

Support for Peaceable Franchise Extension:  
Evidence from Japanese Attitude to Demerit Voting

August 2012

Rhema Vaithianathan<sup>1</sup>, Reiko Aoki<sup>2</sup> and Erwan Sbai<sup>3</sup>

Very Preliminary

---

<sup>1</sup> Department of Economics, University of Auckland  
<sup>2</sup> Institute of Economic Research, Hitotsubashi University  
<sup>3</sup> Department of Economics, University of Auckland

## ***Introduction***

Along with many Western Democracies, Japan has experienced below replacement fertility (Feyrer, Sacerdote et al. 2008). Cross-country comparisons show that low fertility is correlated to low levels of Government support for children ((D'Addio and d'Ercole 2005; Feyrer, Sacerdote et al. 2008) with particularly strong effects on child support policies. In a comparison of pro-family transfers across 22 countries<sup>4</sup>, for the 1989 – 99 decade, Japan's rate over this period was found to be the second to lowest (Aoki and Vaithianathan 2010).

Paul Demeny (somewhat peripherally) argued that allowing parents to cast proxy votes on behalf of their children would create better support for families and favour pro-natalist policies (Demeny 1986). His idea has come to be referred to as *Demeny voting*, and has been advanced as a potential option for Japan (Sanderson and Scherbov 2007; Aoki and Vaithianathan 2010).

In Japan where the voting age is 20, such a scheme would be expected to have important ramifications. Sanderson and Scherbov calculate that if Demeny voting were allowed in Japan, the percentage of voters who were at pension age by 2050 would drop from 46.4% to 39.8%. Moreover, if the voting reform successfully increased pension age to reflect the younger median voter, then with Demeny voting and a lifting of pension age the size of the pensioner voting-bloc in Japan would fall to 28.9% by 2050.

These authors are advocating for Demeny voting in the spirit of “peaceable franchise extensions” (Lizzeri and Persico 2004). Lizzeri and Persico have argued that more peaceful extension of suffrage such as in the case of nineteenth century

---

<sup>4</sup> The “pro family transfer” is defined as the average additional disposable income (after taxes and cash transfers) of a one-earner-two-parent-two-child family as compared to the disposable income of a childless single earner (expressed as a percentage of the disposable income of the childless single earner.)

Britain cannot be explained as a response to a threat of violence<sup>5</sup> (Lizzeri and Persico 2004). Instead, peaceable extension of franchise allows political parties to better internalize the voting benefit of providing public goods. When voters are disenfranchised, there is under-provision of public goods (since the disenfranchised cannot be excluded from public goods but cannot express their political preferences for them the parties do not take their preferences into account). However, once franchise is extended, parties switch to a platform of offering more public goods, which makes some elites who were effectively disenfranchised because of their ideological position better off. If there are enough of these elites, then selective enfranchisement from like-minded non-elites could occur.

While these theories have drawn on historical evidence about franchise extension, there is no direct evidence on voters' attitude to franchise extension, or whether the elites are willing to extend franchise in order to advance a policy platform that they favour.

The theoretical models of peaceable extension of franchise suggest that the elites weigh up their own loss of franchise against the policies that are likely to be more favoured if franchise is extended. If they favour the sort of policies that would be advanced by franchise extension, then they might be willing to sacrifice their own loss of political power in exchange for policies that they like. The objective of this paper is to directly test whether this "trade-off" exists by analyzing a sample of Japanese voters who were asked about their attitude to *Demerit Voting*.

---

<sup>5</sup> An alternative argument is that the extension of franchise occurs because the elites fear a violent over-throw by the disenfranchised (Conley, 2001 #22, Acemoglu and Robinson 2000). In Acemoglu and Robinson, the disenfranchised poor can be placated with temporary redistributions. However, because the franchised cannot commit to this redistribution in the long term, under some circumstance it will not be sufficient to prevent revolution. Since revolution destroys capital, the elites may prefer to extend franchise than to run the real risk of revolution.

The present paper uses a survey on voter attitude to Demeny voting to explore the motivation of voters to support or oppose an extension of franchise.

The first question is whether people whose franchise is going to be curtailed as a result of franchise extension are more likely to be oppositional. Demeny Voting is a fairly mild form of franchise extension in that there are no new voters. Instead voters with children will receive extra votes and conversely voters without children will receive fewer votes. One could hypothesize that attitudes of voters to such a subtle rebalancing of voting power would depend on ideology rather than their own voting power.

Attempting to disentangle the effect of ideology and voting power on support for a franchise extension is confounded by the fact that there are unobserved characteristics that might differ between people who have children and those who do not.

We implement a regression discontinuity design to isolate the causal effect of the ineligibility for a proxy vote on the opposition to Demeny voting. We find that the size of the effect is surprisingly large – that the loss in voting power doubles the opposition to Demeny voting (from 30% to 60% opposition).

