

IMPACT OF INCREASE ON THE INTER HOUSEHOLD TRANSFERS ON THE ECONOMY IN INDONESIA

(Dampak Peningkatan Transfer Antar Rumah Tangga terhadap Perekonomian di Indonesia)

Wisnu Winardi*, Hadi Susanto*, and Kadim Martana

* BPS-Statistics Indonesia
Jl. dr. Soetomo 6-8 Jakarta 10010
Email: wisnu.winardi@ymail.com, hdsnt@gmail.com
** Ministry of Environment and Forestry
Gedung Manggala Wanabakti, Jl. Gatot Subroto Jakarta 10270
Email: kadimmartana@yahoo.com

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Abstrak

Dalam beberapa tahun ini ekonomi Indonesia tumbuh baik dengan diikuti tren penurunan tingkat pengangguran dan kemiskinan. Namun demikian, capaian tersebut menjadi kurang maksimal karena belum disertai dengan peningkatan kualitas distribusi pendapatan. Sebagai negara besar dengan penduduk yang heterogen dan menganut nilai sosial, budaya dan agama yang kuat, Indonesia memiliki modal potensial yang dapat digunakan untuk memperbaiki kondisi tersebut. Salah satu modal tersebut di antaranya adalah transfer antar rumah tangga. Penelitian ini bertujuan untuk mengidentifikasi dampak peningkatan transfer antar rumah tangga sebagai refleksi dari peningkatan kepedulian sosial terhadap beberapa aspek ekonomi. Alat analisis yang digunakan adalah model computable general equilibrium, berdasarkan data sistem neraca sosial ekonomi Indonesia tahun 2008. Model yang digunakan termasuk dalam kelas neo-klasik yang mengasumsikan analisis dampak bersifat jangka panjang. Hasil analisis menunjukkan bahwa peningkatan transfer antar rumah tangga berdampak terhadap peningkatan pendapatan rumah tangga, peningkatan penerimaan pemerintah, penurunan tingkat harga komposit, dan peningkatan pemerataan distribusi pendapatan. Lebih lanjut, peningkatan transfer antar rumah tangga juga berpengaruh terhadap struktur ekonomi, terutama pada komponen konsumsi rumah tangga dan investasi. Kontribusi konsumsi rumah tangga terhadap PDB menurut pengeluaran diperkirakan menjadi turun, sedangkan investasi meningkat. Temuan ini mengindikasikan bahwa peningkatan transfer antar rumah tangga memiliki manfaat yang luas, baik dari aspek sosial maupun ekonomi.

Kata kunci: transfer antar rumah tangga, solidaritas sosial, model CGE, aspek ekonomi

Abstract

In these recent years Indonesian economy has gained a robust growth coupled with declining unemployment rate and poverty rate. However, the achievement is still flawed by persistent problem of income distribution. As a large country with heterogeneous population that bound by strong cultural and religious values, Indonesia has underlying factors to improve the situation. One of the important factors is inter household transfers. This research aims at identifying economy-wide impacts of increased inter household transfers as a reflection of better social care on some aspects of national economy. This research utilized CGE model with 2008 Indonesia Social Accounting Matrix as database and analyzed the model with the assumption of long term period of simulation result. Results suggest that increased inter household transfers brought about positive changes in all household income, improved government income, fixing price level as well as distributional income. Furthermore, the shocks cause adjustment in the national economic structure on expenditure, particularly on household consumption and investment. Share of household consumption to GDP is expected to slightly decrease, while that investment is to increase. These findings indicate that the increased household transfers are worth conducting from the view point of social aspects as well as economic aspects.

Keywords: inter household transfers, social solidarity, CGE model, economic aspects

INTRODUCTION

In 2007, four pillars of socio-economic development strategy of Indonesia were declared, i.e. pro-growth, pro-job, pro-poor, and pro-environment. So far, there have been many positive achievements and some of them are even recognized at international level. From the viewpoint of growth, Indonesian economy has shown a better shape. The economy grew steadily at around 5-6 percent in the annual period of 2010-2016. The figure is considered noteworthy compared to the achievements of OECD and neighboring countries. Even in 2012, the

Indonesian economic growth reached the second best performance after China (OECD, 2016).

