This article's primary focus is on Germany. Projections for demographic change are conducted under the assumptions that average life expectancy will continue to rise, and birth rates will continue to stagnate. Average annual immigration into Germany is 120,000. The degree of these changes are classified from B1 to B4, with the former utilising drastic changes in birth rate and life expectancy, and the latter levels utilising less drastic changes. The possible effects of a demographic shift include: changes in production, patterns of consumption, and the flow of capital where rates of return will be highest. The author indicates that the capital may flow from countries with old populations to young. Labor supply forecasting also has variant levels E1, E2, E3. Increases in labor force participation rate are least optimistic in E1. This method of classification gives incite into what could happen in Germany's labor market in drastic and less drastic scenarios. A more direct purpose of this type of analysis is to cut researcher's bias out of the process, and engage the problem objectively.
However, all three levels project a labor market contraction. This is because an economy, undergoing a demographic change, needs more efficient labor to sustain continued aggregate growth. Axel argues that the old age dependency rate from 2010 to 2035 will also increase. Aggregate productivity may change if labor productivity is age dependent. An analysis of the possible magnitude of this effect are given. The author is aware of the many difficulties in this type of calculation, an array of data is used to find convincing evidence. The charts and graphs are utilised to convey and summarise analysis and data. All data sources are also given.

Like many good economists the author ends with recommendation for fiscal and social policy. One of these recommendations is a reform of the social security system, to reduce the tax burden on labourers; This is something that is easily recommended, but difficult to get done. Another is to promote human capital. Analysis in this publication and conclusions from analysis are up to par, but the recommendations given could have been decided without analysis. The last recommendation given is to promote sectoral mobility. The methods used are insightful and the author clearly explains the possible problems of a demographic change on an economy. In comparison with the other articles, books, and discussions about the possible solutions to demographic change I have engaged in, the policy suggestions in this article seem to be re-iterations of what was already being done.


With Japan's drastically changing labor demographics, Sigeto looks to see if housekeepers capacity in the labor force could aide in a labor shortage. Using data collected by
NHK's broadcast research Institute, she calculates the average hours that can be supplied to the labor market. In this survey only data of those who referred to themselves as housewives was used. Housewives are an important demographic because they are a large portion of the population, and could be helpful in averting problems of a labor shortage. Contrary to the term “home-makers”, house wives are defined as being female, they can also participate in paid work. A home-maker cannot be a participant in the labor force. These differences caused some difficulties in the manipulation of this data for economic purposes. Sigeto concludes that housewives do have some potential in supplying the labor force, and if need be, this could be a source of labor in the future. However, since the standard work week is restricted to forty hours and housewives commit themselves to household production, they can not be expected to supply a large portion of labor.

Sigeto does an excellent job of thinking outside the box. The difficult problems associated with demographic change may possibly have answers in the places most people would not think to look. The survey Sigeto used for this research was not initially intended for economic applications. However, he manipulated it to produce some good economic research. The presentation of data in this article is done through time periods. This makes the consumption of the data very easy. Even though the results of this study did not provide a ground breaking solution to Japan's projected labor shortage, it does show that there still are other sources of labor that are yet fully investigated.


The author of this article is director of the “Labor and Work-life Program” at Harvard
law, and holds the Herbert Ascherman Chair in Economics. In this article he questions the possible effects of changing demographics on Labor shortage. Default assumptions in the analysis of possible labor shortages, may be flawed. Some labor shortage analysis posits that maintaining a fixed rate of growth in G.D.P. requires a steadily increasing labor supply. An error occurs when worldwide labor supply is not taken into consideration. Low wage educated labor of developing countries may have sufficient quantities of workers to supplement labor shortages elsewhere. The economic forecasting of which the labor shortage theory is based, may also have fundamental flaws. From a historical perspective, the labor market has not been effected very greatly by demographic changes, but rather by other economic factors.

