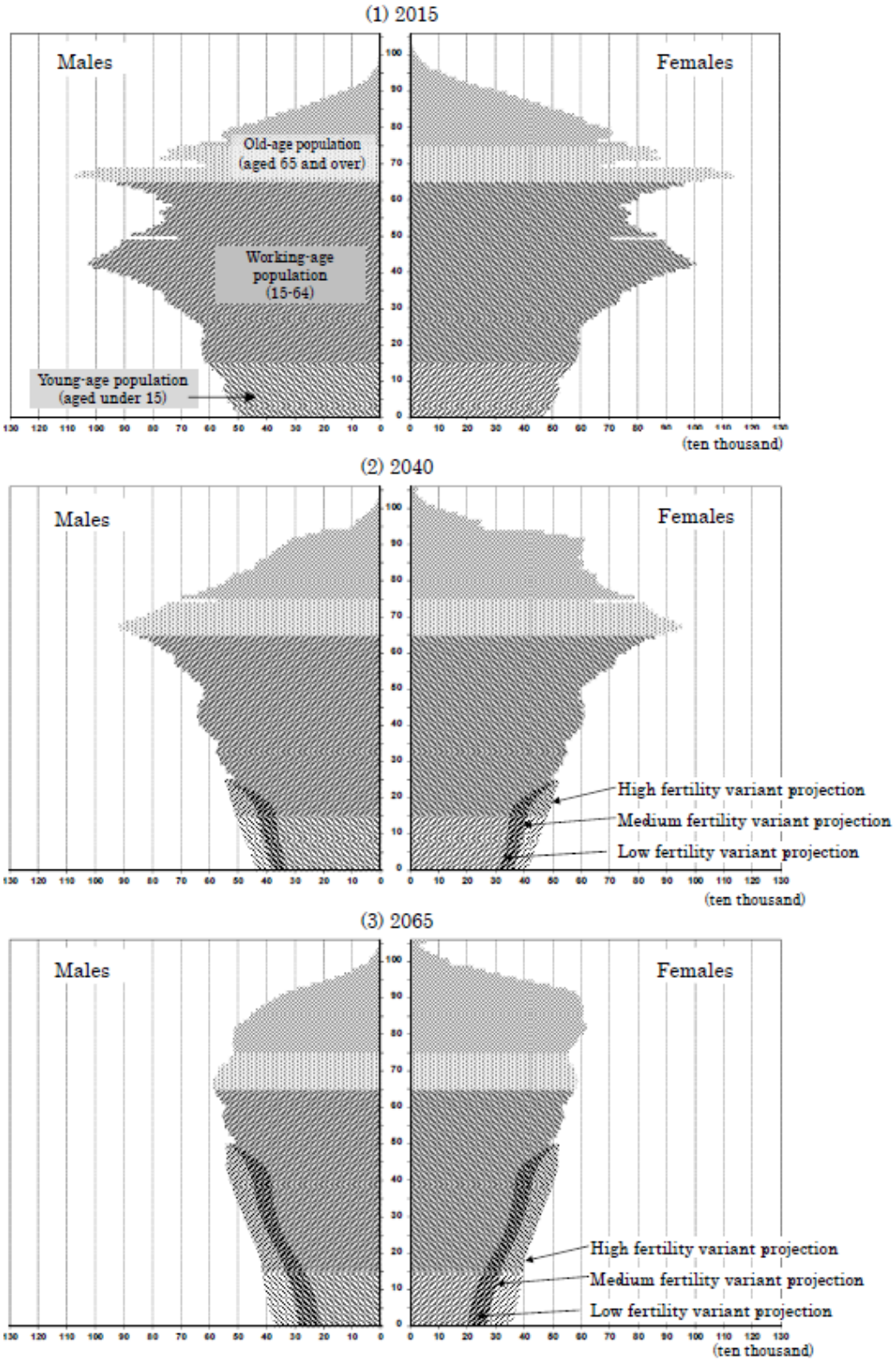

Figure 1-5. Population pyramid: Three fertility variant projections (medium-mortality). Adapted from National Institute of Population Aging and Social Security Research (IPSS). (2017). Population Projections for Japan (2017): 2016 to 2065. Retrieved Nov 25, 2017, from http://www.ipss.go.jp/index-e.asp

Based on these results and the on-going data that is collected about Japan's population, the IPSS makes the following observations:

1) Regardless of fertility variant, the elderly population size will continue to increase while the portion of younger aged people decreases.

2) Along with overall population, the working age group (15 to 64 years of age) will continue to decline.

3) Though the trend is clear, fertility rate variants could affect the extent of the difference in proportion of elderly and young in later years.

4) The old age dependency ratio, a ratio of old age population to working age population, will increase from 50% to 75% from 2015 to 2065. The young age dependency ratio will remain around 20% over the course of the projection due to the fact that the young age population will decrease due to low fertility, but so too will the working age population for the same reason.

5) From 1947 to 1949, after World War II, Japan experienced an initial baby boom followed by a second one from 1971-1974, explaining the two significant groupings within the 2015 composition of Japan. By 2040 both baby boom stages will enter the elderly age bracket. By 2042 the elderly population will peak. Subsequent years will see decline of all age groups as a

result of low fertility (IPSS, 2017).

The impact of population aging becomes evident after assessing this data. The key implications on the workforce is that Japan's population of 127 million in 2015 is expected to drop to 82 to 94 million by 2065 depending on which fertility variant projection is used. This will be accompanied by a decrease in working age people. In addition, elderly workers will continue to outnumber younger workers and this ratio will continue increasing until 2042 (IPSS, 2017).

According to a UN World Population Prospects report, in 2011 not only did Japan lead the world in aged over 60 population, it is forecasted to continue to do so into 2050 (UN DESA/PD, 2011, p. 108). On the bright side, this same report indicates Japan will continue to lead the world in life expectancy, which is a consideration that can be taken into account as Japan's policy makers adjust to population aging trends.

Based upon this background information on population aging, the next chapter will focus on population aging literature and the efforts towards remedying some of the concerns that accompanying this problem.

Chapter 4: Literature Review

4-1: Comparing Labor Income and Consumption of Japan with other nations

Thus far, population aging is mostly described as problematic. However, population aging in Japan, when viewed in comparison with the rest of Asia and the globe, can be seen as having both complex costs and benefits. A paper published by Lee & Mason (2012) assesses data drawn from 36 countries across 6 continents to make conclusions on population aging and human capital accumulation trends based upon the data of age profiles, consumption, and labor income per capita. Japan labor income and consumption is compared to non-Asian rich countries (USA and EU nations) in the following figure:

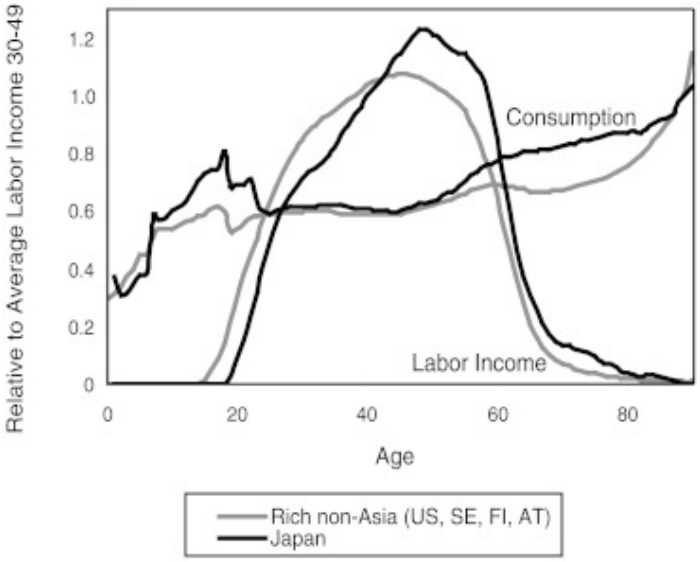

Figure 2-1. Japan and non-Asian rich countries, unweighted averages. Adapted from Lee R & Mason A (2012). Population Aging, Intergenerational Transfers, and Economic Growth: Asia in a Global Context. In: National Research Council (US) Panel on Policy Research and Data Needs to Meet the Challenge of Aging in Asia; Smith JP, Majmundar M, editors. Aging in Asia: Findings From New and Emerging Data Initiatives. Washington (DC): National Academies Press (US). 4. Retrieved Nov 25, 2017, from https://www.ncbi.nlm.nih.gov/books/NBK109226/

