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周　梦媛

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Institute for Economic Studies, Keio University
2-15-45 Mita, Minato-ku, Tokyo 108-8345, Japan
ies-office@adst.keio.ac.jp
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【要旨】

本研究の目的は、日米の親の間での，利他的な遺産動機の違いが生まれる要因を明らかにすることである。分析の結果、他の社会経済要因を統制した場合、日米間で重大な差が観測され、アメリカの親は日本の親よりも利他的な遺産動機を有することが示された。また、性別、家計収入、年齢、信仰が遺産動機に重大な影響を与えていた。Blinder-Oaxaca分解の結果を見ると、95%が係数の差で説明できる。

周　梦媛
慶應義塾大学大学院　経済学研究科
〒108-8345
東京都港区三田2-15-45
campanula.syuu@keio.jp

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Why are American Parents More Altruistic Than Japanese Parents?[1]

Mengyuan Zhou[2]

Graduate School of Economics, Keio University

Abstract

This paper aims at examining what are causing differences in altruistic bequest motive between Japanese and American parents. The evidence shows that the Americans are more altruistic than Japanese, and there is a significant difference between these two countries when all the other socio-economic variables controlled. Gender, household income, age and faith in religion have a significant impact on respondents' bequest motive. The Blinder-Oaxaca decomposition shows that more than 95% of the difference is explained by the differences in coefficients instead of the endowment effect.

Keywords: Altruism, Self-interest, Bequest Motive

JEL classification: D12, D64, P52

[1] This research uses micro data from the Preference Parameters Study of Osaka University's 21st Century COE Program 'Behavioral Macrodynamics Based on Surveys and Experiments' and its Global COE project 'Human Behavior and Socioeconomic Dynamics'. I acknowledge the program/project's contributors: Yoshiro Tsutsui, Fumio Ohtake, and Shinsuke Ikeda.

[2] campanula.syuu@keio.jp

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1. Introduction

Under different household behavior models, individuals will have divergent motive for leaving inheritance. Horioka et al. (2000) and Horioka (2002, 2014) summarize three household behavior models, which are the life cycle model, the altruism model and the dynasty model. In the life cycle model, also called self-interest model, individuals usually have no plan to leave an inheritance or use bequest to exchange financial assistance or nursing care provided by their children during the old age. In other words, bequeathing money to children is just a kind of payment for service. In the altruism model and dynasty building model, individuals will have a positive bequest leaving motive towards their children. Additionally, in the dynasty model, individuals will be inspired by keeping the family name alive, which means they will leave an inheritance to the children who will carry on family lineage or family business.

Do Japanese have altruistic bequest leaving motive? Horioka et al. (2000) and Horioka (2009) argue that Japanese leave insubstantial and requited bequest plan. Horioka's (2014) concludes that Americans and Indians more altruistic than Japanese and Chinese.

This paper aims at examining what are causing these differences in altruism between Japanese and Americans. For this purpose, it first investigates which and how socio-economic variables such as gender, age, and household income are affecting bequest motives in these two countries. Then it investigates how much differences in the endowments of these variables and differences in coefficients contribute to the international differences in altruism, using the Blinder-Oaxaca decomposition.

This empirical research investigates survey data collected from Preference Parameters Study of Osaka University. Linear Probability regression and Probit regression are applied in this study. This study only focuses on those who have at least one children in the family. The evidence shows that American are more altruistic than Japanese, and there is a significant difference between these two countries even with all the other socio-economic variables controlled. The Blinder-Oaxaca decomposition shows that more than 95% of the difference is explained by the differences in coefficients instead of the

endowment effect. Gender, household income, age and faith in religion have a significant impact on respondents' bequest motive.

2. The Survey and Household Behavior

Preference Parameters Study (PPS) of Osaka University is used in this study. The samples for the PPS data are randomly selected. The PPS data for Japan and the US have been conducted since 2003 and 2005, respectively. The latest fresh samples are selected and newly added in wave 2009. This annually survey contains question about bequest motive, "How do you feel about leaving an inheritance to your children". To discuss the framework for the regression and get a well understanding of Horioka's result, wave 2012 for Japan and the US, the same datasets Horioka (2014) used, are fully applied in this study.