The efforts of increasing employment and alleviating poverty have also brought hints on an important improvement. Open unemployment rate and percentage of people live in poverty as closest representing indicators showed improving figures (Table 1). The country's open unemployment rate, which was recorded 7.14 percent in 2010, has moved downward annually to reach 5.61 percent in 2016. Regarding poverty outlook, which was as much as 13.33 percent in 2010, has decreased gradually in

Table 1. Economic Growth, Open Unemployment Rate, Percentage of Poor People, and Indonesian Gini Ratio, 2010-2016

Indicator	2010	2011	2012	2013	2014	2015	2016
Economic Growth (%)	6.38	6.17	6.03	5.56	5.01	4.88	5.02
Open Unemployment Rate ^a (%)	7.14	7.48	6.13	6.17	5.94	6.18	5.61
Percentage of Poor People ^b (%)	13.33	12.36	11.66	11.47	10.96	11.13	10.70
Gini Ratio (Urban+Rural)	0.38	0.41	0.41	0.41	0.41	0.41	0.40
Gini Ratio (Urban)	0.38	0.42	0.42	0.43	0.43	0.43	0.41
Gini Ratio (Rural)	0.32	0.34	0.33	0.32	0.32	0.33	0.33

Notes:

a. August series

b. September series

Source: <http://www.bps.go.id>, 2016.

every year afterward to be as low as 10.70 percent in 2016.

On the other hand, those remarkable achievements of development are still bugged by problems in income distribution. Gini ratio has worsened from year 2010 to 2011, remains stable until 2015, and achieved insignificant improvement in 2016. In general, income inequality of urban area is higher than that of rural area with gini ratio difference ranging from 0.06-0.11. Moreover, the income inequality of urban area tends to move in volatile pattern (Table 1).

This follows an axiom that inequality in income distribution is one of unavoidable properties of the development achievement. Income inequality is a ubiquitous problem, which occurs also in advanced economies. Nevertheless, it does not imply that such matter is a thing of negligible. The worsening income distribution has brought questions on inclusiveness of the on-going development that might create critical problems in the future.

Researches of international institutions depict such dangerous and great potential impact of inequality to aspects of life. For example, Report of the World Social Situation 2013, released by the United Nations, informs completely on the effects of inequality on economic growth, poverty reduction, social and economic stability and socially-sustainable development (UN, 2013). Recent research on inequality in Indonesia also explains a similar trend, with additional stress that not all inequality is bad. Inequality can be unjust when every man does not have similar starting point (World Bank, 2015).

Considering the above circumstances, many efforts have been done by government and relevant institutions to improve the income equality. Government may use fiscal and monetary instruments while other institutions run assistance programs in various forms. In order to make a more equal

distribution of the development result, suggested policy instruments to be implemented are those which have orientation on enhancing endowment factors of low level income household, on making reasonable taxes and subsidies, and on encouraging transfers of inter and among institutional sectors (household, corporation, government, and rest of the world).

Some important policies have been set up to reduce inequality in Indonesia. Among others are social protection programs, creating more jobs; eradicating corruption, free education for all, SME credit, free health care for all, increasing the minimum wage, infrastructure improvements, more subsidies, improving schools, grants to village level, loans for the poor, increasing the tax on the rich, unemployment insurance, and equitable asset ownership (World Bank, 2015).

However, there is an instrument, which cannot be considered as a policy but has greater potential factor to recover problems caused by income inequality. It is so called transfers. Transfers may work inter or among institutional sectors. System of National Accounts 2008 (SNA 2008) classifies this type of transaction as a transaction of "something for nothing", which implies that one party deliberately gives a good, service or asset (including financial asset) to the other but does not receive a recompense in return or simply without a quid pro quo. According to SNA 2008, transfer consists of capital transfer and current transfer. The difference between both types of transfer is on its use. The first one is counted when the transferred good is used as capital formation (investment) and the other is when it is used for consumption (SIAP, 2011).

