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Japan's Population Decline and its Implications for Japanese Society

Nandor Forgach

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JAPAN’S POPULATION DECLINE AND ITS IMPLICATIONS FOR JAPANESE SOCIETY

BY

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B.A., HOBART AND WILLIAM SMITH COLLEGES
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JAPAN'S POPULATION DECLINE AND ITS IMPLICATIONS ON JAPANESE SOCIETY
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THIS THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN THE DEPARTMENT OF ASIAN STUDIES AT SETON HALL UNIVERSITY AND FOR THE DEGREE OF MASTER IN DIPLOMACY AND INTERNATIONAL RELATIONS AT THE JOHN C. WHITEHEAD SCHOOL OF DIPLOMACY AT SETON HALL UNIVERSITY, SOUTH ORANGE, NEW JERSEY.
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ABSTRACT

This thesis examines the reasons behind the population declines in Japan as well as the affects that it is having on Japanese society. The essay begins by examining the theories on population by Thomas Malthus and present day theorists and how their theories apply to the situation in Japan. His theory on populations states that if a society has the necessary space and means to support a growing population, then there will be a rise in early marriages and birthrates. If the space and means to support a growing population do not exist, then there will be a decrease in marriages and birthrates. He finally examines the effects of social development and its effects on birthrates in the population. As a society becomes more and more developed the creation of families begins to decrease. I use his theories to analyze the fundamental reasons for population decline in contemporary Europe and Japan.

The essay traces the history of Japan’s population from the Heian period to today’s modern time. It examines the relationships that have existed between a man and a woman and how they have evolved into the relationships we see existing today in Japan between a man and woman. We then examine the current situation that exists amongst the youth of Japan and their reasons for not being interested in having families. The thesis examines the responses from the Japanese government and examines a response that is unique to Japan, the Robotics Industry.

This thesis argues that the reasons behind the Japanese population decline are unique to Japan and does so by comparing it to the decline that exists in Europe. The Japanese decline is due to a desire for a change in how woman are treated in society, whereas the European decline is due to lack of economic stability. The essay ends with a discussion of the policy that should be taken by the Japanese and Europeans in order to combat the decline in population.
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CHAPTER 1

THE PHENOMENON OF THE JAPANESE POPULATION DECLINE

A. Definition of the Problem

One of the major issues facing many developed countries in the 21st century is population decline. Population decline can be looked at in many different ways. For the purposes of this paper we will look at population decline in regards to an aging population, a decrease in the number of children being born, a decline in the workforce, and a decline in the number of new marriages.

Developed countries are faced with a decrease in the number of children the population is producing and though it this has yet to have a significant effect on society, there has been a noticeable decrease in the size of workforce and causing many to worry about the effect it will have on the country’s economies. The other issue facing these countries is the eminent retirement of the “baby boomers” generation. With the population in decline and this generation going into retirement it causes a great deal of worry as the number of retirees is greater than that of incoming workers. With the decrease in available workforce, this causes issues for many countries with socialist systems. With a dwindling workforce there will be less tax money available for the government to use to take care of the population. They will have economic issues as they will have to find funds from other sources in order to not only take care of the pensions for the retirees but also take care of the population’s healthcare, schooling and other needs that are provided by the government.
B. Population Decline as an International Problem: Europe

Of course, Japan is not the only country that has to deal with the affects of a declining population. A declining population also affects Europe, especially the post Soviet Union bloc states. However, these reasons are attributed to the economic hardships people are affected by and the fact that many countries are losing their population due to migration in the European Union.

Europe's population decline began in the 1990's and as of 2004 there are regions that have reached below replacement fertility levels. In order for countries to maintain their population there must be an average of 2 children per woman. Below replacement fertility is when the birthrate has dropped below levels of growth, in this case, it means that is has gone from 2 children per woman to 1.71 or in some very serious cases all the way to 1.31 children per woman. With these rates, Europe's population is growing older and older, currently one-sixth of the population is 65 and older, by 2030 it will be one-fourth and by 2050 it will almost be one-third. These rates show that Europe will have a large group of retirees making up the population and who will also be heavily dependent on government benefits. This will cause serious economic issues and concerns for the European countries that have a social welfare system established in their countries.

In Europe, however, there is a desire amongst the population to have children. Unfortunately, many of these young families are hesitant to have one child, yet alone two due to the economic uncertainties that exist in their countries. Due to the economic uncertainties that exist, many of the youth are looking at staying in school longer and living at home longer, which

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2 Ibid. 48.
considerably prolongs the age at which people are married and when they have children. These issues are most evident in Eastern Europe (Iron Curtain countries) and Southern Europe (Spain and Italy). For the Eastern European countries it has been the issue of going from a planned economy to a free market economy. These transitions have not been smooth and it has been a learning curve for the populations as they were used to having the state being there for them and taking care of them. In Southern Europe it has been more of an economic slowdown and consequently a rise in unemployment. The socioeconomic issues of Europe can be seen as the main reasons for the decline in population that exists in Europe.

C. Population Decline in Japan

Japan is faced with a similar issue. The population has peaked at 127 million in 2005 and has begun a decline. The Japanese population is declining at an alarming rate, faster than any other nation. Currently, Japan’s population growth rate is −0.139%. If current trends continue, by 2050 Japan’s population will have declined to 95 million. For the Japanese population to grow and to counter the decline women must give birth to about two children.

Japan’s issue at hand is that it is one of the fastest, possibly fastest, aging nations in the world. One needs to look no further than the boom of “pokkuri dera.” These “pokkuri dera” are temples where Japanese elderly go to pray for not only long life that they expect is coming but also for a fast and painless death. The speed the population is aging at is an issue that is something new for Japan. From the 1880’s on, the Japanese birth rate always exceeded the death rate.

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4 Ibid.
6 Ibid.
7 Ibid.
8 “Cloud, or silver linings?” The Economist, 26, July 2007, 24.
1.26 children per women.\textsuperscript{17} There was some growth, but nothing that made the Japanese calm down, as the population crept up to 1.32 in 2006.\textsuperscript{18} 2005 was the year that marked when Japan's population began to fall, even though life expectancy was at a higher level than before. The Japanese population is shrinking at a rate that never before has happened to a country that is at peace. According to the National Institute of Population and Social Security Research, it is estimated that by 2050, the Japanese population will have shrunk to 95 million people from its current number of 127 million and the elderly will make up two-fifths of the population.\textsuperscript{19}

\textbf{Figure 1: Japanese Population Trends over the Next One Hundred Years}\textsuperscript{20}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure1}
\caption{Japanese Population Trends over the Next One Hundred Years}
\end{figure}

In Figure 1 the aging of Japan over a 100-year period can be seen. Japan will significantly

\textsuperscript{17} Ibid, 25.
\textsuperscript{18} Ibid, 25.
\textsuperscript{19} Ibid, 25.
\textsuperscript{20} Source Adapted from Ministry of Health, Labour and Welfare, Statistics Bureau, “Cloud or silver linings?” \textit{The Economist}, 26, July 2007, 27.
decline over the next 100-year period, however, as it can be seen the majority of the country’s population while shift from the young to the older generation. In 2007, about 16 million people were in their 20’s, a number that will shrink to 13 million in the next ten years. 21 Japan’s significant shift in population from the 0-14 years of age to 65 and over during this time period is what is alarming politicians and intellectuals in change.

However, not only is Japan’s populations declining at an alarming rate, but the reasons behind the decline are unique in some ways to Japan. The social reasons lying behind Japan’s decline are extremely unique to Japan. A saying that best exemplifies Japan’s predicament is that it is a country with old world values in a modern society. As of now, Japan’s society is such that from a young age it seems to be instilled into them that there is a woman’s place in society and a man’s place in society. 22 Men are meant to go to college, find a job and provide for their family. The women on the other hand are meant to either go to college after graduating high school or find employment until they find someone that they will marry and settle down with for the rest of their life. 23 The same is true after they finish college. Women are meant to find some sorts of employment, which is temporary, and once married, they are to stop working and stay home and look after the house and family. This is why most Japanese companies usually only hire women for positions that are temporary and can be easily replaced. 24 They know that once Japanese women become pregnant they will leave their place of employment and go to look after their child and their household. 25 For these reasons and the fact that their relationship changes after they have been married, many women are not interested in marrying and starting a family.

21 "Cloud or silver linings?" The Economist, 26, July 2007, 27.
24 Fred R. Harris, The Baby Bust, Who Will Do the Work?. 5-6.
Many want there to be a change in the social dynamic of Japanese society where child rearing becomes a joint venture between the husband and the wife and is not just the wife’s duty.

Many women in Japan are unwilling to have children as they feel that having a child cuts down on their free time and restricts them in life. Others are focusing on their work careers or academic careers rather than getting married and starting a family, they are a new social group known as “career women.” They are also finding they would rather spend their free time going shopping with their friends or family and traveling the world.

Japanese youth has also become more and more dependent on their parents and their families. Most children rarely leave their house for school or even after they have found employment. They stay at home with their parents and live for free in their parent’s house for good or until they meet someone to whom they are then married to. They are known as “social parasites.” They live for free in their parent’s home and are taken care of by their mother who cooks for them and cleans for them as well. They then use the money saved to either purchase things that they have always wanted such as new manga or electronics or go away for weeklong trips with their friends to destinations throughout the world. However, even after marriage, it is not uncommon for the newlyweds to continue living either the parents of the husband or the parents of the wife.

Amongst the youth there has also been a rise in a lack of interest in relationships. Many men feel that going on a date or the effort needed to have a working relationship is a waste of time and money. Many men would rather spend their money on things that interest them more and then they can always enjoy the company of women elsewhere, like at Kyabakura or the

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various Hostess bars across Japanese cities. There they can enjoy what is fun and exciting about a relationship without having to deal with the hassle and hardship that is presented by any relationship.

This does not mean that Japanese are not marrying. There are still marriages going on throughout Japan. However, even though young couples are getting married many of them do not want to have children. Their reasons for not having interest in raising children are the cost of doing so. Raising a child anywhere is an expensive undertaking, however it is even more so in Japan. Recently, the government has begun to enact social programs that give support to those families who have children. However, these were just recently enacted. Prior to this, there was very little support from the government when it came to people having children. Most of the cost from people having children comes from the family’s own pocket.

There have been many programs put in place to fight this issue of Japanese population decline by the government. In 1994 the government enacted the “Angel Plan” which was meant to get married couples to have at least two children per household after the birthrate fell to 1.57 children per couple.\(^\text{29}\) The initiative was meant to reduce the burden of childcare and increase dual parenting and shared responsibilities. Later in 1999 the government enacted the revised “Angel Plan.”\(^\text{30}\) This put even more emphasis on increasing support for child rearing by building more day care centers near train stations. After both “Angel Plans” failed, the Japanese government composed a new initiative called the “Plus One Proposal” in 2002.\(^\text{31}\) This plan was to push each family to increase the number of children they were having by one. They attempted to do this by making careers more compatible with child raising, local community assistance, improve social welfare benefits to assist families with children. They looked to make it

\(^{29}\) "Local Governments Struggle to Cope," \textit{The Daily Yomiuri}, November 2003, p. 3.
\(^{30}\) Ibid, 3.
\(^{31}\) Ibid, 3.
mandatory for businesses to allow male employees to take paternity leave, a minimum of 10% of their paternity leave that they are allotted. It also looked at cutting back on working hours of many companies and giving tax breaks to those companies that encourage workers to take the leave. The government also pledged to build 50,000 new daycares throughout Japan.

The issue that Japan faces is certainly one that exists in many nations throughout the world. However, the Japanese population decline is one, which is unique to Japan. The reasons behind the decline are not just due to economic reasons but also due to social issues that are unique to Japan. Much of it has to do with the way their social structure is set up and the difference in how families, husbands and wives interact with each other.

D. Theories of Population Decline

The Reverend Thomas Malthus (1766-1834) was an English scholar who did his work on political economy and demography. His piece that got him a considerable attention in the populace was his writings on the dangers of population growth. His writings focused on the ideas that mankind would over populate and there would be not enough sustenance on the earth to sustain life. During this time, there was a huge growth in the population and it seemed as though the world was heading towards over population. However, this worry did not come true because of depressions and wars the population has regressed and now in most countries it is in decline. This paper will examine his writings on the idea that as human beings move up in status they are less inclined to reproduce and have a great number of children.

Malthus states that the population of Europe is currently larger than that during Julius Caesar’s time. He explained that the industry present has made it possible for more

\footnote{Ibid, 3.}
\footnote{Ibid, 3.}
subsistence. His major argument was that as long as the human population was able to create more food for it, it would continue to grow. However, this growth over time could cause over population which would lead to famine and disease causing a decline in population. He looks into the fact that modern day nation's populations have bonded together and taken over a sufficient amount of territory which allows them to live comfortably, live frugally and sustain their population. China is the example used, as they are a country that has some of the most fertile land. There the land is farmed and bears two crops per year and the people live frugally, making Malthus believe that their population is large.

