IMPACT OF PUBLIC TRANSFER ON ROTATING SAVINGS AND CREDIT ASSOCIATIONS (ROSCAS): THE INDONESIA HOUSEHOLD CASE

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ABSTRACT

Public transfers in the form of financial assistance to poor households have a positive impact on recipient's household. The impact is not only felt by recipient's households, but also by the nearby household. Effect of public transfers on social capital as reflected in public participation so far not received empirical support enough. This study aimed to evaluate the impact of public transfers (direct cash assistance, BLT) on household participation in community activities. The data used in this study is a publication of Indonesia Family Life Survey (IFLS), which has complete information about the activities of household members in the Rotating Savings and Credit Associations (RoSCAs), cooperatives, and community service activities in order to development of the village. The results showed households that received public transfers (BLT) are more active in RoSCAs. The positive correlation between BLT and RoSCAs (arisan) activities can still be proven even though there are cases of leakage in cash aid.

JEL Classifications: I38, O16, O17
Keywords: Government Programs, Social Capital, RoSCAs
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INTRODUCTION

One of the feature that have an important role in the development is social capital that owned by a community. Many researchers have realized the importance of social capital in the formation of civil society (Fukuyama, 2000). The existence of social capital is also important not only for supporting the effectiveness of government, but also has contributed to sustainable growth and other economic indicators (Keefer and Knack, 2005). Some researchers have also empirically examined the impact of social capital on the performance of economic development.

Empirical studies on the social impact of public transfers so far often face a serious estimation problem. Firstly, the definition of social capital is quite wide that making it difficult to obtain sufficient common indicators to represent the concept of social capital. One indicator used is the activity of individuals or households in community activities. In a society with the intensity of a wide range of social activities, the type of social activities undertaken will vary and must be unique among communities. Secondly, the decision of household member to engage in social activities is also based on factors that are difficult to measure empirically. Social activity is more influenced by the individual's consciousness of the responsibility keep the safety and comfort ability of the environment. There are no legal sanctions that bind a person to engage in social activities. Households with a high level of social awareness will be actively involved in community activities. In contrast, relatively egoistic household tend to avoid social activities.

The estimation problem can be overcome if there is available micro-household data that is quite rich in information about the involvement of household members in various community activities. In addition, the household data also has a panel structure that is needed to implement the relevant method to control unobserved heterogeneity. The of micro data with a panel structure that has sufficient information on the complete social activities available now in the publications Indonesia Family Life Survey (IFLS). The availability of household-level micro data allows this study to be done with two important contributions. Firstly, this study can analyze the social impact of public transfers by using multiple indicators of community participation that more specific. Secondly, this paper using the appropriate methodology to control the characteristics of households that are not observed but were highly correlated with community participation and the government programs. As an illustration, egoistic households tend to be inactive in the society activities. This household will also receive assistance without feeling guilty that government transfers that they received, should not be right. Without controlling for unobserved heterogeneity, the estimated regression coefficient between program variables and various indicators of public participation will be potentially biased.

Some important findings obtained from this study. Without controlling factor unobserved household
level, there are indications that BLT has a negative relationship with some kind of community activities such as Rotating Savings and Credit Associations (RoSCAs). When the unobserved heterogeneity controlled (with First Difference), then there is strong evidence that households who earn BLT relatively more active in the RoSCAs activities. In other words there is a positive relationship between public transfers and the household members' participation in social activities. The role of public transfers in the form of BLT on RoSCAs and cooperative activities is still quite significant even though there are indications of a leak BLT in the local community. Leakage in the BLT does not have a significant impact on community participation activities. In other empirical models test, we found no significant evidence that the leak BLT in a community (village) will cause a rise in the probability of households earn criminal action.

Organization of this paper is organized as follows. The second section describes some relevant literature review and public transfer programs in Indonesia. The third will discuss the methodological issues. The fourth describe data of sample households in Indonesia, which is used in the IFLS. The last section discusses the general results obtained and closed with conclusions and recommendations.

PUBLIC TRANSFERS AND SOCIAL CAPITAL IN PREVIOUS LITERATURE

Social Capital and Economic Development

The importance of social capital as a determinant of economic development has long been discussed by several experts. Conceptually, social capital is often associated with social values prevailing in society, mutual trust (trust) and the participation of individuals or households within an activity or social organizations. Ponthieux (2004) reviewed the concept of social capital from the work of Coleman's social structure, participation in the Putnam's organization according to the concept of trust by Fukuyama.