By comparing Japan to non-Asian rich countries (USA and EU nations), the researchers show that in Japan:

1) Young Japanese workers begin earning income about 2 to 3 years later than in non-Asian rich countries;

2) This trend continues until around 40, indicating that Japan's seniority based wage system results in young workers' labor income lagging behind rich non-Asian countries until around 40 when seniority begins to pay off;

3) Between ages 40 to 60 Japanese workers receive more labor income, a result of the seniority based wage system;

4) After 60 for both Japan and non-Asian rich countries labor income significantly drops (as is expected with age 60 retirement), yet in Japan over 60 labor income is still higher;

5) Consumption from approximately age 20-40 is roughly the same in both Japan and rich non-Asian countries, however before beginning work Japanese children are heavily invested in during the ages of secondary and tertiary education. After age 60 consumption continues to be slightly higher in Japan (Lee & Mason, 2012).

Lee & Mason (2012) analyze data on support ratios (effective producers to consumers); labor income, transfers, and asset-based allocations; public transfers, family transfers, and asset-based reallocations; and investment in human capital in relation to total fertility rate. From this analysis, the researchers observe areas of potential productivity growth under certain conditions.

Low fertility is associated with increased spending and human capital investment per child, suggesting that the quality and productivity per worker increases— a sort of quality vice quantity trade-off (Lee & Mason, 2012). This is an important concept when trying to offset the decreasing support ratio of Japan, which

indicates that labor income is not keeping up with the amount of consumption that is occurring as the population ages.

As workers age they accumulate assets, and as the population ages so too does the ratio of assets to workers (Lee & Mason, 2012). If these are profitable assets, and if they are reinvested into domestic capital, then capital per worker rises, raising productivity of labor and to some degree also offsetting the negatives of a decreasing support ratio (Lee & Mason, 2012).

Explicit spending on health and education, which has been shown to be a focus in Japan, is clearly linked to later life labor productivity (Lee & Mason, 2012).

With low fertility, a decreasing support ratio (a result from the low labor income of young workers not keeping up with the high spending of pensions, health-care, and long-term care for the elderly), and population aging that will only worsen with time, Japan will encounter severe long-term fiscal problems (Lee & Mason, 2012). However, in light of sources of productivity that comes with aging, there is potential to contend with population aging challenges if changes are made.

4-2: Japan's "traditional" employment system: drawbacks (the "entrapment" mechanism) and recommendations for improvement

Japan's hiring and employment system is synonymous with concepts like life-time employment, vertically hierarchical management, age-based salaries, long working hours, and single-earner families resulting in many to posit that this rigid labor system has been a significant driver of low fertility rates. Yashiro (2011) analyzes current Japanese employment practices and proposes some changes that can be made to human resource management to overcome the stagnating state of the Japanese economy born from maintaining the status quo of the Japanese employment system.

The "traditional" Japanese post-World War II work style system, based upon three pillars: 1) long-term employment security, 2) seniority-based wages, and 3) firm-based labor unions, once was praised for the genesis of the Japanese economic "miracle"; now, due to shifts in labor markets, both domestically and abroad, is considered to be holding Japan back as the economy stagnates (Yashiro, 2011). The "entrapment mechanism" is proposed to explain the significant drawback of the "traditional" system.

In Japan's seniority-based wage system workers endure long working hours,

frequent job rotations, and relocation to undesirable locations during the younger years of their career, typically at lower wages than what they are actually contributing to the company, so that later in their career, with higher seniority, they can benefit from a higher salary while contributing less productivity, in addition to an eventual lump-sum retirement benefit at the end of their career (Yashiro, 2011). The following figure describes this concept graphically:

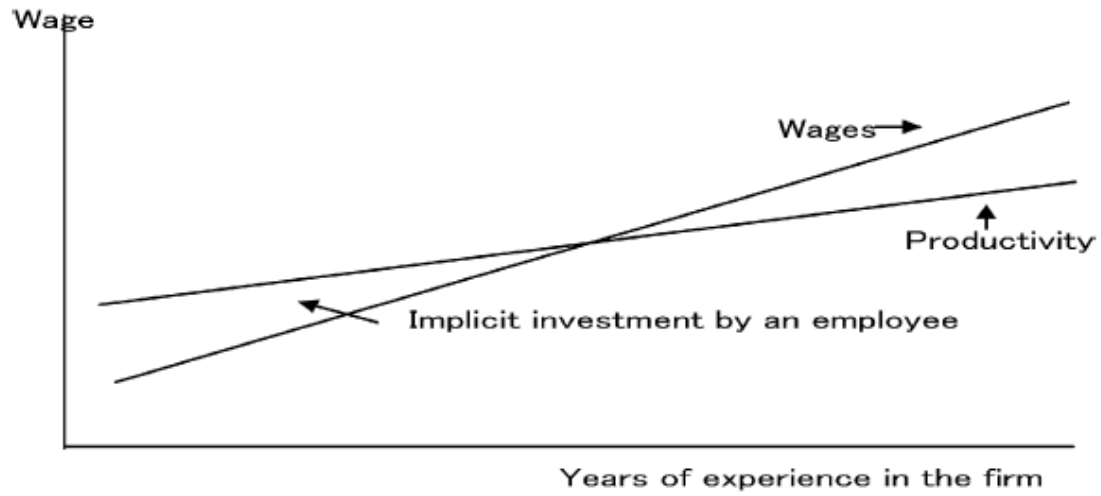

Figure 2-2. An image of the "entrapment mechanism." Adapted from Yashiro, Naohiro (2011). Myths About Japanese Employment Practices: An Increasing Insider–Outsider Conflict of Interests. Contemporary Japan, 23:2, 133-155

The "entrapment effect" results from the complementary effects of lifetime employment and the seniority-based wage system where the reward for staying with one company until retirement out values any opportunities a mid-career change to a new

company might offer (Yashiro, 2011). Retirement, in turn, acts in the benefit of the employer, who can then unburden itself from the obligation to pay a high wage to a worker, who now in their later years, is presumed to drop in productivity during the time when retirement is finally within reach. With higher wages and retirement benefits assured with age, the incentive to remain productive throughout one's career therefore rests in the pursuit of higher posts and promotions, which are highly competitive within a Japanese firm, and typically require one to invest long work hours while sacrificing a favorable work-life balance (Yashiro, 2011). This has very adverse consequences for both employers and employees. The employment of Japanese women in the workplace has been steadily increasing over the past few decades, but the sacrifice of a favorable work-life balance makes maintaining a career and raising a family at the same time unsustainable; and without social systems to support working women, women are forced out of their careers to raise a family or choose a career over family, dropping the fertility rate (Yashiro, 2011).

In an effort to increase worker productivity and pay less wages, many Japanese companies hire non-regular workers. A study found that up to a third of Japanese employers fall into the category of hiring non-regular workers, where employees are contracted out on a year by year basis, perform the same tasks as regularly employed

workers, but are not assured the long-term benefits of their employment (Yashiro, 2011). This also affects the elderly, who typically desire to keep working past the 60 year age retirement limit, but have to do so at significantly diminished wages and under year-to-year work contracts (Yashiro, 2011).

Yashiro (2011) provides three principles, which if implemented within a traditional Japanese employment system, can alleviate the ills of the disruptive work-life balance, wage disparity between regular and non-regular employees, and limitations of the single-earner family model.

First, the concept of "age-free" wages is proposed, which Yashiro contends is key to coping with an aging society. Age-free wages would soften the disparity created after retirement (when over 60 age workers still can and want to work anyways) by lowering senior wages in general but allowing seniors to work for longer without an abrupt drop in wage, as long as their contributions reflect the wage they receive (Yashiro, 2011).