This study fully implements Horioka's (2014) classification for the 3 models of household behavior. For those who leave an inheritance no matter what are regarded as an unconditional altruistic bequest motive, and those who choose "I do not plan to leave an inheritance to my child(ren) under any circumstances because doing so may reduce their will to work" could be regarded as altruistic bequest motive as well, because this is a kind of tough love for their children. Those who leave an inheritance to exchange for nursing care and financial assistance are considered as conditional bequest motive. Along with those who have no bequest motive because they want to use up their own wealth and those who are going to leave whatever is left over, those conditional bequest motives are treated as self-interested household behavior. Those who are going to leave an inheritance to the child(ren) who will carry on the family business are consistent with dynasty building bequest motive. For those who have positive will to leave an inheritance but have no capacity to do so are not classified in the household behavior models.

This study employs the 2012 datasets and criteria determined by Horioka (2014). Since this study will focus on bequest motive towards children, the sample requires the respondents have at least one child in the family. Those who don't have children will be eliminated. Furthermore, this study assumes that the respondents actually have written a will. For the reason that the analysis of bequest division plan requires at least two children

in the family which might cause endogenous problem, this study only investigates bequest motive.

Here are simple descriptions about the Japan and the U.S. 2012 datasets. The average ages for those who have at least one child are 55.4 and 58.8 years old in Japan and the U.S., respectively. The average ages for females who have at least one child are 54.6 and 58.9 years old, for males are 56.5 and 58.7 years old. The average ages for those who are childless are 43.2 (Japan) and 45.0 years old (the U.S.). The average number of children for those who have at least one child are 2.17 for Japan and 2.59 for the U.S. The life expectancies at the age of 55 are 33.63 and 28.02 years for Japanese females and males, respectively.[3] The life expectancies at the age of 58 are 27.1 and 23.2 years for American females and males of all races and origins.[4]

3. Results

Table 1 shows the proportion of bequest motive for each choice for those who have at least one child in the family. The most cited choices are "I do not plan to make special efforts to leave an inheritance to my child(ren) but will leave whatever is left over." and "I plan to leave an inheritance to my child(ren) no matter what." for Japanese and Americans, respectively. Only 26.5% Japanese will leave an inheritance to their children anyway, and almost half of Japanese will just leave whatever is left over. On the contrary, 60.96% Americans will leave an inheritance in any case, and 24.65% do not plan to make special efforts to leave an inheritance.[5] In summary, 53.64% Japanese have self-

[3] "Abridged Life Tables for Japan 2016", Ministry of Health, Labour and Welfare. Retrieved September 13, 2017, from http://www.mhlw.go.jp/english/database/db-hw/lifetb16/index.html

[4] "Life expectancy by age, race, and sex, 1900-2012", Centers for Disease Control and Prevention. Retrieved September 13, 2017, from https://www.cdc.gov/nchs/fastats/life-expectancy.htm

[5] There is a statement about "I want to bequeath as much of my inheritance as possible to my spouse", and the answer scale ranges from 1 "Particularly true for me" to 5 "Doesn't hold true at all for me". In the wave 2012, for those who have at least one child in the family, 25.90 % of Japanese choose 1 or 2, and 31.86% choose 4 or 5. On the contrary, there are 44.06% of Americans choose 1 or 2, and 34.86% choose 4 or 5. For those who have at least one child in the family and do not plan to make special efforts to leave an inheritance to the children, 18.44% Japanese agree or strongly agree with the statement, and 37.53% disagree or strongly disagree. While 41.60% Americans agree or strongly agree, and 32.94% disagree or strongly disagree. Therefore, the reason why more Japanese parents do not plan to make special efforts to leave an inheritance to the children than American ones is not because that they are going to leave the inheritance to their spouse as much as possible.

interested bequest motive, while 61.21% Americans have altruistic one, which implies that Americans are more altruistic than Japanese.

Insert Table 1 Here

For both Japanese and Americans, less than 1% parents are going to leave the inheritance to the child who will carry on the family business.[6] As Horioka et al. (2000) described, individuals would be willing to leave bequest under dynasty model and altruism model, regardless of the intention and division plan. And leaving inheritance to the children who carry on family business or to the eldest children in the family could also be considered as another form of carrying on one's life. Since dynasty model is less important in these two countries and it has similar outcome as altruism model that parents will leave an inheritance, the dynasty building motive was regarded as altruistic household behavior in this paper.

Is the difference in bequest motive for these two countries significant? In Table 2, only country dummy is controlled, and it significantly shows that Japanese are more self-interested towards bequest motive than the Americans.