Another interesting point that he brings up in his theory is looking back into history in regards to when populations were high or when they began to rise. When looking back into history one can examine when there was a push for people to have families, early marriages occurred and were prevalent and that you had a low number of singles in the population and think that the population was increasing, however, these are also signs that the population was not large and it was actually about to increase as there was room for new members and enough food to support a larger population. If at the same period it can be seen that there are few early marriages and that there was a great deal of both males and females staying single, then it can be deduced that the population was at a standstill due to the fact that the population was large in proportion to the land available for food and room for living. The rates of marriage, as well as the age at marriage are good indications as to whether the population is growing or in decline.

Malthus in his works examines different factors that can lead to a slowdown in population increases and as to why some populations may decline. He points to Europe, a

36 Ibid, 16.
37 Ibid, 16.
continent that expanded greatly after becoming a sedentary population. Europe should have doubled its size during a twenty-five year period according to Malthus’s theory, but it took three to four hundred years to do so. One might consider that there is a slow down due to a cool down amongst the sexes, males and females not having the urge to be together and have a family. On the contrary the difficulties of raising a family have a negative effect, however, the inability for the lower class to give their families the proper care and nourishment is a positive for an increase in population.

From Malthus’s theory on the nature of developed country’s population it can be derived that as a population becomes more and more advanced, the desire and the need to procreate decreases, as people’s lives and priorities change due to the development. As one begins to gain wealth and have the ability to enjoy the pleasures that life has to offer in this advanced society, they are less inclined to give up what they enjoy in order to start a family. Many see families as not only taking away from their time they could be using to enjoy their lives but also as an economical strain. For the upper class in society it is a strain and is considered to take away from one’s status as it takes away from the time that can be spent socializing and advancing one’s position in the ranks of society. It is interesting that this is the case, as they have the means to have a large family and the ability to support them, due to their economic positions; however, it is the exact opposite as it is the lower class with the larger family. The desire to have a large family exists amongst those that do not have the economic means to support one. This is due to their desire to improve their family’s position economically and with in society, but also their understanding of the need for the family to have an extensive support network that only a family can provide each other. It seems that as people rise through society and into higher ranks through education and money their desire for having a family begins to dwindle. People’s

\[38\] Ibid, 17.
priorities change as their status changes and our basic human need to survive through reproduction disappears. This is not only due to the fact that through higher education in order to achieve a higher position in society has forced people to push back the start of their marriage as well as have fewer children. It also shows the selfishness of society as when they have the economic means to have large families they are hesitant as it is a strain on them socially and economically. People begin to value other things and the value of human life and people’s duty in society disappears and is replaced with the desire to get ahead in society economically and socially.

Other theorists have also confirmed the theories of Malthus as to the decline or increase of populations. Two anthropologists, Helmut Kloos and Aynalem Adunga, examined the reasons behind the Ethiopian population’s growth in the late 1980’s. They two point to the same theories of population growth as Malthus does in his work. The cite that Ethiopia has about 50% of its land about 2000 meters in Africa which leads to favorable agricultural resources and an absence of many vector-borne diseases, such as malaria. They also point to the socialist transformation in Ethiopia leading to needed revised government policies which resulted in land reform that gave land to peasants leading to growth in the country. Even Fred Harris in his book on population decline in Japan and Europe cites reasons that are similar to Malthus’s theory to why populations decline. Harris cites economic reasons as to the decline of populations. He points to the lack of economic stability as well as job security leading to a decline in populations. As there is a lack of means to sustain a population there is consequently a decline in the population. Though these theorists address reasons for population decline, which is

40 Ibid, 1.
41 Fred R. Harris, The Baby Bust, Who Will Do the Work?. 70.
evident in the Japanese case, their theories do not address the aspect of the youth rebelling against the traditional relationship established by society and not having the desire to have children in response.

E. Plan of the Essay

The objective of this paper is to examine the history of the population in Japan, the population decline and the causes behind it. Chapter Two analyzes the evolution of female and male relationships in Japan and how they have come to be what they are today. It looks at the history of this relationship from the early days of Japanese feudalism to what it is becoming in today’s society. Chapter Three will examine one of the measures to combat the effects of the population decline by examining the Japanese robotics industry and the future of robots in society working together with people. Japan has a long history of living together with robots in society. From the Edo period of little wooden dolls to today’s robot receptionist the Japanese have had an interest in developing and accepting robots into society. The paper will examine Japan’s attempt to supplement its declining workforce with robots doing simple human labor as they look to combat the decline of people available to work. It will also look to point out how Japan is using a technical answer for a social problem. The chapter will highlight the benefits of Robotics; however it will also point to its short comings in changing the decline of Japan’s population. Chapter Four will finally offer my view point as to what is necessary for the Japanese population to turn from its drastic decline to begin increasing. I have provided an “Appendix” examining the European population decline as a point of reference for the reader to see what is happening in another region of the world.
CHAPTER 2

HISTORICAL AND SOCIAL FACTORS AFFECTING THE JAPANESE POPULATION DECLINE

A. Introduction

The case of the Japanese population decline is one that is unique to Japan. Compared to
the decline in Europe, Japan’s reasons for decline are rooted in the framework of the husband
and wife relationship. To better understand the structure of this relationship it is important to
examine its development through history. The organization of contemporary relationships
between men and women in Japan has its roots going back to the early feudal times and a
relationship that has not changed over the years like the West, making the relationship very
unique. This chapter examines how the relationship evolved through Japan’s history and how
today’s youth is reacting to this traditionally rooted practice.

B. The Development of Husband and Wife Relationships Through History

The position of women in Japan, compared to that of women in America is vastly
different. Japanese society is male dominated and there is a certain amount of chauvinism that
exists in society. There is job discrimination that exists and an old Confucian adage that says “a
woman in youth should obey her father, in maturity her husband and in old age her son has a
certain amount of validity.”42 Looking at the relationship that exists between a male and a
female in Japan, it would seem to a westerner that women are treated coldly and sometimes with
disdain. Women do not really speak out against their treatment and hide behind a screen of
simpering. Women are not really allowed to have much of a social life and there is a social

double standard which allows the man to do as he desires and the woman is restricted.\textsuperscript{43} This is not as evident as it once was but for the most part exists in Japan today. However, due to the existence of these social standards, Japanese norms and western norms are vastly different.\textsuperscript{44} Of course, these social standards are undergoing rapid change all throughout the world and in Japan they are becoming more and more western.

Since primitive Japan, there has been a strong affinity towards fertility and they revered it not only in agriculture but also in people as well.\textsuperscript{45} Fertility statues were fairly common place until now, however mankind can still find shrines and temples that are dedicated to fertility. In classical Japan, the theme to their literature was love and free sexual ways. Sexual freedom has survived and exists in Japan today and though it is not condemned there is anxiety over social consequences.

Another characteristic that helps define Japanese society is the matriarchal substratum in society.\textsuperscript{46} The Japanese imperial line extends down from a sun goddess and according to ancient Chinese texts; there was feminine leadership in Japan until about the eighth century.\textsuperscript{47} During the Heian period (794 -1192), women had a great range of freedom not only in everyday life but also in court life and they dominated the literature of the period.\textsuperscript{48} The early feudal days of the Kamakura period (1185 - 1333) were marked with women the ability to inherit property and have significant roles in the ruling system.\textsuperscript{49} However, as time passed in the feudal times and the more Confucianism gained a following and popularity, women’s freedom became restricted and

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{43} Ibid. 175.
\item \textsuperscript{44} Ibid. 175-176.
\item \textsuperscript{45} Ibid. 175-176.
\item \textsuperscript{46} Ibid. 176.
\item \textsuperscript{47} Ibid. 176.
\item \textsuperscript{48} Ibid. 177.
\item \textsuperscript{49} Ibid. 177.
\end{itemize}
\end{footnotesize}
his wife for being lazy or bad. For this reason women are much concerned with their husband’s honor and are most diligent in their household duties.\textsuperscript{55} Men on the other hand were allowed to develop a broad social and sexual life, allowing them to have second wives and mistresses as long as it did not keep them from the family duties and responsibilities.

In today’s post war Japan much of the old Japan still exists. Women are relegated to the home and men are meant to take care of the household and provide an income for the family.\textsuperscript{56} Other than the other housewives that they get together with, most women do not have very much of a social life as they are in charge of taking care of the children, the home and cooking. However, even this role is beginning to disappear as women begin to develop more freedom from their obligations in the home. The relationships that exist between a man and a wife are slowly changing as well. However, it is still not the same as what exists in the west.

Most college graduates go back home to live with their parents. Even though they have a salary and are employed most young adults are still reliant on their parents until they are married. Most parent-child relationships continue until the children enter marriage.\textsuperscript{57} Men face the challenge of going from college freedom to lifetime commitment to a company, whereas women don’t have such a great big change as they enjoy some time of independence before they enter marriage. This time that is spent home with the family is characterized by parents spoiling their children even more so and creating dependence between child and parent that does not exist in the west.\textsuperscript{58} During this period it is considered by most sociologists that Japanese youth are not prepared for marriage.

\begin{footnotes}
\footnote{\textsuperscript{55} I bid, 38.}
\footnote{\textsuperscript{56} Edwin O. Reischauer and Marius Jansen, \textit{The Japanese Today}. 180.}
\footnote{\textsuperscript{57} Sonya Salamon, “Male Chauvinism as a Manifestation of Love in Marriage” \textit{Adult Episodes in Japan}, (1975). 131.}
\footnote{\textsuperscript{58} I bid. 131.}
\end{footnotes}
Once they reach the stage that they are prepared for marriage they begin to search for suitable matches. Many young women work after college as it is a good way to meet a husband or potential husband. Previously most marriages were arranged, however in the 20th century and the 21st century most Japanese are marrying for love. They have high hopes of equality and companionship developing in their relationship and carrying on after marriage. After marriage there is a brief time period before they start a family. Japanese family life is dictated by the Japanese culture. This stipulates that once a couple is married they must have children and the sooner they have them the better it is for the family and society. Prior to having a baby though, the man continues his courtship by taking his wife out and entertaining her. However, as time passes the husband is busy with work and does not have much time for the family and the wife has the children and the house to take care of. The relationship that exists between the two has changed from the ideal that they had before and immediately after being married. They soon realize that it is out of their control and part of life and they adjust to it accordingly.

As the children enter school the wife gains more freedom and some look at the possibilities of obtaining a job. However, most husbands tell the wife that they can work as long as it does not interfere with their everyday work around the house. This keeps them from getting any real careers and so they spend most of their time doing PTA and assisting with school-related activities. The woman’s life revolves around her children. They become known as the “kyoiku-mama” or “education mom” who was dealing with the drastic change in her

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59 Ibid. 133.
relationship with her husband and has a lack of confidence in her own abilities, so she continues to do what she knows and is accustomed to.\textsuperscript{62}

For the male, his life changes as his time and commitment to the work place grows. As he begins to rise in the ladder of the company, his time for his wife and family begins to decrease. Not only does he have a lifetime commitment to his job but he also must realize that his work place comes before his family. He must also show allegiance not only to his employer and company but also to his small social group who he goes out with after work. With this shift, in order to advance in the company, the father is barely present for period that is marked with starting a family and having pre-school children.\textsuperscript{63}

Many males look to their social groups that they form at work as a way to tune out and get away from their nagging wives. The group not only gives them the opportunity to get away from their families but it also gives them an opportunity to enforce their male roles. The social circle places demand on the man to produce not only at work but also socially and to enforce man stereotype of maleness.\textsuperscript{64} The group asserts their maleness by having a hierarchical system which has veterans and rookies. There is an imitation process which usually means the older members of the group make the rookies drink and tie their ties on their foreheads. Also, they don’t let each other call their wives until they have begun their social event after work. If a man does happen to call his wife before they start to go out to drink he is treated irreverently. They do not make a call until later, after they have started the drinking and when there is more support from the group to be assertive towards the wife.

The distance that the males keep from the house causes serious rifts in the relationship between the husband and the wife. Most males blame their wives for the reasons as to why they

\textsuperscript{62} Ibid. 133-134.
\textsuperscript{63} Ibid. 134.
\textsuperscript{64} Ibid. 134-135.
keep a distance from the home. According to author Sonya Solomon many arguments stem from the issue of having money.\textsuperscript{65} Most husbands and wives are happy together, but after a few years of being married, most men felt they were being nagged by their wives about monetary issues even though the man was doing his best to save for the future. After the child is born, usually things at home calm down for a while, but that does not last long as the woman again begins to nag the man about money and savings.\textsuperscript{66} Most men respond to the constant nagging by doing things that they enjoy and keep them out of the house. They think that no matter what they do, it is never enough, so why bother. Japanese men feel that they do a lot and try to be a typical guy that devotes their time to their family and some do not even partake in social events with their group after work because they are so committed to the family.\textsuperscript{67} However, after awhile that changes as they feel that they give up a lot of things to be with their family and if all that happens is they come home to a nagging wife who no matter what they do is not satisfied then they flee the house to do things they are more interested in.

