Is Private Transfer in Indonesia Altruistic? Empirical Analysis on Private Household Transfers Motivated by Altruism, Exchange, and Risk Sharing

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Abstract

This study reveals the motivation behind private transfer in Indonesia by analyzing the Indonesia Family Life Survey wave 5 data, which covers more than 14,000 households across fifteen provinces. The private transfers include not only parent-children transfers but also transfers to and from other relatives, friends, neighbors, and non-government organizations. The data set provides fifteen explanatory variables to cope with the multidimensional nature of private transfer by considering transfers both from the perspective of the beneficiaries and the donors. The analysis shows that private transfers in Indonesia are driven by a mix of altruism, exchange, and risk sharing motives. The level of income among beneficiaries inversely affects the amount donors contribute, particularly in cases of altruism and risk sharing motives. These dynamics could undermine the impact of governmental anti-poverty policies, as public transfers might displace private transfers.

Keywords: altruism, private transfer, risk sharing, Indonesia

1. Introduction

Altruism is mostly applied in intergenerational private transfer, as shown in past studies (e.g., Nivakoski, 2019; Wineman & Liverpool-Tasie, 2019; Klimaviciute et al., 2017). Nonetheless, some earlier studies did not limit the analysis to only parent-child transfers (e.g., Clement, 2008). Some studies even use macroeconomic and institutional variables to explain transfers on an international scale (Kim et al., 2022; Karahan, 2022). The intergenerational approach to the motives of transfer restricts the discussion only to transfers of goods and services within the family. Understanding the motives for private transfers is important partly in determining whether public transfers can reduce a child's desire to provide financial and non-financial assistance to their parents. Peng et al. (2023) showed, for example, that the Senior Citizens Welfare Living Allowance (SCWLA) in Taiwan does not significantly change financial transfers from children to parents, proving that public transfers to the elderly do not crowd out family support. Private transfer analysis beyond the bounds of the family includes transfers to and from neighbors, friends, other individuals, and private organizations.

The complexity of the relationships in the social interactions intertwined with some inherited factors of every individual within the network allows for different motives in private transfers. This social interaction can create what is called 'Internally defined ties' (Nicińska et al., 2022), such as friendship, trust, or closeness that are independent of family bonds. Using the Survey on Health, Ageing, and Retirement in Europe, the study showed that internally defined bonds have a positive impact on informal support to mature adults. The motives for private transfers include altruism, exchange, and risk sharing (Clement, 2008). An individual is altruistic when the allocation of resources is influenced

not only by his or her own consumption but also by the effect of the choice on the well-being of others (Collard, 1978; Margolis, 1982). Accordingly, such transfers of resources to beneficiaries are without any expectation that the recipients or other parties will return the favor to the donors. Factors such as compassion, love, and happiness are reasons that drive this kind of private transfer. However, when the transfer is motivated by exchange, the donor expects bequest-like compensation for providing services to parents (Norton & Van Houtven, 2006). Moreover, risk sharing motives induce vulnerable households to contribute resources to informal arrangements to buffer losses due to unexpected shocks (Will et al., 2021). Using urban household data in Ethiopia, Alvi and Dendir (2009) showed that private transfer positively responds to household risk.

The behavior of private transfer in this study is examined using the two sides of private transfers, namely, transfers given by the household as the donors as well as transfers received by households as the beneficiaries. Using unique data from foreign care workers in Japan, a similar approach was used by Nakamura and Suzuki (2022) to examine the impact of financial support in host and origin countries on international remittances, particularly among migrants. Analyzing the two sides of private transfers together can better uncover the motives behind the transfers. The two sets of data, transfers given and received by households, were sourced from cross-sectional household data from the wave 5 Indonesia Family Life Survey (IFLS), which covered more than 14,000 households across fifteen provinces in Indonesia in 2014 and 2015. The multidimensional nature of private transfers was expressed in incorporating fifteen exogenous variables in the model, which included income, gender and marital status of household head, household size, geographical location, age, the expectation of old age, education, number of household

members with cell phones, subjective economic level of household, happiness, attitude toward risk, social involvements, wealth, and subjective level of health.

Factors of age, social involvement, and years of education in this study were not designed to represent only the household head; they also cover all members of the household. Regardless of the motives underlying the decision for a household to give or otherwise, it is not only influenced by the household head but also by the other members. Similarly, how a household is seen as a potential beneficiary by donors is not only shaped by the characteristics of the household head but also by those of the other members, including the spouse, children, and other adults.

An understanding of this practice of transfer behavior in Indonesia is important for formulating more effective and inclusive economic development policies. In fact, Herdiyati and Ismail (2022) show that government spending on the economy and social protection in Indonesia has no impact on inclusive growth. Among other things, this problem is manifested by the perennial mistargeting of food assistance programs in Indonesia (Dewi et al., 2022). Given such an issue, this study is aimed at identifying motives for private transfers in Indonesia that are important in designing more inclusive economic policies.