In the empirical studies, experts have also introduced the concept of calculations related to social capital ranging from households to community level (Stone, 2001). Some other researchers such as Hjoullund and Svendsen (2000) specifically introduced calculation method of the social capital index using factor analysis approach. In this case the researchers defined the concept of social capital in the dimensions of trust (trust), cooperation (cooperation) and social networks (network). In general, the dimensions of social capital are summarized in two major indicators, namely indicators trusts and voluntary organization indicator. In the aspect of group collaboration, researchers used the concept of social capital as the number of memberships in community organizations. The linkage between social capital and economic growth in the aggregate are analyzed by Garcia et al. (2006). Using time series data in 1970 and 2001 for 23 OECD countries, they found a significant positive association between social capital and economic growth. Social capital has contribution about 7 to 10 percent on economic growth of the sample countries. These findings emphasize the importance of the contribution of social capital in economic growth in addition to other explanatory factors.

Research on social capital in Indonesia is essentially also been conducted from the beginning of the decade of 2000. Miguel et al. (2002) using SUPAS data, PODES and SUSENAS test the impact of industrialization on social capital in Indonesia between 1985 and 1997. Results of the study found the district that experiencing industrialization have relatively high social capital indicators. Meanwhile, the district that located in the nearby of the industrialized district actually has declining in social capital indicators that observed by the number of out-migration and the relatively few people's participation in community meetings. Other research related to social capital in Indonesia is done by Grootaert (1999) uses survey data Local Level Institution in three provinces: Jambi, Central Java and East Nusa Tenggara. The data used consists of a multi-level unit analysis from the household level and the district community. Some indicators of social capital that is used are a membership density, heterogeneity index, meeting attendance and decision making index. The study found that households with higher social capital enjoy higher expenditure, have more assets, have more savings and have higher access to credit. Researcher also found a mechanism effect of social capital on welfare through three channels, namely (1) to share information among members of the group activities, (2) reducing opportunistic behavior, and (3) improve the process of group decision making. The study of social capital so far related to the issue of measuring and calculating the impact of social capital on welfare and poverty indicators. The results of the study reinforce the hypothesis that most of the social capital indicators have a positive impact on household welfare and the economy more generally. In line with the number of government programs in many developing countries, the study of indirect effect of public transfers began to increase.

Impact Evaluation of Public Transfers
Impact evaluation of public transfers in the form of cash transfers has been studied, including the effects of an error in the target beneficiaries. Stoffler (2012) conducted a simulation to test the effects of cash transfers on consumption and production of farm households using household data of Taiwan. Some simulation results indicate that the transfer has a positive impact on the increase in consumption and production. The positive effects are also felt by non-recipient households (non-target) and the recipient households, although not poor households (leakage). In relation with targeting error, Weiss (2004) identified that the phenomenon is common in developing countries, including countries that have long held a poverty alleviation programs such as India and the People's Republic of China (PRC). The presence of leakage and undercover also found in countries that are relatively new in the implementation of public transfer programs, such as Indonesia and Thailand. Generally, research concluded that although there is a leak, poverty alleviation programs still have a positive impact.

Coady et al. (2004) conducted a review of targeting programs in several developing countries. Several methods of targeting are discussed in detail and carried out to measure the performance of targeting indexation in some countries (including Indonesia). Evaluation is done not only to the program but also includes the transfer of subsidy programs and job creation programs. Evaluation of the impact of the program in direct cash assistance (BLT) conducted in 2005 and 2006 comprehensively done by Bazzi et al (2012). Although BLT explicitly granted to anticipate the impact of rising world oil prices, several other welfare indicators such as education, health and employment were also evaluated. Giving the cash transfers to some extent has positive effect on indicator of well-being that tested. The impacts of public transfer are not only evaluated on welfare indicators such as household consumption expenditures, health and education. Some researchers also examined the impact of indirect public transfers on the provision of social capital. Attanasio et al. (2008) with experimental approach, find evidence that the level of cooperation that people get the program relatively higher than people who do not get the program. Meanwhile Ressler (2008) with a qualitative approach, find evidence that the presence of the public transfers strengthened existing social networks. The researcher found evidence after conducting interviews with some of the urban and rural households in Kenya. Angelucci and De Giorgi (2009) find that public transfers increase household consumption of non-recipients by 10 percent. The increase occurred through increased borrowing, private transfers between relatives and family as well as through a reduction in savings. Previous studies so far found evidence that poverty alleviation programs are realized in the form of cash transfers (cash transfers) have a positive effect on the recipient households. This positive effect can also be felt by the non-recipient households. The positive influence of the presence of public transfer programs on welfare not only in the form of increased levels of household welfare recipients, but also the strengthening of social capital in the form indicated by the higher participation in formal and informal activities.

