

## Aging and the Politics of Monetary Policy in Japan

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### **Abstract**

This paper explores how Japan's aging population impacts the politics of monetary policy. Previous research has found that the elderly have a variety of distinct policy preferences. Given that elderly voters also have higher voting rates, the rapid greying of the population could have significant effects on distributive struggles over economic policy across much of the developed world. In Japan, aging is advancing rapidly, and the central bank has engaged in massive monetary stimulus to induce inflation, which existing work suggests the elderly should oppose. Analyzing results from three surveys, this paper has three central findings: 1) the elderly do in fact tend to have higher inflation aversion, 2) the elderly, more than the non-elderly population, tend to oppose the central bank's "unconventional" monetary policies (specifically quantitative easing) intended to boost inflation, and 3) despite such policy preferences, the concentration of elderly in electoral districts has no significant effect on the preferences either of legislative incumbents or candidates.

## 1. Introduction

This paper examines the impact of aging societies on the politics of Japanese economic policy, specifically monetary policy. Populations across much of the developed world are aging, and the share of elderly is increasing. Currently, Japan is furthest along with this trend. Aging societies could portend important shifts in distributive politics over economic policy. Existing research has shown that the elderly as a group have distinct policy preferences. Thus, more than ever, there is need to understand how the growing number of elderly will reshape the politics of economic policy.

At the same time, the Bank of Japan (BOJ) and other major central banks, including the Bank of England (BOE), European Central Bank (ECB), and Federal Reserve Bank, have embarked on a bold policy course that existing work suggests should run counter to the economic interests of elderly. Particularly since the global financial crisis of 2008, these central banks have used massive stimulus to induce inflation. Despite this reorientation of monetary policy, there is very little work that has sought to understand the politics over newer “unconventional” monetary policy instruments, such as quantitative easing (QE).

This paper asks three key questions: 1) do the elderly in Japan in fact have different inflation preferences than the broader population; 2) do the elderly have policy preferences toward unconventional monetary policy (specifically QE) consistent with these preferences, and 3) does the concentration of elderly in legislative districts impact candidate and incumbent preferences.

To address these questions, the paper proceeds as follows. The next section provides a brief overview of aging trends in Japan in comparative perspective. A subsequent section then explains QE, the BOJ’s use of it, and its economic effects. The paper then lays out hypotheses for each research question starting with our expectations regarding elderly preferences toward QE. We then present empirical tests of these hypotheses and discuss our findings. Finally, the paper concludes with a discussion of the implications of the findings.

## 2. Ageing: Japan in comparative perspective

Understanding the effects of aging on politics matters for several reasons. First, a large and growing share of the population are elderly (65 and over). Currently, the elderly already account for 28% of the entire population in Japan. By the year 2030, the elderly are expected to account for 34% of the population. While Japan leads the world in aging, the share of elderly are growing across the developed world. Europe is aging steadily. The share of the elderly in Germany and Italy is not that far behind Japan. Both are at 22%, and that figure is expected to rise to about 30% for both countries by 2040. In South Korea, while the share of elderly is lower than in Europe or Japan at 14%, by 2040 is forecast to reach 32% of the population.<sup>1</sup> Figure 1 shows trends of the share of elderly in Japan and some other countries.

[Figure 1 here.]

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<sup>1</sup> Organisation for Economic Cooperation and Development (OECD), Historical Population Data and Projections (1950-2050), [https://stats.oecd.org/Index.aspx?DataSetCode=POP\\_PROJ](https://stats.oecd.org/Index.aspx?DataSetCode=POP_PROJ) (accessed on July 26, 2019).

Second, there is an extensive and growing body of work that suggests that the elderly have distinct policy preferences. This research has examined elderly preferences across a variety of issue areas including health care, pensions, education, taxation, and more (Busemeyer et al 2009, Fullerton and Dixon 2010, Sørensen 2013, De Mello et al 2016, Noble and McElwain 2016, Vlandas 2018).<sup>2</sup> Thus, as the share of elderly increases, one may expect aging to shift aggregate policy preferences, bringing about political changes, and potentially creating new distributive battles across cohorts. The effect of aging on politics may be amplified by the fact that the elderly tend to have higher rates of political participation (Goerres 2007). Voter turnout in Japanese national elections is indeed higher for the elderly (Figure 2).