2. Literature Review

2.1 Altruism in Indonesia

Indonesia is a multicultural archipelagic country. It comprises more than 16,000 islands with around 2,500 regional languages and is ethnically diverse, with over 1,300 native groups and six major religions. The country extends over

5,100 kilometers from East to West, being surrounded by the Indian Ocean, Pacific Ocean, and the South China Sea and, thus, coming under the economic and political influence of dominant powers, including China, Japan, Europe, USA, and Australia. Culture is shared values and beliefs (Casson & Godley, 2000) shaped through repeated social interactions. The diverse Indonesian multicultural background described above makes it difficult to name a general dominant culture that can accurately characterize a particular tradition related to private transfers in the country.

Since Java is the most populated island, harboring almost 60% of the Indonesian population, the practice of private transfers on this island is noteworthy to discuss. Ravallion and Dearden (1988) modeled private transfers as outcomes of a constrained social problem facing donors as applied to household-level data in Java. The surveys covered a sample of 2,261 households in Yogyakarta Province in Central Java that included transfer receipts and outlays in the form of money and goods valued at current market prices. Transfer receipts and outlays in rural areas related to income inequality reduction were mainly targeted at disadvantaged household members, such as the sick, elderly, and unemployed. This transfer behavior represents a 'moral economy' motive. Although altruism was not explicitly discussed as the underlying motive, the result can justifiably serve as an early indicator that it can be one of the motives of private transfers.

Almost two decades later, Olivia (2007) examined how the 'moral economy' in Java may have coped with the economic development and the 1998 economic crisis in that period. The results showed that transfers were targeted for the poor and disadvantaged households with the sick, elderly, and unemployed. Thus, in general, the 'moral economy,' noted initially by Ravallion and Dearden (1988), survived the fall into poverty and economic

crisis from 1981 to 1999.

This study uses the IFLS 2014–2015 wave 5 survey data from the RAND Corporation[1] to examine whether altruism is one of the motives for private transfers in Indonesia and not solely in Java. Since Ravallion and Dearden's (1988) study, Indonesia has experienced some important socio-economic changes. The 1998 economic crisis transformed the country into a more democratic nation, marked mainly by national and regional elections that convened to choose the leadership. The people could directly vote for their president, governors, mayors, regents, and members of legislative councils. Regional governments also received greater autonomy in managing their respective constituencies. Furthermore, since Olivia (2007) was published until 2015 alone, the World Bank data[2] shows that the poverty rate[3] fell by 25 percentage points, the Gini index increased slightly by 0.037, per capita real GDP[4] increased by 39.8%, and the population living in the urban areas rose by 5.8 percentage points. The potential impact of these socio-economic changes on the motives for private transfers is examined in this study.

2.2 Motives for private transfers: The theoretical background

Cox (1987) combined altruism and exchange-motivated transfer into one parent-child model. The parent, as the donor, cares about the well-being of the child, and the child, as the beneficiary, provides services to the parent. In the model, the utility of the parent as the donor is expressed as $U_p = U_p[c_p^+, s^+, V^+(c_k^+, s^-)]$, where U_p is the parent's level of well-being or utility, c_p is the parent's consumption, s is services from child to parent, V is the child's

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[1] The RAND Corporation is a nonprofit and nonpartisan research organization across multiple fields and industries (https://www.rand.org/)

[2] https://data.worldbank.org/country/indonesia

[3] Poverty headcount ratio at $3.65 a day (2017 PPP)

[4] PPP (constant 2017 international $)

level of well-being or utility, and c_k is the child's consumption. The parent is assumed to be altruistic as $\partial U_p / \partial V > 0$, while rendering services to the parent decreases the child's well-being as $\partial V / \partial s < 0$. The budget constraints are $c_p \leq E_p - T$ and $c_k \leq E_k + T$, where E_p is the parent's income, E_k is the child's income, and T is the amount of transfer from parent to child.

When altruism is the motive for transfer, the donor's utility is maximized by making the marginal utility of the donor's consumption $\left[\partial U_p / \partial (c_p + s)\right]$ equal to the marginal utility of the beneficiary's consumption from the donor's point of view $\left[\partial V_p / \partial (c_k + s)\right]$. Private transfer will be optimal when $\partial U_p / \partial (c_p + s) = \partial V_p / \partial (c_k + s)$, where:

$$\frac{\partial T}{\partial E_p} > 0 \quad \text{and} \quad \frac{\partial T}{\partial E_k} < 0 \tag{1}$$

When transfer is motivated by exchange, private transfer will be optimal when the marginal utility of the donor's consumption is less than the marginal utility of the beneficiary's consumption from the donor's point of view or $\partial U_p / \partial (c_p + s) < \partial V_p / \partial (c_k + s)$, where:

$$\frac{\partial T}{\partial E_p} > 0 \quad and \quad \frac{\partial T}{\partial E_k} \gtrless 0 \tag{2}$$