One of the problems encountered in the public transfer is an error in the form of leaks and undercover. Errors will certainly cause the target achievement of program effectiveness is not optimal. How influence of targeting error on social capital in the community? Research on this topic is still relatively rare. One study using micro data of households in Indonesia conducted by Cameron and Shah (2011). By using IFLS and SUSENAS data, researchers state that the targeting error, especially the presence of leakage, will lead to increased crime. Furthermore, they also found a negative relationship between targeting error and community participation. The main problem of the method of estimation is done by Cameron and Shah (2011) is not controlling for household characteristics that are not observed but have a significant influence on the relationship between social capital and public transfer. The problem can be overcome if there is household panel data that contains information on household behavior related to public participation and the status of public transfers.

**Rotating Savings and Credit Associations (RoSCAs)**

The important social capital indicators that used in this study are Rotating Savings and Credit Associations (RoSCAs) or known as “Arisan”. As one form of activity that were encountered in several developing countries (including Indonesia), arisan activity has long been a concern of experts to examine the determinants and implications of these activities. So far there are three studies that have been conducted regarding RosCAs in Indonesia. Initial study conducted by Geertz (1962) result in an investigative field survey in the area of East Java in May 1953 until September 1954. According to the study, information was obtained that person's participation in the activities of gathering is not motivated by the money that will be accepted but because of the desire to create harmony in society.

Although research has been done in some places, the puzzle of arisan cannot be identified completely. By using the results of several previous studies, Ambec and Treich (2003) proposed an alternative theory related to the RoSCAs. The theory is constructed by using the model of social pressure. Ambec and Treich (2003) hypothesized that an individual's participation in RoSCAs because of the motif to avoid social obligation to share revenues. Suppose individual $i$ with income level $y$ face the decision to participate in a number $m$ of money in arisan. It is assumed that there is a social gratification $\delta$ if the individuals follow arisan. If the individual utility
is expressed as \( u(.), \) then the optimal point is achieved due to pay a sum of \( m \) individual will be achievable only and only if:

\[
u_i(y_i - m_i) + \delta_i > u_i(y_i)
\]

where \( \delta \) is a social gratification or social sanctions that exist in society. With assumption that the utility \( u(.) \) is a increasing function and concave, then the individual with the lowest income levels will not reach optimal to spend some money \( m \). For individuals with low income levels, coefficient \( \delta \) is zero.

\[
u_i(y_i - m_i) < u_i(y_i)
\]

Along with the increasing in income, the individual would receive social gratification if he or she gives the contributed \( m \). It should be noted that there will be a level of income \( y \) which individuals will be in the same position (indifferent) between giving \( m \) money or not. Mathematically, this position can be expressed as follows:

\[
u_i(y_i - m_i) + \delta_i = u_i(y_i)
\]

Thus, the utility of an individual can be expressed as follows:

\[
u_i(y_i) = \begin{cases} u_i(y - m_i) & \text{if } y > y_i \\ u_i(y) & \text{if } y \leq y_i \end{cases}
\]

**METHODOLOGY**

Basic estimation model used in this study is to follow the model used by Cameron and Shah (2011) with some modifications. Variable Community Participation (RoSCAs) is explained by the explanatory variables such as the level of household income, consumption and policy variables.

\[
\text{RoSCAs}_{int} = \alpha_0 + \alpha_1 X_{int} + \alpha_2 INS_v + \alpha_3 BLT_v + \pi_i + \mu_d + \epsilon_{int}
\]

where RoSCAs is a member of the household participation in social gathering activities; \( X \) is a vector of household characteristics; \( INS \) is the vector characteristic of institutions; \( BLT \) is the policy variable; \( \pi \) are variable household characteristics not observed; \( \mu \) are the variable that represents the characteristics of the district and \( \epsilon \) is a random error term.