Women are fairly bound as they cannot do anything. Recently, divorce in Japan is on the rise, but it is still nowhere near the levels that exist in America, especially after a child is born. Since the 1960’s Japanese divorce rate has been on an upward trend topping out at 290,000 in 2002.\textsuperscript{68} Since then there has been a decline in divorces and divorce rates. In 2007 the number of total divorces totaled about 255,000 and the divorce rate was 2.02 per every.\textsuperscript{69} This is because most Japanese men do not make enough money to pay alimony; most Japanese men will not

\textsuperscript{65} Ibid. 135-136
\textsuperscript{66} Ibid. 137.
\textsuperscript{67} Ibid. 127-138.
\textsuperscript{69} Ibid.
marry a woman that has children, and not many employers are interested in hiring women that have children; this too is changing though.

With the existence of this sort of marital relationships that exist in Japan, it is no surprise that younger Japanese are not interested in marriage or even the possibility of having children. The youth look at their parent’s relationships and see the unhappiness that exists in their mother because her husband does not make time for her and how the father is never home and they look at marriage and child rearing with a disdainful eye. Women and men alike feel that if marriage is like what their parents have and share then, why waste time and money in dating on something that will just cause pain and unhappiness in the future, rather spend that money on things that interest them more and bring them joy.  

C. How Japanese Youth View Relationships and Marriage

Japanese youth today have become less likely to have the kind of relationship with the opposite sex that would be considered healthy by most and this is one of the reasons why Japan has a dwindling population. The birthrate is declining partially due to the lack of marriages and the continued downward spiral of the amount of sexual relations amongst couples that lead to the reproduction of children.

In a news paper article by Paul Wiseman of USA today he opens his article by talking about a weekend get a way that a Tokyo writer by the name of Junko Sakai had with her boyfriend where nothing happened.  

The couple had planned a get romantic getaway for the weekend, however, rather than stay together in the same room; they had separate rooms, to the

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71 Ibid.
who are extremely different from their mothers as they are more assertive and in being so they intimidate the Japanese men.

Many Japanese women and even some men realize that part of the issue is a disconnect and lack of intimate relations with men and women emanate from the lifestyles that society makes them live. Men work hard and long hours and after work they spend time with their social group from work. The wife is expected to give up her social life and stay home cleaning the house and taking care of the kids. Society places judgment on her, as if her children are bad it is the mother’s fault and if her husband has an affair, she is not doing enough to keep him faithful.\textsuperscript{74} Many women are not interested in this kind of lifestyle. They do not like the idea that they must give up their career if they are to get married and live a traditional Japanese lifestyle of being a housewife. This idea of giving up your career has turned many Japanese women away and they have looked at becoming “career women.”\textsuperscript{75}

Japanese men on the other are discouraged by entering relationships due to this change in women’s attitudes. They feel that rather than spend their time in a relationship were they have to worry about being rejected. Instead they maintain a different style of relationship by going to hostess clubs and brothels where they pay for the company of women, but do not have to deal with the everyday hassles that present appear in relationships. Certain other men have also found solace in virtual online women where they have an affectionate partner, do not have the hassles and they can be intimate through cyber sex.\textsuperscript{76} This has caused some young teenagers and middle age men to withdraw from society leading to a new group appearing in Japanese called

\textsuperscript{74} Ibid: 3.
\textsuperscript{75} Ibid: 3-4.
\textsuperscript{76} Ibid: 3-4.
"Hikikomori." They spend weeks on end in their room alone due to fear of women being one of the reasons why they withdraw from society.

D. Leaving Home Later

Another issue at hand is that many children do not move away from their parents to start their own lives. They stay home and become part of the group that is known as the "Social Parasites." These offspring live at home with their parents and they save the money that they earn from working to use it for what they want, such as traveling to destinations like Hawaii or Europe. This group is usually made up of females in their 20’s and 30’s who basically think that they will get married when they are ready for it and until then they will stay with their parents and do as they please.

Figure 2 illustrates the amount of social parasites that exist in Japan, how many contribute to assist their parents and how many receive financial support from their parents. Currently, about 60% of Japanese males between the age of 20-30 live with their parents. About 80% of women live with their parents, significantly higher then the male population. Out of the amount that live at home 85% of both the male and female population do not contribute in any way to their parents. Finally about 50% of both male and female populations receive additional financial support from their parents.

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This group of social parasites lives at home after they have found a job. Rather than looking to the future of finding a husband, settling down and starting a family, they are more interested in where to go on their next vacation. They live at home because of they do not have to pay much rent and do not have to worry about taking care of themselves. This demographic is one of the reasons why the Japanese government feels that the population is decreasing. In comparison with other countries, Japan has the highest number of young still living with their parents. The women from the ages of 25 to 29 who live with their parents between 1980 and 1998 doubled over an 18-year period of time from 24% to 48%.\textsuperscript{80} In 2005 the number of women living at home between the ages of 20 and 34 has risen to ten million.\textsuperscript{81}

In other countries, for example the United States and Sweden, children are more inclined to leave home. However, in Sweden, there is a social system in place that takes care of them and

\textsuperscript{79} Source Adapted from Ministry of Health, Labour and Welfare, Statistics Bureau.
\textsuperscript{81} Genda Yuji, \textit{A Nagging Sense of Job Insecurity}. 31.
in United States salaries are based on one's ability and knowledge. In Japan the employment system practices seniority-based pay, this favors older or middle aged workers. This means that a newly graduated college student, even if they have the newest knowledge pertaining to the field they will still only get the starting salary that everyone else does, there salary will increase as they spend more time with the company and as they grow older.

E. Financial Insecurity

The benefits that the elderly receive now from the government are very generous, in that there is no real priority placed on the child to find a good paying job and stay with it. Since there is no real pressure placed on the youth they are very care free about how they go about finding one. They see jobs as a way to earn some pocket money for their own needs and if the job turns out to be something that they are uninterested in or too tedious then they quit and look for other employment. Previously, after graduating college they would go out and look for a job that would provide them financial security and stay with it because of guaranteed lifetime employment. They would then go on to get married and start a family of their own.

In 1973 Japan felt the repercussions from the Oil Shock and went into an economic recession.\(^2\) It took the country three years to recover from the crisis. Japan rebounded but was unable to achieve the economic level of growth of 10% that it had enjoyed prior to the shock, rather their growth dropped to 3-4%.\(^3\) This was also followed with a rapid inflation of 53%, which lead companies to negotiate large wage regular fulltime contracts with unions.\(^4\) Many Japanese began to rethink their hiring process, especially those that were struggling to recover from the recession, and they began to employ part time workers. The female population was

\(^3\) Ibid, 7.
\(^4\) Ibid, 7.
perfect for this type of job as they could be hired and laid off when needed and they did not cost as much as a fulltime worker. This trend has continued to today as well. About 17.8 million people make up Japan’s part time workers, or about a third of the Japanese work force. Not only does it affect the female population of Japan, but also the male population. More companies are hiring temporary workers, causing not only a financial problem for the younger generation of Japan, but also an increase in the average age of marriage and first birth. Japanese youth are hesitant to get married as well as start families due to the economic instability and low pay of having a part time job in Japan who has the second-largest economy.

No matter how much a family pushes them it is the child’s decision to stay home and live the life they have chosen. It goes back to the fact that Japan is a patriarchal society that does not seem like it will change. Their only other choice that they really have is to get married to a husband who is only home to sleep, have no career and spend their days raising the children because child care is for the elites, as it is not very common and is extremely expensive. They feel that by postponing their marriage they will make it easier for them to get their career started so that when they do get married they will have more say in the relationship and create a better life which is opposite of the one they fear.

At the same time there is no real push by the parents to have the child leave the house and start a life and family of their own. Japanese youth are for the most part very reliant on their families, as many Japanese parents are willing to do anything for their children, which make them less independent. The parents are also more willing to have their children stay around because of the time that they are able to spend with them. If the child were married or had a family of their own, then the parent would rarely see their children, if at all. Having the child at

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85 Yuri Kageyama, “Protests grow as ‘temporary’ workers in Japan are laid off” Honolulu Advertiser, 8 February, 2009, sec. 3, pg. 1.
home also eases some of the burdens of everyday life as they are around to help out around the house, take care of elder grandparents and be used as free childcare for siblings that already have children.

F. Conclusion

The relationship that exists amongst a man and a woman in Japan is one that has developed over the years from the Kamakura period until now. Unlike the West, the form of this relationship has kept its traditional roots and evolved into its present form of a patriarchal society. Women and men have begun to rebel against the traditional ways that currently dominate Japanese thought and way of life. However, even though the men are rebelling, it is more the women taking the lead, looking for a different kind of life. This relationship and response to it by the Japanese, not getting married or having children, is what makes the issues of Japanese population decline so unique to the country, when compared with other regions of the world, such as Europe. The Japanese government is faced with the unique issue of having a population that does not have the desire to have children and in order to stop the decline of the population they must get over this massive hurdle. The next chapter will examine the methods, which the Japanese government has employed in order to combat the decline, especially the use of robots, which is unique to Japan.
CHAPTER 3
RESPONSES TO POPULATION DECLINE: THE EXAMPLE OF ROBOTICS


The government has looked at multiple ways to bring an end to the decline in population as well as workforce. All of the programs that the government has tried to implement from social reform to immigration reforms have failed. The Japanese had looked at the possibility of opening up the country to immigration, something that seemed like an incredibly difficult feat for a country that has been traditionally closed to opening up its borders to foreigners.

Japan's history of immigration begins with the policy that was enacted in 1899.\textsuperscript{86} This basically prohibited the importation of foreign labor into Japan and this policy is for the most part still intact today as Japan only accepts skilled labor into the country. However, there is a loop hole created by the government with the establishment of the trainee program which brings unskilled labor into the country to train them under the supervision of the government and after a period of time they are sent back to their countries. The next change in Japanese immigration did not come until 1952 with the Alien Registration Law.\textsuperscript{87} This law made it so that foreigners were forced to carry an alien resident identification card and those who were 16 and older were finger printed and photographed. The most recent change came in 1991 when immigrations laws were relaxed for those of Japanese decent or "Nikkeijin."\textsuperscript{88} However, the laws for being able to enter Japan as an immigrant and obtain employment are extremely difficult. This is the reason

\textsuperscript{87} Ibid. 20.
why the immigrant workforce only makes up less than 1% of the workforce in Japan. In comparison, Switzerland’s workforce is made up of 18% and the United States’ is made up of 12%.  

Many within Japan have considered the opening up of Japan and accepting immigrants into their workforce as a reasonable solution to the crisis that the workforce faces in the future. However, for Japan to sustain its current production numbers, it would have to have 647,000 immigrants come into the country every year until 2050. Many feel that this large inflow of foreign workers is essential to Japan. They feel that it would bring new creativity that would be of great use to Japan as they feel that all of Japan’s creativity domestically has been used up. However, many in Japan feel that a great influx of immigrants into the society would ruin their culture, something that they have managed to keep from deteriorating for thousands of years. Another issue is that Japan does not have the policies in place to handle such a large immigration population. Finally, another problem was that the Japanese alienated these new populations of immigrants. The “Nikkejin” who are part Japanese were not accepted into the society and were treated as outsiders. Immigration seems it could be a viable solution to Japan’s problems; however this is not the case. Japan does need to open its doors up more to foreigners so that it might bring in needed creativity to the society but a mass flow of immigration would be dangerous to a country that has never dealt with a large group and has no policies in place to do so.  

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90 Ibid.  
92 Ibid.  
93 Ibid.  
from the citizens of Japan for such a proposal would be extremely difficult and makes convincing people to have more children easier.

In 1994, the Japanese government came up with its first plan called the “Angel Plan”. The basic plan was to lessen the burden of childcare on the parents. They government looked into establishing counseling services, creating infrastructure to assist working parents and to change the old attitude that only the woman dealt with child rearing to one of shared responsibility between the husband and wife. Later in 1999 this plan was revised to include the creation of day care centers near the train stations. This plan needed the local governments support to be successful, however, they were already having a hard time enacting these new reforms the government wanted to put in place. Another issue was that the population was not informed and without them being informed it is hard to gain their support for a policy that would bring about drastic social change to Japan.