The second question we ask is whether support for the franchise extension is greater for those who favour pro-child policies.

We find that those voters whose voting power will be reduced by Demeny voting, but who identify policies that are favoured by Demeny voting are more likely to support Demeny Voting. This suggests that minority elite voters whose policy priorities might not be served by the current regime, might favour an extension of suffrage.

The paper is structured as follows. In Section 2, we outline the survey methodology and the sampling frame. In Section 3 we outline the major results and in Section 4 we conclude with a discussion of the limitations, implications and future research.



## ***Methodology***

The approach we take is a quasi-experimental one which exploits the fact that there is a discontinuity in enfranchisement depending on the age of the youngest child. A respondent whose youngest child has not achieved their 20<sup>th</sup> birthday receives 1 extra vote under DV, whereas a respondent whose youngest child is 20 receives no extra vote. This provides us with the opportunity to take a regression discontinuity approach and helps isolate a “casual” effect on opposition to franchise extension of voter’s own enfranchisement.

To test whether age 20 is the only break in this data series we apply a procedure corresponding to the QLR (Quandt likelihood ratio) test in Time Series which is considered a reliable way to test for an unknown structural break.

The expected value of Oppose (O) will depend on Minimum Age of the children and will allow for a break at age  $T$ :

$$E(\text{Oppose}) = \beta_0 + \beta_1 \text{MinimumAge} + \beta_2 \text{AgeDummy}T \quad (1)$$

Where  $\text{AgeDummy}T = 1$  if  $\text{MinimumAge} \geq T$ , 0 otherwise.

If the break date  $T$  is known, then the problem of testing the null hypothesis of no break (that is,  $\beta_2 = 0$ ) against the alternative of a nonzero break ( $\beta_2 \neq 0$ ) is equivalent to testing the hypothesis that the coefficient  $\beta_2$  is zero in the regression version of (1),

This test can be computed using a conventional  $t$ -statistic by ordinary least squares; calling this  $t(T)$ , the hypothesis of no break is rejected at the 5% significance level if  $|t(T)| > 1.96$ .

In practice,  $T$  is typically unknown so the test in the preceding paragraph cannot be implemented. However, the  $t$ -statistic can be computed for all possible values of  $T$  in some range. If the largest value of the absolute  $t$ -statistic exceeds some critical value, then the hypothesis of no break can be rejected. The difficulty with this method is that the critical value is not 1.96. The distribution has, however, been calculated by Andrews (Andrews (1993)). We therefore employ this critical value for all possible age breaks.

In order to estimate the effect of a pro-child policy position on support for DV, we undertake the following regression :

$$ProChild = \beta_3 + \beta_4 AgeDummyT^{20} \quad (2)$$

## Results

Figure 1 plots the opposition to DV by age of the youngest child (and a polynomial fitted to the data). The data has been plotted with a break at age 20 which corresponds to the point at which the respondent receives an extra vote as a result of the DV. While only illustrative, the figure suggests that the opposition to DV is lower for people who receive an extra vote. Moreover, this opposition appears to increase discretely at 20 – suggesting that respondents do consider their own voting status when responding to the question.