Insert Table 2 Here

To unbox the result in detail, female dummy, log of household income in 2011[7], faith, the respondent's age group, the youngest child's age group, educational attainment dummies and interactions are controlled in the Table 3. Table 3 shows that Japanese are less altruistic than the Americans when all the other variables controlled. Rich Americans are less altruistic, while younger parents are more altruistic. Comparing to the Americans, Japanese females and younger parents are less altruistic. On the other hand, rich and pious Japanese are more altruistic than the Americans.

Insert Table 3 Here

To investigate the outcome differences between Japan and the US, Table 4A and Table 4B present the results of Blinder-Oaxaca decomposition based on linear probability

[6] Moriguchi (2010) and Mehrotra et al. (2013) disclose that adult adoption is more common and predominant in Japan. The unrelated child adoption per 1,000 births in Japan is much lower than that of the U.S., and about 98% adoption in Japan is adopting adults. Mehrotra et al. (2013) suggests that the adult adoptions are motivated by succession plan.

[7] Annual household income in 2011 was reported in 10 categories. Please refer to Appendix.

regression. Table 4A unveils that the 96.5% of difference between the US and Japan was created by the coefficient, which means under the same demographic condition, Americans are more altruistic than the Japanese. Column 2 of Table 4B demonstrates that American females are more altruistic than Japanese females. And for those parents who are under 30 years old and the ones whose the youngest child is around 20's, American parents are more altruistic. Conversely, wealthy and religious Americans seem to be less altruistic than Japanese parents. This is consistent with what we find in Table 3.

Insert Table 4A Here

Insert Table 4B Here

4. Robustness Check

Table 5 reports Probit regression results for Japan and the US, respectively. Japanese females are less altruistic. Conversely, rich Japanese people will be more altruistic, but Americans will not. Japanese who have strong religious faith will have altruistic bequest motive towards their children. In addition, elderly Japanese parents will be less altruistic, while younger American parents will be more altruistic. With the parent's age controlled, altruistic bequest motive reveals a U-shaped curve towards the age of the youngest child in the family. Especially when the youngest child is in his/her 20's, Japanese parents show powerful significant self-interested bequest motive. In summary, Probit regression result demonstrates what we find in previous section is robust.[8]

Insert Table 5 Here

5. Conclusion and Discussion

This study provides the evidence that American parents are significantly more altruistic towards bequest motive than Japanese ones. This significant difference in bequest motive is mainly explained by the coefficients. Japanese females are significantly less altruistic than Japanese males and Americans females, while rich Japanese parents are more altruistic than rich American ones. Younger parents are more altruistic than older ones.

[8] All the results are robust when the number of children in the family is controlled. Besides, the number of children in the family shows negative significance in the Japan sample, but insignificance in the U.S. one.

With the age of parents controlled, those who have younger children in the family will be more altruistic.

Why does the age matter? Construal Level Theory (Fujita et al., 2006; Trope, Liberman & Wakslak, 2007; Trope & Liberman, 2010) gives us a possible explanation that when leaving inheritance is a distant future event, younger parents are more likely to have an ideal and altruistic plan than elder parents.

It is surprising that Japanese females are more self-interested towards bequest motive than Japanese males. Research finds that females donate more in charitable giving (Leslie et al., 2013; Mesch et al., 2011; Willer et al., 2015). Duflo (2003) finds that old-age pension received by women has a significant effect on girls' height in South Africa, but the pension received by men doesn't. All those findings imply that females are more altruistic than males. However, Andreoni and Vesterlund's (2001) results suggest that women's altruism is positively related with the relative price of giving, which means when the altruism is expensive, women turn to be more altruistic, while men will be kinder when the relative price is lower. Hence it is possible that Japanese women perceive inheritance to be inexpensive. Further investigation is beyond the scope of this paper, but the author has started to explore comparisons of altruism between Japanese men and women.

Horioka (2014) suggests that the finding that Japanese are more selfish and the Americans are more altruistic imply that the household saving in Japan will be reduced but not in the United States by the introduction of pay-as-you-go public old-age pension. And the public pension will raise the living standards of Japanese during retirement but the Americans will not, because the Americans will bequeath all the pension benefits to their children. If it was true, rich American parents would be more altruistic to leave bequest for their children to compensate for the taxes, because children from rich family are more likely to earn more and pay more taxes. However, the finding in Table 5 that rich Japanese are more altruistic but rich Americans are not in this study does not fully support Horioka's suggestion. Further research on this topic might give us a more detailed explanation and implication.