The most recent plan is the “Plus One Plan”. The goal of this plan is basically to have married couples in Japan have one more child than they had planned for. They looked to change working environments so that it would make it easier for men and women to partake equally in raising the child. They also wanted to see how communities would be able to assist the people with childcare and to give benefits to families that had children. Prime Minister Koizumi also called for enough funds so that 50,000 new day-care centers could be built.

All three of these plans are basically looking to accomplish the same thing, but none have brought about much change in the country. Japan is not interested all that much in changing its ways. There are women who say that they want to have two children, but the reasons behind

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56 Ibid. 3.
57 Ibid. 3.
59 Ibid.
them delaying their marriage or not marrying at all are because their husbands will not help
around the house, they feel alone in their small apartments and there is no real way to have a
career and be a mother at the same time. Some members of the current government do not seem
to interested in enacting the necessary reforms and persuading the population that change would
be good. The current deputy chief cabinet secretary of Japan was quoted in saying that it would
be better if Japanese mothers “stay at home and raise their children.”100 However, Prime
Minister Abe looks to improve conditions so that women can work and have a family or stay at
home, which ever they feel comfortable with. So there is hope that maybe there are members
within who feel that the change is necessary and are willing to pursue it.

With the failure of the plans in the late 1990’s and early 2000’s, the Japanese government
recently announced that it will increase support for families and children. Prime Minister Aso
announced that the government of Japan would be doubling the proposed spending on child care
for the coming year.101 However, there is still a feeling that exists amongst the Japanese
populous, especially business groups, social scientists and parents who feel that Japan is still
stingy and unaccommodating when it comes to encouraging women to have children.102

100 Ibid.
101 Blaine Harden, “For Japan’s Young Families, a Little Good News” Washington Post Foreign Service, April 18,
2009.
102 Ibid.
Figure 3: Percentage of GDP Spent on Day Care and Home Help for Children

Compared to other developed nations, Japan ranks low for the amount that is spent to improve childcare support systems for families. Figure 3 illustrates how far behind Japan is compared to many developed nations in Europe when it comes to social spending on children. One of the main issues that Japan faces and the government must improve upon is the lack of funding and building of nursery schools. Japan has unveiled a $150 billion stimulus package, which allots $1.5 billion for new child-care spending. In a report released in September of 2007 it said that Japan had increased its number of nursery schools by 149 or .7% to 22,848 which expanded its total capacity by 26,028 to 2,105,434 children. Even with the increase in the number of nursery schools there are still 17,926 children that are on the waiting list to get into nursery schools in Japan; however the number decreased making it the fourth year that the

103 Source Adapted from “For Japan’s Young Families, a Little Good News” Washington Post and Organizations for Economic Cooperation and Development.
105 Ibid.
number has decreased.\textsuperscript{107} This report also showed that local governments that had about 50 or more children who were on the waiting list totaled 74, which decreased by seven from the previous figure, and that 75\% of the children that were on the waiting list lived in large cities in seven prefectures in the Tokyo metropolitan area and the Kinki region.\textsuperscript{108} The Tokyo metropolitan area is made up of Tokyo, Saitama, Chiba, and Kanagawa prefectures and the Kinki region is made up of Kyoto, Osaka, and Hyogo prefectures. The cities with the largest number of children on waiting lists are Osaka, Yokohama, Kobe and Kawasaki.\textsuperscript{109} The Japanese government hopes that their increase in building nurseries will help to fight the declining birthrate that is currently affecting Japan.

Japan currently is feeling the economic downturn the most out of any country as their economy has shrunk twice as fast as that of the United States; however, this is nothing compared to what they will feel if the population continues to decrease and the number of working age people decreases. They hope that the push to increase the number of nurseries in the country and improvement of childcare will reverse the current birth trends. They also hope that it will increase the number of women who marry, have children and remain in the workforce.\textsuperscript{110} Currently, only about a third of married women who have children return to the workforce, compared to the United States were about two-thirds return.\textsuperscript{111}

The issue for the needs of more funds for child-care spending is compounded by the fact that most Japanese politicians do not fully grasp the urgency of the situation as they are many years removed from the experience of raising children.\textsuperscript{112} This can be seen by the age of the

\textsuperscript{107} Ibid.
\textsuperscript{108} Ibid.
\textsuperscript{109} Ibid.
\textsuperscript{110} Blaine Harden, "For Japan’s Young Families, a Little Good News" Washington Post Foreign Service, April 18, 2009.
\textsuperscript{111} Ibid.
\textsuperscript{112} Ibid.
current Prime Minister Aso who is 68 and the previous one, Prime Minister Fukuda, who was 72. It is not only the issue of age, but also that young Japanese father’s have been shown to spend less time caring for their children than fathers from other developed nations.\textsuperscript{113} Over the years, through reforms and institutions the government has been trying to look for ways to combat this issue and to create a work and life balance that does not exist in Japan to the extent that it does in other nations.

One of the areas that are unique to Japan in its fight to reverse the declining population is the implementation of robots. Robot usage and the automation of industry is something that has happened worldwide, however the implementation of robots in society and doing jobs that traditionally had been held by people is unique to Japan. As their workforce dwindles from the decline in population, the Japanese government has looked towards the robotics industry as a way to supplement their workforce in jobs that many people are not willing to do. The purpose of this chapter is to highlight the benefits from implementing robots into Japanese society and the positive effect it will have on society. Conversely, it looks to show that Robotics alone is not the answer and it must be used together with other methods in order for it to have a positive effect on changing the population decline. It also looks to highlight the Japanese answer of using a technical solution to answer a social issue.

B. Historical Background of the Use of Robotics in Japan

Japan has had a love affair with robots since the 17\textsuperscript{th} century, through World War II and into today’s developed society. The Japanese have always looked on robots as an art form, not a technological advancement and to this day have a special place for robots within their society and culture. It can be said that Japanese robotics is just as much part of Japanese culture as wood

\textsuperscript{113} Ibid.
black painting from the Edo period (1603-1868). The Japanese have developed robots into being simply toys and amusement for the upper class and into partners for human beings as evident in the move to create robots for personal use, rather than just having them in the manufacturing sector. It is also proven in Japan’s move to make robots more humanoid, like the Actroid receptionist made by Kokoro Co. and Advanced Media Inc. who provided directions to guests at the Aichi Expo.114 They have made the move to make these robots more personable and humanlike, rather than looking like cold piece of metal attached with bolts. This makes Japanese more likely to treat robots like fellow beings, rather than lifeless automated machines.

In comparison, robots in the United States have always had an unfriendly and cold feel to them. The difference can be seen in many different works and movies that have been produced from the “Terminator” to “I-Robot,” where machines are produced for the good of human kind, but then they outsmart the humans and kill them. It has a great affect on not only people look and perception of robots, but also the fact that the west is reluctant to make them look more human and give them a similar status within society.

Japan’s love for robots has been fueled even more by the decline in the country’s population. The Japanese government as well as the robotics industry has realized the value of robots working within society, not only to make up the diminishing workforce, but to take care of the elderly that will retire. They have looked at robots not only to take care of the Japanese elderly, but also to be companions for the elderly. A robotics engineer once said that after a lady found out what he did for a living she replied saying “I’m really looking forward to the time when robots are going to take care of me.”115 This shows the outlook that people in Japan have towards robots entering the society in the future and becoming a member of the society, not just

114 Timothy N. Hornyak, Loving the Machin. 140.
115 Ibid, 90-91.
a service mechanism. Many people have felt comfortable with robots, looking towards them as companions and to alleviate the loneliness and stress of being alone or in a nursing home. This shows not only the love and acceptance of robots within society but also the need for robots within Japan.

Throughout their long history of creativity and uniqueness of innovation, the Japanese have had an interest in robots as well as robotics. No event in Japan can illustrate this relationship better than the Kamezaki Shiohi Festival near Nagoya. This ritual dates back to the late fifteenth century and showcases two to three story high ornately decorated floats.¹¹⁶ This festival is not only known for its ornately decorated floats, but it is the main attraction that many come to see, the small puppets that re-enact traditional Japanese plays. These puppets are known as karakuri which means “trick,” “mechanism,” or “gadget.”¹¹⁷ These puppets seem to be moving independently during their performance. This is due to the gears, rods, silk cords and puppeteers are concealed to the public that control these puppets every move. Their movement is so fluid that they seem autonomous. The workings of these little puppets have been documented in a three volume book called Karakuri Zui or “Illustrated Machinery.”¹¹⁸ These works show in detail the blueprints of how one can make karakuri automata and other such devices from the time period. These blueprints combined with the expertise of making these puppets has been at the heart of Japan’s technological transformation and also laid the foundations for the robot industry that exists today.

Japan’s first experience with robotic style animation came in the year 1662 with businessman Takeda Omi (1640-1720), who owned an amusement park in Osaka’s Dotonbori

¹¹⁶ Timothy N. Hornyak, Loving the Machine. 17.
¹¹⁷ Ibid. 17-18.
¹¹⁸ Ibid. 16-17.
district. One of his main attractions showed off the puppets as well devices that were powered by water. The show was cheap and a hit attracting crowds from all across Japan. His show became a main attraction for the Osaka area. Even the Dutch businessmen, who at the time had special permission to trade in Nagasaki, were charmed by these little figures and their plays. Takeda went on to establish a lineage of doll and puppet master craftsmen who continued to do his work into the 18th century. His apprentices and fellow masters began to open theaters in Edo (Tokyo), Nagoya and various other cities throughout Japan, building these incredible puppets while using the clockwork mechanisms, weights, stoppers, gears and springs.

The building of these puppets would not have happened if it was not for the entrance of western technology to Japan during the 16th century. The west brought technologies such as guns and clock-making technologies which were essential to creating the working parts necessary to move these puppets. The foreign missionaries established a school in the Nagasaki region called the “Seminario” where they taught the Japanese how to make clocks, organs and astronomical tools. Other Japanese craftsmen learned by taking apart the western time pieces and reverse engineering them.

These technological advancements helped Japanese craftsmen lay the foundation for what is consider to today to be the ancestor of the service industry robots. The predecessors to the service industry robots were called Zashiki Karakuri. The most famous of the Zashiki Karakuri was the chahakobi ningyo which was built for the purpose of communicating with human beings and becomes one of the first social machines in Japanese society. This little

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119 Ibid. 19.
120 Ibid. 19.
121 Ibid. 19-20.
122 Ibid. 20.
123 Ibid. 20-21.
invention was only 8 inches tall and wore a kimono and hakama pleated skirt and its main purpose was to be wound up and serve tea.\textsuperscript{125} The doll is wound up and a cup of tea is placed in its hands. With the cup placed in the doll's hand it would walk the appropriate distance to the guest, because the host would preset it with two hidden cogwheels, offering the tea while nodding its head. The doll stops while the guest drinks and then once the cup is placed back in its hands, the doll turns straight and returns to the host.

This tea carrying robot was one of the most famous ones of the zashiki karakuri. This doll took the technology that existed in the floats and at Takeda's show to a whole different level of In-Home entertainment for feudal Japan. The robot shaped the way Japanese see robots today with its Human-like look and movements. This can be seen in the difference of how Westerners view robots compared to how Japanese see robots, evident in movies and television shows. The West views robots with a sense of wariness, whereas the Japanese have a strong love and affinity for robots.\textsuperscript{126}

Europe, during the Industrial Revolution (1760-1840), also had some automata that began to appear and was technologically more superior to that which was in Japan.\textsuperscript{127} However, the automata that appeared in Europe were attempts to reproduce human activities in machine form. Though the Japanese's ones were also meant to do this there was more of emphasis placed on charm not realism and art for its own sake rather than for the advancement of technology. The Japanese placed esthetics and art first, they did not think of it as a way to advance the country's technological means. These puppet masters of Japan were more interested in entertaining, fascinating and surprising their audiences; science and technology came second to them. They

\textsuperscript{125} Timothy N. Hornyak, Loving the Machine. 21.
\textsuperscript{126} Ibid, 25.
\textsuperscript{127} Ibid, 25-26.
were the true “Renaissance men” of Japan, gaining all that knowledge that they could from the Westerners that came to the ports of Nagasaki.\textsuperscript{128}

One of the great inventors of the time was Hisashige Tanaka (1799-1881). He was born during the 18\textsuperscript{th} century; his father was a tortoiseshell craftsman in the Kyushu region.\textsuperscript{129} At the age of 9 he had invented a trick ink-stone that no one could figure out how to open and at 21 he began to make his own karakuri and produced his own shows.\textsuperscript{130} His most famous karakuri invention was the Yumihiikidoji or Archer Doll. This doll sat on a platform with a bow, picked up the arrows, placed them on the bow string and shot them at a target. The doll also shows facial reactions after shooting the arrow through strings that control its face.