[Figure 2 here.]

### **3. Unconventional monetary policy and the Bank of Japan**

Since the turn of the century, but particularly after the global financial crisis (GFC) of 2008, there has been a significant reorientation in monetary policy for some of the world's major central banks. During the 1970s and early 1980s, one of the key problems for central bankers was controlling inflation. After these periods of high inflation, inflation moderated significantly, giving way to the "Great Moderation," a long period of low inflation. Then, increasingly, deflation emerged as one of the key concerns of central bankers and other economic policymakers. Japan was the first major economy to slip into deflation in the late 1990s, but the threat of deflation then spread to other economies after the GFC. Since then some of the major central banks – including the Bank of Japan (BOJ), Bank of England (BOE), European Central Bank (ECB), and Federal Reserve Bank (FRB) – have taken extraordinary effort to increase inflation.

Central banks have done so to avoid the negative economic consequences of deflation. Deflation not only can erode demand and investment, it can also be difficult to escape. Declining prices can lead to a vicious cycle where weakening demand can lead to lower investment and employment, further weakening demand.<sup>3</sup> Also, under deflation, policymakers confront the zero lower bound problem. This problem refers to the fact that the key instrument of conventional monetary policy, the short-term interest rate, cannot be lowered below zero, which, in a situation where prices are declining, may not be adequate to stimulate the economy and pull it out of deflation.

To get around the zero lower bound, central banks have employed "unconventional policies." Under a policy of quantitative easing (QE), the focus of this study, a central bank increases the monetary base by creating new money with which it then purchases financial assets, in particular government bonds. In principle, QE should stimulate the economy through several channels including driving down the exchange rate, lowering longer term interest rates, and driving up asset prices, thus creating a wealth effect. QE has been used by Bank of Japan (BOJ), Bank of England (BOE), European Central Bank (ECB), and Federal Reserve Bank (FRB).

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<sup>2</sup> The literature on aging and policy is extensive, and this list of citations does not attempt to be complete.

<sup>3</sup> See Baig et al (2003) for more details on the negative effects of deflation.

In Japan, deflation has been a much more persistent problem than in other countries; Japan fell into deflation earlier and took a much longer time to escape it (Park et al 2018). The BOJ was the first central bank to use QE, employing it between 2001 and 2006. Deflation returned, and then an election at the end of 2012 brought to power Shinzo Abe, who had campaigned aggressively on overcoming deflation. Prime Minister Abe then appointed new leadership at the BOJ in early 2013. Under Governor Kuroda, the BOJ then launched a very large QE program, much larger than the earlier QE, and committed to raising the inflation rate to 2%. In addition to QE, the BOJ in 2016 introduced an additional unconventional policy – a negative short-term interest rate.

By some metrics, the BOJ's QE has achieved some of the intended results. Since 2013, the inflation rate has picked up and the economy seems to have escaped deflation. The inflation rate remains below the inflation target of 2% though, and the Abe government and BOJ have been widely criticized for this. Also, interest rates have declined. The yield on a 10-year Japanese government bond (JGB) is now about zero, and the short-interest is now negative (due to the negative interest rate policy). Kuo and Miyamoto (2016) find that QE have increased employment, and the labor market has improved with unemployment falling steadily. Studies have also found that QE has stimulated economic output (Hausman and Wieland 2014, Miyao and Okimoto 2017).

Given the intended and actual effects from QE, how would we expect elderly voters to view this monetary policy? The next section addresses this question.

#### **4. The elderly and monetary policy: three hypotheses.**

Drawing on the existing literature, we consider three channels by which aging might impact the politics of monetary policy, specifically QE, in Japan.