Second, "equal pay for equal work" would complement the concept of "age-free" and have the added benefit of mitigating the wage disparity between regular and non-regular employees. Crucial to coping with an aging society is the movement from a seniority based system to a market based system, which creates a high initial cost

to companies during implementation, but is necessary as the population ages (Yashiro, 2011). The cost of this system arises from human resource managers having to construct job manuals and expend considerable resources in an accurate work valuation system across different jobs in order to determine what "equal work" is (Yashiro, 2011).

Third, a "double-income earner family model," which is most at odds with the "traditional" employment system because many single earner families are accustomed to it and expect this to be how families should be, is proposed on the basis of improving Japan's work-life balance. Improved work-life balance is good for an aging population because it allows elderly workers the option of continuing to work in their senior years without the obligation of strenuously long hours, which they may not be capable of working anymore (Yashiro, 2011). Additionally, it adds to the benefits of a market based system where women, who no longer must sacrifice family, can contribute to the labor force.

Yashiro's three principles will be revisited again later in this report when constructing an assessment method for the merits and demerits of Japanese management changes with regard to elderly employment.

4-3: Elderly workers role in changing the employment system- cases from Japanese companies

Much like in Yashiro's paper, Debroux (2015) addresses concerns with age-discrimination and regular versus non-regular employment within Japan's "traditional" employment model, emphasizing the unsustainability of the system given the current demographic context, socio-cultural context, and regulatory environment that is faced by employees and employers.

There is a growing consensus that no upper limit should be associated with productivity or ability to work with respect to age: as people age not only do they desire to work longer, but through innovative technologies older workers can maintain a productive work load; and in the areas of management, leadership and creative development, studies have shown there is no cognitive capping associated with age (Debroux, 2015). Only in light of recent economic turmoil has the emphasis been placed on tapping into the potential the elderly worker market offers.

Debroux conducted surveys and interviews with human resource specialists and drew data from 5 large Japanese firms (7500 to 10000 employees) who employ 60 to 64 post retirement age and over 65 age workers.

Regulation regarding the retirement age comes to the forefront as an obstacle to elderly employment for two reasons: 1) the lack of flexibility to lay off employees before the retirement age and 2) the lack of a clear framework of how to create a new work status for post-retirement employees (Debroux, 2015). This issue is further compounded by the following: firms have different perspectives on what regulatory changes should be made, public authorities are not sharing in the burden of training and developing elderly workers (whom firms would otherwise simply lay off in the current system), and those who are already heavily invested in the seniority-based wage system would be threatened by changes that could devalue their position in the "traditional" system (Debroux, 2015).

In the current system, as elderly employees approach retirement, their position in the company is "downshifted" to jobs that require less hours or less duties, which to an extent, can justify the drop in wages, but in many cases, elderly workers are merely re-employed doing the same level of work but at a much reduced post-retirement wage (Debroux, 2015). In other instances, many small to medium enterprises (SME) employ large numbers of elderly workers, who have developed industry specific skills, and after retirement, these SMEs find it difficult to find alternate posts to transfers their elderly workers to due to the perception that their specialized skills will be of little value

or obsolete if transferred (Debroux, 2015).

Of the companies Debroux interviewed, many admit to discontinuing investment in training and development of their over 50 year old employees, especially white-collar workers, in anticipation of their retirement when their obligation to maintain their high wage is not required (Debroux, 2015). These same companies have implemented programs for senior employees to pursue work on a "second career" that could perhaps lead to self-employment or entrepreneurialism in an unrelated field in an effort to promote career mobility for senior workers (Debroux, 2015). However, as already emphasized, there is no clearly formulated structure that aids elderly workers in this endeavor, nor is than any actual obligation by employers to help senior workers after retirement in their careers, highlighting the level of complacency some companies have towards this issue and the need for cooperation between business and public authorities to provide guidance on national and local levels on how to better utilize elderly workers (Debroux, 2015).

The outlook for finding continued use of elderly workers is not completely bleak: Japanese companies emphasize *kaizen* (continuous incremental improvements to production) and in two of the five companies interviewed attempts were made to mix old and young workers in production teams in order to improve the productivity of

young workers with the older workers' accrued experience (Debroux, 2015).

In spite of clear regulatory changes to facilitate the shift away from using regular versus non-regular employees, which has arisen primarily due to the age-based wage system, the five companies interviewed have all tried to bridge that gap by creating their own version of a "limited-regular" employee, who can make arrangements with their employer to enjoy the benefits of continued employment but must remain flexible to adjustments in workload, work conditions, schedule and wage in order to fit the needs of both the employee and employer (Debroux, 2015).

Debroux (2015) points out shortcomings in the current traditional Japanese employment systems, highlighting the tendency for firms to devise their own solutions whilst still requesting the assistance from public authorities to aid them in meeting the challenges of elderly employment. The issue of balancing wage with employee performance and contribution to the company resonates within this paper and the other papers discussed in this report so far.

The principles of performance based wages, young and elderly work groups, ability development, and workforce flexibility will be revisited when discussing the merits and demerits of employee management system changes.

4-4: The effect of demographic shifts in working age on productivity

In light of the aforementioned demographic changes to Japan populations, many researchers have investigated the effect of potential fiscal reform changes that could boost the economy. Westelius & Liu (2016) use empirical evidence and modeling to show the need for Total Factor Productivity (TFP) growth and fiscal reform within Japan's economy. This article does not specifically address the role of elderly employment in economic development, but it is relevant literature because it supports the case for reformation of the "traditional" Japanese wage system, and how indirect regulatory changes, such as changing the mechanism behind mandatory retirement, is a path towards such reforms.

Westelius & Liu (2016) identifies a correlation between the demographic shifts in working age and TFP. The young and old make generalized contributions to TFP: the young, with better health perform at a higher processing speed, have the ability to adjust to rapid technological changes, and have greater entrepreneurship leading to more innovation; while the old contribute their capability to create innovation through accumulated work experience and expertise, since evidence has shown the peak age of innovation creation has been increasing (Westelius & Liu, 2016). Japanese prefectural

growth accounting data and demographic data is used to model the trend of the aging population and productivity from 1990 to 2007.

Interestingly, in Japan working age groups of 20s, 30s, 40s, 50s, and 60s aged contribute, positively and negatively, in their own ways to TFP. The 40s age group resulted in the most TFP increase with the 30s age group show statistically significant increases, as well (Westelius & Liu, 2016). However, the 20s, 50s and 60s age groups showed negative statistically significant values relative to the 40s age group (Westelius & Liu, 2016). The paper does not speculate on the reasons why each age groups is causing positive or negative shifts in TFP contribution, just that there is an empirical association between worker age groups and TFP levels, adding that future research into empirical analysis of macroeconomic effects resulting from population aging is needed (Westelius & Liu, 2016). The paper concludes that monetary fiscal reform plays an important role in re-inflating Japan's economy, but that further research into address underlying demographic issues and shifting the economic status quo is necessary for meaningful policy change (Westelius & Liu, 2016).

Elderly employment and "traditional" employment system changes can be one mechanism for meeting these challenges. This paper shows that the 30s and 40s age groups are already productive, so focusing efforts on reversing the negative contribution

senior and young work groups have on TFP perhaps provides one means for reversing Japan's stagnating TFP growth.

4-5: Global population aging and recommendations for policy change and restructuring

De-scoping the context of aging population issue to that of a global concern, a Harvard working paper by Bloom, Canning & Fink (2011) dispels some concerns about the negative effects of population aging and offers suggestions on the direction policy changes can go to confront the challenges of population aging. As the world's fertility rate declines, we also see the phenomenon that life expectancy rates are increasing and the elderly are living healthier. Taking this into consideration, the burden of aging is not as large as some have anticipated, as the demand for health care (though typically considered higher for the elderly) is not as severe; and in better health, workers in their 60s and 70s can still contribute to the economy (Bloom, Canning & Fink, 2011). Though a challenge, economies can benefit from longer lifespans: a study of developing countries in Asia shows that "governments can afford to carry out more-extensive social protection programs, and that in doing so they will spur economic growth in a manner that is inclusive of those who most need to benefit from it" (Bloom, Canning & Fink, 2011).