This paper focuses on discussing one component of current transfer, i.e. inter household transfers and its potential impacts to economy. This type of transfer has special characteristics, i.e. has no strings attached, mostly based on compassion or willingness of the

actors, and its mode of transfer might be direct to receivers or indirect through distributing institutions, which are mostly non-profit. The characteristics of inter household transfers, which is not binding and based on compassion are appropriate with the social solidarity spirit and could transform into a priceless social capital for the nation.

According to a manual for the commemoration of national social solidarity day, social solidarity covers values, attitudes, and behavior of people, which are based on understanding, awareness, responsibility, equality, and social participation to solve and mitigate various social problems according to each capacity with the spirit of togetherness, mutual assistance, kinship, and willingness to do something without ulterior motives (Kementerian Sosial, 2008). History has proved that the spirit of social solidarity has saved Indonesian people during hard times. To keep the spirit of social solidarity up, 20th of December has been stated as the national social solidarity day.

In line with the spirit of social solidarity, one point of Nawa Cita vows mental revolution, which is important to run good development. One aspect of mental revolution is developing a personality that has good concern on the less advantaged. Inter household transfer is an implementation of that concern that occurs in civilized society.

METHOD

Inter household transfers consist of direct transfers between households and transfers mediated by Nonprofit Institution Serving Households (NPISHs) in the form of cash and in kind within a certain period. Inflows are current economic transfers (donations and gifts) received by households, while outflows are transfers given to other households. Inter household transfers are assigned to the household head.

The motives behind inter household transfer in Indonesia could vary from helping others in poverty or economic hardship, affected by disasters or adversities; expressing happiness or gratitude for a great fortune, or expressing love and passion, and recognition and respect. These transfers cannot be disassociated from religious and cultural values in the local society. The degree of motive of inter household transfers may be dynamic and vary depending on geographical areas and time or occasions.

Some researches focused on what motivates inter household transfer have been done in some countries. Beyene (2012) studied on the link between international remittances and private inter household transfers using an urban household survey in Ethiopia. His research showed that remittance has

a strong positive effect on the amount of transfer given. Other researchers, Mitrut and Nordblom (2010) suggest that the overall predominant gift motive among Romanian households is a norm of reciprocity. Those are in line with motives to express happiness or gratitude for a great fortune and to express recognition and respect, which commonly exist in Indonesia. Park (2013) studied motives behind inter household upstream transfers using samples of child-parent pairs in South Korea. The estimation results indicated that altruism is the dominant motive at the margin if parental income is low. Prior to it, Schwarze and Winkelmann (2011) studied happiness and altruism within the extended family. They found out that interdependent happiness has implications beyond the specific issue of altruism within the extended family. It is quite explainable from the view of expressing love and passion motives, which are common in Indonesia.

While research of cash transfer program to households are quite many, such as Unconditional Cash Transfer Program in Kenya (Haushofer and Shapiro, 2016), Conditional Cash Transfer Programs in Mexico (Azevedo and Robles, 2013), A Cost-Benefit Framework for Evaluating Conditional Cash Transfer Programs (Brent, 2013), Impact of Cash of Transfer Program on Food Security in Sub Saharan¹, research dealing with studying the impact of increased inter household transfers in economy seems to be, unfortunately, quite limited. An example on this field is a research conducted by Hussein and Kajiba (2011) in Tanzania which employed 2SLS approach on census and survey data. Their result demonstrates that inter household transfers have positive effect on poverty reduction, especially in rural areas. Other example is the research of Tamura (2012) on the effect of inter household to sender household by using panel data of two Vietnam Living Standards Survey 1992/1993 and 1997/1998. The results suggest that transferring to other households reduce the provision for education of the sender's household.