In (1), an increase in the beneficiary's income decreases the transfer. However, in (2), an increase in the beneficiary's income can either increase or decrease the transfer. Higher beneficiary income reduces the marginal utility of consumption originating from the transfers given by the donor. As a result, the supply curve of compensation from the beneficiary shifts to the left, raising the equilibrium price of compensation and reducing the quantity of compensation. The net change in the equilibrium compensation depends on the relative magnitude of the rise in the price and the decline in the quantity of

compensation. When the donor's demand for compensation from a particular beneficiary is inelastic, an increase in the beneficiary's income induces the donor to provide more transfers, where $(\partial T/\partial E_k > 0)$, and $\partial T/\partial E_k < 0$ when the demand is elastic.

In a risk-sharing-oriented approach, private risk sharing is expected to soften the shocks to the household head's income (Asdrubali et al., 2020). In low-income countries, informal risk sharing within social networks plays a crucial role in protecting against unpredictable shocks since formal insurance products are unaffordable (Will et al., 2023). Transfer thus becomes inversely related to the beneficiary's income. The donor provides transfers when beneficiaries experience negative income shocks. However, an increase in the donor's income, on the one hand, can mean an increase in the donor's ability to insure against risk that leads to a higher transfer. Conversely, higher donor income can also be perceived as a lower economic vulnerability that reduces the donor's motivation to insure.

3. Empirical Strategy

The models in this study were designed to show the impact of income on private transfers motivated by altruism, exchange, and risk sharing. These include the transfer from the perspective of the beneficiary and the donor. The possible endogeneity of pre-transfer income is also considered.

The functional models follow Clement (2008) that (for household i):

$$T_{bi} = f(Y_{bi}, X_{bi}, W_{bi}, M_{bi}, \mu_{bi}) \qquad (3)$$

and

$$T_{di} = f(Y_{di}, X_{di}, W_{di}, M_{di}, \mu_{di}) \tag{4}$$

where T_b is the amount of transfer received by the beneficiary household, and T_d is the amount of transfer given by the donor household. The transfers received and given by all members of a household are included in (3) and (4). In the wave 5 IFLS survey data, the beneficiary households receive transfers (T_b) from non-co-resident biological parents, biological children, biological siblings, spouse, non-biological parents, and other relatives; friends; neighbors; religious, political, and other domestic non-government organizations; other individuals; firms or corporations; as well as foreign government and non-government organizations but not related with disaster relief and market operation. Meanwhile, the donor households give the transfers (T_d) to non-co-resident biological parents, biological children, biological siblings, spouse, non-biological parents, and other relatives. The transfers are the money value (in *Rp* or rupiah, the Indonesian currency) of cash, loans, tuition, health and medical expenses, food, and other goods, as well as other transfers, except for household chores, childcare, health recovery assistance, and family business assistance. Some households have zero transfers received or given. Since zero transfer can be interpreted ambiguously between real zero value for the transfers and insufficient information on the value of the transfers, these observations are excluded from the analysis.

Y_b is the pre-transfer income of the beneficiary household, and Y_d is the pre-transfer income of the donor household both in *Rp*. The household's pre-transfer total income of all members (Y_b and Y_d) is from non-business assets, including rent, interest, and profit sharing; main and side incomes, including bonuses; main and side business profits; and other sources, including pensions, scholarships, insurances, and winnings/lotteries for the past twelve months.

X is a set of variables linked to the household's head that includes gender (sx) and marital status (ms), while W is a set of variables linked to the household that include household size (hs) and geographic location (ur) of the household, which is separated into rural and urban areas.

M is a set of ten variables linked to the household members. First, aag is for the average age of household members. Second, agx is for the average household members' expectation of old age confidence-level. This variable is the average score of all members' confidence levels that range from '1' for 'very unlikely' to '5' for 'very likely' of reaching old age (60 to 100 years). Third, eda is for the average years of education of household members.

The education and age variables in this study cover all members of the household, whereas in past studies (e.g., Clement, 2008; Alvi & Dendir, 2009), only the household head was involved. The inclusion of all household members was desired by potential donors and beneficiaries. The decision to transfer is not only influenced by the education and age of the household head but also by other members. Thus, the coefficients of these variables in this study can be expected to better reflect the motives of the transfers.

The fourth in the M set of variables, ph, is for the number of household members with cell phones. The fifth is se for the average household members' subjective economic level and their response to: "Please imagine a six-step ladder, where on the bottom stand the poorest people and on the highest step stand the richest people. On which step are you today?" The level ranges from '1' for 'poorest' to '6' for 'richest.' Sixth is ha for the average household members' happiness level. The level is mentioned in the household member's response to: "Taken all things together these days, how do you feel?" The response ranges from '1' for 'very unhappy' to '4' for 'very happy.'

