

Social Desirability Bias in Survey Data: Evidence from the Inter-vivos Transfers between Adult Children and Old Parents

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Survey Data



- ▶ collected from a **sample of individuals**
- ▶ through **questionnaires or interviews**
- ▶ **Goal** to understand various phenomena, i.e. characteristics, conditions, behaviors, attitudes, and opinions

Weaknesses of Survey Data

Survey designers' problem

- ▶ **Sampling bias** - may not be representative of population
- ▶ **Context-blindness** - lack of depth

Survey respondents' problem

- ▶ **Survey fatigue** - tired or bored, leading to non-response or lower quality responses
- ▶ **Misreporting** - random or non-random measurement error

Measurement Error in Survey Data



Social Desirability Bias

“With respect to social desirability, we would anticipate ... overreporting of socially desirable behaviors and underreporting of socially undesirable behaviors.”

– Bound, Brown, and Mathiowetz (2001)

SOCIAL DESIRABILITY BIAS IS A TYPE OF RESPONSE BIAS WHERE PEOPLE'S RESPONSES ARE INFLUENCED BY SOCIAL EXPECTATIONS.

People may modify their responses to avoid criticism, gain approval, or present themselves viewed favorably by others.

Social desirability

Are You a
Smoker?

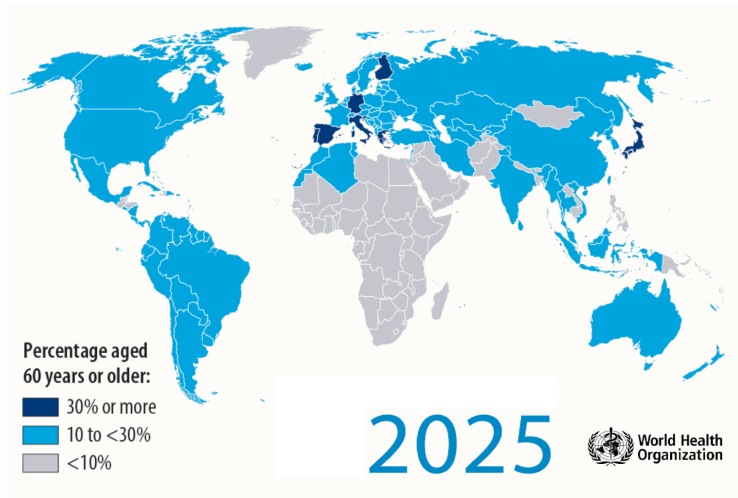
Of Course, Not!



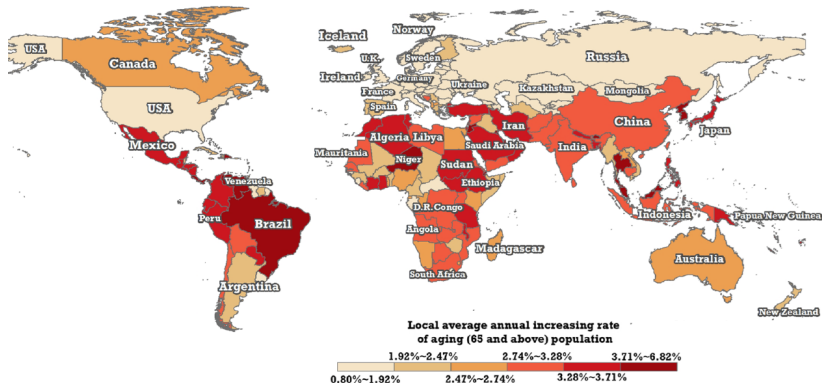
IMAGE from <http://pranalishinde.medium.com>



Population aging is a global phenomenon.

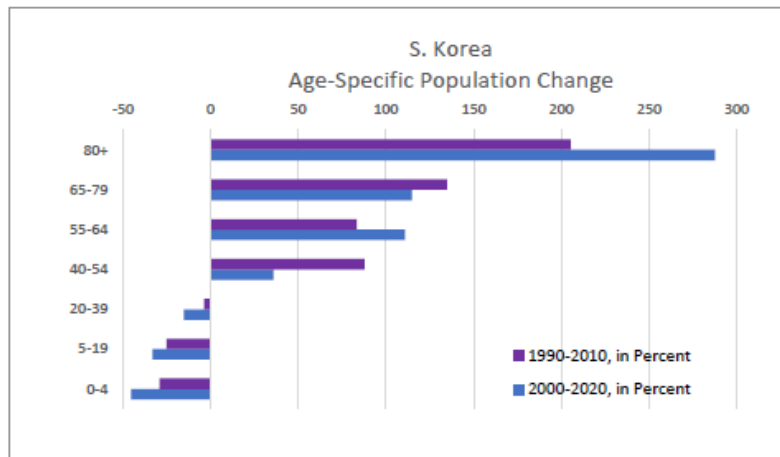


Population is rapidly getting older.