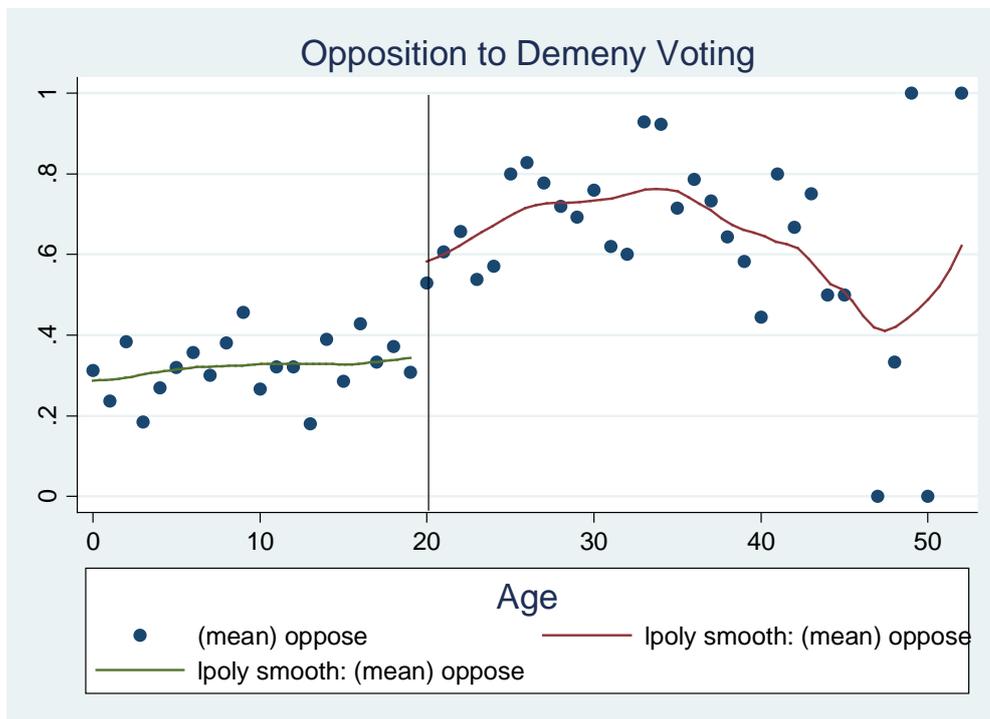


Figure 1: Opposition to Demeny Voting and age of youngest child

We find that the highest t-statistic that rejects the null corresponds indeed to the Age of 20. Table 1 provides the five highest t-stats with the corresponding ages.

**Table 1: Age Break Coefficients**

t-stats	6.12	5.97	5.42	5.00	4.58
Age	20	21	22	19	24

Moreover, AgeDummy<sup>20</sup> is also the age with the highest estimated effect for the Minimum Age dummy variable. Table 2 provides the regression for AgeDummy<sup>20</sup>:

**Table 2: Regression of Oppose vs MinimumAge**

	Estimated coefficients
Minimum Age of Children	0.0031 (0 .0002)
AgeDummy <sup>20</sup>	0.300*** (0.0491)
Constant	0.292*** (0.0222)
Observations	1545

Note: Standard errors in parentheses. \*\*\*, \*\* and \* denote significant at 1%, 5% and 10% respectively.

From these results we can estimate an expected value for Oppose of 0.292 before Age 20 and 0.592 after. This difference appear to be significant at better than 0.1% significance level.

## **Discussion**

Our paper provides direct survey evidence that that people have two reasons to support peaceable franchise extensions : (1) their own political power; and (2) the impact of franchise extension on their favoured policy.

Using survey data and a quasi-experimental design, we found evidence for both types of motivations. The objective of this paper is to provide survey evidence that people's attitude to franchise expansion depends on whether they will become enfranchised or not as a result of the change in voting. Our results suggests that people value extra votes, preferring a system which delivers them more votes.

## **References**

- Aoki, R. and R. Vaithianathan (2010). "Political Economy of Low Fertility Intergenerational Income Distribution (In Japanese) " The Economic Review 61(2): 117-125.*
- D'Addio, A. C. and M. M. d'Ercole (2005). "Trends and determinants of fertility rates: The role of policies." OECD Social, Employment and Migration Working Papers.*
- Demeny, P. (1986). "Pronatalist policies in low-fertility countries: Patterns, performance, and prospects." Population and Development Review 12: 335-358.*
- Feyrer, J., B. Sacerdote, et al. (2008). "Will the stork return to Europe and Japan? Understanding fertility within developed nations." The Journal of Economic Perspectives 22(3): 3-2A.*
- Lizzeri, A. and N. Persico (2004). "Why did the Elites Extend the Suffrage? Democracy and the Scope of Government, with an Application to Britain's "Age of Reform". " The Quarterly Journal of Economics 119(2): 707-765.*

*Sanderson, W. C. and S. Scherbov (2007). "A near electoral majority of pensioners: Prospects and policies." Population and Development Review 33(3): 543-+.*

## Appendix

Table: Survey age and sex distribution and Japanese population estimates

Age	Survey data			Population Census (2011 estimates from Japan Stats, over 20 year)		
	Males	Females	Total	Males	Females	Total
20 – 24	2.49	3.75	3.1 1	6.4%	5.6%	6.0%
25 – 29	4.21	5.52		7.2%	6.4%	6.8%
30 – 34	8.62	10.06	9.33	8.1%	7.3%	7.7%
35 – 39	16.67	18.05	17.35	9.8%	8.8%	9.2%
40 - 44	14.94	19.43	17.15	9.2%	8.3%	8.7%
45 - 49	13.79	15.19	14.48	7.9%	7.3%	7.6%
0 - 54	11.4	9.76	10.59	7.6%	7.0%	7.3%
55 - 59	11.02	6.8	8.94	8.3%	7.8%	8.0%
60 - 64	9.87	6.31	8.11	10.4%	10.0%	10.2%
5 - 69	3.45	3.45	3.45	7.5%	7.6%	7.5%
70 - 74	2.2	1.08	1.65	6.6%	7.1%	6.9%
75 - 79	1.15	0.2	0.68	5.3%	6.4%	5.9%
80 - 84	0.19	0.39	0.29	3.5%	5.0%	4.3%
85 +	0	0	0	2.3%	5.4%	3.9%