Seventh is the average household member's attitude toward risk or ra. The attitude toward risk is based on their individual choice over two options: first, a guaranteed income of four million rupiahs, which is assumed to be the choice of risk-averse members, and second, an equal chance of earning sixteen million rupiahs or nothing, which is assumed to be the choice of risk-loving members. The variable '0' is for the risk-averse household when the number of risk lovers is less than the risk averse members or the ratio is less or equal to 0.5. The variable '1' is for risk lover households when the ratio is greater than 0.5.

Eighth is for the household members' total number of social involvements or si. Social involvements are the total number of community programs that the household members have participated in over the last twelve months. The community programs comprise community meetings at all levels, which include *Dasa Wisma* (housewife group of ten to twenty households), neighborhood (RT), hamlet (RW), village, subdistrict, and Village Advisory Boards (LMD and LKMD); all types of cooperatives; regular voluntary labor such as cleaning up the village; village or neighborhood improvement programs; youth groups; religious activities such as prayer groups; and the village library.

Ninth is *we* for the total value of the wealth of household members. The wealth includes all the members' non-business houses and land occupied by the household; other house/buildings and land; poultry; livestock/fishpond; perennials; vehicles; household appliances such as radio, television, washing machine, and cell phone; savings, certificate of deposits, and stocks; receivables; jewelry; furniture and utensils; and other non-business assets. The tenth is *ht* for the average household members' subjective level of health. The household members are asked, "In general, how is your health now?" The

option ranges from '1' for 'very unhealthy' to '4' for 'very healthy.' μ is the error term.

The average values applied to some of the variables above may not fully capture the diversity and complexity of characteristics displayed by individual household members in Indonesia. However, these average values can effectively represent the central tendencies of the variables and identify typical household characteristics. For example, a higher average happiness level reflects the dominance of happier members of the household. Using average values can more clearly present the characteristics shared by most members of the households, which can be overlooked in a more detailed analysis. As such, average values can serve as practical guides for policy addressing the majority. Such guided decisions may benefit the wider population, as expected from this study. A similar approach was applied to the average years of schooling of all household members (Alvi & Dendir, 2009) or to average adult household members' earnings (Raut & Tran, 2000).

Transfers are seen from the perspective of the donors and beneficiaries, while there are three possible motives discussed in theories. Guidance for the conclusion on the motives of transfers is based on Table 1 (Clement, 2008). When the transfers received are positively influenced by the beneficiary's income and, at the same time, the transfers are similarly influenced by the donor's income, the transfers are thus motivated by exchange. Risk sharing motives can be concluded when the transfers received are negatively influenced by the beneficiary's income, as well as by the donor's income. However, an altruistic motive is only possible when the transfers received are negatively influenced by the beneficiary's income, whereas they are also positively influenced by the donor's income. Nonetheless, the coexistence of the negative relationship between the beneficiary's income and the transfers received and

the positive relationship between the donor's income and the transfers given can also be interpreted as the result of exchange and risk sharing motives.

Table 1. Expected signs of the coefficient of income

The impact of	altruism	exchange	risk sharing
beneficiary's income on transfers received	–	+/–	–
donor's income on transfers given	+	+	+/–

Source: Clement, 2008

The initial models examined are

$$T_{bi} = \beta_{b0} + \beta_{b1}Y_{bi} + \beta_{b2}X_{bi} + \beta_{b3}W_{bi} + \beta_{b4}M_{bi} + \mu_{bi} \tag{5}$$

and

$$T_{di} = \beta_{d0} + \beta_{d1}Y_{di} + \beta_{d2}X_{di} + \beta_{d3}W_{di} + \beta_{d4}M_{di} + \mu_{di} \tag{6}$$

The above models (5) and (6)) were then transformed into basic logarithmic models. To anticipate heterogeneity and endogeneity, the standard errors from the basic logarithmic models from the data set were then adjusted for twenty income clusters, subdistricts, regencies, and provinces.

The possibility of endogeneity between pre-transfer income and the error term is treated further using the Generalized Method of Moments (GMM) and Two Stage Least Square (2SLS) regressions, where the standard errors are also adjusted for the subdistricts. The pre-transfer income is treated as the endogenous variable as a function of working status, number of times borrowing from non-family and friends or access to loan, number of household members with internet access, number of household disaster experiences in the last five years, and number of household's health insurance coverage. A total of seven models were formulated as follows: the initial linear model, the basic

logarithmic model, four logarithmic models with adjusted standard errors, and the final models with GMM or 2SLS.

4. Findings

4.1 Data summary

The average value of transfers in urban areas is higher than in rural areas (Table 2). Better networking supported by better transportation and communication in the urban areas may be one of the explanations. Better networking explains why households with more risk-lover members receive and give more transfers. The wider networking accompanied by greater 'investment' in the form of giving created by this attitude opens a greater opportunity for receiving more transfers. The networking capacity may also explain why an older person living with other household members is more likely to receive help than those living alone (Sudsawasd & Siriprapanukul, 2023). In the gender perspective, households with a female head receive more and give less than male-headed households. This information may serve as an indication of the presence of altruistic motives in the transfers. Marital and working status also provide similar evidence. Households with single or unemployed household heads receive more and give less than households with the married or employed household heads. In general, the data indicates the possible existence of altruism, exchange, and risk-sharing motives in the transfers.