Hypothesis 1. The elderly tend to dislike inflation.

Hypothesis 2. The elderly will be more likely to oppose QE, which is a policy for raising inflation.

Hypothesis 3. In electoral districts with higher shares of elderly, it will be more likely for candidates and incumbents in that district to also oppose QE.

Starting with Hypothesis 1, analyses of the politics of macroeconomic policy begin with inflationary preferences. Inflation has distributional effects on different groups, which it has been argued is the basis for political contestation over economic policies. Scholars have suggested that inflation has different distributional effects on economic classes (Hibbs 1977), economic sectors (Posen), and savers vs. creditors (Blythe 2013, Kirshner 1998 and 2001). In this vein of work, scholars also have argued that inflation has differential distributional effects for different age cohorts (Bullard et al 2012, Vlandas 2018). Inflation benefits wage earners but lowers the real value of return on capital. Given that the elderly tend to rely on savings, *ceteris paribus*, the elderly tend to have higher aversion to inflation, which can erode their real return. By contrast, those of working age prioritize employment and wages and accordingly have lower inflation aversion. Several studies have found empirical support for this argument (Scheve 2004). Vlandas (2018) offers the most comprehensive evidence showing not only that the elderly tend to dislike inflation more than younger cohorts, but that they also punish incumbents when inflation is high.

Hypothesis 2 follows from the first hypothesis. If the elderly dislike inflation due to their higher aversion to inflation stemming from reduced returns to capital, *ceteris paribus*, one would expect the elderly to oppose QE. As discussed earlier, central banks, including the BOJ, have employed QE to raise inflation. The ruling party, the Liberal Democratic Party, publicly campaigned on this agenda, and the issue of the inflation rate has been highly politicized and extensively covered in the media Japan. As discussed above, the BOJ's QE policy has in fact lifted inflation rates although very moderately and below the inflation target of two percent. QE also has driven down interest rates. Very low interest rates combined with slightly higher inflation have pushed real interest rate much lower, thus imposing costs those reliant on income from savings. Given that the elderly are less likely to be employed, the improvement in the labor market is unlikely to offset the costs from lower returns to capital.

Hypothesis 3 is derived from the assumption that electoral accountability creates incentives for politicians to be responsive to voters. To get and stay elected, politicians take cues from public opinion. Thus, elected representatives align their preferences based on their constituencies (Miller and Stokes 1963, Stone 1982, Kestel et al 2010). An extensive body of research has provided support for the view finding that voter preferences influence policies (Gerber 1996 & 1999, Stimson et al 2002, Lax and Phillips 2012). From this perspective, we expect that candidate and incumbent views of QE will be influenced by the concentration of the elderly in their constituencies. Given that we expect the elderly to have more negative views of QE (Hypothesis 2), *ceteris paribus*, higher ratios of elderly in electoral districts should predict lower levels of candidate and incumbent support for QE.

## 5. Testing Hypothesis 1

Existing work has already found empirical support for the claim that the elderly tend to be more inflation averse than the non-elderly. In this section, we specifically set out to test this claim in the Japanese context. To do so, we use data from the International Social Survey Programme, Role of Government from 2016.<sup>4</sup>

To measure inflation sentiment, we use responses to the survey question that asks: "On the whole, do you think it should not be the government's responsibility to keep prices under control." There are five possible responses:

- Definitely should be
- Probably should be
- Probably should not be
- Definitely should not be
- Can't choose
- No answer

For respondents that selected "definitely should be" or "probably should be", we coded their responses as "1" to indicate inflation aversion. Those selecting "probably should not be"

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<sup>4</sup> ISSP Research Group (2018): *International Social Survey Programme: Role of Government V - ISSP 2016*. GESIS Data Archive, Cologne. ZA6900 Data file Version 2.0.0, [doi:10.4232/1.13052](https://doi.org/10.4232/1.13052)

or “definitely should not be” the inflation aversion variable was coded “0.” Observations with responses “can’t choose” or “no answer” were excluded from the analysis.