This paper intends to fill the above mentioned research gap in the pertinent topic and focuses on one important component of social solidarity i.e. inter household transfers, especially on how an increase of inter household transfers could bring good impacts on household income, government income and national economy. The research utilizes computable general equilibrium (CGE) model based on social accounting matrix (SAM) data to calculate the magnitude of the economic impacts.

¹ <https://transfer.cpc.unc.edu/wp-content/uploads/2015/09/The-Impact-of-Cash-Transfers-on-Food-Security.pdf>.

The research was also inspired by World Bank (2000)'s statement on the urgency of policies related to inter household transfers. The statement was based on the observation of data available in some countries, which showed the great potency and contribution of inter household transfers in creating an improvement on household income.

The main data used in the simulation to carry out this research is the adjusted version of 2008 Indonesian SAM which published by National Statistics Office of Indonesia (BPS, 2010, pp. 110-131). Adjustment on SAM was done to meet its analytical purpose and to synchronize it with equations used in the model by maintaining each transaction within the SAM and keeping up SAM's consistency. For this research, the adjustment was implemented by:

- changing the transaction from purchaser price to producer price and removing transportation and trade margin block;
- merging production sector, domestic commodities, and imported commodities into production activity block; and

- merging construction sector into industry of chemicals, fertilizer, clay crafts, cement, electricity, gas and water supply.

The result of this modification is a 38x38 sized of SAM matrix consists of 22 accounts on production activities, 2 accounts of production factors (labor and capital), 2 accounts of net taxes and net import tariff, 1 capital account, and 11 institutional accounts (8 household accounts, a corporation account, a government account, and rest of the world account). Classification of household institution is consist of: agricultural labor, agricultural employer, nonagricultural rural household with low category, non-labor rural household, non-agricultural rural household with high category, non-agricultural urban household with low category, non-labor urban household, and non-agricultural urban household with high category.

Table 2 illustrates the modified SAM. For simplification purpose, the accounts on labor production factors, production activities, and household accounts are aggregated. On this framework, inter household transfers is shown by an

Table 2. The Framework of Modified SAM

		Production Factor		Institution			Prod. Activity	Capital Account	Net In-direct Taxes	Net Import Tariff	Rest of the World	Total
		Labor	Non-labor	HH	Corp.	Govt.						
		1	2	3	4	5	6	7	8	9	10	
Production Factor	Labor	1					T1 6				T1 10	T1 .
	Non-labor	2					T2 6				T2 10	T2 .
	Household	3	T3 1	T3 2	T3 3	T3 4	T3 5				T3 10	T3 .
Institution	Corporation	4		T4 2	T4 3	T4 4	T4 5				T4 10	T4 .
	Government	5		T5 2	T5 3	T5 4	T5 5		T5 8		T5 10	T5 .
Production Activity		6		T6 3		T6 5	T6 6	T6 7			T6 10	T6 .
Capital Account		7		T7 3	T7 4	T7 5						T7 .
Net Indirect Taxes		8					T8 6					T8 .
Net Import Tariff		9					T9 6					T9 .
Rest of the World		10	T10 1	T10 2	T10 3	T10 4	T10 5	T10 6	T10 7			T10 .
Total			T. 1	T. 2	T. 3	T. 4	T. 5	T. 6	T. 7	T. 8	T. 9	T. 10

Source: authors' rearrangement, 2016.

The followings are the meaning of the above coded cells of the SAM:

- T1 6 : wages and salaries, received by labor factor of production for its involvement in production process;
- T1 10 : wages and salaries, received by labor factor of production for its involvement in production process abroad;
- T2 6 : production surplus received by capital production factor for its involvement within production process;
- T2 10 : production surplus received by capital production factor for its involvement within production process overseas;
- T3 1 : flow of payment and salary income received by household;
- T3 2 : flow of production surplus income received by household;
- T3 3 : transfer between households;
- T3 4 : transfer from enterprise to household;
- T3 5 : transfer from government to household;
- T3 10 : transfer from rest of world to household;
- T4 2 : flow of production surplus income received by enterprise;
- T4 3 : transfer household to enterprise;