At the age of 48, Tanaka opened a workshop that showcased his mechanical inventions in Kyoto.\textsuperscript{131} After the fall of the Tokugawa Shogun and with the Meiji restoration in 1868 sweeping the nation he was still inventing and building telegraph machines, telephones and even bicycles and rickshaws. His firm that he founded would later on become today’s Toshiba Corporation. Today, this company makes industrial robots as well as the robot called the “life support partner.”\textsuperscript{132} These Toshiba made robots are able to recognize images and voices, they can also hold a simple conversation, control household appliances and read emails out loud. His mechanical puppets of the age contributed a great deal to the industrial modernization of the country during the Meiji restoration. They also laid the ground work for much of the technological industry that exists in Japanese society today.

\textsuperscript{128} Ibid, 26.
\textsuperscript{129} Ibid, 26-27.
\textsuperscript{130} Ibid, 27.
\textsuperscript{131} Ibid, 27.
\textsuperscript{132} Ibid, 27-28.
C. The Robotics Industry Today and Its Acceptance in Society

Japan's interest in robots that has existed since the 17th century has allowed for the breakthrough of the robotics industry and the acceptance of these new mechanisms in society. Due to the decline and aging of the population, there has been an even greater emphasis placed on the continued development of the robotics industry and the introduction of robots into society. With the population's decline having an effect on the workforce, especially for jobs that are dull and repetitive, many look towards robotics to fill the void that has been created. In 2005 the Japanese Robotics market earned revenue of $4.6 billion, it is estimated that in 2012 this amount will rise to $19 billion.\textsuperscript{133}

As the number of elderly in the workforce declines and since many of the youth of Japan do not have any interest in doing uninteresting and monotonous jobs, the need for robots to fill the void in society is even more necessary. Robots in the past have been mostly used in the manufacturing sector. They were meant to improve efficiency and do jobs that have a high incidence of repetitive and potential life ending injury. Currently the Japanese automobile industry is the largest user of robots in the assembly area; however, there is a push to expand their use to painting, cleaning rooms, and possibly areas such as the pharmaceutical industry's packaging and production, consumer electronics assembly, machine tooling and food packaging.\textsuperscript{134}

Japan was traditionally focused on robots for the manufacturing aspect. However, now they are looking to expand the industry to create service and personal robots. Robotics has the potential for extensive use in the private sector as well as unrelated manufacturing, civil works, transportation, etc.


\textsuperscript{134} Ibid.
medicine, nuclear power, aerospace and entertainment. The new growing elderly population is also giving Japan a great opportunity to introduce robots into the society that will assist aging population. There is a push to also replace everyday appliances such as vacuum cleaners, mobility for the handicap and even security guards at schools and buildings with robots.

The Japanese robot industry began a period of intense expansion in 1980. In 2005, Japan hosted the World Exposition in Aichi Prefecture outside the city of Nagoya. The exposition’s theme was “Nature’s Wisdom” and each country put on display how it was using lesson learned from nature to cut down on pollutants that were hurting the earth and shifting towards the use of green energy. This exposition was also used by many Japanese corporations, such as Toyota, Nedo, Toshiba, Hitachi and Mitsubishi, to show off their robots. Robots meant for personal use, cleaning robots, guide robots, performance robots, mobility robots and security robots were put on display at the exposition.

After the Japanese robotics industry flourished in 1980, everything that could be automated and where a robot could be placed to do a job was with the new manufacturing robots. Japan leads the world in with the number of robots that it has working in society. Figure 4 illustrates this relationship of workers to robots that exists in Japan as well as ten other countries. Currently there are about 295 for every 10,000 manufacturing workers, followed only by Singapore with 169 and South Korea 164. The closest European country is Germany with 163 and the United States is 9th with 86. Japanese corporations began to build robotics manufacturing plants that took over the industry such as Nedo, Fuji Heavy Industries and Mitsubishi Heavy Industries. The main industry that has benefited from the automation was the automobile industry in Japan. The automation of many industries in Japan has allowed it to

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135 Ibid.
136 Timothy N. Hornyak, Loving the Machine. 80.
137 Ibid. 80.
become the export powerhouse that it has become and it has allowed them to be on top of the technological industry, especially the robotics industry.

Figure 4: Top Ten Robot Using Countries; Industrial Robots per 10,000 Workers

Many companies have begun focusing on the possible creation of factories without humans due to the decline in the workforce. Currently the robots in factories only perform fairly simple jobs such as joining metal parts together and spray painting them; however, there is a push to get the robots to take on more complex jobs. Toyota Motor uses thousands of robots in their facilities in Japan and they have also begun producing humanoid like Partner Robots that play musical instruments, and now they have introduced a two armed robot that can do more than just weld and paint, but ones that will take on complex jobs that are still performed by humans.\(^{139}\) Nissan has begun to use laser equipped automated equipment to inspect all its Fuga

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\(^{138}\) Source Adapted from Cnet Asia and JETRO 2008

\(^{139}\) Ibid, 82.
luxury sedans, rather than having workers do random inspections.140 There has been the introduction of a plant near Mt. Fuji where robots make other robots. These robots have been programmed with the ability to work autonomously without human intervention and have the ability to recognize different parts in a bin, rather than have some pre-organize the bins. This has helped to not only make up for a loss in the labor force, but also cut down on operating costs for the companies and making prices cheaper for the consumers.

Currently the robot industry has begun to expand out of its norms of building manufacturing robots and building robots for personal use, much like the tea serving doll of the feudal times. These robots began to be introduced in Japanese homes at the turn of the 20th century with the introduction of Aibo the pet dog made by Sony.141 This simplistic robot was only the start of the robot industry building machines for personal use.

The interactive robot market had a value of $79 million in 2005. It is projected that in 2010 it will reach $546 million. The increase is illustrated in Figure 5 on the next page. The market includes cleaning, security and human-interface robots like Aibo. With the decline in the population and an increase in the number of elderly the Japanese government and the robotics industry has begun to use caregiver robots, especially in the nursing field. Currently, the caregiver robots make up about 4 billion dollars of the personal robotics industry; however, by 2025 it is expected to make up about 40 billion dollars of the industry.142

140 Ibid, 83.
141 Ibid, 85.
142 Timothy N. Hornyak, Loving the Machine, 90.
More and more caregiver robots have been being sold into Japanese society. During the 1970’s exposition in Osaka a human washing machine was put on display as the future of bathing. Thirty years later this machine has become a reality in Sanyo’s wheelchair bathtub that is being used in many nursing homes throughout Japan. Professor Yoshiyuki Sankai of the University of Tsukuba developed a suit that helps elderly with weak muscles that straps onto the person and assists them with movement, doubling the average person’s strength. There have also been the developments of companion robots keep the elderly company. Pet therapy has been proven to help keep stress levels down and keep elderly entertained. Unfortunately, pets are banned from most institutions due to hygiene reasons, so the development of these new pet like robots have filled the void.

Furthermore, Mitsubishi Corporation has produced the *Wakamaru* home use robot. This robot has the ability to call up one’s emails and read them out loud, the ability to recognize

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143 Source Adapted From Jethro.
144 Ibid, 90.
10,000 Japanese words, identify eight family members by face or voice, remind you to make appointments, and act as a security guard for the house if an intruder broke in and no one was home.\textsuperscript{145} It was also a huge change for Mitsubishi Heavy Industries which is one of the major producers of manufacturing robots. \textit{Wakamaru} was used in various roles during the 2005 World Expo from being an information guide to explaining the show at the Mitsubishi Corporation’s pavilion. This robot is the first step in having robots around the house and in people’s lives.

Japan is currently the world’s leading manufacturer of robots; they are also the largest market compared to the west. The demand for robots in Japan makes up about 46% of the world’s demand only followed by the rest of Asia at 18.5\%.\textsuperscript{146} There has been a recent push by South Korean and Taiwanese manufacturers to place pressure on the Japanese, however, it is nowhere close to the presence that the Japanese have in the industry. There has been also an increase in demand of intelligent robots, further expanding the industry, especially overseas not only in manufacturing but also maintenance.

Japan’s image of robots has been one that is dominated by the cartoon industry. Japan has a long tradition of cartoons such as Astroboy and \textit{Doraemon}, both of them are robots that are looked upon as heroes and partners in Japanese society. In the west we have a different view of robots especially when one looks at the Frisbee shaped vacuum cleaner Roomba and the killer machines from the “Terminator” movies. Japan has always viewed robots in a positive manner and given them a look to fit that whether it is a young child, a cat or a dog.

America’s Roomba vacuum robot has had a high success rate of being sold within the United States, compared to many of the cute and cuddly machines produced in Japan. However, until it was recently discontinued, Sony sold 140,000 \textit{Aibo} units from 1999 to 2005 and Bandai,

whose *Doraemon* robot went on sale in April of 2004, has sold 15,000 so far. These are only the beginning of a multitude of robots that are making their way into society. Japan’s government has made the push to have within the next decade a whole corps of robots interacting with people in society assisting in everyday tasks.

D. **Conclusion: Robotics as a Possible Solution**

Japan has placed a lot of emphasis on Robotics since the 1980s. They began with automating their industries, which revolutionized the industrial process for the world. With their declining population, Japan is looking to revolutionize society and introduce a new factor to our everyday lives. With their population in decline and consequently their workforce in decline as well, the Japanese feel that the robotics industry is a method with which they can combat the further decline of their society. Robotics is a stop gap measure; however, it will not solve the further decline of the population. These robots will look to assimilate into society taking the place of humans in everyday simple jobs. This will supplement the workforce and keep Japan from not only feeling the effects of a declining population, but also evade a possible economic downturn as their economy slows down due to a lack of workers. This idea of using robots in society has been proven to be beneficial as Japan has been successful in using robots to transform the manufacturing industry. These robots have been successful as is evident by Japan having the second largest GDP behind the United States. This time these robots will be used in the service sector, working together with people and taking care of people. They will be used for the benefit of humans.

As mentioned previously, the Japanese population decline is unique in the fact that the desire to marry and have children does not exist amongst the youth of Japan. The introduction of

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robots into society will only supplement the declining workforce as these robots take the place of jobs that most people are unwilling to do. In order to combat the decline in population, the Japanese government and the people of Japan will need to do more than invest into the robotics industry. Robotics will only help keep Japan from sliding into an economic downturn, it will not change how the young adults view marriage and having a family in Japan and change their desires to not have children. In the concluding chapter, the possible options for Japan to combat the decline will be addressed.
CHAPTER 4

INSUFFICIENCIES OF THE RESPONSES TO THE POPULATION DECLINE

A. The Japanese Situation

Japan is facing a huge dilemma in the 21st century with its population in decline. Japan's population has entered the sharpest decline amongst developed societies. As I have shown above, the decline began after 2005, when the population itself reached its peak at 128 million people. Not only has Japan's population began to decline but it is also the fastest aging population with the majority of the population forecasted to be 65 and older in 2050. The people born during the “baby boomer” years has begun to entire retirement since 2006-2007, causing an economic nightmare for Japan as they have many social programs in place that rely on tax money and government savings for funding. With an aging population, a declining population and a dwindling workforce Japan’s government has looked for ways to combat these issues through the use of government implemented programs. Since 1994 the Japanese government has tried implementing social programs that would alleviate the burden of childcare on families and would trigger an increase in fertility rates and the population. Unfortunately, all the programs that have been implemented since 1994 and most recently in 2002 have failed.

Japan is a homogenous society and it can be said that it has always been different from the rest of the world, culturally and historically. For this reason, the reasons behind the decline in the population are also unique to Japan, in comparison to Europe. The relationship between the husband and wife has not changed much from the Tokugawa period of Japan. Japanese women are expected to marry, stay at home and care for the household and children. Japanese women, if they have the ability, are to get a higher education, work for a few years and during
those years find a husband with whom they will settle down with and start a family. Women were never expected to have careers outside the home. Japanese men on the other hand are meant to support their family. It can be seen that the relationship between a husband and wife is unequal in today’s view. However, it does not just end with women’s role in society but it also expands to the relationship that evolves between a man and a woman. Their courtship is much like anywhere else in the world, however, this relationship changes after marriage and the birth of the first child. Japanese see their wives as the mother of their children after a family has been started and not as their spouse or significant other. A distance between the husband and his wife and family begins to form as well as his time and energy goes towards working and building relationships within the company. Women are expected to be there for their children all the time, causing many to not have relationships outside the household.