We use a dichotomous elderly variable coded as “1” for those sixty-five and over and “0” for those below that age. Of non-elderly respondents in Japan, about 79.8% are inflation averse, while 20.2% are not. By contrast, among only elderly respondents, 83.5% are inflation averse, while 16.5% are not.

To see if the difference in inflation preferences of the elderly and non-elderly are statistically significant, we used a logistic regression. For this model, we include controls for sex and level of education.<sup>5</sup> The results provide support for Hypothesis 1 that the elderly are in fact more inflation averse in Japan ( $p = .004$ ). Figure 3 shows the marginal effects of elderly status. For the elderly there is an 85.0% probability that they will be inflation averse. For the non-elderly, the probability is 78.8%.

[Figure 3 here.]

## 6. Testing Hypothesis 2

To test Hypothesis 2, we use a survey of voters conducted by University of Tokyo and Asahi Shimbun (The UTokyo-Asahi Survey (UTAS) conducted by Masaki Taniguchi of the Graduate Schools for Law and Politics, the University of Tokyo and the Asahi Shimbun n.d.). The research team randomly sampled 3,000 voters from all the prefectures in Japan. Two rounds of self-administered, paper-based mail survey were conducted from 2014 to 2016, one shortly after the 2014 lower house election held on December 14, 2014 and the other after the 2016 upper house election held on July 10, 2016. 1,813 responded in the first wave, while 1,376 did in the second wave. We focus on the second wave of survey conducted in 2016 because it contains a question about quantitative easing, while the first wave does not.

To measure attitude toward QE, we use the following question: “*Do you approve or disapprove monetary easing by the Bank of Japan?*” The respondent was asked to rate the degree of approval in a five-point ordinal scale ranging from “disapprove” to “approve” with the middle category indicating “neither approve nor disapprove”. We use OLS and examine whether one’s age is associated with the dependent variable. We use two measures of age. First, following Vlandas (2018), we use a binary variable which takes the value of 1 if the respondent is 60 years old or older and 0 otherwise. Second, we use an ordinal measure of age, following answer choices presented in the survey (1=20~29, 6=70 or older).

In addition, we include one’s responses to the following questions: (1) perception about the current economic condition; (2) whether the respondent voted in the 2016 upper house election; and (3) whether the respondent voted for the LDP in the PR tier of the 2016 upper house election.<sup>6</sup> We also control for individual-level characteristics, including gender and educational attainment. The results are reported in Table 1. We find that the coefficient on the

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<sup>5</sup> For sex, female is code as “1.” For education, dummies are used for these levels of education: upper secondary, post secondary, lower level tertiary, upper tertiary, and no answer.

<sup>6</sup> We include these variables because they seem to affect the dependent variable (e.g. conservative voters or LDP supporters may have tendency to support a policy promoted by its popular leader) and could be associated with the key independent variable (e.g. older voters could be more conservative and supportive of LDP).

elderly dummy is negative and statistically significant (Column 1). Age, measured on an ordinal scale, is also negatively associated with the dependent variable (Column 2).

[Table 1 here.]

One of the concerns about the above analyses is that although QE has received substantial attention in Japan, it remains unclear to what extent voters are familiar with the unconventional monetary policy. While the fraction of the respondents in the survey who selected “don’t know” was low (2.7%), we do not know the precise image voters held about QE. Similarly, while we find that the elderly indeed dislike QE, we did not directly examine why they dislike QE. In future studies, we may ask about what voters like or dislike about QE. We may also incorporate a conjoint experiment (Hainmueller, Hopkins, and Yamamoto 2014). We could present two hypothetical policies with different features with respect to monetary policy – with the content of each feature randomized by researchers – and ask the respondents which policy they prefer (Horiuchi, Smith, and Yamamoto 2018).