Table 2. Average value of transfer in each household

Variable	Subpopulation	Average Value of Transfer in Each Household (Million Rp/year)			
		Beneficiary	Donor	Net = (Beneficiary – Donor)	Total (Beneficiary + Donor)
Geographical location	Rural	44,8	44,3	0.4	89,1
	Urban	**63,2**	**60,4**	**2,8**	**123,7**
Gender	Female	**70,4**	35,2	**35,3**	105,6
	Male	54,0	**57,9**	–3,9	**111,9**
Marital status	Not married	**70,0**	34,7	**35,3**	104,6
	Married	53,6	**58,7**	–5,1	**112,3**
Attitude towards risk	More risk averse members	55,8	52,8	**3,0**	108,6
	More risk lover members	**77,2**	**96,4**	–19,2	**173,6**
Working status	Not working	**81,0**	**59,7**	**21,4**	**140,7**
	Working	43,7	55,6	–11,9	99,2

Source: IFLS Wave 5

The data also reflects the importance of transfer in shaping the overall household welfare in Indonesia (Table 3). On average, the money value of the transfer received or given is around 27% of the income of a household. The magnitude of this figure shows that transfers should not be underestimated in influencing the welfare of households in Indonesia. The importance becomes more relevant as income fluctuates over time and transfers into a dominant survival strategy during economic downturns. Further, the transfer is extremely important for households with female, single, or unemployed household heads since, on average, the value of the transfer becomes greater than income.

Table 3. Average household transfer to income ratio

Variable	Subpopulation	Average Household Transfer to Income Ratio (%)			
		Beneficiary	Donor	Net (Beneficiary – Donor)	Total (Beneficiary + Donor)
Geographical location	Rural	20.3	20.1	0.2	40.3
	Urban	**34.0**	**32.5**	**1.5**	**66.5**
Gender	Female	**343.7**	**171.6**	**172.0**	**515.3**
	Male	22.9	24.5	–1.6	47.4
Marital status	Not married	**297.7**	**147.5**	**150.2**	**445.2**
	Married	22.0	24.2	–2.1	46.2
Working status	Not working	**231.6**	**170.5**	**61.1**	**402.0**
	Working	19.8	25.1	–5.4	44.9
All Households		27.9	27.0	0.9	54.9

Source: IFLS Wave 5

4.2 Transfers received

The regression results in the initial model resemble the basic logarithmic model, following treatments on heteroscedasticity and endogeneity issues (Table 4) and similarly for the other five models. The treatments include adjusting the standard errors for twenty income clusters, subdistricts, regencies, and provinces where the households are located. Instrumental Variables using GMM combined with adjusted standard errors for the subdistricts of the households are also applied in the last model to minimize the presence of endogeneity. In this last model, pre-transfer income as the endogenous variable is a function of working status, access to loan, access to internet, and number with health insurance coverage. As a result, seven models were discussed in the study, with one initial and six logarithmic models. The number of disaster experiences is also instructive to include as an instrumental variable. On inclusion in the model however, the number of observations drops substantially,

so that the R-squared value becomes incomputable. For this reason, this variable was excluded from the beneficiary model.

The signs of the significant coefficients in the models indicate that all three motives for transfers exist. Household pre-transfer income, the gender of household head, household wealth, number of household members with cell phones, household size, household members' average years of education, and average household members' confidence level of old age expectation are consistently significant in almost all the models, including the final model with GMM regression. The signs of regression coefficients of those variables are also consistent throughout the models. Households with lower pre-transfer incomes or whose household heads are female receive more transfers. Lower-income and female household heads may have induced altruistic or risk-sharing-oriented private donors to provide help because these donors presume that these households need assistance. However, exchange can also be the motive. These relationships can be an early sign of the presence of altruistic, exchange, and risk sharing motives in the transfers, although a more accurate conclusion should be based also on the behavior of the transfers given. Moreover, households with more wealth, more members with cell phones, greater size, more average years of education, and more confidence of old age expectation also receive greater transfers. These relationships better reflect exchange motives.