With forecasted declines in labor supply from 1.7% to 0.7% in 2030, maintaining a GDP at 3.1% per year is improbable. The author elucidates the fundamental flaws in this theory. To maintain the annual growth rate of GDP, countries with labor shortages could simply open their borders. By doing this they would replenish the labor supply and keep GDP at the same growth rate. Furthermore, all factors of labor productivity result in GDP growth, why not focus on technology or capital investment, rather than the labor force? Implying that it would be equally as arbitrary. The author uses historical assessment to verify these theories.

This article does one thing that is essential in good research; it illuminates possible errors in popular conjecture, while giving the reader well connected reasoning as to why we should think critically about the subject. While it is more clearly an opinion piece focused on assailing common miscommunication concerning the topic, it also gives useful insight of this topic’s premises. The author writes of problems in forecasting procedures for future size of the labor force and explains how they may be inaccurate. However, the author clearly states that economic forecasting may be fallacious, he at the same time uses economic forecasting to define his
position. If assuming that the future is unclear, is it not also a precarious position to assume that other factors are more certainly predictable. Opening our borders may be more improbable in the future than it is today.

\[ \text{NBER articles are posted as means to peer review and are not completed NBER publications. Thus, one can see what fellow economists are working on at present. This makes an ideal starting point for up-to-date research, but not as concrete citations in research articles.} \]


In this paper the author's argue that there is evidence to suggest an increase in macroeconomic growth when baby boomer cohorts entered the workforce. They also suggest that although population aging is a new phenomena, it is more likely to benefit an economy than hurt it. This type of demographic change will reduce income per capita. However, income per capita is not a measurement of well fare. The recommend measuring cohort welfare rather than output indicators, as a way of evaluating the effects of population aging. They argue that economic projections are taken under the assumption that behaviour does not change through out the given
time period, and thus are flawed.

They give an introduction on the population boom since the industrial revolution. This is a great holistic approach to demographics and macro-economic growth theory, and works as a great crash course about the subject area. This paper very successfully moulded complex ideas into something that people with no prior economic training can understand. They do this by clearly explaining the theories and data that is relevant to their argument.


The author of this book breaks the subject of demographic change into its primary indicators: birth rate, average life expectancy, mortality rates, among others. A full discussion is given of historic demographic transitions in economies worldwide. A large portion of the book is devoted to discussing the declining fertility rates of industrial nations. The economic problems that may arise from baby boomers' retirement are also discussed. This book's greatest benefits are derived from the extravagant amount of statistical data it contains. The data is from a multitude of sources that the author does a great job displaying concisely. This book works well as an introduction of: how data collection for demographics studies are conducted, what methods of interpreting the data are used, and how derivation of economic analysis is then conducted.


Japan has a low birth rate and a long average life expectancy, both of these amplify the
quandary of Social Security indemnities. Recent reforms of the national health care system aim to reduce costs by reducing moral hazard. The average in-hospital care duration of Japan is longer than many other industrialised nations. Thus, recent reforms increased the amount paid by the enrollee to 30% of cost. The reforms are also designed to add the right incentives to ensure the system's long term financial stability, a key problem of indemnity systems globally. This article defines a few purposes of Social security systems and establishes a correlation between past reforms and economic theory. The article also contains discussion of pension systems. The problem of allocating cost, within these systems, is common in many industrialised nations, and cross comparison of what works and what does not, may help in providing a groundwork for future discussion.

A short history of the Japanese social security system is given. A comparison of various nations' social security as percentage of GDP, is also provided. The data used in this article is from the Organisation for Economic Co-operation and Development, or OECD. This organisation provides a setting for comparison between economic policies of different nations, for the purpose of comparison. There are presently thirty member countries that provide data. The large array of economic data obtained by the OECD makes it an essential resource of international economic research.

After concluding with emphasis of an optimal balance between public and private costs and payment, the author follows with a few key points. Policy in Japan should focus on promoting flexible employment for the elderly, provide incentives for child rearing, allow flexible working conditions for full time and part time workers, and in promoting the importance of the individual in social security systems. This article contains crucial discussion of differences in health care and pension systems internationally. All data presented is done clearly
in graphs and charts. A few specific problems of Japan's social security system are also described. At the end of this article there is a list of relevant sources that may be good starting points for further research.