### **7. Testing Hypothesis 3**

Finally, do politicians from constituencies with greater share of the elderly express a lower level of support for QE? To examine this question, we use a pre-election survey of candidates in the 2017 lower house election conducted by University of Tokyo and Asahi Shimbun (The UTokyo-Asahi Survey (UTAS) conducted by Masaki Taniguchi of the Graduate Schools for Law and Politics, the University of Tokyo and the Asahi Shimbun n.d.). We use the 2017 survey instead of previous waves of survey because a question about QE is included in the 2017 survey but not in the previous rounds of survey.

We use the following question, which roughly matches the question we used in the voter survey: “*Do you agree or disagree with quantitative easing by the Bank of Japan, including the purchase of government bonds?*” The answer choices are presented in a five-point ordinal scale, with larger values indicating greater degrees of agreement.

The key independent variable is the percentage of the elderly (over 65) in the constituency. We also include the share of those who work in the manufacturing sector as an independent variable because QE presumably brought about favorable conditions for the manufacturing sector. For candidate-level control variables, we include the party from which the candidate is running, age, gender, and the number of consecutive terms elected to the lower house. The results are reported in Table 2. The share of the elderly does not have statistically significant effect on candidates’ support for QE (Column 1). The results hold even if we focus on those who were elected (Column 2). Thus, Hypothesis 3 is not consistent with our data.

[Table 2 here.]

### **8. Conclusion**

We find that elderly voters dislike inflation and are less supportive of QE, which is consistent with our expectation and the findings of Vlandas (2018). We also hypothesized that if elderly voters dislike inflation and if the share of the elderly has increased over time, politicians today are not supportive of policies that may bring about inflation. Since we could not compile data on politicians’ publicly stated preferences over time, we used cross-sectional data to see whether those from electoral districts where the percentage of the elderly is

greater are less supportive of QE. We find that the share of the elderly was not associated with the candidate's support for QE.

How do we interpret the findings that the elderly are less supportive of QE but the share of the elderly in the constituency is not associated with candidate's support for the policy? We offer a few speculations. It is possible that responses to surveys are not the most suitable data to measure how candidates present their positions to the electorate. Their publicly stated positions could be more visible in other means such as speeches, TV appearances, and candidate manifestos (Catalinac 2015). Another possibility would be that aging of the Japanese voters might have affected party platforms, which may constrain what candidates publicly say about certain issues. Yet another possibility is that voters evaluate the incumbent performance based primarily on the economic condition (Fiorina 1981; Key 1966; Kinder and Kiewiet 1979). If so, rank-and-file members of the ruling parties would continue to support a popular leader and are willing to publicly announce views similar to that of the party/party leader even if party's positions with respect to monetary policy deviate from voters' preferences.