Table 4. Transfer behavior from the beneficiaries' point of view

Regressors	Initial	Model (transfers received by beneficiaries as the dependent variable)					
		Logarithmic					
		basic	Adjusted s.e. for 20 income clusters	Adjusted s.e. for subdistricts	Adjusted s.e. for regencies	Adjusted s.e. for provinces	IV GMM; (income as the endogenous v.; adjusted s.e. for subdistricts)
Income	–7.E–05	**–0.053*****	**–0.053***	–0.053	**–0.053****	**–0.053****	**–0.486***
	(–0.25)	(–2.77)	(–1.83)	(–1.82)	(–2.2)	(–2.18)	(–1.68)
Gender	–1.3E+07	**–1.081*****	**–1.081*****	**–1.081*****	**–1.081*****	**–1.081*****	**–0.698***
	(–1.12)	(–13.32)	(–17.07)	(–12.74)	(–11.94)	(–6.97)	(–1.88)
Marital Status	**–2.3E+07****	**0.272*****	**0.272*****	**0.272****	**0.272*****	**0.272***	0.208
	(–1.97)	(3.36)	(3.34)	(2.9)	(2.76)	(1.78)	(0.6)
Wealth	**0.023***	**0.084*****	**0.084*****	**0.084*****	**0.084*****	**0.084*****	**0.172***
	(1.72)	(5.79)	(3.89)	(3.72)	(5.1)	(4.17)	(1.71)
Geography	**1.E+07***	**0.090****	**0.090*****	**0.090****	**0.090***	**0.090****	–0.116
	(1.74)	(2.1)	(3.03)	(2.89)	(1.75)	(2.14)	(–0.7)
Social involvement	8.E+05	**0.064****	**0.064****	**0.064***	**0.064****	0.064	–0.003
	(0.8)	(2.24)	(2.21)	(2.18)	(2.21)	(1.69)	(–0.05)
Risk attitude	2.6E+07	(0.232	0.232	0.232	(0.232	0.232	**1.011****
	(0.94)	(1.23)	(1.5)	(1.46)	(1.37)	(1.13)	(2.32)
Phone	**1.2E+07*****	**0.287*****	**0.287*****	**0.287*****	**0.287*****	**0.287*****	**0.430****
	(2.74)	(5.19)	(5.58)	(4.88)	(4.01)	(4.32)	(2.17)
Health	–6.7E+06	–0.059	–0.059	–0.059	(–0.059	–0.059	–0.112
	(–1.1)	(–1.49)	(–1.47)	(–1.71)	(–1.45)	(–1.26)	(–0.71)
Household size	**8.E+06*****	**0.260*****	**0.260*****	**0.260*****	**0.260*****	**0.260*****	**0.565*****
	(2.81)	(4.52)	(3.74)	(4.42)	(5.79)	(3.73)	(3.75)
Happiness	9.E+06	0.026	0.026	0.026	0.026	0.026	0.268
	(0.99)	(0.44)	(0.45)	(0.48)	(0.51)	(0.4)	(1.12)
Subjective econ. Level	–6.8E+06	**0.057***	0.057	0.057	**0.057***	**0.057****	–0.147
	(–1.4)	(1.85)	(1.54)	(1.35)	(1.77)	(2.4)	(–0.83)
Education	**2.E+06***	**0.536*****	**0.536*****	**0.536*****	**0.536*****	**0.536*****	**1.253*****
	(1.75)	(8.37)	(6.4)	(5.79)	(6.84)	(7.12)	(3.49)

Old age expectation	6.E+05	**0.046***	**0.046***	**0.046***	**0.046***	**0.046***	**0.085***
	(0.82)	(9.11)	(8.86)	(10.83)	(9)	(7.32)	(5.2)
Average age	**2.E+06**	0.192**	0.192**	0.192*	0.192*	0.192	0.334
	(5.01)	(2.26)	(2.2)	(2.2)	(1.97)	(1.54)	(1.1)
Constant	–6E+07	11.822***	11.822***	11.822***	11.822***	11.822***	14.939***
	(–1.59)	(27.33)	(25.9)	(25.12)	(31.91)	(27.37)	(5.41)
F/Wald chi2	7.16***	46.92***	251.2***	89.34***	57.73***	423.2***	250.5***
R–squared	0.008	0.073	0.073	0.073	0.073	0.073	0.019
Observations	13,775	8,938	8,938	8,938	8,938	8,938	811

Notes: t statistics in parentheses; *, **, and *** represent 10%, 5%, and 1% level of significance, respectively.

Source: Authors

The marital status of the household head, geography (rural or urban), the total number of social involvements, and the average age of household members are mostly significant in the models but not in the final model with GMM regression. The coefficients of the regressions show that households with married household heads, located in urban areas, with a greater number of social involvements, or with more grown-up members receive more transfers. Exchange can better explain the motives behind giving more to people or households with these characteristics. For example, someone who is interested in giving as motivated by exchange will be more interested in transferring resources to households with more adult members. On the contrary, altruistic donors may want to transfer more money to households with more young children who need more financial support. In almost all the models, the other four explanatory variables—risk attitude of household members, average household members' subjective health, household members' happiness, and average household members' subjective economic level—do not significantly influence the transfers received.