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Table 1: How do you feel about leaving an inheritance to your children?

	Japan		US	
Horioka (2014) Categories	Freq.	%	Freq.	%
Altruism	*1,042*	*27.56*	*1,510*	*61.21*
I plan to leave an inheritance to my child(ren) no matter what.	1,002	26.50	1,504	60.96
I do not plan to leave an inheritance to my child(ren) under any circumstances because doing so may reduce their will to work.	40	1.06	6	0.24
Self-interest	*2028*	*53.64*	*660*	*26.75*
I plan to leave an inheritance to my child(ren) if they provide care (including nursing care) during old age.	107	2.83	29	1.18
I plan to leave an inheritance to my child(ren) only if they provide financial assistance during old age.	21	0.56	6	0.24
I do not plan to make special efforts to leave an inheritance to my child(ren) but will leave whatever is left over.	1,874	49.56	608	24.65
I do not plan to leave an inheritance to my child(ren) under any circumstances because I want to use my wealth myself.	26	0.69	17	0.69
Dynasty building	*34*	*0.90*	*7*	*0.28*
I plan to leave an inheritance to my child(ren) only if they carry on the family business.	34	0.90	7	0.28
Excluded in Horioka (2014)	*677*	*17.91*	*290*	*11.76*
I want to leave an inheritance to my child(ren) but I won't because I don't have the financial capacity to do so.	677	17.91	290	11.76
Number of observations	3,781		2,467	

Notes:
a. Excluding those who don't have children in the family.
b. The number of children in the family was aggregated by the number of son and the number of daughter.

Table 2: The American are More Altruistic than the Japanese (Linear Probability Regression)

	Bequest Motive
Country Dummy (US=0, Japan=1)	-0.3502***
	(0.01)
Constant	0.6968***
	(0.01)
Observations	5281
Adjusted R^2	0.119

* p < 0.1, ** p < 0.05, *** p < 0.01
Standard errors in parentheses

Notes:
a. 1=Altruism, 0=Self-interest
b. Excluding those who don't have children in the family.
c. The number of children in the family was aggregated by the number of son and the number of daughter.
d. Dynasty building is assigned to altruistic bequest motive in the regression.

Table 3: Who are More Altruistic Towards Bequest Motive? (Linear Probability Regression)

	Bequest Motive
Country Dummy (US=0, Japan=1)	-0.3587***
	(0.08)
Female Dummy	0.0367
	(0.03)
Log of Household Income	-0.0606**
	(0.02)
Strong Faith	0.0001
	(0.01)
Age Group (omitted: 30-60 y/o)	
Less than 30 y/o	0.2274**
	(0.09)
Above 60 y/o	-0.0219
	(0.04)
The Youngest Child's Age (omitted: 0-9 y/o)	
10's	0.0131
	(0.05)
20's	-0.0171
	(0.05)
30's	-0.0002
	(0.06)
Above 40 y/o	0.0032
	(0.06)
Education (omitted: College or above)	
Not reach high school	-0.0468
	(0.07)
High school	-0.0425
	(0.03)

Continued	
Interactions	
JP × Female	-0.1417***
	(0.03)
JP × Log of Household Income	0.1017***
	(0.03)
JP × Strong Faith	0.0228*
	(0.01)
JP × Less than 30 y/o	-0.3232**
	(0.16)
JP × Above 60 y/o	-0.0707
	(0.05)
JP × 10's	-0.0668
	(0.06)
JP × 20's	-0.1182**
	(0.06)
JP × 30's	-0.0974
	(0.07)
JP × Above 40 y/o	-0.0472
	(0.08)
JP × Not reach high school	0.0345
	(0.08)
JP × High school	0.0232
	(0.04)
Constant	0.7853***
	(0.07)
Observations	4167
Adjusted R^2	0.130

* p < 0.1, ** p < 0.05, *** p < 0.01
Standard errors in parentheses

Notes:
a. 1=Altruism, 0=Self-interest
b. Excluding those who don't have children in the family.
c. The number of children in the family was aggregated by the number of son and the number of daughter.
d. Dynasty building is assigned to altruistic bequest motive in the regression.
e. The youngest child's age was generated by wave 2011 and wave 2010. If the youngest child's age in the wave 2011 is available, the age in wave 2011 plus 1 year was used in the regression. If the age in the wave 2011 is unavailable, the age in wave 2010 plus 2 years was used in the regression.