The main problem in the estimation of the model (5) is the presence of unobserved factors that affect the participation of society as well as targeting BLT. As an illustration, households that socially not active tend to not active in the community activities and hence escape from the division of public transfer. Disregard for the effects of unobserved heterogeneity at the household level will lead to bias in the coefficient associated with the BLT and BLT targeting. If we assumed that the un-observed character is time invariant, then the use of the techniques of First Difference (FD) can be isolate the impact of the these fixed variables. Differenting process will result in the following equation:

\[
\Delta \text{RoSCAs}_{iv} = \alpha_1 \Delta X_{iv} + \alpha_2 INS_v + \alpha_3 BLT_v + \mu_d + \epsilon_{iv}
\]

The use of FD will isolate the effects of household-level factors that are time invariants. Household-level variables are represented by the variables of household income and household status acquires or not acquires the BLT. Meanwhile the village institutions are village facilities such as the existence of a terminal, market, school and post office. The main variable is the BLT that includes a variable percentage of leakage and undercover. Variations institutions may not only limited to the level of rural areas. Certain conditions in the district or city / county may severely affect the estimation results. To overcome these problems, the estimation technique used Fixed Effect (FE) level of city / county. The estimated model will briefly be as follows:

\[
\Delta \text{RoSCAs}_{iv} = \alpha_1 \Delta X_{iv} + \alpha_2 INS_v + \alpha_3 BLT_v + \epsilon_{iv}
\]

Following Cameron and Shah (2011), the leakage and undercover calculation is done on the village.
level. By definition, leakage is calculated based on the portion of non-poor households who earn BLT in a village. Meanwhile, undercover calculated based on the portion of poor households who do not receive a BLT in a village. Determination of poor households based on the criteria of average expenditure per month at level Rp175.000. - Households with expenditure below Rp175 thousand per capita per month were categorized as poor households. With a data transfer recipient households status public (BLT = 1, other = 0) then the calculation of leakage and undercover each village can be calculated. For comparison, the calculation of leakage and undercover in this study will also follow the boundary Poverty Line (PL) issued by the Government (Central Bureau of Statistics, 2008). Based SUSENAS, BPS set poverty line for 2007 was Rp166.697, - per capita per month. A more complete review of the research data used can be considered in the next session.

DESCRIPTION OF DATA

The data used in this research is the publication of the IFLS survey wave 3 (in 2000) and IFLS wave 4 (2007). In IFLS-4 has been available specifically questionnaire about government programs including direct cash assistance (BLT). A total of 12,979 households surveyed, nearly 25 percent of households claiming to obtain BLT. By using limit expenditure per capita month of Rp175.000, - for the category of poor households, then about 7 percent of households including in the poor households. Of the 2,901 households who earn BLT, as many as 2,436 households excluding poor households (approximately 18.76 percent of the total households). While there are about 449 poor households not got the BLT (approximately 3.4 percent of total households). This shows that the case of leakage is more dominant compared to the undercover case.

<table>
<thead>
<tr>
<th>TABLE 1. DESCRIPTIVE STATISTICS OF SELECTED VARIABLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household level</td>
</tr>
<tr>
<td>BLT (yes=1, no=0)</td>
</tr>
<tr>
<td>RoSCAs</td>
</tr>
<tr>
<td>Community Meeting</td>
</tr>
<tr>
<td>Cooperatives</td>
</tr>
<tr>
<td>Voluntary Working</td>
</tr>
<tr>
<td>Village Programs</td>
</tr>
<tr>
<td>Income (log)</td>
</tr>
<tr>
<td>Age of Household Head (year)</td>
</tr>
<tr>
<td>Female Household Head (yes=1)</td>
</tr>
<tr>
<td>Marital Status (married=1)</td>
</tr>
</tbody>
</table>

| Village Level                                        |
| Leakages                                             | 0.179 | 0.117 |
| Undercover                                           | 0.033 | 0.041 |
| Terminal (yes=1)                                     | 0.258 | 0.438 |
| Market (yes=1)                                       | 0.407 | 0.491 |
| Telephon Access (yes=1)                              | 0.702 | 0.457 |
| Post office                                          | 0.190 | 0.392 |

*Source: Indonesia Family Life Survey (IFLS)*

Any household data that related to this study can be seen in Table 1. Data used basically consists of two units of analysis: household level and community level (village). A household level consists of data on the status of obtaining BLT (yes or no); income level, age of household head, household head gender and marital status (married or not). The data on household participation in social activities is calculated based on the number of household members who are involved in activities such as gathering community participation, community meetings, cooperative activities, community service and activities in order to improve the village. At the village level, village character is represented by a variable that indicates the presence of rural infrastructure such as terminals, article, telecommunication shop and post office. One of the important explanatory variable in this study is the leakage (leakage) and undercover. Leakage is calculated based on the portion of non-poor
households who earn BLT. While undercover is the portion of poor households who do not obtain the BLT. Both major indices were calculated in the village level.