4.3 Transfers given

Changing the dependent variable from transfers received to transfers given produces a rather different pattern of regression results throughout the seven models in this study (Table 5). In anticipating heteroscedasticity and endogeneity problems, the initial model is also transformed into a logarithmic model, and the standard errors are adjusted for twenty income clusters, subdistricts, regencies, and provinces of the households. The last model employs instrumental variables with 2SLS combined with adjusted standard errors for the subdistricts. To address endogeneity, pre-transfer income is considered as a function of working status, access to loans, access to the internet, number of disaster experiences,[5] and number with health insurance coverage.

Table 5. Transfer behavior from the donors' point of view

Regressors	Model (transfers given by donors as the dependent variable)						
		Logarithmic					
	Initial	Basic	Adjusted s.e. for 20 income clusters	Adjusted s.e. for subdistricts	Adjusted s.e. for regencies	Adjusted s.e. for provinces	2SLS; (income as the endogenous v.; adjusted s.e. for subdistricts)
Income	0.001***	0.323***	0.323***	0.323***	0.323***	0.323***	1.447*
	(3.35)	(19.17)	(4.52)	(15.18)	(13.74)	(17.41)	(1.7)
Gender	4.E+06	0.048	0.048	0.048	0.048	0.048	–0.001
	(0.35)	(0.64)	(0.66)	(0.59)	(0.64)	(0.83)	(0)
Marital Status	1.3E+07	0.216***	0.216***	0.216***	0.216***	0.216***	–0.119
	(1.11)	(2.95)	(3.23)	(2.66)	(3.96)	(4.04)	(–0.25)
Wealth	0.017	0.153***	0.153***	0.153***	0.153***	0.153***	–0.067
	(1.3)	(12.07)	(7.41)	(9.65)	(12.37)	(8.42)	(–0.36)

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[5] Household's number of times experiencing disaster in the last five years.

Geography	3.E+06	0.013	–0.013	–0.013	–0.013	–0.013	0.132
	(0.37)	(–0.34)	(–0.26)	(–0.26)	(–0.24)	(–0.19)	(0.52)
Social involvement	–2.E+05	**0.041***	**0.041****	**0.041***	0.041	0.041	–0.280
	(–0.21)	(1.66)	(2.14)	(1.97)	(1.29)	(1.16)	(–1.38)
Risk attitude	3.6E+07	**0.548****	**0.548****	**0.548****	**0.548****	**0.548***	–1.730
	(1.32)	(3.38)	(2.99)	(3.16)	(3.72)	(2.54)	(–1.2)
Phone	**1.2E+07****	**0.369****	**0.369****	**0.369****	**0.369****	**0.369****	–0.283
	(2.73)	(7.59)	(7.31)	(8.21)	(5.33)	(6.27)	(–0.69)
Health	3.E+06	–0.001	–0.001	–0.001	–0.001	–0.001	**0.507****
	(0.48)	(–0.02)	(–0.02)	(–0.02)	(–0.02)	(–0.03)	(2.7)
Household size	2.E+06	**–0.462****	**–0.462****	**–0.462****	**–0.462****	**–0.462****	–0.393
	(0.66)	(–9.17)	(–8.76)	(–7.8)	(–7.77)	(–5.36)	(–1.22)
Happiness	1.E+07	**0.133****	**0.133****	**0.133****	**0.133****	**0.133****	0.242
	(1.11)	(2.58)	(2.76)	(2.5)	(2.3)	(2.11)	(0.65)
Subjective econ. level	–4.E+06	**0.108****	**0.108****	**0.108****	**0.108****	**0.108****	–0.001
	(–0.84)	(3.99)	(5.4)	(4.53)	(4.77)	(3.98)	(0.00)
Education	**5.E+06****	**0.451****	**0.451****	**0.451****	**0.451****	**0.451****	–0.219
	(4.64)	(8.02)	(6.01)	(8.81)	(5.53)	(7.38)	(–0.31)
Old age expectation	–4.E+05	0.001	0.001	0.001	0.001	0.001	0.024
	(–0.6)	(0.17)	(0.17)	(0.14)	(0.12)	(0.15)	(0.57)
Average age	**2.E+06****	**0.147***	**0.147***	**0.147***	0.147	**0.147***	–0.798
	(3.88)	(1.97)	(1.87)	(2.01)	(1.5)	(2.61)	(–0.87)
Constant	–1.3E+08****	4.206***	4.206***	4.206***	4.206***	4.206***	–6.698
	(–3.45)	(10.96)	(4.25)	(12.24)	(9.85)	(11.51)	(–0.94)
F/Wald chi2	7.14***	128.1***	684.9***	288.7***	273.6***	2,987***	287.1***
R–squared	0.008	0.169	0.169	0.169	0.169	0.169	0.131
Observations	13,774	9,447	9,447	9,447	9,447	9,447	197

Notes: t statistics in parentheses; *, **, and *** represent 10%, 5%, and 1% level of significance, respectively.

Source: Authors

Pre-transfer income is the only explanatory variable that is consistently significant and has a positive influence on the transfers given in all the models.