Peterson (1999) held an alarmist view as he referred to population aging as a

global “crisis.” Bloom, Canning & Fink make reference to Peterson’s “crisis” claim: this “crisis” viewpoint is based upon the concept that if productivity and migration remains constant, and if labor supply and savings were fixed, then labor supply and savings per capita would decline, resulting in the growing share of elderly population lowering growth of income per capita (Bloom, Canning & Fink, 2011). However, the fact is, a growing elderly population has the potential to contribute to productivity and labor supply.

To assess the state of economic growth and labor supply changes as a result of population aging, Bloom, Canning & Fink (2011) analyze data on Labor Force to Population (LTFP) ratios and Labor Force Participation Rates (LFPR) from 1960 to 2005 and data projections into 2050 for OECD and non-OECD (The Organization for Economic Co-operation and Development) countries to draw conclusions on behavior shifts in labor and economies. Their study shows the following:

1) With better health and increased life expectancies, one can expect individuals to work longer.

2) Even if individuals decide to not work longer, increased life expectancies can be expected to induce increased savings over the working life in order to finance a continued high standard of life in retirement.

3) Societies respond to longer life expectancies and smaller family sizes with increased labor force participation.

4) In some countries, the labor force participation may grow because large, unemployed or underemployed working-age populations could be drawn into the labor market if population aging threatens to cause labor shortages.

5) With the declines in fertility rates observed over the last decades, school enrollment and educational attainment have improved across countries as parents opt to invest more in fewer, but more highly educated children.

6) Businesses can play a role in encouraging older workers to continue working, and they can in turn benefit from such workers' experience and reliability (Bloom, Canning & Fink, 2011).

In light of these behaviors, Bloom, Canning & Fink (2011) contend the perceived negative consequences of large scale population density and population growth rates experienced within the past 100 years seem unduly alarmist. "The key premise [of the alarmist view] is that labor supply, productivity, and savings vary over the life cycle. This implies that the age structure of a population may be consequential for its economic performance, as measured by income per capita. Large youth and

elderly cohorts might slow the pace of economic growth, while large working-age cohorts might speed it" (Bloom, Canning & Fink, 2011). But these age-based effects are not the only effects to consider, "...there are also behavioral effects. For example, increased longevity – a key driver of population aging – can change lifecycle behavior, leading to a longer working life, higher savings, and more investment in human capital" (Bloom, Canning & Fink, 2011). The paper further suggests that the harms of aging population are not as severe as long as increased welfare and opportunity to work that accompanies older age is given reasonable consideration, and that societies will continue to make behavioral changes with respect to age-specific or age-induced income per capita rates and labor force participation rates, which should not be assumed to remain fixed (Bloom, Canning & Fink, 2011).

Based on their research findings, Bloom, Canning & Fink (2011) offer guidance for policy formation that addresses population aging concerns, emphasizing the need for modifying rigid and outdated institutions rather than focusing on the issue of demographics, per se. Policy should take advantage of longevity of workers afforded by longer life expectancies and overall health, making old-age pensions more flexible and encourage longer work participation (Bloom, Canning & Fink, 2011). Continued investment in health care, especially to those over 60, is important to

reinforce this shift in working age, adding the effect that continued work adds input into health care and social security systems (Bloom, Canning & Fink, 2011). Policies should also encourage labor force participation, for example increasing ease with which women and the elderly can participate in the workforce (Bloom, Canning & Fink, 2011). In countries that have already committed heavily into financially supporting the elderly, the ability to change future pension policy will be severely constrained; however, attempts to adjust old-age dependency and the way pensions and benefits are transferred, though challenging, offers a means to improve the pension system design (Bloom, Canning & Fink, 2011).

These principles, along with many of the other concepts discussed in this literature review section, will form the basis for analysis of the Japanese business management cases studies.

Based on this literature reviewed in this section, some clear trends and ways to improve policy can be observed. As emphasized in Chapter 3: Aging Population-Japanese Context, Japan offers excellent examples of the extent of the aging population issue and what is being done in real-time to counter these concerns. After a brief methodology description, the Japanese case studies will be summarized and then analysis of the merits and demerits of changes within management systems will occur.

Chapter 5: Methodology

5-1: Description of methodology and translation methods

The methodology employed herein is case study analysis of multiple Japanese business cases studies related to elderly employment. Focus will be given to the organizational and managerial changes made by Japanese businesses. A case study approach is used when investigating elderly employment since, historically, the extent of population aging and the coping mechanisms to this change are unprecedented. Literature is scarce on elderly specific human resource management approaches, so investigating actual cases and using inductive reasoning to derive principles and themes in this area appropriately fits. The actions taken within the cases will be summarized and assessed by analyzing the merits and demerits of the changes.

The cases are written in the Japanese language and have been translated on my behalf with the assistance of bilingual Japanese-English speakers credited in my acknowledgements section. Following a translated summary of the cases and key human resource management changes, Japanese human resource management "best practices" will be described, incorporating information in the case study as well as some of the established concepts derived from my literature review.

A report of consisting of 20 “best” case studies of Japanese companies implementing changes related to elderly employment has been obtained from the Japan Organization for Employment of the Elderly and Persons with Disabilities and Job Seekers (JEED) (独立行政法人高齢・障害・求職者雇用支援機構). JEED offers numerous publications, in Japanese, about the employment of elderly and persons with disabilities, offering both information and services to employees and companies. JEED publishes monthly 啓発誌「エルダー」, *“Elderly” Enlightenment Magazine*, which typically contains an article about a business making elderly employment changes. 高齢者雇用の企業事例ベスト 20 (PART 12), *Best 20 Business Cases of Elderly Employment*, published in March 2007 is a compilation of JEED’s best articles from their 啓発誌「エルダー」publication from 2004 to 2006.

Not all 20 cases are summarized. Cases that did not seem to hold any merits toward improving elderly employment management were excluded. An example of this would be a company that merely makes infrastructural changes to their facility, making it more accessible and easier for the elderly to work there. Arguably, this improves productivity and aids the elderly in doing their job, but because these are capital investments in facility and not overarching shifts in work culture and employment tendencies, no wisdom or insight is provided into management philosophy

and change management through utilizing elderly employment. Other examples of cases not included are those that focus on changes made to part-time employment of non-regular employees, when the focus should be placed on treating elderly employees as regular employees and developing a system that facilitates that.

Translation occurred through the use of English and Japanese speaking students at Ritsumeikan Asia Pacific University. Translators were asked not to do a word-for-word translation of the article, but simply read the article in Japanese and interpret the key points the articles were getting across. A discussion was made about what the message of the article was and notes were then written into English. The contents herein are translated and paraphrased from the source material. The volunteers possessed background in Japanese business concepts. The summaries express the general intention and meaning. In some instances, simply using Japanese terminology was used because it provided more clarity then trying to determine an English business-language term equivalent.

The case studies are organized by company name. In each section the company is identified and the description of the elderly employment management changes follow. The remaining part of this methodology section consists of the translated summary.

5-2: Preface

In 2007 Japan's first baby boomer generation entered their 60s. On April 1, 2006 Japan implemented the Law for Stabilization of Employment of the Elderly. In compliance with this law, businesses could make 1 of 3 choices with regard to the retirement age: implementation of a continuing employment system after retirement at 60, raising of the retirement age from 60 to 65, or abolishment of a set age for retirement (JEED, 2007, p. 2).

5-3: Cases of employment continuation

5-3-1: Nippon Life Insurance Company

Nippon Life Insurance Company, the largest life insurance company in Japan, focuses on a continuous employment system that improves the personnel management and wage system. The changes involve creation of two re-employment job classifications: Senior Specialists and Senior Associates. Senior Specialist positions are offered to senior employees that possess advanced competencies and qualifications. Senior Specialists maintain their workload in their specialized field (such as law or finance).