**ESTIMATION RESULT**

**Impact Public Transfers on RoSCAs**

Table 2 presents the results of the estimation model of community participation (Arisan) relation to the status as BLT households. There are four columns estimation results. The first column (1) and second (2) presents the results of OLS estimates while the third column (3) and the fourth column (4) presents the estimation results of the First Difference household level. The unit of analysis is the household. Dependent variables in this table are the number of poor households who follow arisan during the last 12 months. While the independent variable of primary interest is a dummy variable that indicates the status of the household BLT (yes = 1) or not receive BLT (no = 0).

**TABLE 2. IMPACT BLT ON ROSCAS (ARISAN)**

<table>
<thead>
<tr>
<th>Dependent Variable: Participation on RoSCAs</th>
<th>OLS (1)</th>
<th>OLS (2)</th>
<th>First Difference (3)</th>
<th>First Difference (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLT (yes=1)</td>
<td>-0.106***</td>
<td>-0.081***</td>
<td>0.683***</td>
<td>0.432***</td>
</tr>
<tr>
<td>(0.016)</td>
<td>(0.015)</td>
<td>(0.058)</td>
<td>(0.066)</td>
<td></td>
</tr>
<tr>
<td>Age of Household Head</td>
<td>0.006***</td>
<td>0.003***</td>
<td>-0.077***</td>
<td>-0.009***</td>
</tr>
<tr>
<td>(0.0004)</td>
<td>(0.0005)</td>
<td>(0.002)</td>
<td>(0.002)</td>
<td></td>
</tr>
<tr>
<td>Female Household Head</td>
<td>0.100***</td>
<td>0.074***</td>
<td>0.070</td>
<td>0.103</td>
</tr>
<tr>
<td>(0.017)</td>
<td>(0.018)</td>
<td>(0.086)</td>
<td>(0.081)</td>
<td></td>
</tr>
<tr>
<td>Married of Household Head</td>
<td>0.165***</td>
<td>0.141***</td>
<td>0.070</td>
<td>0.054</td>
</tr>
<tr>
<td>(0.017)</td>
<td>(0.017)</td>
<td>(0.087)</td>
<td>(0.081)</td>
<td></td>
</tr>
<tr>
<td>Education of Household Head</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>0.146***</td>
<td>0.098***</td>
<td>0.313***</td>
<td>0.198</td>
</tr>
<tr>
<td>(0.025)</td>
<td>(0.025)</td>
<td>(0.098)</td>
<td>(0.102)</td>
<td></td>
</tr>
<tr>
<td>Junior High School</td>
<td>0.252***</td>
<td>0.158***</td>
<td>0.255**</td>
<td>0.159***</td>
</tr>
<tr>
<td>(0.031)</td>
<td>(0.029)</td>
<td>(0.133)</td>
<td>(0.131)</td>
<td></td>
</tr>
<tr>
<td>Senior High School</td>
<td>0.300***</td>
<td>0.154***</td>
<td>0.114</td>
<td>-0.004</td>
</tr>
<tr>
<td>(0.029)</td>
<td>(0.030)</td>
<td>(0.146)</td>
<td>(0.138)</td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>0.402***</td>
<td>0.198***</td>
<td>-0.014</td>
<td>-0.213</td>
</tr>
<tr>
<td>(0.032)</td>
<td>(0.033)</td>
<td>(0.186)</td>
<td>(0.167)</td>
<td></td>
</tr>
<tr>
<td>Household Member</td>
<td>0.070***</td>
<td>0.077***</td>
<td>0.203***</td>
<td>0.220***</td>
</tr>
<tr>
<td>(0.004)</td>
<td>(0.005)</td>
<td>(0.017)</td>
<td>(0.018)</td>
<td></td>
</tr>
<tr>
<td>Household Income</td>
<td>0.015***</td>
<td>0.014***</td>
<td>0.028***</td>
<td>0.024***</td>
</tr>
<tr>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.005)</td>
<td>(0.005)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.598***</td>
<td>-0.356***</td>
<td>-1.965***</td>
<td>-1.878***</td>
</tr>
<tr>
<td>(0.040)</td>
<td>(0.051)</td>
<td>(0.035)</td>
<td>(0.022)</td>
<td></td>
</tr>
<tr>
<td>Fixed Effect Community (EA)</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>R-Square</td>
<td>0.091</td>
<td>0.084</td>
<td>0.044</td>
<td>0.041</td>
</tr>
<tr>
<td>Observations</td>
<td>12,746</td>
<td>12,746</td>
<td>8,756</td>
<td>8,756</td>
</tr>
</tbody>
</table>