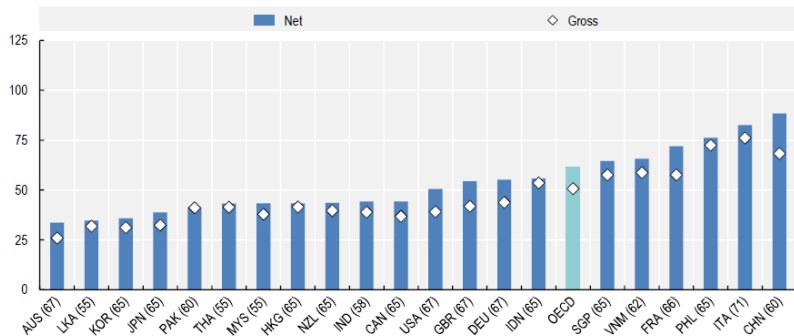
Li, J., Han, X., Zhang, X. et al. Spatiotemporal evolution of global population ageing from 1960 to 2017. BMC Public Health 19, 127 (2019).

Elderly in Korea



Old Age Welfare Protection

Net and gross pension replacement rates: average earners, in percentage



Source: PENSION AT A GLANCE ASIA/PACIFIC 2024, OECD Pension Models.

Old-Age Support in Developing Countries

The elderly in many countries often relies on the traditional old age support system; the co-residency and upstream financial transfers from the adult children.



Filial Piety

The virtue and primary duty of respect, obedience, and care for one's parents and elderly family members.

Inter-vivos Transfers for the Studies of the Elderly

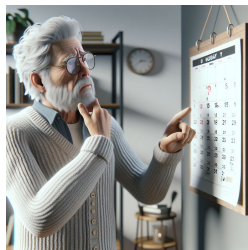


Inter-vivos transfers between adult children and old parents are often key variables for the studies of the elderly.

However, inter-vivos transfer data are potentially measured with errors.

Inter-vivos Transfers

- ▶ Within extended families.
- ▶ Small and irregular.
- ▶ Not through banking systems. Could be intentionally hidden with many different reasons (e.g. tax evasion).



My Study, Research Question

The potential measurement error has been hardly considered in the studies in economics.

This study investigates the accuracy of the inter-vivos transfers in survey data for the elderly.

This study considers the various sources of potential measurement error in inter-vivos transfers, e.g. recall, tax evasion, social desirability, and etc.

In particular, this study explores 'Social Desirability' as a motive of mis-reporting.

Social desirability

In a survey would you
answer in accordance with
social desirability?



For god's sake!

Absolutely not!

Kab

<http://www.constructive-amusement.de/comics-in-english/social-desirability>

Overview of Empirical Investigation

I. Patterns of Mis-reporting

II. Who Transfers for Each Reporting

III. Who Answers Inconsistently

Korean Labor and Income Panel Study (KLIPS, 2005-2016)

▶ Unique Dyadic Data Structure

- ▶ Old parents – branched out adult children matched
- ▶ Individual level - age, sex, # of children, education, labor force participation, health, etc
- ▶ Household level - upward and downward transfer data, gender and birth year of children, self-rated economic condition, etc

▶ My Sample

- ▶ 2005 - 2015 (upward and downward transfer matched data)
- ▶ Old parent(s) with only one child who is branched out
- ▶ Adult children with work experience + finishing schooling
- ▶ 757 unique matched-observations; 2,286 observations over the years

Statistics: Basic Demographics

Variables	Old Parents			Adult Children		
	Obs.	Mean	Std.	Obs.	Mean	Std.
Other variables						
Age	2,286	59.95	6.30	2,286	31.71	4.75
1 (Seoul), %	2,251	38.20	48.59	1,893	46.27	49.87
Schooling	2,251	10.29	3.30	1,878	14.49	1.87
1 (Own housing), %	2,251	76.41	42.46	1,891	33.10	47.07
1 (Saving for old), %	2,251	31.85	46.60	1,893	22.24	41.60
1 (Non-spouse), %	2,286	19.90	46.63	2,286	31.93	46.63
1 (Healthy), %	2,184	43.26	49.56	2,018	76.01	42.70
1 (Memory Problem), %	2,184	4.34	20.40	2,018	0.24	4.97

Empirical Investigation I. Patterns of Mis-reporting

First step of my investigation

This study investigates [the patterns of mis-reporting](#), over-reporting and under-reporting of inter-vivos transfers.