Senior Associates can be any veteran employee with insurance expertise in any field of work who wishes to pursue employment beyond 60. Senior Associates may remain in their previous position, or may be re-trained to fill other customer service or sales needs. The concept here is that regardless of position, senior veterans bring a wealth of experience, and their continued employment is still an asset to the company.

A regular work week is still expected, with an emphasis on senior workers still being available to meet customer needs.

Post-retirement pay is roughly 70% of workers' original salary, with

consideration given to workers being able to maintain a reasonable standard of living beyond 60.

The post-retirement wage system places an initial burden on the company, but the overall goal of the company is not to fight changes in the retirement age but to develop the abilities of their workers and insure workers can continue working into their senior years (JEED, 2007, p. 4-9).

5-3-2: Dai-ichi Mutual Life Insurance Company

Dai-ichi Mutual Life Insurance Company has developed two re-hiring employment positions for senior workers: Financial Planners (FP) and Affiliated Financial Planners (AFP). To fill these positions, workers must be in good health and agree to part-time work. Post-retirement employees work based on contracts, which are evaluated yearly and are only maintained if performance requirements are met. FP and AFP positions require licenses, and the ability to pass associated skills tests is required. Work tends to be self-driven office style work, so veteran experience and expertise in this area is valuable.

The contract renewal method of re-employment is used with the company's overall profitability in mind. Workers are typically 35-42 years old. Concerns of labor shortage have resulted in the company seeking to retain their elderly employees. The company seeks to assure their middle aged workers that continued work is possible when they reach their elderly years (JEED, 2007, p. 10-14).

5-3-3: Shimizu Corporation

Shimizu Corporation is a machine tool and steel materials company that manufactures industrial facility, housing, energy-saving equipment, etc. The company adheres to the principles of a "challenging spirit" and innovation. Their human resources management system's goal is to revitalize the company by reevaluating their wage system with respect to elderly employment and empowering younger workers with the experience of their elders. Specifically their changes capitalize on a young and elderly employee training system. This is in part due to the company's age profile consisting of 20% of their employees being over the age of 55. There is a need for successors of this age group.

In their system, the retirement age is 62, with the option for work until 65. During the 3 year period of post-retirement employment, senior workers are contracted out on a yearly basis. Post-retirement workers are expected to fulfill similar workloads, with work hours and wages negotiable on a case by case basis, though wage is typically reduced. The company recognizes that reduced wages are less than ideal for continuing employees, which is why they offer negotiation. The company also recognizes the inevitability of retirement age reform and a move towards continuous

employment beyond the retirement age, expressing their efforts to adapt to this trend.

The company outlines a schedule for their personnel training program, which focuses on skills development and an evaluation program. The wealth of experience the older generation possesses is desirable and the company wishes to pass this on to the next generation through old and young work pairs. There is a sense of obligation to the younger workers to do this (JEED, 2007, p. 15-21).

5-3-4: Gundai Co., Ltd.

Gundai Co., Ltd. operates on the principle of "employees first" and "employees are family." The company uses aluminum die casting to manufacture automotive parts. Their production system uses state of the art technology with an emphasis on process improvement by valuing the power of employees.

The company is a 3K workplace- *kitanai, kiken, kitsui* or dirty, dangerous, difficult- so employee safety is of the utmost importance. The company has invested heavily in facility improvements to mitigate hazards.

The company's continuous employment system allows workers after the retirement age of 60 to keeping working for the company until 65. Wage and bonus benefits are unaffected. The company is flexible and will negotiate part-time work if the employee so chooses.

Elderly employees state they enjoy working for the company and wish to continue working there. The machinery work involved in production is complex, and elderly workers embrace the aspect of passing their expertise to younger workers and are grateful for the opportunity to do so (JEED, 2007, p. 27-33).

5-3-5: Nippon Atomized Metal Powders Corporation, Ltd.

Nippon Atomized Metal Powders Corporation, Ltd. produces metal powder products via processes like water atomization. Due to the advanced levels of engineering techniques needed to do the work, this company focuses on ability development programs.

Employees retire at age 60, but can be continue work until 65 under modified conditions. Wage is reduced to about 70% after retirement. However, changes to the wage allowance system create opportunities to earn more based on a new system focused on performance. Allowances, such as family and housing allowances were removed. This decision was made based on the idea that workers in their elderly years already owned their homes and their families were old enough to take care of themselves. However, younger workers felt this was unfair to them, since that was money they still needed for housing and family. In place of the allowance system, a performance evaluation system was implemented. Instead of wage and allowances being determined by age, the performance system created fairness for all employees based on performance evaluations.

This performance based system was further strengthened by implementation of an ability development program to improve the productivity of all workers. The added cost of the elderly employment and wage system changes was made up by transferring the experience of elderly workers to younger workers thus improving productivity. At low cost, the company implemented on-the-job training (OTJ) and skills transfer training to young employees.

The guarantee of continuous employment even during senior years assured younger workers that investing their time and effort into the company was worth it. To implement a performance based wage system, administration systemized roles and responsibilities of workers so evaluation standards were clear. This also allowed for work to be better distributed among employees, reducing overtime hours.

Management embraced concepts like *kaizen* and the "limitless" potential of workers. All workers from juniors to leaders were encouraged to utilize OJT and earn certifications and advanced qualifications in many expert fields.

The company stressed health of the workers, establishing a health and safety committee. Crisis and risk assessments were created to increase safety. Health inspectors regularly inspected facilities and employees were scheduled routine health checkups. The facility was made safer by installing equipment such as dust collectors

and renovating ladders and handrails. Areas of dangerous work were widened to reduce the risk around those areas. All improvements were made in the spirit of longevity of the worker (JEED, 2007, p. 34-41).

5-3-6: Toku Pneumatic Tool Manufacturing Co., Ltd.

The Toku Company is a leading manufacturer of industrial pneumatic tools. This company's age composition is particularly elderly, with 30% of employees 55 and over and 10% who are age 60 and over. To meet the challenge of aging within the company, Toku established their own brand of training school, which they called 東空寺子屋 or *higashiizu terakoya*. The mission of their school program is to pass down the manufacturing skills of their company to a younger generation.

The company's retirement age is 60. Re-employment is offered to employees after retirement and they may work as teachers in the *terakoya* program. 15 veteran workers teach in the *terakoya* program, 7 of which are over the age of 60. The oldest employee is 79. Education involves both classroom and hands-on training in the factory.

After the retirement age, workers over 60 are hired on yearly contracts. A passion for work, expertise, and the capability to perform the labor are considerations for continued employment. If the elderly workers desire and have the ability to keep working, Toku Company will keep them hired in the workplace (JEED, 2007, p. 60-65).

5-3-7: Kao Transportation Corporation

Kao Transportation Corporation is based in a rural town of Toyama Prefecture that has a greater aging population issue than the national average.

Kao Transportation is a taxi company, which had sales and business performance on the decline, so the president decided to both focus on serving elderly customers and using the elderly as their workforce. To provide elderly taxi service, employees had to attend 2 to 6 months of "home helper" certification courses. With this certification, the company could provide nursing care taxi service, which could bring in more capital. This service expanded to buses. Additionally, the company gained approval to provide transportation service to those with disabilities.

40% of employees are 55 and over, and 30% are 60 and over. The wage system was changed to commission-based pay where employees were allowed to be re-hired after the retirement age of 60 and could continue working until 65 without any change in their regular employment status or pay. All employees have chosen to continue work until 65 under this system (JEED, 2007, p. 69-73).

5-4: Cases of raising the retirement age from 60 to 65.

5-4-1: Hakugen Ltd.

Hakugen Ltd. is a manufacturer of daily-life goods that chose to raise the retirement age from 60 to 65 and modify their human resource system. Before this change, the company offered retirees at age 60 re-employment on yearly renewable contracts. Success with the initial changes to the employment system gave way to raising the retirement age to 65. The company found that by adopting a 65 year retirement age, burdens on employees and the wage system were lessened.