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Estimated first column (1) is based on the data IFLS-4 (2007), which includes data on participation in arisan activities, as well as the status of a number of important characters BLT households. The estimation result in the first column indicates that BLT households are less likely to actively participating in the arisan. All variables representing household characteristics have a significant relationship with a RoSCAs (arisan) activity. Arisan will be followed by many households with a head of household age is getting older. Arisan is also more widely followed if the head of household is a woman. The level of education of household head has also systematically positive relationship with social gathering activity, the higher the educational level, the greater...
Between public transfers to community participation, the estimated models do the same but with higher levels of participation in higher social gathering as well. All factors were tested in column (1) Table 2 is the observed characteristics of a household level. As a form of social activity, social gathering activities would also be influenced by other factors at the community level. To control the effect of other factors in the community in question, then the re-estimation is done using the approach of Fixed Effect (FE) village level with the results as presented in column (2). Control of the factors causing community-level scale (magnitude) regression coefficients on almost all the free variables in column (1) corrected. However, in terms of the level of significance, there is almost no significant change. Conclusions obtained while also remains, that the BLT program is negatively related to the number of household members who join to arisan.

As has been reviewed previously, that controls the observed variables alone may not be sufficient because the household's decision to participate in gathering more determined by variables that cannot be observed such as social attitudes; motivations and habits of household members according to certain customs that underlie. To isolate the effect of the unobserved factors in the column to three (3) Table 2 do estimation models using variable distinction (differentiation) between the data IFLS in 2007 with the IFLS data in 2000. All the variables of the study of arisan activities like household characteristics, including age, gender, marital status and education of household head measured in terms of the difference (First Difference). The BLT variables remain as previously stated in the form (dummy) because in 2000 the program has not been implemented. Differentiation on the program variables will produce the same value. Estimation models using an approach gathering of First Difference (FD) can be considered in column (3) and column (4) in Table 2. In contrast to previous results, the coefficient on the variable BLT was positive and significant to the level of 1 percent. This indicates that the BLT households more actively involved in social gathering. Number of household members who follow social gathering significantly positively correlated with acceptance status BLT. In other words, more household members BLT involved in arisan activities. FD approach clearly produces different estimates with previous estimates (OLS). This finding confirms that the decisive involvement of household members in public participation activities (arisan) more contributed by unobserved factors.

The age of head of household has a negative relationship with a gathering activity. The level of education of household head is also a determinant of social gathering activities, but significant only at the level of secondary school education (junior high school or equivalent). Household characteristics are also important in determining the number of household members who join social gathering is the large number of members of the household and household income levels. Both positively related to RoSCAs activity. Estimation in column (3) are determined by the internal characteristic of the household either observed or not. To control for other factors outside the household character or in the community level in column (4) performed the same estimation technique with the presence of additional Fixed Effect village level. The use of FE village level scale correcting coefficients of some important variables. However, the level of significance of the coefficients in question has not changed. These results indicate that external factors in the community level also have an important role in determining the activity of public participation activities.

**Impact of Mistargeting Public Transfer on RoSCAs**

Results of previous studies found results that among several types of public participation activities tested, only two activities that have a significant positive relationship with BLT: the arisan and cooperative activities. Thus it can be said that the additional revenue in the form of public transfers used by household members to participate in social activities that had to do with the flow of funds. Meanwhile social participation activities that only require the presence of an individual, is not much affected by the presence of direct cash assistance. To further test the link between public transfers to community participation, the estimated models do the same but with slightly different settings. Public transfer programs not only are viewed from the side of the status of BLT household, but also on any leakage and undercover of this program. As already mentioned, that the leakages are calculated based on the ratio of households that are not poor BLT to all households in a village. The undercover calculated based on the ratio of poor households but non BLT household in the villages.