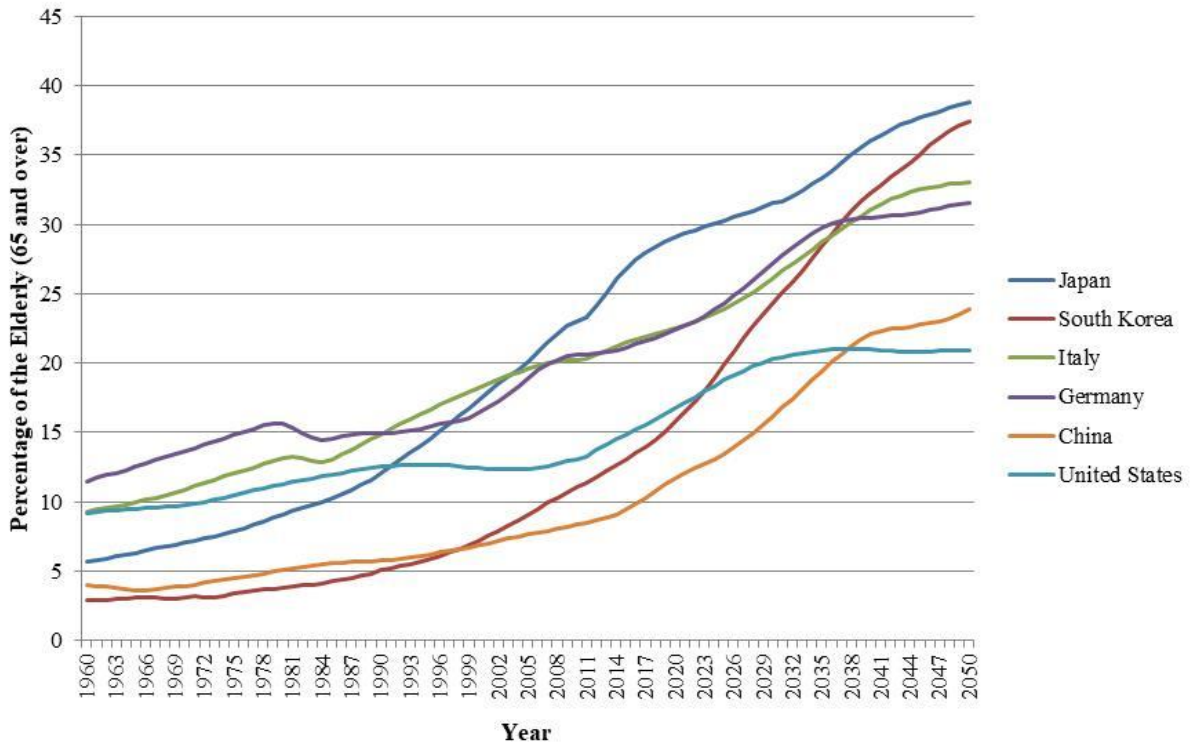


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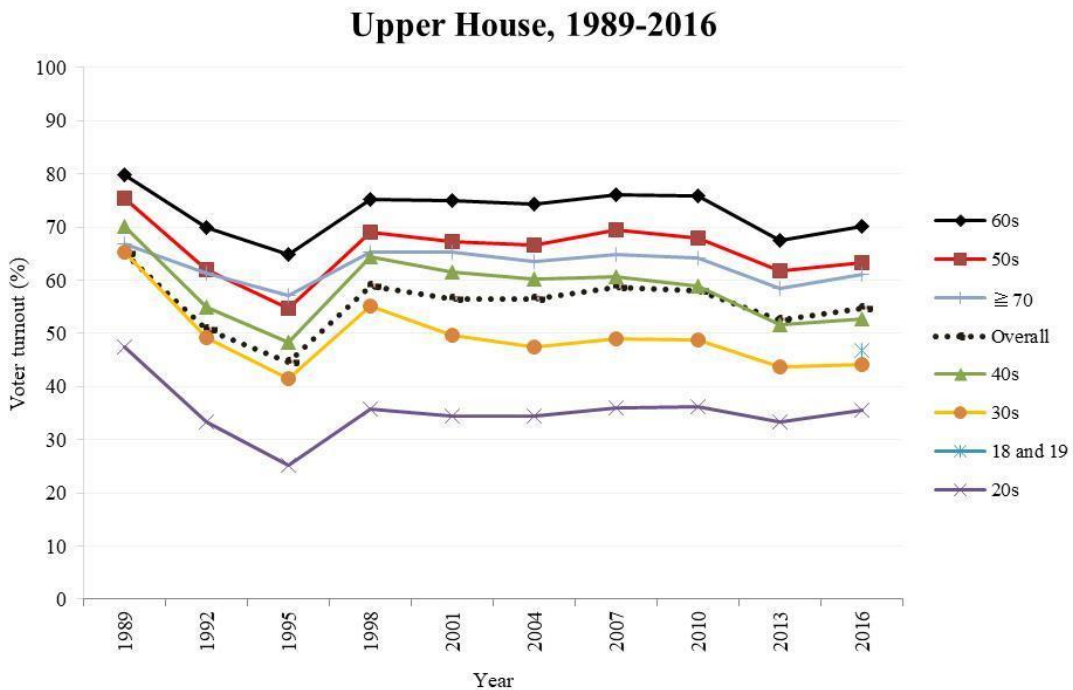
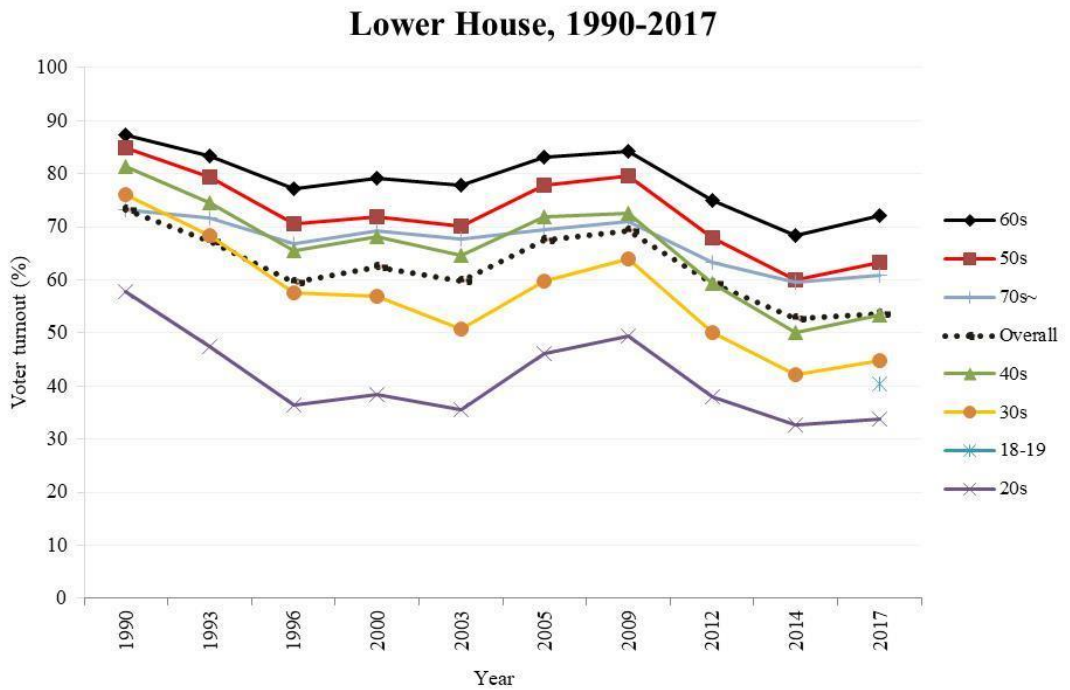
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Figure 1: Aging Trend



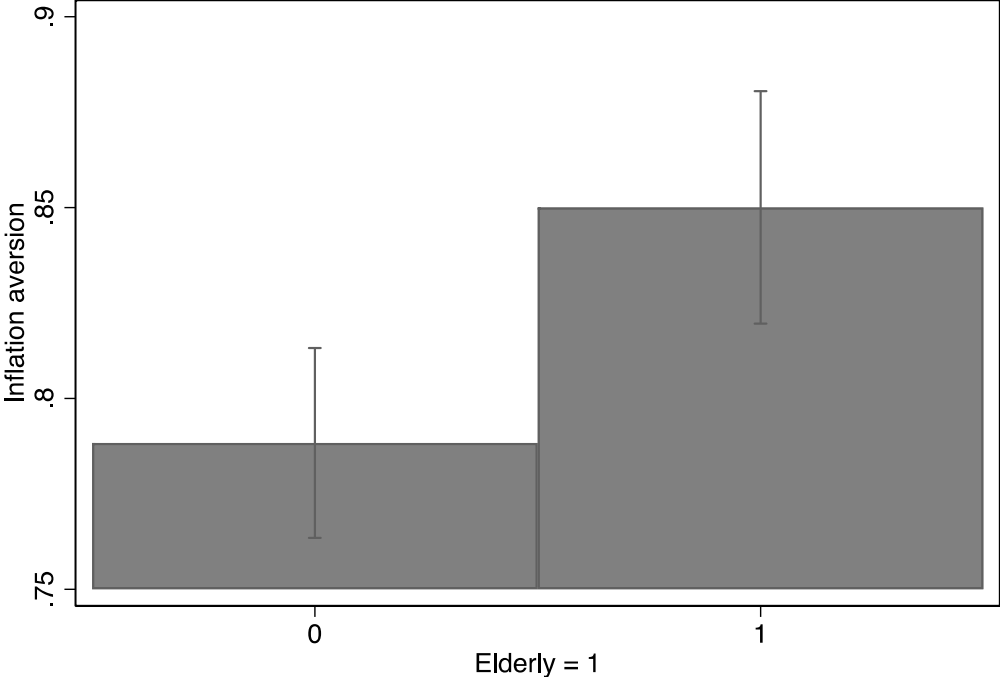
Source: Organisation for Economic Cooperation and Development (OECD), Historical Population Data and Projections (1950-2050), [https://stats.oecd.org/Index.aspx?DataSetCode=POP\\_PROJ](https://stats.oecd.org/Index.aspx?DataSetCode=POP_PROJ) (accessed on August 10, 2019).