Japanese women have begun to rebel towards their role in society, looking for more equality, by not getting married in their early 20’s. Instead they are staying in school longer and building their own career, which would not be a possibility if they were to settle down and start a family. They also look at their parent’s relationships and realize that they do not want to end up like their mother’s who stay at home and take care of the household and children all day and do not see their husband some nights. Even when they do see their husbands, the disconnect between them is so great that there is no feeling of family that exists between them and the unhappiness is evident amongst both parents. With the influx of western culture through globalism Japanese women have also looked at western relationships as ideal. They want a relationship where both father and mother take part in the raising of the children, the mother can have a career outside the home, and the relationship does not sour after marriage.
Japanese youth have looked at relationships in a negative manner as well. Women and men both see relationships as bothersome and unbearable, looking for other ways to form relationships and take the place of relationships between the sexes. Women are less inclined to have children because of the restriction they feel a family places on their lives. They would rather spend their time and money for shopping or traveling the world with their friends or family. Men on the other hand have found that the stress and negatives of an everyday relationship are not worth dealing with, especially when they can look elsewhere for a woman’s company. Many men would rather spend their money by going to the numerous hostess clubs and kyabakura clubs where they can enjoy a woman’s company without the negatives of an everyday relationship.

Japan’s government has tried to alleviate the situation through the implementation of social programs, however, these have not had very much success as they were poorly publicized and lacked the backing from society. Many of the programs that have been implemented have called for the improvement of childcare as well as the push to have fathers play a larger role within the family. These policies and social programs are a step in the right direction, but there is more needed to bring about a change in the current situation that exist in Japan.

Japan’s population decline has increased the amount of investment that has been placed in the robot industry. In the 1980’s Japan’s robot industry took off with many factories placing robots where they could be and thus automating their production. With the country facing a shortage in the workforce the government as well as many businesses have looked at the introduction of more robots into the workforce as a possible stop gap in the manufacturing area. The robotics industry has also looked at expanding from the production of manufacturing robots
to the introduction of personal use robots as well. These robots will be looked upon to assist in Japanese society with taking care of the elderly and assist around people’s households.

Japan’s history and cultural acceptance of robots has made it easier to implement these changes than in other developed societies. Japan’s history with robots in society has existed since the 17th century with the introduction of the karakuri ningyo. These small dolls, which moved autonomously with the usage of gears, silk string and wood, where the first personal use robots that existed in society. They became the ancestors for robots like Aibo and Wakamaru in Japanese society. Japan has always looked at robots as machines that can only better society and not take away from society. The West sees robots as killing machines like the ones from “Terminator” or as being beneficial for society but then turning upon them like the ones from “1-Robot.” Japan’s view is best exemplified by its portrayal of robots in its children’s cartoons like “Gundam,” “Doraemon,” “Kiteretsu,” and Astroboy. These robots have always assisted humans by making their lives better, such as Doraemon, the mechanical cat or the samurai like robot from “Kiteretsu.” The “Gundam” series and Astroboy portrayed robots as helping humans protect society and the earth from invasions. It is a very different view than that of how the West looks upon robots. It is this view that makes the introduction of robots into society easier.

With the success of robots working in the manufacturing industry, the Japanese government feels that it will also have great success in the interactive sector as well. These robots would fill a gap in the labor force that will be caused by the decline in population. If this is successful it will stave off the effects a declining population will have on the economy, as less workers leads to less output and a decline in GDP. The implementation of robots into society is a good measure to combat the effects the population decline will have on the economy of Japan. However, this measure will not change marriage and birthrate for the country. The
implementation of these robots in society must be coupled with other government reforms that will lead to people marrying and having children. Alone, robotics will only put off Japan's economic decline and will not address the issue that lies at the heart of Japan's population decline.

B. Difference Between Europe and Japan

I indicated in the first chapter that Europe also faces a declining population; however, the situation that exists in Europe, though it has some similar reasons, is unique compared to that of Japan. Europe currently faces a population decline, but not on the level that Japan does. It also faces the issue of having an aging population as well as a decline in the workforce, tax revenue and government savings. The reasons behind Europe's decline stem from economic instability, job insecurity and the high price of living. The desire to marry and have a family exists, however due to the economic instability, job uncertainty, and high prices many couples decide not to start a family. The instability has led many to consider higher education and living at home longer. Both have postponed the age at which Europeans are marrying and starting a family, consequently causing the birthrate to decline.

The fall of the Iron Curtain in the 1990s and the transition of many former Soviet Satellite nations from a planned economy to a capitalist style that brought about the same economic uncertainties in Eastern European countries that exist in Western and Southern Europe leading to a decline in these Eastern European states. Even with the entrance of many of these countries into the European Union, the economic disparity between Eastern and Western European countries is such that many skilled workers have looked to leaving their countries and going to the West for better wages. This has caused a drain of skilled labor from these countries,
one that is hard to supplement and has affected the smooth transition of many from a planned economy to a capitalist economy. This transition has placed an economic burden and stress on the young adult population as they have looked towards investing in them, rather than starting their own lives and family. This delay has caused a delay in first child's birth as well as a decline in the number of children couples are having today. The socioeconomic problems that are causing the young adults to delay have also caused them to be hesitant on how many children they have. Many countries the employment market is fairly unstable and even if one does find a job, the pay is meager and not enough to support a family with more than one or sometimes two children.

Hungary is one of the countries that best exemplifies the effects of the transition from a planned economy to a capitalist free market style economy. The country adopted capitalism in 1990 and was the jewel of the former Soviet Satellite states. However, it has felt the negative effects of this transition recently with its skilled labor looking towards Western Europe for a better chance because of the economic disparities that exist at home. The people of Hungary have a desire to raise children, however, due to the economic uncertainties, the lack of job security and the increase in the price of living, many have either not had children or have had fewer children than they had desired.

Japan's population decline is unique as it stems from the desire for a change in the relationship between a man and a woman. Women no longer want to keep their traditional place in society, they want to break out of their mold and have the ability of having a career and social life, rather than staying at home and caring for the household and giving up their social lives. Even though there is a group that has begun to rebel against the social norms, there is still a group that is willing to settle down, start a family and live the Japanese way with the husband
working while the wife stays at home caring for the household. The issue is that Japanese society has been stuck in its traditional ideas, even though it is one of the most modernized nations in the world. If Japan is to survive it must adapt and make the necessary social changes to bring about the necessary change for its population to increase the birthrate. The relationship between a husband and wife must be changed in order for there to be a change in the current decline in population. Until the population begins to increase Japan must look towards supplementing its workforce and manufacturing power from policy making and the robotics industry. For a country that has a history of not opening up to immigration, it seems that robots are the best stop gap measure; however, they are not the answer to changing the birthrate.

The European population decline is caused by the economic instability that currently plagues many European countries. If economic stability were to be achieved in Europe, many say that the population would begin to increase as it seems that this stability is at the cause of the decline. This is especially evident in former Soviet Satellite countries that have been enduring the transition from planned economies to capitalist style economies. This transition has caused a great deal of disparity in the society and families are still having children, but the number of children that they are having has decreased due to the economic situation that exists.

C. Malthus and Present Day Theorists on Population Decline

As I showed in Chapter One Thomas Malthus's theory examines the reasons behind why populations increase and decrease. His theory examines a developed society and looks at the reasons for why many do not have children and why others do have children. According to Malthus, populations that have the space to increase and the necessary means to sustain an expanding society there will be earlier marriages and high fertility rates. However, if the space
to expand and the means to support the large society do not exist than there is a decrease in marriages and fertility rates. Malthus explains that developed societies look toward enjoying the pleasures of life rather than having a family. A family is looked upon as a burden as it takes away from one’s independence, social standing and ability to enjoy the pleasure which life has to offer them.

The theories of Helmut Kloos, Aynalem Adunga and Fred Harris have echoed the theories of Malthus. These theorists point to a decrease in diseases, an increase in farmable land and government policies that have led to change leading to the increase of the population. As long as there is space and a means from which people can sustain themselves there will be an increase in population. Similarly, with economic uncertainty, this leads to a decrease in the means, by which a population can sustain itself; there is a decrease in marriage rates as well as in birthrates.

These theories address the fundamental reasons that are evident in Europe and Japan. They look at the fact that couples are marrying later, they are having fewer children, they are deterred by economic uncertainties and people are staying in school longer. They also point to the conditions which must exist for populations to decrease or increase. Their theories do not address the Japanese issue of young adults not having the desire to have children because of their aversion to the traditional style relationship that is the norm for the society. They see it as a hindrance and are uninterested in living the same way their parents did and in response they are not having children. This is something that seems to be unique to Japan and the reasons behind the decline of the population.

Using Malthus’s theory to examine the Japanese population decline, particularly why people are less likely to have children in developed nations can be seen through a different lens.
The Japanese see a family as a restriction and taking away from enjoying life. This desire to spend their time and money on the pleasures of life is the reasons that Malthus gives towards why a society’s population begins to decline. As a society becomes more developed it is less inclined to marry and have children, leading to a decline in population. It is unknown whether this decline will last forever; however, it seems that with the decline there would be a decline in the economy of the country leading to a decline in the nation as well. This decline in the nation could possibly lead to an increase in the birthrate and marriage rate to improve the conditions that exist in the country. It is a possibility that with the decline in the population it will create a circumstance which will cause society and nature to change. However, Malthus’s theory is still inadequate. It does not address the issue of Japan’s youth rebelling against the traditional relationship between a man and a woman. He does not take into account a society’s desire for change in the social structure as a reason to why birthrates and marriage rates would decline.

D. Conclusion

This thesis has examined the reasons behind the Japanese population decline and indicated how it compares to the situation in Europe. It has looked into the differences between the declines as well as the effects that the declining population has on the country coupled with an aging population. Finally it examined the future of robots in Japanese society and the affects that the population decline has had on the robotics industry. A question that remains unanswered is what the Japanese and Europeans will do to reverse the decline in their population.

The European situation reflects Malthus’ theory that if there is no space and means to support a growing population people, there will be less marriages and a decline in the population. The people of Europe feel that they do not have the economic stability and means to provide and
care for a family, and in response they are less likely to marry and less likely to have children. The European Union must establish an economic sphere and cooperation amongst its member states that creates economic stability and equally develops each region member state. New member states, such as Hungary, must look toward European Union for guidance and assistance in their continued transition towards a free market economy. The European Union itself must assist and hold new members accountable in their continued transition from a planned economy to a free market economy and in their continued development.

Until now the social programs that have been enacted by the Japanese government have failed. Japan has already begun to invest a great deal into robotics, looking for them to take over positions that will be vacant due to a shortage of workers. This will help to combat the loss that Japan would feel economically from the decline in workers.

Using Malthus’s theory to analyze the Japanese population decline it seems as the natural reaction. Japan is an island nation with limited space. Already there is a feeling of overcrowdedness within Japanese cities and many of them have expanded taking over traditional farming areas. According to Malthus’s theory a lack of space and means to support a family causes a decline in marriage and birthrate. With Japanese cities feeling overcrowded and the lack of arable land it seems that the population is responding. It is a possibility that Japan’s population will shrink to one that is more manageable for the amount of space that is available on the island. However, Malthus’s theory does not address the factor of the effect the relationship between a man and woman has had on the declining birthrate and consequently decline in population. The Japanese population has rebelled against the traditional relationship that exists between a man and woman and in doing so they are not having children. This is not a factor in either Malthus’s theory or of the other theorists mentioned in the beginning of this
chapter. They take into account the lack of sustainability and land; however they do not address the unique factor of Japan’s population decline that is a lack of interest in marrying and having children due to the common perceptions of the typical relationship between a husband and wife.

Robotics has been an industry that has been looked at as a way to combat the decline of Japan’s population. With a dwindling population, Japan’s workforce will also suffer. These robots that are being created are being specifically created to assist humans not only in the manufacturing industry but also in the service industry. They will do jobs that people do not have the desire to do and they will help to supplement the decreasing workforce in order to keep Japan from going into an economic decline as well. Robotics is a very unique solution for Japan, as they are looking to implement them in society. Nowhere else in the world are robots used on the scale as they are in Japan, they are everywhere. In the United States and many European countries robots are in the manufacturing industry; however Japan is integrating them into the public. However, even though this will help to stave off a serious economic downturn, it will change the youth’s aversion towards traditional aspects of relationships and their desire not to have children. Robotics alone cannot change this issue that the youth of Japan feel. The government cannot use a technical answer to respond to a social problem.

If Japan is to increase its birthrate it must look to create programs that allow for women to change their place in society. These government instituted programs must also stimulate the birthrate through improving programs and assistance for Japanese families, giving families money for having a child is not a viable solution. The programs that are implemented by the government should look to improving the availability of childcare facilities and encouraging workers to take parental leave and businesses to push workers to take parental leave. With many young families no longer living in their parents’ home, the government must provide other
support methods for these new families. This support should not only be monetary but also in
the form of childcare facilities and healthcare benefits for new born babies. The government
must also do a better job at gaining public support for these programs, a task that will not be easy
as many Japanese feel disconnect with their politicians. Without the support of the public these
programs will fail like the ones from 1994-2002.