Leakage and undercover is indicative of the presence of the mistargetting in cash aid. What is the impact of public transfer target this error on the participation of the community? Table 3 present the estimation results. Table 3 essentially replicates Table 2 with two additional variables: leakages and undercover. OLS test results showed a negative association between leakages BLT with arisan activities. However, these results tend to be biased due to unobserved factors not control at the household level. Once these factors are controlled, it can be found evidence that it causes leaks BLT number of household members who join social gathering. Not only that, undercover phenomenon also produces the same conclusion, that there is a positive relationship between the number of activities with a social gathering of poor households not reached by the BLT. These
results are relatively consistent despite conducted additional control in the community level (district). These findings it is interesting to note, given the impact of the provision of the public in the form of cash transfer (BLT) will increase the involvement of members of the household to attend a social gathering though a leak in cash aid.

### TABLE 3. IMPACT LEAKAGES OF BLT ON ROSCAS (ARISAN)

<table>
<thead>
<tr>
<th></th>
<th>OLS</th>
<th>First Difference*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable:</strong> Participation on RoSCAs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLS (1)</td>
<td>OLS (2)</td>
<td>First Difference*</td>
</tr>
<tr>
<td>Leakage BLT</td>
<td>-0.361***</td>
<td>1.866***</td>
</tr>
<tr>
<td>(0.061)</td>
<td>(0.147)</td>
<td>(0.238)</td>
</tr>
<tr>
<td>Undercover BLT</td>
<td>-1.252***</td>
<td>6.531***</td>
</tr>
<tr>
<td>(0.136)</td>
<td>(0.258)</td>
<td>(0.542)</td>
</tr>
<tr>
<td>BLT (yes=1)</td>
<td>-0.082***</td>
<td>0.487***</td>
</tr>
<tr>
<td>(0.016)</td>
<td>(0.017)</td>
<td>(0.062)</td>
</tr>
<tr>
<td>Age of Household Head</td>
<td>0.005***</td>
<td>-0.006***</td>
</tr>
<tr>
<td>(0.0004)</td>
<td>(0.0005)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Female Household Head</td>
<td>0.091***</td>
<td>0.104</td>
</tr>
<tr>
<td>(0.017)</td>
<td>(0.020)</td>
<td>(0.085)</td>
</tr>
<tr>
<td>Married of Household Head</td>
<td>0.169***</td>
<td>0.087</td>
</tr>
<tr>
<td>(0.017)</td>
<td>(0.019)</td>
<td>(0.086)</td>
</tr>
<tr>
<td>Education of Household Head</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>0.115***</td>
<td>0.307***</td>
</tr>
<tr>
<td>(0.025)</td>
<td>(0.030)</td>
<td>(0.097)</td>
</tr>
<tr>
<td>Junior High School</td>
<td>0.200***</td>
<td>0.255***</td>
</tr>
<tr>
<td>(0.031)</td>
<td>(0.036)</td>
<td>(0.132)</td>
</tr>
<tr>
<td>Senior High School</td>
<td>0.228***</td>
<td>0.153</td>
</tr>
<tr>
<td>(0.030)</td>
<td>(0.034)</td>
<td>(0.145)</td>
</tr>
<tr>
<td>University</td>
<td>0.320***</td>
<td>0.017</td>
</tr>
<tr>
<td>(0.034)</td>
<td>(0.037)</td>
<td>(0.184)</td>
</tr>
<tr>
<td>Household Member</td>
<td>0.070***</td>
<td>0.204***</td>
</tr>
<tr>
<td>(0.004)</td>
<td>(0.007)</td>
<td>(0.017)</td>
</tr>
<tr>
<td>Household Income</td>
<td>0.014***</td>
<td>0.028***</td>
</tr>
<tr>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.005)</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.406***</td>
<td>-2.473***</td>
</tr>
<tr>
<td>(0.046)</td>
<td>(0.073)</td>
<td>(0.056)</td>
</tr>
<tr>
<td>Fixed Effect Community (District)</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>R-Square</td>
<td>0.097</td>
<td>0.061</td>
</tr>
<tr>
<td>Observations</td>
<td>12.746</td>
<td>8.756</td>
</tr>
<tr>
<td>Robust standard errors in parentheses</td>
<td>*** p&lt;0.01, ** p&lt;0.05, * p&lt;0.1</td>
<td></td>
</tr>
</tbody>
</table>