Patterns of Mis-reporting: Monetary Transfers

Variables	Old Parents			Adult Children		
	Obs.	Mean	Std.	Obs.	Mean	Std.
Upward Monetary Transfer		(Recipient)			(Giver)	
1(Yes), %	2,286	58.92	49.21	2,286	72.48	44.67
Amount	2,286	106.20	266.56	2,286	119.40	256.89
Amount for 1(Yes)	1,347	180.25	327.52	1,657	164.72	289.12
Downward Monetary Transfer		(Giver)			(Recipient)	
1(Yes), %	2,286	23.79	42.59	2,286	18.89	39.15
Amount	2,286	115.44	758.79	2,286	99.30	795.05
Amount for 1(Yes)	544	485.10	1497.75	432	525.48	1768.27

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Patterns of Mis-reporting: Upward Transfer Counting

Upward Transfer

		Old Parents (Recipient)		
		No	Yes	Total
Adult Children (Giver)	No	449 (27.52)	180 (7.87)	629 (28.26)
	Yes	490 (21.43)	1,167 (51.05)	1,640 (72.48)
Total		939 (41.08)	1,347 (58.92)	2,286 (100.00)

Patterns of Mis-reporting: Downward Transfer Counting

Downward Transfer

		Adult Children (Recipient)		
		No	Yes	Total
Old Parents (Giver)	No	1,558 (68.15)	184 (8.05)	1,742 (76.20)
	Yes	296 (12.95)	248 (10.85)	544 (23.80)
Total		1,854 (81.10)	432 (18.90)	2,286 (100.00)

Empirical Investigation II. Who Transfers?

Second step of my investigation

This study investigates 'Who Transfers?'; each reporting by children and parents; not just upward but also downward transfers.

$$\mathbb{1}(\text{Yes}_S^W) = \alpha_S^W + \mathbf{x}_S^{W'} \beta_S^W + \mathbf{GT}_S^{W'} \gamma_S^W + \varepsilon_S^W$$

S=**U**pward or **D**ownward & W=**C**hildren or **P**arents

x: old parents' or adult children's characteristics

GT: indicator variables for the opposite directional transfers
(give & take)

Who Transfers? Assuming No Measurement Error

Assuming Only One Sides' Information Collected

Old Parents' Report

Age

Gender

No spouse

Number of children

Seoul

Years of schooling

Housing ownership

Saving for old age

Income

Healthy status

Memory issue

Opposite Directional Reporting

Adult Children' Report

Age

Gender

No spouse

Number of children

Seoul

Years of schooling

Housing ownership

Saving for old age

Income

Healthy status

Memory issue

Opposite Directional Reporting

Who Transfers? Upward Monetary Transfer

Assuming Only One Sides' Information Collected
related with, at the 5% significance level:

Old Parents' Report

Age, 1% ↑

Gender Male 20% ↓

No spouse, 11% ↓

Number of children

Seoul, 8% ↓

Years of schooling, 1% ↓

Housing ownership

Saving for old age, 6% ↓

Income

Healthy status

Memory issue

Downward T. Reporting, 13% ↑

Adult Children' Report

Age

Gender

No spouse

Number of children

Seoul, 12% ↓

Years of schooling, 2% ↑

Housing ownership

Saving for old age, 7% ↑

Income, 0.003% ↑

Healthy status

Memory issue

Downward T. Reporting, 8% ↑

Who Transfers? Downward Monetary Transfer

Assuming Only One Sides' Information Collected
related with, at the 5% significance level:

Old Parents' Report

Age

Gender

No spouse

Number of children, 9% ↓

Seoul, 9% ↓

Years of schooling

Housing ownership, 6% ↑

Saving for old age

Income, 0.002% ↑

Healthy status

Memory issue, 14% ↓

Upward T. Reporting, 9% ↑

Adult Children' Report

Age

Gender

No spouse, 14% ↓

Number of children

Seoul, 9% ↓

Years of schooling

Housing ownership, 5% ↑

Saving for old age

Income, 0.002% ↓

Healthy status

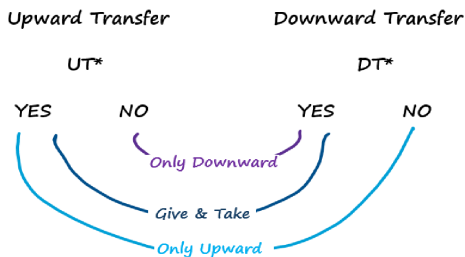
Memory issue, 13% ↓

Upward T. Reporting, 7% ↑

Inter-vivos Transfer

“Although the upward transfer traditionally has been a social virtue in Korea, the elderly as well as the younger generations put more value on two-way intergenerational relations based on mutual care and assistance.”