Table 4A: The Blinder-Oaxaca Decomposition for Bequest Motive Based on Linear Probability Regression

	Bequest Motive
group_1 (US)	0.6871***
	(0.01)
group_2 (Japan)	0.3425***
	(0.01)
difference	0.3446***
	(0.02)
endowments	0.0249*
	(0.01)
coefficients	0.3325***
	(0.02)
interaction	-0.0128
	(0.02)
Observations	4167

* p < 0.1, ** p < 0.05, *** p < 0.01
Standard errors in parentheses

Notes:
a. Excluding those who don't have children in the family.
b. The number of children in the family was aggregated by the number of son and the number of daughter.
c. Dynasty building is assigned to altruistic bequest motive in the regression.

Table 4B: The Blinder-Oaxaca Decomposition for Bequest Motive Based on Linear Probability Regression

	(1) endowments	(2) coefficients	(3) interaction
Female Dummy	-0.0035*	0.0753***	0.0047*
	(0.00)	(0.02)	(0.00)
Log of Household Income	-0.0029	-0.1498***	0.0071**
	(0.00)	(0.05)	(0.00)
Strong Faith	0.0323***	-0.0382*	-0.0321*
	(0.01)	(0.02)	(0.02)
Age Group (omitted: 30-60 y/o)			
Less than 30 y/o	-0.0016	0.0015*	0.0052*
	(0.00)	(0.00)	(0.00)
Above 60 y/o	-0.0014	0.0305	0.0010
	(0.00)	(0.02)	(0.00)
The Youngest Child's Age (omitted: 0-9 y/o)			
10's	0.0026*	0.0162	-0.0033
	(0.00)	(0.01)	(0.00)
20's	-0.0037*	0.0259**	0.0032
	(0.00)	(0.01)	(0.00)
30's	0.0074**	0.0256	-0.0073
	(0.00)	(0.02)	(0.01)
40 y/o +	-0.0057	0.0053	0.0061
	(0.01)	(0.01)	(0.01)
Education (omitted: College or above)			
Not reach high school	0.0006	-0.0031	0.0017
	(0.00)	(0.01)	(0.00)
High school	0.0007	-0.0152	0.0008
	(0.00)	(0.02)	(0.00)
Constant		0.3587***	
		(0.08)	
Observations	4167		

* p < 0.1, ** p < 0.05, *** p < 0.01
Standard errors in parentheses

Notes:
a. Excluding those who don't have children in the family.
b. The number of children in the family was aggregated by the number of son and the number of daughter.
c. Dynasty building is assigned to altruistic bequest motive in the regression.

Table 5: Bequest Motive for Japanese and American Parents (Probit Regression)

	Japan		US	
	(1) Coef.	(2) Margins	(3) Coef.	(4) Margins
Female Dummy	-0.2943***	-0.1075***	0.1039	0.0366
	(0.05)	(0.02)	(0.07)	(0.03)
Log of Household Income	0.1177*	0.0430*	-0.1775**	-0.0626**
	(0.06)	(0.02)	(0.07)	(0.02)
Strong Faith	0.0651***	0.0238***	-0.0006	-0.0002
	(0.02)	(0.01)	(0.03)	(0.01)
Age Group (omitted: 30-60 y/o)				
Less than 30 y/o	-0.2399	-0.0874	0.9538**	0.2347***
	(0.37)	(0.13)	(0.37)	(0.05)
Above 60 y/o	-0.2727***	-0.0986***	-0.0591	-0.0211
	(0.09)	(0.03)	(0.11)	(0.04)
The Youngest Child's Age (omitted: 0-9 y/o)				
10's	-0.1391*	-0.0530*	0.0364	0.0127
	(0.08)	(0.03)	(0.13)	(0.05)
20's	-0.3641***	-0.1328***	-0.0484	-0.0172
	(0.09)	(0.03)	(0.13)	(0.05)
30's	-0.2554**	-0.0954**	-0.0028	-0.0010
	(0.12)	(0.04)	(0.15)	(0.05)
40 y/o +	-0.0915	-0.0351	0.0017	0.0006
	(0.14)	(0.05)	(0.17)	(0.06)
Education (omitted: College or above)				
Not reach high school	-0.0328	-0.0121	-0.1269	-0.0444
	(0.10)	(0.04)	(0.19)	(0.07)
High school	-0.0548	-0.0201	-0.1187	-0.0414
	(0.06)	(0.02)	(0.08)	(0.03)
Constant	-0.1980		0.7805***	
	(0.13)		(0.19)	
Observations	2777	2777	1390	1390
Pseudo R^2	0.0316		0.0128	