Households with higher incomes demonstrate the greater value of total transfers given to other households. This positive relationship makes the three motives of transfers possible. Household head's marital status, household's wealth, household members' attitude toward risk, number of household members with cell phones, household members' happiness, household members' subjective economic level, household members' average years of education, and the average age of the household members also show significant and positive coefficients in most of the models but not in the last model with 2SLS. The positive relationships show that these variables represent the capacity of the households to give. Regardless of the motives, married household head, greater wealth, risk lover members, more cell phones, happier members, better subjective economic level, more educated members, and more adult members have better monetary and mental capacity to give. For example, households with happier members tend to give more to others. Happiness has made the household members in the IFLS wave 5 survey feel so satisfied with their own lives that they become ready to share some of their resources with others. Household size has significant and negative coefficients in almost all the models. Greater household size, especially those with many children, may have reduced the capacity to give to others. Altruism, exchange, and risk sharing motives become possible in these kinds of relationships among these variables. Gender, geographic location, number of social involvements, subjective health, and confidence level of old age expectation are either significant only in a few of the models or insignificant in all the models.

4.4 The motives

The models above display a coexistence of a negative impact of household pre-transfer income on the transfers received and a positive impact on the transfers given. Based on the guidance provided by Clement (2008), this

coexistence leads to a conclusion that, during the survey period, three possible motives—altruism, exchange, and risk sharing—are the drivers of transfers in Indonesia. Altruism and risk sharing motives are supported by the fact that female-headed households receive more transfers. These more vulnerable households may have induced compassion on altruistic individuals or an opportunity for risk-sharing motivated donors to provide help.

The presence of exchange motives fits both the negative effect of gender on the transfers received and similarly the positive impact of household wealth, number of members with cell phones, household size, average years of education, and old age expectation. These characteristics also enable households to participate in more networks and social organizations, thus making some people more visible to others who are interested in giving, which is motivated by exchange, risk sharing, or even altruism.

5. Conclusion and recommendations

The negative impact of household pre-transfer income on the transfers received and the positive impact on the transfers given show that altruism, exchange, and risk sharing are the possible motives for transfers in Indonesia. This contrasts Peng et al. (2023), who showed that government assistance to senior citizens does not crowd out transfers from their children since altruism, exchange, and risk sharing are the motives for private transfers in Indonesia, as public transfers may crowd out private transfers in Indonesia. Social assistance policies in Indonesia, such as cash or in-kind aid from the government to overcome poverty impacted by the COVID-19 pandemic, need to pay attention to this effect. The estimated improvement in the welfare of the poor following

government assistance may be smaller than previously expected due to the decreasing effect on private transfer.

Further efforts to avoid crowding out and increase the effectiveness of government assistance can be carried out by considering the characteristics of the beneficiaries. This study indicates that assistance needs to be directed more toward households with female head, unmarried head, less wealth, less social involvement, less telephone access, lower education, lower expectations of old age, with younger members, and in the rural areas. This guidance on targeting beneficiaries of assistance programs complements the recommendations implied by previous studies. For example, Sudsawasd and Siriprapanukul (2023) discovered that the elderly who live alone in Thailand are less likely to receive assistance than the elderly who live with other household members. Meanwhile, Nguyen et al. (2023) suggest that the government in Vietnam needs to pay more attention to ethnic minority households in mitigating the negative impacts of disasters.

From the perspective of the donors, households that are more likely to provide transfers can be facilitated by the government so that these can be channeled more efficiently and on target. These donor households are mainly those with married heads, greater wealth, more risk-averse members, better telephone access, larger size, better subjective economic level, better education, and more adult members.

Discovering that transfers are not only motivated by exchange and risk sharing but also by altruism (e.g., Foster & Rosenzweig, 2001; Feinerman & Seiler, 2002) may clearly enlighten the gap between some studies on transfers, especially in Indonesia, and what is generally accepted by literature in psychology and biology. Raut and Tran (2000) and Ravallion and Dearden (1988) previously provided evidence of the existence of altruism in transfers in

Indonesia. Literature in psychology and biology acknowledges that altruism does, in fact, exist (e.g., Dugatkin, 2006; Kitcher, 2010; Warneken & Tomasello, 2009), while some studies in economics maintained it to be otherwise (e.g., Zhang & Bian, 2021; Hamada & Yanagihara, 2014).

This study also established that altruistic transfers in Indonesia were able to survive major socio-economic changes since the first signs of a 'moral economy' were first demonstrated by Ravallion and Dearden (1988) and later by Olivia (2007). However, this study also showed that altruism was not the only motive. Exchange and risk sharing have also been the motives for private transfers in Indonesia.

With a focus on household characteristics, macroeconomic variables were assumed to be constant in this study. However, further study involving wider macroeconomic determinants, relevant to the latest economic developments that are important for the household transfers decision, can provide an alternative perspective. For example, Jijin et al. (2022) employed factors such as exchange rate, oil price, and domestic GDP in India as the macroeconomic determinants. These variables should also be considered in future research.

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