– Kim and Kim (2003)



Empirical Investigation III. Who Answers Inconsistently

Third step of my investigation

This study investigates 'Who Answers Inconsistently?'.
Who Answers Inconsistently?

$$\mathbf{Inconsistency}_C = \alpha_C + \mathbf{x}'\beta_C + \mathbf{z}'\delta_C + \mathbf{GT}'\gamma_C + \varepsilon_C$$

↪ Binary Gap with $C =$ type of inconsistency

\mathbf{x} : old parents' & \mathbf{z} : adult children's characteristics

\mathbf{GT} : indicator variables for the opposite directional transfers
(give & take)

Upward Transfer in Survey Data

Reporting		Possibility	
Adult C.	Parents	Adult C.	Parents
O	O	Truth-telling (Give) Over-reporting	Truth-telling (Take) Over-reporting
O	X	Truth-telling (Give) Over-reporting	Under-reporting Truth-telling
X	O	Under-reporting Truth-telling	Truth-telling (Take) Over-reporting
X	X	Truth-telling Under-reporting	Truth-telling Under-reporting

Upward Transfer in Survey Data

Reporting		Possibility	
Adult C.	Parents	Adult C.	Parents
O	O	Truth-telling (Give) Over-reporting	Truth-telling (Take) Over-reporting
O	X	Truth-telling (Give) Over-reporting	Under-reporting Truth-telling
X	O	Under-reporting Truth-telling	Truth-telling (Take) Over-reporting
X	X	Truth-telling Under-reporting	Truth-telling Under-reporting

Upward Transfer in Survey Data

Reporting		Possibility	
Adult C.	Parents	Adult C.	Parents
0	0	Truth-telling (Give) Over-reporting	Truth-telling (Take) Over-reporting
0	X	Truth-telling (Give) Over-reporting	Under-reporting Truth-telling
X	0	Under-reporting Truth-telling	Truth-telling (Take) Over-reporting
X	X	Truth-telling Under-reporting	Truth-telling Under-reporting

Investigation of Reporting Inconsistency Type I

Inconsistency – Only Adult Children Report Upward Transfer

Old Parents' Side

Age

Gender

No spouse

Number of children

Seoul

Years of schooling

Housing ownership

Saving for old age

Income

Healthy status

Memory issue

Downward T. Reporting

Adult Children' Side

Age

Gender

No spouse

Number of children

Seoul

Years of schooling

Housing ownership

Saving for old age

Income

Healthy status

Memory issue

Downward T. Reporting

Investigation of Reporting Inconsistency Type I

Inconsistency – Only Adult Children Report Upward Transfer
related with, at the 5% significance level:

Old Parents' Side

Age

Gender, Male 13% ↑

No spouse, 11% ↑

Number of children

Seoul, 10% ↓

Years of schooling, 1% ↑

Housing ownership

Saving for old age, 5% ↑

Income

Healthy status

Memory issue

Downward T. Reporting, 8% ↓

Adult Children' Side

Age

Gender

No spouse

Number of children

Seoul, 8% ↑

Years of schooling

Housing ownership

Saving for old age

Income

Healthy status

Memory issue

Downward T. Reporting

Upward Transfer in Survey Data

Reporting		Possibility	
Adult C.	Parents	Adult C.	Parents
0	0	Truth-telling (Give) Over-reporting	Truth-telling (Take) Over-reporting
0	X	Truth-telling (Give) Over-reporting	Under-reporting Truth-telling
X	0	Under-reporting Truth-telling	Truth-telling (Take) Over-reporting
X	X	Truth-telling Under-reporting	Truth-telling Under-reporting

Investigation of Reporting Inconsistency Type II

Inconsistency – Only Old Parents Report Upward Transfer

Old Parents' Side

Age

Gender

No spouse

Number of children

Seoul

Years of schooling

Housing ownership

Saving for old age

Income

Healthy status

Memory issue

Downward T. Reporting

Adult Children' Side

Age

Gender

No spouse

Number of children

Seoul

Years of schooling

Housing ownership

Saving for old age

Income

Healthy status

Memory issue

Downward T. Reporting

Investigation of Reporting Inconsistency Type II

Inconsistency – Only Old Parents Report Upward Transfer
related with, at the 5% significance level:

Old Parents' Side

Age

Gender

No spouse

Number of children

Seoul

Years of schooling

Housing ownership

Saving for old age

Income

Healthy status

Memory issue, 5% ↓

Downward T. Reporting

Adult Children' Side

Age

Gender

No spouse, 7% ↓

Number of children

Seoul

Years of schooling

Housing ownership

Saving for old age

Income, 0.001% ↓

Healthy status

Memory issue

Downward T. Reporting

Investigation of Reporting Inconsistency Type II

Inconsistency – Only Old Parents Report Upward Transfer
related with, at the 10% significance level:

Old Parents' Side

Age

Gender

No spouse

Number of children

Seoul

Years of schooling

Housing ownership

Saving for old age

Income

Healthy status

Memory issue, 5% ↓

Downward T. Reporting

Adult Children' Side

Age, 0.01% ↓

Gender, Male 3% ↑

No spouse, 7% ↓

Number of children

Seoul, 1% ↑

Years of schooling

Housing ownership

Saving for old age

Income, 0.001% ↓

Healthy status

Memory issue

Downward T. Reporting

Downward Transfer in Survey Data

Reporting		Possibility	
Adult C.	Parents	Adult C.	Parents
O	O	Truth-telling (Take) Over-reporting	Truth-telling (Give) Over-reporting
O	X	Truth-telling (Take) Over-reporting	Under-reporting Truth-telling
X	O	Under-reporting Truth-telling	Truth-telling (Give) Over-reporting
X	X	Truth-telling Under-reporting	Truth-telling Under-reporting

Downward Transfer in Survey Data

Reporting		Possibility	
Adult C.	Parents	Adult C.	Parents

O	O	Truth-telling (Take) Over-reporting	Truth-telling (Give) Over-reporting
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O	X	Truth-telling (Take) Over-reporting	Under-reporting Truth-telling
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X	O	Under-reporting Truth-telling	Truth-telling (Give) Over-reporting
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X	X	Truth-telling Under-reporting	Truth-telling Under-reporting
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Investigation of Reporting Inconsistency Type III

Inconsistency – Only Old Parents Report Downward Transfer

Old Parents' Side

Age

Gender

No spouse

Number of children

Seoul

Years of schooling

Housing ownership

Saving for old age

Income

Healthy status

Memory issue

Upward T. Reporting

Adult Children' Side

Age

Gender

No spouse

Number of children

Seoul

Years of schooling

Housing ownership

Saving for old age

Income

Healthy status

Memory issue

Upward T. Reporting

Investigation of Reporting Inconsistency Type III

Inconsistency – Only Old Parents Report Downward Transfer
related with, at the 5% significance level:

Old Parents' Side

Age

Gender

No spouse

Number of children, 3% ↓

Seoul, 8% ↓

Years of schooling

Housing ownership

Saving for old age

Income, 0.002% ↑

Healthy status

Memory issue

Upward T. Reporting, 5% ↑

Adult Children' Side

Age

Gender

No spouse, 7% ↓

Number of children

Seoul

Years of schooling, 2% ↑

Housing ownership

Saving for old age

Income

Healthy status

Memory issue

Upward T. Reporting

Downward Transfer in Survey Data

Reporting
Adult C. Parents

Possibility
Adult C. Parents

O	O	Truth-telling (Take) Over-reporting	Truth-telling (Give) Over-reporting
---	---	--	--

O	X	Truth-telling (Take) Over-reporting	Under-reporting Truth-telling
---	---	--	----------------------------------

X	O	Under-reporting Truth-telling	Truth-telling (Give) Over-reporting
---	---	----------------------------------	--

X	X	Truth-telling Under-reporting	Truth-telling Under-reporting
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Investigation of Reporting Inconsistency Type IV

Inconsistency – Only Adult Children Report Downward Transfer
related with, at the 5% significance level:

Old Parents' Side

Age

Gender

No spouse

Number of children

Seoul

Years of schooling

Housing ownership

Saving for old age

Income

Healthy status

Memory issue

Upward T. Reporting

Adult Children' Side

Age

Gender

No spouse, 7% ↑

Number of children

Seoul

Years of schooling

Housing ownership

Saving for old age

Income, 0.001% ↑

Healthy status

Memory issue, 10% ↑

Upward T. Reporting

Conclusion

This study finds that there are reporting gaps of inter-vivos transfers between adult children and old parents.

The reporting gaps are associated with some parents' and children's characteristics, and, in particular, my study suggests the followings:

- ▶ social desirability bias is a significant source of measurement error in the variables of inter-vivos transfers, especially in the cases that there is only a giver but no receiver.
- ▶ recall error may be more important in the cases that there is only a receiver but no giver.

This study suggests that the studies on the elderly welfare should consider such social desirability bias that potentially exists in the inter-vivos transfers.

Thank You!