Japan’s population decline is a response by today’s youth to the traditional aspects of
relationships in Japanese society. They look at the way their parents interact with each other and
they see that this life and relationship which exists between them is not something that they want
for themselves. Due to their aversion to the traditional relationship, which is the norm in Japan,
the youth have lost the desire to marry and procreate. They no longer are interested in each other
and find pleasure in other aspects of life, where they do not have to encounter the traditional
aspects of a husband and wife’s relationship.

The government must look to respond and institute changes that will change the
perception of Japan’s youth and bring back an interest amongst them to having families. The
government can no longer use technical answers for a social solution. The institution of social
programs and the further introduction of robots into Japanese society could possibly push Japan
toward stopping its declining birthrate. However, these changes will not happen overnight, it
will take years for a change in the population to be seen. If these programs were to be
successfully instituted it would be interesting to see the changes that it would have on Japanese
society and the effects it would have on the role of Japanese women in society. A serious push
must be made by the government to lay the foundation for change for Japan to transform from its
current situation of having a declining population.
APPENDIX

THE PHENOMENON OF THE EUROPEAN POPULATION DECLINE

A. History of the European Population

Much like Japan, Europe, is also faced with the issue of population decline. Though the European case is not as drastic as that of Japan, there are some similar reasons to the decline that exists in Japan. However, the reasons behind the European population decline are unique in comparison with Japan, the decline in Europe began in 1990, however it is not declining at the alarming rate that Japan’s population is declining. The population of Europe, as of 2004, has been living in regions of below replacement fertility level.\footnote{Fred R. Harris, \textit{The Baby Bust: Who Will Do the Work?}, 48.} In order for most countries to maintain their current population, women would have to average 2 children. Below replacement fertility, where the birthrate has dropped below levels of growth, means that they have dropped from 2 children each to 1.71 children per woman or in some drastic instances to 1.31 children per women in the past 15 years.\footnote{Ibid, 48.} One of the few countries that are not having this issue in the developed world is the United States, who has an annual growth in the population of 1.1\% a rate even higher than that of China.\footnote{Norman Myers, “Europe’s Population Decline: Problems or Opportunity?”; available from http://www.populationpress.org/publication/2004-I-myers.html; Internet; accessed 13 March 2009.} This is primarily because of the high levels of immigration that does not exist in most other developed nations, especially in countries throughout Europe. The United States currently has an immigration rate of 4.31 migrants for every 1,000 in the population.\footnote{CIA World Fact Book, United States Country Profile.} Europe began a serious decline in 2000; one that many say could lead towards “negative momentum” and would be hard to return from a declining state.\footnote{Ibid.} This section looks
to examine the phenomenon of the European population decline, giving specific discussion to what the cause of the decline is and what measures are being taken by the European governments and European Union to reverse the trend.

The European population decline has reached levels of low fertility at such an alarming rate that it is said it is happening faster than any other socioeconomic characteristic and issue in the region.\textsuperscript{153} There was a period of time in which officials felt that this drastic decline in population would right itself and would return to previous rates. However, that hope has been shattered as the numbers to sustain the population were not achieved or maintained. Europe has become an area that is sustaining low and beyond low fertility rates. For Europe to sustain its population, its countries would need to have birthrates of at least 2 children per woman. However, current rates are at 1.3 children per woman, far below the average needed to sustain the population.\textsuperscript{154} Currently, about 50\% of Europe’s women have a birthrate of 1.31 children per mother.\textsuperscript{155} If this rate continues the number of births will drop by 50\% in 45 years and will cause the population to decrease by half.\textsuperscript{156} Even with these declining birthrates there have been some regions throughout Europe where these decreased birthrate trends have reversed and in some cases the birthrates have gotten close to obtaining the 2 children per women necessary to sustain current population levels.\textsuperscript{157} However, if current declining birth rate trends continue the way they have been, than by 2020 the average fertility rate across Europe will be 1.5 children per woman, leading to a continued decline in Europe.\textsuperscript{158}

\textsuperscript{153} Ibid.
\textsuperscript{154} Fred R. Harris, \textit{The Baby Bust: Who Will Do the Work?}. 48.
\textsuperscript{155} Ibid. 48-50.
\textsuperscript{156} Ibid. 50
\textsuperscript{157} Ibid. 51-52.
\textsuperscript{158} Ibid. 52.
A low birthrate and thus an older and smaller population can have yield many associated concerns. This is true, especially regarding the economy. The majority of European nations have a social welfare system in place, in this way they are also on the verge of facing a similar problem as Japan. The number of people retiring and an increase in longevity means that there are not as many people joining the workforce as there are leaving. This is particularly concerning as the workforce funds the retired population through taxes. The other major worry that Europe faces is the fact that with current birthrates being as low as they are, this means that in the future there will be an even lower number of potential parents. This is problematic as it will be even harder to increase the number of children being born if there are a low number of potential parents.

B. Living Longer and Decreasing Birthrates

The issue of increased longevity with a decreasing population is also an issue that not only Europe and Japan are experiencing, but one that China and the United States will also soon go through. However, the United States will not feel an equal effect compared to Europe, Japan and China and China’s population might be mostly 65 and older, due to the one child policy, before it becomes a fully developed nation.

Europe had a median age of 37.7 years in 2000.\textsuperscript{159} By 2040 this will increase to 47.9 years of age because of increased longevity.\textsuperscript{160} The age dependency ratio will also increase; in 2000 it was 22 people age 65 and up for every 100 people age 15-64 to 44 people age 65 and up for every 100 people age 15-64.\textsuperscript{161} However, due to the different countries, cultures and ethnicities that exist in Europe, the aging differentials vary depending on the country. The

\textsuperscript{159} Ibid. 52. \\
\textsuperscript{160} Ibid. 52. \\
\textsuperscript{161} Ibid. 52.
Europeans have a serious cause for concern. While the United States also has an aging population, it also has a growing population due to high fertility rates and immigration. The impact an aging population will have on the society and the countries that already have very low fertility rates will be immense.

**Figure 6: European Population Trend (Percentage)**

![Graph showing European population trends](image)

In 2000 the majority of Europe’s population was from the age of 15-64. Figure 6 illustrates the trends of the European population. However, in 2040 this will change as Europe becomes older the majority of the population will be 65 and older.

The effects that this decline will have on social security and organizations are unknown. It is known that this aging population and low birthrate will have a severe effect on the various economies in Europe. The European countries have a social welfare system established which relies on taxpayers money to take care of its population. With a large group of people retiring

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162 Source Adapted from UN population projections in Europe, European Union’s population projections.
and less people paying taxes, countries in Europe will be forced to raise their taxes if they are to take care of their population the way they have over the years. Currently, German workers pay out about 30% of their income and Italians about 33% of their income to the state pension system. These countries’ workers pay the most out of their income to the pension systems. Increases to the current high rate could lead to angry outburst amongst the local population. Not only will it affect the pension system, but these countries’ systems also rely on tax money to give their populations healthcare and education.

C. Social, Economic and Elite Drain

The declining population will have a brutal influence on the labor force. As the population decreases there will be a greater and greater impact on the workforce. Japan also has a similar issue with a declining population and the effects it will have on the country’s economy. The decline will have social implications as well. There will no longer be traditional family communities. Low fertility rates will cause families to have fewer siblings and increases in childlessness. This causes the inability to create a family support network that exists today which provides social, psychological and economic support for each other. It is unknown what sort of affect this will have on the society itself when there is a lack of a nuclear family to support each other.

The creation and expanding of the European Union has caused issues as well known as brain drain. Many Eastern European countries are feeling the effects of this brain drain as many of their elites leave to go to Western countries where they can make more for the education than in their home countries. These countries are not only plagued with the issue of their elites leaving the country to go West for a better life, but they also have the lowest of low fertility rates
since 2002.\textsuperscript{163} The fertility rates constitute a birthrate of 1.3 children per women or lower. Spain and Italy are two of the Western European countries that have had a lowest of low fertility rate since 1993.\textsuperscript{164}

D. Reasons for European Fertility Decline

There are many different factors that are the cause of the decline in population in Europe. Currently, most European families have a desire to at least have one child, especially in Southern (Portugal, Spain and Italy), Central (Germany, Austria and Switzerland) and Eastern (Hungary, Slovakia and Czech Republic) European countries. It is not the case that Europeans do not have the desire to have children. The desire to have children exists, however, the issue lies in how old the parents are when they have their first child. The Europeans are having children later in life. The late birth of children has been identified as one of the reasons to why there is lower birthrate in Europe. Between the years of 2000 and 2002 the mean age for first birth reached an unprecedented high.

Figure 7 examines the mean age at first birth in two Southern European countries (Italy and Spain) and in two Eastern European countries (Czech Republic and Hungary). Spain and Italy’s mean age, from 1980-1990, was higher than the Czech Republic’s and Hungary’s by about 3 years. The difference between the countries did not change in 2000-2002 as all four country’s mean age at first birth grew by about 4 years.

\textsuperscript{163} Fred R. Harris, \textit{The Baby Bust: Who Will Do the Work?}. 61.
\textsuperscript{164} Ibid. 62-63.
For most Central Eastern European countries the average age at first birth was between 21 and 22 from 1980-1990. Italy and Spain, two Southern European countries that reached low fertility rates had a higher mean age at first birth with both at 25 years of age. In 2000 this number for Italy rose to 28.7 and for Spain it rose to 29.1. For the Central Eastern European countries the mean age rose to 25 years old between 2000 and 2002. This is not just a phenomenon that has affected Europe, but throughout the world in various countries there has been an increase in age at birth and marriage. One of the reasons for why marriage age has risen is due to young adults becoming less likely to leave home as they used to be before.

Not leaving the home has lead to young adults not taking the vital step to start their own lives. Leaving the home is a momentous occasion for any adult. Not only is it the beginning of a new life on one’s own away from their parents but it is also the first step they take in forming a new household. Child bearing does not take place until a young adult leaves their parental home.

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and this is where the issue of the increase in age for adults leaving the home becomes an issue. Another phenomenon that has arisen is the facts that no longer are marriage and high fertility levels together. Until 1990, if a country had high marriage levels it had equally high fertility rates. However, after 1990 these numbers did not seem to correlate anymore, in fact, high fertility levels simply did not mean that there was a high incidence of marriage. Many people began to prefer long-term partnerships as opposed to marriage due to higher divorce rates. Another interesting occurrence was the fact that in 1975 high levels of divorce meant low levels of fertility. During this time high fertility rates had correlation with high marriage rates. This changed in 2001-2002 when high levels of divorce had higher levels of fertility than regions with low levels of divorce. It shows that the link between marriage and high fertility rates has disappeared and no longer is valid.

Women in Europe have also begun putting off having their first child in order to concentrate on their education or career. Since the 1990s women’s wage rates have increased and become an obstacle for the birth rate. It was during 1990 that there was a realization of the relationship between total fertility rates and the levels of female participation in the labor force. As wages for women began increase, there came an increase of women’s participation in the work force which in turn led to a decline in fertility rates. Much like Japan, many countries in Europe have women more concentrated on their employment than their careers. In Europe, however, women are still having children, unlike in Japan, but they are still having below the necessary amount that is needed in order to maintain the population levels.

166 Ibid. 66-67.  
167 Ibid. 67.  
168 Ibid. 67.  
169 Ibid. 67-68.
Both Europe and Japan place a heavy emphasis on having family members around to raise the children, however, in Japan this job is left to the mother. In Europe both the mother and father are left to take care of the child and raise it. There is a feeling a shared responsibility towards childrearing; however, it is still unbalanced with the mother taking the main share of the work.

Women in Europe who are expecting children have the opportunity to take maternal leave, of which a portion is paid leave. This is in response to the increase in women’s wages. When a woman’s salary was lower than that of the man’s salary it was in her own interest and that of the family for the woman to quit her job and become the “caregiver” of the family, while father took on the part of “provider”. A sub issue in this scenario is that the fathers were busy with providing for the family, and because of this he was only able to minimally participate in the upbringing of the child. In order to bring about a change in this issue and to assist families with giving care for their newborns, many governments, especially those in highly developed countries, have taken steps in order to do so, through parental leave measures. These parental leave support programs come in the shape of protected job leave and financial support from the government. In many cases, they allow for one parent to leave their job for a week up to a year from when the child is born. This allows the parents the ability to leave their jobs knowing that it is there for them to come back to once they no longer need to be constantly supervising their child all the time. During part of this protected maternity leave time parents can receive some financial compensation in certain countries as well. Even counting for these government contributions, the amount given to men and women is not equal. In a study done on 21 economically strong countries, the amount of time allotted to women was usually greater and the about of time during the leave that was paid was greater than that allotted to men. This
seemingly innocuous rule masquerades as a gender bias, reinforcing the fact that women are meant to stay home and care for the family.