Gary S. Becker is a professor of economist at Chicago University. He has been conducting research on the economics of fertility since the 1960's. Some of his research has formed the way the subject is researched today. Another one of his publications “An Economic Analysis of Fertility”, questioned the effectiveness of demographic data and sparked further research on the economic effects of demographic change on the long run growth rate of an economy.

In this article both neoclassical and Malthusian ideas about the economic significance of population are utilised and assessed. The analysis is conducted this way due to the fact that fertility rates are endogenous in an economy. The assumption that fertility has multiple steady states lead us to believe that growth of human capital was initially determined by luck and history. They argue that higher fertility discourages investment in human capital. They develop a economic model explaining the relations between growth rates and fertility rates. Some of the implications of the model explain problems with the Malthusian trap. The fortune of economic shocks that push human capital can explain some historic economic growth. The authors explain two different courses that an economy in a state of falling fertility may take, one is a increase in economic activity, the other is stagflation. Both of these theorised results depend on investment in human capital.

In this paper, the authors argue that with increases in longer life expectancy the average age of retirement should also increase. On the other hand, social security benefits are working against this effect and causing the average retirement age to remain the same. This acts to increase the need for savings. Countries with “pay as you go” social security systems have lower aggregate savings rates, while systems with pension coverage have higher aggregate savings. Furthermore, they discuss how a nation’s social security policy provides incentives for retirement by a certain age, causing clustering of retirement around one age group.

I agree that the economic effects of more people working later into their lives, due to increasing life expectancy, would increase aggregate productivity. However, people are unaware of when they will die. Choosing when to retire is not only decided by incentives provided by social security, but also as a way to ensure utility when one is at the portion of life when risk of death is highest. The authors deal with this problem by including a variable for expectations. The analysis is done using a macro economic model, that explains how incentives from social security changes aggregate savings rates and age of retirement.


This article discusses the economic effects of current demographic transition in industrialised nations, and it's implications for the world economy. The paper starts with background information about the current demographic change. They assert that, global
population growth will slow, while the world's population will continue to age. This is based on data collected by the OECD and the 2050's demographic projection conducted by the United Nations. A modified MSG3 model is utilised in this paper to analyse the effects of demographic change. This model has three primary sectors: non-energy, energy, and capital producing and is a modification of the G-cube model developed by Mckibbin and Wilcoxen in 1998. Assuming the U.N.'s mid-range demographic projection the author's make a economic projection from 1985 to 2100. From this, they conclude that per capita growth rates will decline in industrialised nations and grow in developing nations, causing convergence.

This working paper has many empty spaces. For example, it is missing proper elucidation of the implications of their adapted model; they give citations to other work that is not the adapted model. I think that they did a nice job explaining uncertainties in modelling the effects of the current demographic transition on an economy. An example of this is their discussion of why it is difficult to assess capital flows, if one does not know what effects demographics transition will have on household behaviour. This paper is not complete, but is a good starting point for research about the economic modelling of demographic change.


This book is a collective work of several authors concerning the demographic transition
in Germany. It covers an array of topics, including the effects of: aging on the labor supply, global aging on capital markets, the impact of demographic change on fiscal policy, social insurance, and more. The sections of the book are broken up between author's according to their area of expertise. There are eight different subject areas covered. The authors explain in a way that people who are unfamiliar with the subject become more familiar. I also think they did a good job at making this book a gateway to further research, by providing further reading suggestions and sources for all economic data used. This book also covers prior research about the economic impacts of demographic change. Even though this book is solely about Germany, it contains valuable economic explanation and policy recommendation.

*Proposed research question:*

In Japan where fertility rates are low, there has been an attempt to increase fertility rates by paying people for having children. While this may effect the short term incentives of having children, in the long run parent's are left with considerable costs. Do birth subsidies increase fertility rates?

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issue number) in Arabic numerals, inclusive of page numbers. Specify if volume is part of title (volume 2) or not (Vol. 2).

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