Mergers and acquisitions (M&A) shifted the age distribution of employees within the company. Extending employment to 65 helped utilize their personnel more efficiently.

A new wage system was developed based on the input of three principles: 1) a seniority system, 2) ability/performance principles, and 3) life-time employment. All work positions were categorized into the following various job types. Within these work categorizations, occupational classes were created from C, B, A, S, to EX rankings (from “requires significant improvement” to “excellent” rankings) based upon the company’s ability principle system. Evaluations are carried out twice a year and are

the mechanism for obtaining promotions. Higher ranks, S and EX, require 2 years or more of sustained superior performance. Changing between job categories is allowed with approval. The system also demotes employees based upon ability evaluation principles. Twice a year job duties and performance evaluation standards are revised to assure accuracy in grading.

A flowchart describes a worker's wage based on job category, class level, age, and allowances (such as overtime, job location, commuting, etc.). Base wage is determined by personal (age-based) and professional (job category) wage. From this base wage, allowances and ability principle level classification wages are added. Allowances are re-evaluated twice a year.

Age-based wages gradually raise until age 53, at which point it gradually decreases until age 65. The age 65 base wage is equivalent to the age 30 base wage. The justification for the incremental raising and lowering of the age-based wage is to "smooth" out the wage curve over the lifetime of employment.

The company recognizes that within job roles, the needed skills and expertise vary. The company identifies 5 core competencies as metrics for describing a job role: internal factors, external factors, expertise, routine tasks, and creativity. Job categories are assessed based on these competencies. The wage system undergoes continuous

improvement. Increasing accuracy of performance standards that determine a worker's grade level is ongoing. Clear rules for shifting between job categories are always under review.

At age 55, the worker should choose between a 60 or 65 retirement age. Age-based wage capping is adjusted accordingly. The average age at the company is 32. With regard to elderly employment, the company recognizes the challenges of evaluating elderly performance and ability demonstration fairly. A wage level higher than the worker's output becomes a problem for management, whereas a wage level below the worker's output drops morale of employees. Elderly employment and elderly ability evaluation will be a continued effort (JEED, 2007, p. 82-90)

5-4-2: Hokuriku Highway Toll Service Co., Ltd

Hokuriku Highway Toll Service Co., Ltd provides toll gate and parking rest area services throughout Japan. Because collecting tolls and providing basic rest area services are not labor intensive, the ability to perform this work doesn't diminish with age, and the company employs many elderly: 30% of employees are 55 to 59, almost 40% are from 60-64 and 16% are over 65. The majority of workers work in the parking service area while toll gate operators consist of a small amount of the company's labor force.

The article references employment challenges in Japan's history, such as a period when a lot of coal miners lost their jobs and the economic bubble bursting as reasons to take issues like continuous employment seriously. The company was relatively quick to raise the retirement age to 65 back in 1995 when they implemented a "work sharing program." Essentially, the tasks of one worker would be shared between two workers. Toll collection and rest area service is dependent on holiday seasons, and employees' schedules are more flexible under the concept of work sharing. Because the company's service must be provided 24/7 workers can be assured continuous, hourly-based, part-time work that extends into their elderly years while

maintaining regular employee benefits such as bonuses. The article admits toll service can be repetitive and mundane; however, they implement training programs for improving efficiency and handling complicated scenarios workers may encounter (JEED, 2007, p. 98-104).

5-5: A Case of the abolishment of a specific retirement age.

5-5-1: Tempos Busters Ltd.

Initially a kitchen and restaurant equipment recycling and refurbishing company, Tempos Busters Ltd. now acts a supplier and service provider for establishing and maintaining restaurant businesses. The has a "good age composition:" 20% of workers are over 60, 33% are 55 to 59, and 24% are in their 20s with the remaining age groups in between. The skill and salesmanship of their elderly employees resulted in the company encouraging "age-free" employment.

The "Tempos Spirit" and "Tempos Dojo" are unique initiatives developed by the company to train employees and provide a means of evaluation. The Tempos Dojo is an extensive training program that instills the Tempos Spirit into workers. It is not required and there is no penalty for not participating in it. It does become a requirement for entering managerial positions, however. The Tempos Dojo asks workers to take on a challenging spirit and work with limitless potential. The article describes at length the 17 principles of the Tempos Spirit. In summary, they are customer service and management principles emphasizing leadership and never reaching a limit for what can be accomplished.

The company's culture of excellence is reinforced by its elaborate training program and performance evaluation system. "Star" employees are typically recognized and rewarded. Evaluations determine wages. Operators/associates are evaluated every 3 months and managers are evaluated monthly. Rankings typically vary from month to month with promotions and demotions being common. Interestingly, the employment system allows for a "free-agent" system, where a manager at one site can "draft" other employees from another site. In this way, performance is further emphasized. Performance, in the form of sales figures, is transparent, and those ranked in the bottom 20% are pressured to improve performance by managers or risk demotion.

The company heavily focuses on training, and even when employee performance is poor, the company offers ways for employees to improve. An employee may "fail" multiple times, but can be rewarded with promotions later after meeting the challenge of improvement- this is in line with the Tempos Spirit.

Tempos Busters uses the "Paradise System" in the case of elderly employees. This system is for employees over 60 that choose to work part-time hours. Wage can be less due to less work demands. However, elderly workers who maintain good sales and customer service can maintain their same wage if they maintain performance

figures. The rather competitive ranking system is not applied to elderly employees in the Paradise System (JEED, 2007, p. 126-136).

This concludes the summarized translation of selected case studies from JEED (2007).

Chapter 6: Discussion

6-1: Merits and demerits analysis

Next the merits and demerits of Japanese elderly employment changes made within each case will be assessed. Merits will focus on positive transitional changes that will aid in utilizing a market-based approach to employment and shifts toward increased productivity through continuous employment of elderly. In many cases, the merits are self-evident: productivity improved. Demerits focus on intended or unintended consequences of these actions that may hinder overall efficient use of the workforce towards a more sustainable employment system. Demerits tend to highlight the unknown factors in play as human resources and employment systems change. Studies of more Japanese businesses, both by case study approach and gathering data from specialists, could help elucidate some of these unknowns.

Establishing the relevance of elderly employment and encouraging employees to work as long as possible is a key component of elderly employment. Debroux (2015) pointed out the tendency toward compliancy in addressing the issues surrounding workforce aging in some Japanese companies. Companies such as Nippon Life Insurance and Dai-ichi Mutual Life Insurance embraced the concept of retaining

workers beyond the retirement age and transmitted this message to younger workers. Thus, an important merit to making elderly employment changes is the discussion that a problem has been identified and management is on the path towards a solution, even if this hasn't become a widespread trend among all Japanese companies.

One demerit found in these two companies is the simple acknowledgement of the problem is not enough: Japanese companies have a long way to go to offset the effects of a shrinking workforce and more must be done than just merely retaining elderly workers. The elderly employment's ability to enhance the company is important and this should justify elderly workers maintaining their pre-retirement wages, which was not the case for these two examples. These two life insurance companies simply offered elderly employment, but it came with non-regular employment and wage reduction. Other companies offer much more to their elderly employees.

The productivity gained from the formation of young and old work groups is another concept addressed by Debroux (2015). Additionally, Lee & Mason (2012) point out that in Japan, though the workforce is shrinking, the investment in the young is increasing. Further investment in young workers through skills succession from elderly workers is one more way to empower workers. One of the keys to strengthening the elderly workforce also involves promoting learning within the young

workforce.

"Traditional" Japanese ingenuity and productivity efforts, such as *kaizen*, still have a place in businesses, especially those looking to make improvements with young and old work pairs and groups (Debroux, 2015). Focusing on the productivity of young and old work groups can increase overall TFP of Japan (Debroux, 2015; Westelius & Liu, 2016). This was particularly true for Shimizu and Toku Pneumatic Tool Manufacturing as they explored the potential of retaining elderly workers for the purpose of teaching the younger generation.

Nippon Atomized Metal Powders, Hakugen, and Tempos Busters incorporate elaborate training programs to promote performance-based wages, shifting away from the traditional age-based system.