### DISCUSSION

As discussed in the previous section, in general, this study supports the finding that there is a positive relationship between public transfers and the social activity. With the experimental approach, Attanasio et al. (2008) found a significant relationship between public transfers and social activities. Results of interviews Ressler (2008) with Kenyan society also found evidence that reinforces the public transfer of existing social networks. The results of a recent study using micro data of households also generate general conclusions about the same. In the case of some African countries, Babajanian (2012) find that public transfers are positively related to the behavior of individuals in social activities. The same findings were also reported by Hidrobo et al (2012) in the case of Latin American countries. Empirical evidence suggests that there is a positive relationship
between recipients of public transfers to community participation.

This study specifically tested the effects of public transfers in the form of direct cash assistance (BLT) to some social gathering activities such as community participation, community meetings, and other cooperative activities. The results showed that the BLT households are more active in following the social gathering (arisan). The relationship between BLT and arisan is the new findings although there had been a social gathering research on behavior in Indonesia using IFLS data. In contrast to previous research, this study uses a consistent approach to isolate the entire gathering determinants either observed or not. Vanadharajan (2004) using cross-section data IFLS-2 (1997), while Lasagni and Lollo (2011) using the IFLS-3 (2000) and IFLS-4 (2007). Both of research on the social gathering in Indonesia did not anticipate the possibility that the effects of unobserved factors potentially produce biased estimator.

Theoretically, the deciding factor may also come from the social gathering unobservable factors such as the absence of social sanctions (Ambec & Treich, 2003) as well as the nature of the household who tend individualistic (selfish families) or tend to socialize with people around. The nature of the household may influence the decision to attend a social gathering as well be correlated with the status of the household in obtaining public transfers. To isolate the influence of factors not observed this study uses the approach of First Difference (FD) with a combination of Fixed Effect (FE) at the community level. Test results consistently show that the BLT is positively related to social gathering activity. Several explanations can be proposed to parse BLT relationship and the arisan. Firstly, according to the findings of Geertz (1962), the arisan is done to strengthen harmony among the members of society. The results of a qualitative study conducted by Hosain et al (2012) found that the BLT to some community members are not inevitably cause social jealousy can disturb the harmony of the local community. However, social friction was only temporary and likely to be mostly vertical conflict between residents who do not receive a BLT with local authorities. Social friction does not cause a significant increase in crime as the findings of Cameron and Shah (2012). To fix the harmony among the community members, the gathering can be used as one means of strengthening social bonds were disrupted. Empirical evidence suggests that social gathering intensity remains high despite a case of mistaken targets in the BLT. Secondly, as hypothesized in the model of social pressure and Treich Ambec (2003), social gathering can be used by individuals to anticipate the social pressure of "social obligation" to share the revenue (income sharing). BLT households obtain using arisan as a medium to share with fellow citizens without having to lose some money, but must be willing to postpone consumption spending most of this time to get greater results in the future.

CONCLUSIONS

Based on the calculation of the estimated model of the social impact of the public transfer can be found that there is an indication that the BLT households more actively involved in social activities. The findings of a positive correlation between BLT with arisan should not be too surprising given that the two activities are more related to cash flow. While other public participation activities such as community meetings and service projects require more physical presence so as not to be affected by the presence of cash transfers.

Another important point that should be highlighted in the findings of this study is the effects of BLT on arisan activities remain significant even in case of a leakage in cash aid. Regardless of the status of the poor or non-poor households, public transfers in the form of financial injection to some extent have intensified the effect of social activities such as social gathering. Leakage cash aid has become a fact. Nevertheless, the case of leakage does not necessarily weaken social solidarity is formed. Leaks and BLT undercover case had nothing to do with the crime. Action in the form of anti-social disorder may be more relevant criminality associated with socioeconomic inequality problem more specific. RoSCAs activities can be used as a medium to strengthen community ties or bonds that were disrupted by the presence of jealousy due to the provision of public transfers that may be perceived as unfair or an error in the provision of transfer targets.

The results of this study have a significant policy implication. Social capital is held by the public is undoubtedly an important element in the development of society. Social capital is also very important role in the success of government programs. Strong social bonds can reduce the turbulence caused by the transfer of administration of the target fault. In contrast, government programs in the form of public transfers are also shown to have a positive impact on the strengthening of social capital, one of them in the form of social gathering activities.
REFERENCES