* p < 0.1, ** p < 0.05, *** p < 0.01
Standard errors in parentheses

Notes:
a. 1=Altruism, 0=Self-interest
b. Excluding those who don't have children in the family.
c. The number of children in the family was aggregated by the number of son and the number of daughter.
d. Dynasty building is assigned to altruistic bequest motive in the regression.
e. The youngest child's age was generated by wave 2011 and wave 2010. If the youngest child's age in the wave 2011 is available, the age in wave 2011 plus 1 year was used in the regression. If the age in the wave 2011 is unavailable, the age in wave 2010 plus 2 years was used in the regression.
f. Margins at means were reported.

Appendix

	Japan		US	
	Freq.	%	Freq.	%
Bequest Motive				
Self-interest	2,028	65.34	660	30.32
Altruism	1,076	34.66	1,517	69.68
Total	3,104	100	2,177	100
Female Dummy				
Male	1,698	44.38	1,013	41.1
Female	2,128	55.62	1,452	58.9
Total	3,826	100	2,465	100
Approximately how much was the annual earned income before taxes and with bonuses included of your entire household for 2011				
Less than ¥1,000,000	56	1.61		
¥1,000,000 to less than ¥2,000,000	181	5.21		
¥2,000,000 to less than ¥4,000,000	856	24.63		
¥4,000,000 to less than ¥6,000,000	891	25.64		
¥6,000,000 to less than ¥8,000,000	639	18.39		
¥8,000,000 to less than ¥10,000,000	364	10.47		
¥10,000,000 to less than ¥12,000,000	207	5.96		
¥12,000,000 to less than ¥14,000,000	126	3.63		
¥14,000,000 to less than ¥16,000,000	63	1.81		
¥16,000,000 to less than ¥18,000,000	32	0.92		
¥18,000,000 to less than ¥20,000,000	18	0.52		
¥20,000,000 or more	42	1.21		
Total	3,475	100		
Less than $10,000			206	9.4
$10,000 to less than $20,000			249	11.36
$20,000 to less than $40,000			455	20.76
$40,000 to less than $60,000			339	15.47
$60,000 to less than $80,000			315	14.37
$80,000 to less than $100,000			223	10.17
$100,000 to less than $120,000			184	8.39
$120,000 to less than $140,000			79	3.6
$140,000 to less than $160,000			53	2.42
$160,000 to less than $180,000			34	1.55
$180,000 to less than $200,000			18	0.82
$200,000 or more			37	1.69
Total			2,192	100

Appendix *(Continued)*

	Japan		US	
	Freq.	%	Freq.	%
I am deeply religious				
Strongly Disagree	2,350	61.87	447	17.82
Disagree	729	19.19	372	14.83
Neutral	424	11.16	670	26.7
Agree	180	4.74	547	21.8
Strongly Agree	115	3.03	473	18.85
Total	3,798	100	2,509	100
Age Group				
(0,30)	23	0.6	72	2.88
[30,60)	2,213	57.84	1,237	49.42
[60,+)	1,590	41.56	1,194	47.7
Total	3,826	100	2,503	100
The Youngest Child's Age				
0-9 y/o	620	16.38	255	12.62
10's	950	25.1	384	19.01
20's	845	22.32	458	22.67
30's	945	24.97	382	18.91
40 y/o +	425	11.23	541	26.78
Total	3,785	100	2,020	100
Educational Attainment				
Not reach high school	387	10.24	118	5.64
High school	2,528	66.86	1,367	65.34
College or above	866	22.9	607	29.02
Total	3,781	100	2,092	100

Notes:
a. Excluding those who don't have children in the family.
b. The number of children in the family was aggregated by the number of son and the number of daughter.
c. The youngest child's age was generated by wave 2011 and wave 2010. If the youngest child's age in the wave 2011 is available, the age in wave 2011 plus 1 year was used in the regression. If the age in the wave 2011 is unavailable, the age in wave 2010 plus 2 years was used in the regression.