Shifting towards an "age-free" and "equal-pay-for-equal-work" wage system, an idea espoused by Yashiro (2011), companies like Nippon Atomized Metal Powders, Gundai, and Toku relied heavily upon a positive return on their investment from modifying their human resource management system, which focused more on performance in order to make up for the costs of implementing the training system. Accumulated experience can be passed down cost effectively by in-house training, which is a merit. However, it quickly becomes a demerit if the training is not

effectively managed, or even worse, if the elderly workforce did not possess valuable experience in the first place.

Flexibility and negotiations are crucial to getting elderly employees to work longer. There is no precedent for how to approach the challenges elderly employees will face in the workplace. Meeting individual needs is important, but so too are the company's needs and clearly expressing the performance expectations to elderly employees is vital. Until trends change in Japanese employment that anticipate continuous employment of workers into their elderly years across all companies, the first employees of these system changes are seen in general to experience wage reductions. Hakugen makes reference to "smoothing" out the wage curve, shifting age-based wage in workers' 40s to 50s to their later years so there is not such a sudden drop in pay as workers enter their 60s, while simultaneously developing a performance system to allow elderly workers to still make good wages if they are warranted by performance. This is a very proactive merit and is a good example of creating a solution to workforce aging. The Shimizu Corporation makes the same observation and notes that continuous improvement in the employment system will work to make wages fairer for elderly workers as systems attempt to determine how to evaluate elderly work performance alongside the rest of the work force.

Kao Transportation is an interesting case because it approaches population aging concerns from both a customer and employee point of view, recognizing that there is a growing market of elderly employees who can meet elderly customer needs. As the population continues to age, so too will both these markets, so it is a very good merit that businesses are recognizing this business opportunity and capitalizing upon it with elderly employment.

Hokuriku Highway Toll Service also recognizes the shifts in the elderly workforce market. This company can meet the needs of elderly employees who do not seek competitive or strenuous work and offer flexible work schedules that are both good for the employees, who may want to work less shifts, but also adds agility within the company allowing it to form work schedules that are affected by seasonality.

On the opposite end of the competition spectrum, Tempos Busters offers a unique employment system that stresses fierce competition and meeting high performance standards. By doing so, the company can offer age-free wages, which is a great merit. However, the biggest demerit rests in if the Tempos Busters elaborate training system actually effectively preparing all employees fairly for meeting performance standards. If the system is too demanding and too competitive, it could form an unfavorable work life balance, a concern addressed by Yashiro (2011). This

would be a detriment to elderly employees, who benefit from a good work life balance because it eases their ability to enter the market (Bloom, Canning & Fink, 2011).

The elderly in a continuous employment system are also aided by continued investment in the long-term health and longevity (Bloom, Canning & Fink, 2011; Lee & Mason, 2012). The Gundai company makes continuous efforts to promote health and safety of workers, and this a merit of elderly employment.

The age-based wage system produces an "entrapment effect" creating a cycle difficult to reverse because those stuck in the cycle are *perceived* to be losers if changes are made to reduce the value of their age in the company (Debroux, 2015; Yashiro, 2011). This was not the case for Hakugen employees. Although initial changes to the allowance system were viewed to be unfair for younger employees, the opportunities for performance based salary increases and the guarantee of longer employment meant employees benefitted more in the long run. Even though the system was perceived negatively by employees, it ended up having positive merits in the end. Consequently, this could be one of the biggest demerits of changing a Japanese human resource system, which is overcoming the opposition to redistributing age-based wages into performance based-wages so during the lifetime of the employee they can receive more labor income over time, regardless of their age when the change

takes place.

Eliminating demographics from the employment equation and focusing on performance and skills brought to the company will be an ongoing challenge. But these cases show potential that effective policy changes can reshape the employment landscape and create benefits for elderly employees and businesses.

6-2: Themes in population aging on the Japanese Employment System

The merits and demerits analysis of Japanese case studies and review of literature regarding population aging effects on the workforce is remarkably insightful because it identifies two significant themes that are defining the current issue in Japan: 1) Japanese firms are coping with population aging, and in doing so are making improvements, and the mechanisms with which these improvements are being made are being identified by academic research and 2) the drawbacks of changes in the "traditional" system stem from shifting away from the "age-based" seniority system, which even in light of economic stagnation in Japan, is still held in high regard by Japanese employees and employers. Simply conceding that creating a fair and balanced performance-based system is too complex and carries too much risk does not seem appropriate in light of these case studies. Japanese businesses, in the face of difficulties created by workforce aging, are able to improvise effective performance-based systems that disregard age as a determining factor for one's ability to contribute to a company. In the case of the Hakugen Company, which is taking a proactive approach while their employee age profile is still young, a rather robust

performance-based wage system has manifested and is being continuously improved upon.

More research in the effects of an age-based versus performance-based wage system must be conducted to further prove this point. Because this form of research extends beyond the scope of human resource management and is complicated by macro- and micro-economic scale factors outside of a company's control, so it is incredibly complex to determine the true effect age-based wage and life-time employment has on productivity. The following generalized statement: "age and lifetime based employment is productive during baby booming generations (high fertility), which is what happened during Japan's economic miracle, *but* unproductive in the context Japan's two decades of stagnating economic growth as population declined (low fertility)," is tremendously difficult to validate. Rather than pushing research efforts in this direction, which is incredibly complicated, it is perhaps more fruitful to develop human resource strategies that are robust under *any* conditions. These case studies provide excellent research material because it shows what *does* work in light of what *has not* been working. To this end, this discussion endeavors to highlight the "best-practices" of the company's summarized in the Japanese case studies.

The overarching theme of this research is that robust employment systems

adapt to the needs of the *employees*, and not necessarily the socio-economic and demographic context, which employees and employers must endure. Employees' needs must be provided for continuously, and are also changing continuously. Shifts in technology, international trade, and other macroeconomic factors will affect peoples' livelihood, but employment systems must be adapted and modified as peoples' lives change. Improving the productivity of all workers will consistently hold higher value than preferentially seeking the productivity of group of workers who possess preferential demographic traits. A worker's ability to improve productivity of the workforce is preferred over just being a productive worker.

Fierce competition within the workforce market, in a traditional sense, is believed to drive workers to be more productive, a concept that explains why the "entrapment effect" can still produce productivity in light of workers being assured better wages regardless of performance as they age (Yashiro, 2011). This however creates a system of winners and losers. And since losers, in this context, are still in the work force, it drives down the productivity gains of the winners. This has a ripple effect, especially when the work force is shrinking due to population aging. This is not to say competition has no place in the workforce market, but that a system that creates win-wins for all workers will have more impactful effects on productivity. This is

evident in the merits of the cases discussed. Though there is no empirical evidence provided, which is an excellent area for future research, all companies where elderly employees could enjoy the training and passing their skills to younger employees, productivity increases and positive results occurred. All companies that created skills development programs through activation of their elderly workforce increased employee output. Companies that chose to empower elderly workers to contribute more saw success when success was hard to come by using "traditional" employment methods.

A robust employment system needs to assume the view that succession of skills and experience as mandatory to productivity improvements. Simply conceding that training, defining workforce job descriptions clearly, and establishing thoroughly transparent evaluation metrics is too costly, or impossible, should not be an option. Proponents of the "traditional" Japanese system may question how can a business survive if it cannot rely on the benefits of the "entrapment effect," which reduces the risk of an initial high investment in employee development by ensuring the employee only reaps the rewards of his work after committing a long period of work because that worker is then not able to just take his valuable training and make a mid-career change to a competing company. Simply put, if the employment system is not conducive to

the meeting the continuous need of employees, allowing them to improve productivity in a sustainable and healthy manner, then it should not be a viable system for society; and just because historically this system worked in the past, it does not justify its continued usage.