Figure 2: Voter Turnout by Age Group in Japanese National Elections



Source: The Association for Promoting Fair Elections. “Voter Turnout by Age Groups over Time”  
 Note: Data is from a sample of voting districts (*tohyoku*). Voting age was lowered from 20 to 18, starting from the 2016 upper house election.

Figure 3: Marginal effects of elderly status on inflation aversion



Source: ISSP, Role of Government, 2016

**Table 1: Voter's Age and Support for QE**

	Dependent variable: Support for QE (5-point ordinal scale)	
	1	2
Elderly (60 or older)	-0.153*** (0.056)	
Age (6-point ordinal; 1-20s, 6-70s)		-0.0518*** (0.018)
Perception of the current economic condition (1-very bad, 5-very good)	0.318*** (0.029)	0.320*** (0.029)
Voted in the 2016 Upper House (0,1)	-0.279*** (0.066)	-0.275*** (0.066)
Voted for the LDP in the 2016 Upper House (0, 1)	0.371*** (0.061)	0.367*** (0.061)
Other control variables (gender, educational attainment)	Yes	Yes
Constant	2.406*** (0.114)	2.544*** (0.136)
Observations	1,315	1,315
R-squared	0.135	0.135

Note: Standard errors are reported in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10. For gender, we use a binary variable equal to one if the respondent is female; for educational attainment, we use binary variables indicating each category of educational attainment.

**Table 2: Share of the Elderly in the Lower House Single-Member Constituency and Candidate's Support for QE**

	Dependent variable: Support for QE (5-point ordinal scale)	
	1	2
	All respondents	Candidates elected in single-member constituency
<b>Constituency-level characteristics</b>		
65 years old or older (%)	0.001 (0.008)	0.001 (0.015)
Employed in manufacturing (%)	0.001 (0.004)	0.010 (0.008)
<b>Candidate-level characteristics</b>		
Political party (Base = LDP)		
Komeito	0.009 (0.270)	-0.157 (0.291)
JCP	-2.779*** (0.089)	-2.491*** (0.812)
SDP	-2.158*** (0.197)	-1.528* (0.819)
Hope	-1.543*** (0.080)	-1.582*** (0.198)
CDP	-1.790*** (0.115)	-1.912*** (0.214)
Ishin	-0.817*** (0.130)	-1.138** (0.468)
Other	-0.224 (0.142)	
Independent	-1.449*** (0.110)	-1.768*** (0.170)
Age	-0.00607** (0.003)	-0.002 (0.006)
Male (0, 1)	-0.009 (0.072)	0.007 (0.182)
Terms	-0.0383*** (0.013)	-0.0374* (0.022)
Constant	4.149*** (0.235)	3.779*** (0.476)
Observations	919	281
R-squared	0.625	0.487

Note: Standard errors are reported in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10.