There is an economic aspect to the delay of births. Depending on the region in Europe the levels of economic prosperity are different. Southern European countries (Portugal, Spain and Italy), per capita income levels are at medium to high levels of generally wealthy. These countries also face low inflation.\textsuperscript{170} At the same time, in these regions it is extremely hard to enter into the labor market, yielding some of the highest unemployment rates amongst the youth in Europe. These high rates of youth unemployment have also lead to this regions low fertility rates as well. This high unemployment rate has discouraged many young adults to enter the labor market and rather they continue on to higher education, gaining their masters degrees. This causes even more issues as the younger generations that obtain a higher education come and force older generations out of their place of work, causing unemployment at an older age an issue as well. The desire to obtain a higher education, along with a poor job market has caused a prolonging of the initial problem of youth staying home with their parents longer and not having the desire of starting their own families. In certain countries, it has been seen that entry into the labor force manages to accelerate household and union formation.

There is an issue that exists within the former Soviet Union Republics (Hungary, Czech Republic and Slovakia) as well. Each republic went from a planned to a market economy with varying success. Naturally, during the transition, many hardships were felt. With the transition came a great deal of economic disparity amongst the people leading to low fertility rates. Along with these economic disparities there have been higher levels of unemployment, which have causing for birthrates to fall.

\textsuperscript{170} Ibid. 74.
E. Individual Reasons

Individual reasons have also had an impact on the fertility rates in Europe. These individual reasons have also been significantly influenced by the socioeconomic issues that plague Southern and Eastern Europe. The great deal of current economic uncertainty has caused many young adults to stray from wanting to make long term plans and rather focus on short-term commitments.

![Figure 8: Economic Indicators and Gross University Enrollment for Low Fertility Countries](image)

Figure 8 illustrates the current GDP and economic growth in Italy, Spain, the Czech Republic and Hungary. Each country currently has a low fertility rate and this coincides with their low rate of economic growth. This low economic growth has caused much of the fears, especially in the regions of unemployment and job instability. For this reason, the younger generations are weary of tying themselves down to anything long-term, in this case having children and starting a family. The high unemployment rates and low economic growth rates

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have caused many to look at higher education. Higher education for many of the youth has become a way to ensure them employment after they have completed their degree. However, this desire to obtain a higher degree also leads to later first births and a postponement of moving out on one’s own.

In many of the Central Eastern European states the uncertainty is one of economic insecurity that was caused by the transition from communism to capitalism. This change has made getting a higher education and returning to education more attractive for many. This has made human capital investment extremely attractive for many as it creates a more stable life, provides insurance against poverty and enable access to stable and high salaried employment. One of the issues facing many people in Central Eastern Europe in terms of seeking a higher education is the cost, as it might be too high for many. Children cannot look to their parents for assistance as they too have felt the effects of the transitions and do not have the financial backing needed to support the costs of a higher education.

The graph below illustrates the current desire for a higher education in four post Soviet Satellite states. It examines the percentage of males and females enrolled in universities in 1989, a year before the fall of the Iron Curtain. It then examines the percentage enrolled in universities 11 years later in 2000. Estonia showed the greatest jump with about 25% of the male and female population attending universities in 1989 and in 2000 it jumped to over 60% of the female population attending universities and a little over 40% of male population attending university.

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The desire for a higher education has not been limited just to the male populations of these countries, but also the female populations. Since the 1990s the percent of women going to universities to obtain a higher education have increased significantly. This rise in both the male and female populations prolonging their education coincides with countries that have a later first birth period. However, another factor that coincides with a low birthrate and a delayed start in Eastern Europe is the continued unstable standards of living that exist. This has delayed not only child-birthing but also many long-term decisions and commitments that are made during this time in a young adults life.

Many of the countries under the Iron Curtain gave incentives to couple for early child-birthing. During the socialist period many of these countries had systems in place which offered incentives and rewards to families with children, including easier access to housing and paid maternity leave. These methods seemed effective in reducing the age at motherhood, especially

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during the 1980s.\textsuperscript{174} However, with the regime change in the 1990s there have been cuts placed on the incentive programs due to high inflation or they have been modified, which has lead to people delaying the start of a family.\textsuperscript{175} No longer is housing a benefit that is given to young couples and some healthcare benefits for these newly started families have also been cut. However, paid and unpaid maternity leave is still available, as well as many important healthcare benefits needed by new families are still available.

\textbf{F. Hungary as a Case Study}

Hungary is an interesting case, as it was a former Soviet satellite country and only gained its independence and entered the capitalist market system in 1990. The country spends greatly on social benefits; in a period from 1996-2006 Hungary spent over 20 billion dollars on social security and pension benefits. With a population in Hungary of approximately 10 million people, this means about 2 million dollars a person in social and pension benefits. Figure 10 examines this spending from 1996-2000. The most interesting relation that exists is that as the amount being spent goes up, the percentage of the GDP decreases. However, it is interesting to see the gradual increase in spending on social programs in the country.

\textsuperscript{174} Ibid, 78.
\textsuperscript{175} Ibid, 78.
Hungary has a generous system in place for leave being taken by parents, especially for women. It says the following in their laws, "Annual leave is also granted in the first year of the unpaid leave requested mostly by female employees, though available to all, for the purposes of caring for or nursing of a child of less than 14 years of age."\(^{177}\)

Figure 11 examines the difference in maternity leaves allowed in four different countries. It shows the amount of paid leave, unpaid leave and the total of maternity leave that is allotted for families. Hungary has the most amount of leave followed by Germany. Interestingly, Japan has a descent amount of paid leave available, however the United States does not offer paid leave, it depends on the policies of the company.

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\(^{176}\) Source Adapted from CIA World Fact Book and World Bank.

The country allows for extra leave depending on the number of children parents or single parent has that are under the age of 16. This extra vacation that is allotted to the parent is time that amounts to maternity leave for the parent or single parent. Women who are pregnant or giving birth are allowed to have at least twenty-four weeks of maternity leave in comparison to the United States, where an employer covered by the Department of Labor’s “Family and Medical Leave Act” must grant an eligible employee 12 workweeks of unpaid leave.\textsuperscript{179} Depending on the social security coverage of the mother at her work she is entitled to maternity benefits that amount to 70% of the average salary of the employee for the entire period of their maternity leave.\textsuperscript{180} However, there is also the possibility of receiving unpaid leave as well. This

\textsuperscript{178} Source Adapted from Fred R. Harris, \textit{The Baby Bust: Who Will Do the Work? Who Will Pay the Taxes?}, Department of Labor, Center for Economic and Policy Research.
type of leave is supposed to be granted to the employee automatically. After the twenty-four weeks of paid leave, a female is allowed to be granted unpaid leave afterwards. There are three ways that it can be granted. One is in order for the mother to care for the child until the child reaches the age of three, in order to care for the child until the child reaches the age of ten, if the employee receives a childcare allowance and in the event of the child’s illness, in order to provide home care until the child reaches the age of twelve.\textsuperscript{181} Unpaid leave can be granted on the employees request for the purpose of child care. The unpaid leave is also available to males; however, it is mostly the females that take advantage of the unpaid leave.

This shows a vast difference between Hungary and the rest of Europe in comparison with Japan. For with Japan, the women leave their place of work upon becoming pregnant and do not return nor are they truly guaranteed the opportunity to return to their former place of work. However, a total of 58 weeks of maternity leave, 26 weeks of paid leave and 32 weeks of unpaid leave, is available in Japan; however it is not taken as much or at all as it is in European countries.\textsuperscript{182} Even with this allotted maternity leave time and job security, fertility rates have dropped all throughout Europe.

Hungary is one of the many post Soviet Republics that has been faced with socioeconomic hardships since the end of communism and the adoption of the western systems. While there are families that exist that would like to have more than two children, they are unable to because of the economic reality; raising a child is an expensive task. One of the key issues at hand is Hungary’s accession into the European Union in 2004. It cannot be argued the historical and significant move it was for Hungary, a former Soviet Republic, to join the European Union after just 14 years having a western style free market system. The entry of

\textsuperscript{181} Ibid.
Hungary into the European Union brought good as well as bad. Even though Hungary became a market economy, it was still behind in wage levels compared to Western Europe. The Hungarian entry yielded higher prices for goods, but wages remained the same. These low wages coupled with high prices has lead people to overlook the idea of marriage and starting a family and more towards survival and staying above water. Many people hold two or three jobs in order to earn a decent living; the addition of a family would only drive this person into levels of poverty.\footnote{Poverty is defined in Hungary as those making less than 85,000 forints per month which is about $388.}

This phenomenon is evident amongst the medical professionals in Hungary. Many doctors take on two or three shifts a day in order to be able to provide for their family. They work close to 22 hours in a single day to make ends meet.\footnote{Interview with Dr. Emoke Deschmann, Mr. Akos Toth, Mr. David Kereszteny.} Naturally, this has delayed the birth of their first child and has also caused most families to only have one or two children. Many people are also becoming uninterested in starting a family due to the economic strain that having children places on a family. They would rather take care of themselves and using their income for their own enjoyment, rather than to a family.

This economic issue has also led to a brain drain that exists in Hungary as well. Many young adults with higher education have left Hungary for better jobs out West, leading to not only a decline in skilled labor but also a decline in the working population. Since their entry into the European Union, Hungarians have had the ability to travel freely throughout Europe and gain employment in different countries, especially if they had a higher education, as many Western European countries are also in need of specialists as well. Despite an influx of people from the Middle East and Asia, this brain drain has caused Hungary to have the inability to improve herself and continue the transition from an old planned economy to a market economy.
Currently, the Hungarian population has a growth rate of -.257%. This is due to the fact that the current birthrate amongst 1,000 members of the population is 9.59 and death rates amongst the same numbers are 12.99. This coupled with a 7.86% infant mortality rate show that Hungary’s population could drop from 10 million to about 7 or 8 million people by 2050.\footnote{Budapest Analyses, \textit{The Decline in Hungary's Population-Causes and Prospects} (Budapest Analyses no. 37, 2009, accessed March 3, 2009); available from http://bpfrakcio.hu/ba/english/budapestanalyses_37_en.html; internet.} The only other countries that have a larger or comparable rate of decrease are also post Soviet Republics such as the Ukraine, Bulgaria, Russia and the Baltic States. Countries that have are near Hungary such as Poland and Slovakia have been stagnant and the Czech Republic has showed a decrease of only .15 percent.\footnote{Ibid.} The major factor behind this decrease, as stated earlier, is the high mortality rate. This is due to the insufficient and inferior health system that was put in place by its socialist creators. Most Western European governments spend about 6% to 7% of the national income on healthcare, where as the amount spent by Hungary has been 2.5% to 3%
An important fact to note is that the national income of the western countries is significantly higher than that of Hungary. Hungary’s current national income is about $131 billion, whereas Sweden, a country of comparable size, is $512.9 billion. The infant mortality rate in Hungary is the highest in Europe at 9.2 percent, which is 30 percent higher than that of the Czech Republic and twice the average of the European Union. The mortality rate amongst adults has also risen, especially amongst men, due to “involuntary workaholism” during the 1980’s. Many held down more than one job, leading to increased stress and fatigue which lead to mortality. In the 1990’s it was due to a lack of job security which lead to Hungary being on top of the world in deaths related to cancer, cardio-vascular diseases and suicide. However, these rates have leveled off over the years to the current numbers that exist now and life expectancy has begun to rise.

The other issue in Hungary is that there has been a significant drop off of births. In a study done by Karoli Gaspar University, women are more likely to have one child fewer than they would like to. This has lead to a significant drop in birthrate to about one third of the birthrate that existed during 1980. This is more noticeable in women that have gone on to attain a higher degree. Many of these women are more interested in attaining their goals and ambitions and because of this desire a family is put to the side. Many believe that giving the nuclear family the ability to assist with raising a family may help this situation of women in the upper levels having fewer children than they desired. This means extending maternity leave to

\[\text{188 Ibid.}\]
\[\text{191 Ibid.}\]
\[\text{192 Ibid.}\]
\[\text{193 Ibid.}\]
\[\text{194 Ibid.}\]
grandparents as well. Another idea in combating this has come from giving women in white
collar jobs allowances so that they can hire someone to assist with the child care.

The transition to a multi-party democracy for Hungary has not been an easy road.
However, it has brought about changes that are still new to the population after being under 50
years of communism. There is the establishment of supportive communities which exits in
friendship circles, church, civil organizations, sporting or leisure clubs and political parties.
Along with improving the economy and making it sustainable a confidence is building within
Hungary that has not existed since the fall of the iron curtain. Once the country has been able to
establish a stable market economy can the citizens feel secure in order to strengthen and
procreate. This would lead to a change in the fear that many women have in bringing children
into the world. If this were attained than it is foreseeable that Hungary’s population problems
would be fixed and the birthrate would increase by about 60 percent.
# Glossary

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