A performance based employment system founded on transparent performance indicators enriches the labor market. This is not to say employers are obligated seek out elderly workers, hire them in greater numbers, and apply a performance based approach to their wages, in light of the potential productivity enhancing effects. The greater sources of productivity should be sought out, regardless of the employees' demographic traits. What is proposed here though, is that the retirement age and current age-based system act an obstacle to elderly employment should not even be there in the first place because it creates an uneven playing field in the labor market with which elderly employees compete on lower ground due to the perception that post retirement work carries little merit. Not changing the institutions regarding how retirement age effects employment, companies garnishing wage in response to employees reaching the retirement age, and not empowering the elderly to continue contributing in the workforce are all acting against a trend that would otherwise be of great benefit to all parties involved.

Naturally, perturbations in any system will have unintended, and unforeseeable consequences, and perhaps there is a reality where after making shifts away from an age-based employment system proves less positive effects than maintaining the "traditional" system. But this does not seem to be the case as evidenced by the reviewed case studies; and it would seem the risk posed to Japanese companies *not* making these changes is far outweighed by the immediate and forecasted long-term rewards to be gained by the companies that choose to focus on continuous elderly employment.

6-3: Recommended management "Best Practices"

With these principles on trends of demographic changes on the working age population in mind, supported by actual cases and academic research, the following "Best-Practices" are proposed to achieve more productive employment systems:

1) Companies should establish old-young work and training groups that recognize performance based on clearly defined metrics for measuring productivity and eliminates age as a performance metrics. The young and old should not feel the need to compete with each other, but rather should enjoy the opportunities to collaboratively develop business solutions. Management plays a vital role in joining these groups together constructively, and consideration should be given into developing a 2-part system of human resource management where the career needs of the young and old are meet while dynamically synthesizing strategies that improve productivity of the company as a whole.
2) Human resource managers should openly negotiate with employees to meet their needs. Performance should be viewed as ability to increase productivity. Employment methods such as task-oriented, short-term non-regular employment should be avoided. Human resources should be responsible for nurturing an environment of learning. Employees should be responsible for taking these lessons and contributing to productivity.
3) Given current socio-economic factors and institutional frameworks, a human resource system should compete on the basis of providing the best

conditions for growing productivity of their workers by meeting their needs, and not growing productivity through negatively affecting workers' lives and forcing them into an unfavorable work-life balance.

4) Like the nature of business itself, a human resource system must continually adapt, continuously innovating new ways to empower its workforce. Not one method of employment should be treated as absolute. The factors affecting the capacity of the workforce are immense, and as progress is made to better utilize the workforce, so too will innovations in human resource management emerge, once again stressing the importance of the relationship between employee needs and the adaptability of human resource management systems.
5) There is always the risk that investing in employees will merely result in highly desirable employees moving away to other companies that offer better benefits. Continual effort in elderly employment will help combat this: elderly employees who enjoy passing their skills to the next generation will also be able to tell of the improvements made within the company's employment system and the worthwhileness of staying with a single company.

A company that drafts its experience, rather than grows it (or does a poor job of enhancing its employees' skills), may face difficulty enticing employees to work continuously. Simply acquiring knowledge and experience within the market is a novel approach to human resources, but the problem of having to pay every time experience is passed to the next generation, rather than it transferring at little cost

in-house through a continuous employment of elderly and young workers, could prove disadvantageous. Initiating a constructive cycle of reform founded on robust human resource principles could prove to have a multiplicative effect on TFP where sourcing productivity from untapped areas, such as elderly employment, could reinforce productivity growth areas in need of revitalization.

Chapter 7: Conclusion

Japan's economy though stagnating, has not reached crisis levels. This fact alone, supported by literature, is evidence of opportunities for Japanese companies to facilitate unprecedented changes in employment systems that are struggling to curb the effects of changing demographics. In the area of aging, in particular, Japan is poised in the unique position to be the first implementers of widespread continuous employment of the elderly for the sake of productivity development and the many other benefits described in this report. The rest of the world, following Japan's aging trend but at a less steep rate, will learn from Japan's choices regardless of the extent to which elderly employment reform is embraced in Japan.

Japan has until 2040 to decide how to best utilize their second wave of baby boomers before they age over 65, when all subsequent age groups and the whole working population will rapidly decline as a result of low fertility rates. Not tapping into elderly employment by then could prove even more detrimental to the economy, but only time will tell.

If, however, a resurgence of productivity occurs between now and then, areas of business concerned with productivity, entrepreneurialism, learning and pension systems could be revolutionized by what happens in Japan.

Businesses will have their own solutions in mind for confronting the issues of aging and demographic changes; the successful ones will rise to the top resulting in these cases being open to analysis. Equally as relevant is how the Japanese government approaches retirement age regulations and how it will define the general direction companies will take when shaping their workforce.

As circumstances exist now, there is no reason for delay in encouraging employment systems to explore the healthy, safe, and productive ways for elderly employees to remain in the labor force and further develop. There is no reason for government to delay encouraging, either directly or indirectly through regulation, the reformation of the Japanese employment system to favor a healthier work life balance, for the sake of families and the fertility rate, but also promotion of work force participation across all demographics, especially the aged.

Even if, or when, the rest of the world learns the details of Japan's effective policy changes, they will be unable to make as powerful of changes or gain a stronger competitive advantage over Japan simply because Japan will remain the oldest and healthiest country in the world beyond 2040. If continuous, age-unrestricted employment that focuses on the limitless potential of employees capable of working well beyond the age of 60 proves to be as productive as initial research into the area

suggests, the consequences of doing nothing to seize this power could prove detrimental to businesses. Japan must take a leadership position in promoting the extension of the working age as far as possible.

If the concept is as simple as working smarter for longer, not necessarily harder until it pays off, the challenge of aging is merely a stepping stone toward solving numerous other socio-economic issues in need of resolution. Future research topics should elucidate the actions taken by government and business to stress the need of greater utilization of elderly employment.

In 2006 the Japanese government established new regulations regarding the retirement age, and in 2007 the JEED released their case study report. What other actions have been taken by the Japanese government and how have these institutional changes altered Japanese business management since then? This report focuses on Japanese business, but it's worth reiteration that population aging and elderly employment is a global concern. Have other countries begun stressing the need of utilizing and empowering elderly employees and what has the extent of their success been? Are the advantages of elderly employment universal, and if so, have other countries already begun to experience its benefits? Comparative analysis of various aging countries' retirement regulations, coupled with human resource centered business

case studies could help to answer these questions for future research.

Elderly employee management, coupling the potential of young and older generations of workers, and formulating fair, performance-based wage systems are budding fields of interesting for all businesses around the world in the face of population aging. Lessons from Japan's current handling of the issue will prove insightful for development of future strategies for Japanese business as well as all businesses facing an aging workforce.

This research report offers a positive sentiment that future benefits and ways to develop society in a better way can be derived from robust and constructive policies toward improving elderly employment opportunities in human resources. To accomplish this background information was provided regarding the relevance of population aging for business and a review of various research articles shows that government and business organizations are already endeavoring to break open the potential that advances in elderly employment can offer. Analysis of case studies was used to assess the merits and demerits of shifts in employment systems. And future areas of research and methods of conducting that research, which could help advance people's livelihoods, were explored.

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Figure 1-5. Population pyramid: Three fertility variant projections (medium-mortality). Adapted from National Institute of Population Aging and Social Security Research (IPSS). (2017). Population Projections for Japan (2017): 2016 to 2065. Retrieved Nov 25, 2017, from http://www.ipss.go.jp/index-e.asp

Figure 2-1. Japan and non-Asian rich countries, unweighted averages. Adapted from Lee R & Mason A (2012). Population Aging, Intergenerational Transfers, and Economic Growth: Asia in a Global Context. In: National Research Council (US) Panel on Policy Research and Data Needs to Meet the Challenge of Aging in Asia; Smith JP, Majmundar M, editors. Aging in Asia: Findings From New and Emerging Data Initiatives. Washington (DC): National Academies Press (US). 4. Retrieved Nov 25, 2017, from https://www.ncbi.nlm.nih.gov/books/NBK109226/

Figure 2-2. An image of the "entrapment mechanism." Adapted from Yashiro,

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