- T4 4 : transfer between enterprises;
- T4 5 : transfer from government to enterprise;
- T4 10 : transfer from rest of world to enterprise;
- T5 2 : flow of production surplus income received by government;
- T5 3 : transfer from household to government;
- T5 4 : transfer from enterprise to government;
- T5 5 : transfer between governments;
- T5 8 : government receipt from indirect tax (net);
- T5 10 : transfer from rest of world to government;
- T6 3 : household consumption;
- T6 5 : government consumption;
- T6 6 : intermediate input, defined as production sector uses its output and/or other sectors' output to produce goods and services;
- T6 7 : physical investment, comprising gross fixed capital formation and changes in inventories;
- T6 10 : export of goods and services to rest of the world;
- T7 3 : household saving;
- T7 4 : enterprise saving;
- T7 5 : government saving;
- T8 6 : net indirect tax;
- T9 6 : net import tariff;
- T10 1 : payment and salary flowing to rest of the world;
- T10 2 : production surplus flowing to rest of the world;
- T10 3 : transfer from household to rest of the world;
- T10 4 : transfer from enterprise to rest of the world;
- T10 5 : transfer from government to rest of the world;
- T10 6 : import of goods and services from rest of the world;
- T10 7 : net lending; and meanwhile

intersection cell(s) of household institution row and household institution column (i.e. T3 3).

T1., T2., T3., T4., T5., T6., T7., T8., T9., T10., are total column stating total receipt and T.1,T.2, T.3, T.4, T.5, T.6, T.7, T.8, T.9, T.10, are total column stating total spending. For each total column of receipt should have the same value to it by corresponding total spending i.e. T1. = T.1, T2. = T.2, T3. = T.3, T4. = T.4, T5. = T.5, T6. = T.6, T7. = T.7, T8. = T.8, T9. = T.9, T10. = T.10.

Based on the Indonesia SAM data, average rate of inter household transfer for every household type varies from 0.13 percent to 2.33 percent. Table 3 below demonstrates such information.

Other parameters used in the model are constant elasticity of substitution (CES) and constant elasticity of transformation (CET); which are adopted

from Teguh (2010). Both CES and CET are assumed to be 0.5 for 22 sectors, except for food, beverages and tobacco industry, they are assumed to be 1.5.

The research utilized static CGE model, which belongs to the category of neoclassical class with assumptions as follows:

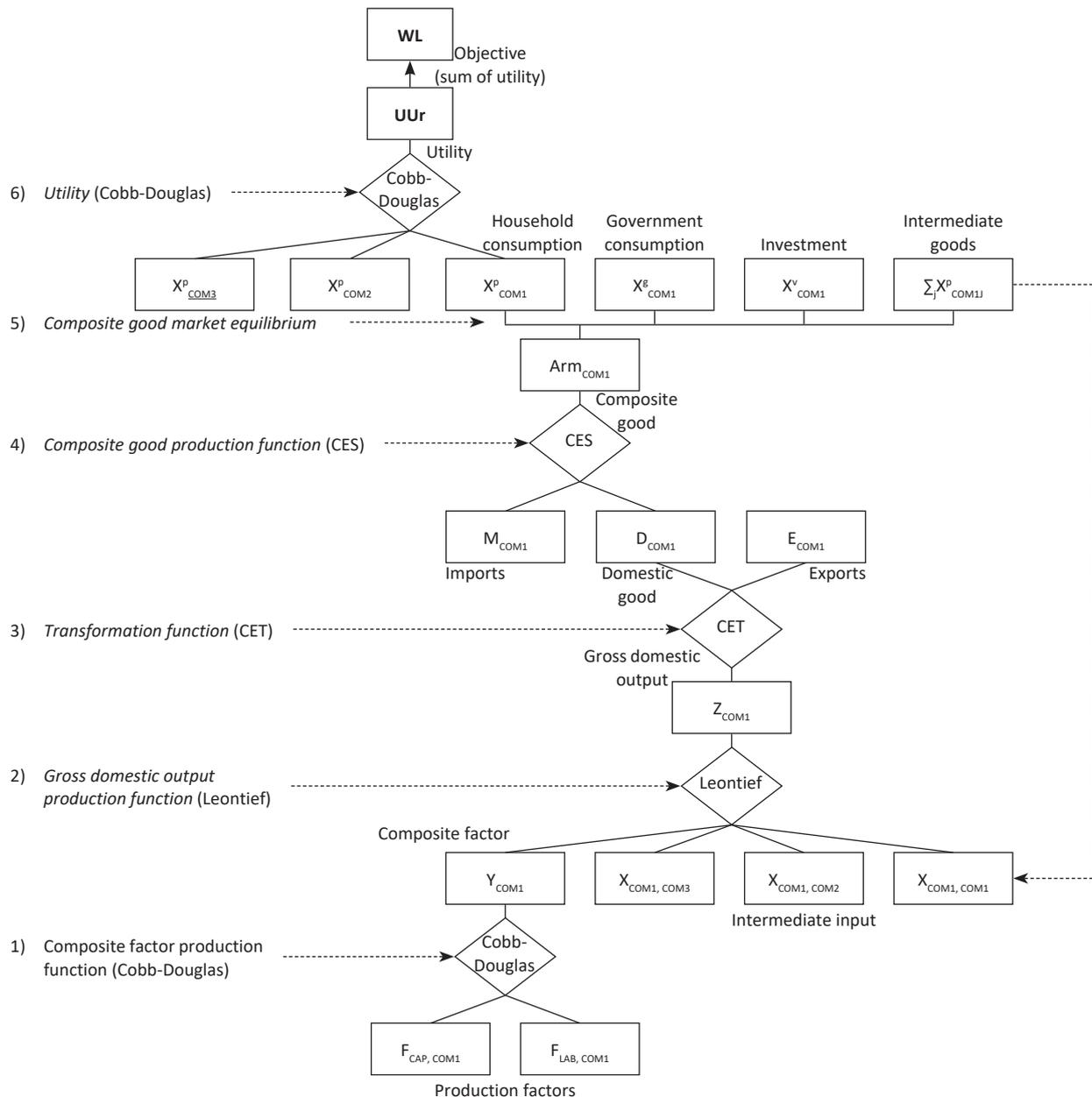
- all markets are in the state of perfect competition;
- production process tends to have constant return to scale; and
- Indonesia is assumed to be a small country in the global competition (small country assumption).

The decision to use CGE as an analytical tool is based on the consideration that regarding economic policy making, this model is more suitable for developing countries compared to other economic models such as: simultaneous equation and other econometric models in analyzing macroeconomic shocks. This is due to the

Table 3. Inter Household Transfer Rate, in percent

Household type		1	2	3	4	5	6	7	8
Agricultural Labor	1	0.11	0.16	0.17	0.02	0.25	0.44	0.07	0.64
Agricultural Employer	2	0.08	0.11	0.10	0.02	0.17	0.26	0.08	0.34
Non Agricultural Rural Low Category	3	0.08	0.08	0.12	0.02	0.18	0.32	0.08	0.46
Rural Non-labor	4	0.06	0.07	0.06	0.02	0.10	0.16	0.04	0.21
Non Agricultural Rural High Category	5	0.01	0.01	0.01	0.01	0.03	0.03	0.01	0.02
Non Agricultural Urban Low Category	6	0.10	0.13	0.08	0.04	0.19	0.12	0.11	0.46
Urban Non-labor	7	0.03	0.04	0.03	0.01	0.05	0.09	0.01	0.15
Non Agricultural Urban High Category	8	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.05
Total		0.47	0.61	0.59	0.13	0.99	1.44	0.41	2.33

Source: BPS (processed), 2010.



Source: Hosoe et al. (2010), pp. 88, modified

Picture 1. Model Scheme

Notes:

- FCAP, COM1 : capital production factor used to produce goods and services (COM1), which corresponds to cell T2 6 of Table 2
- FLAB, COM1 : labor factor production used to produce goods and services (COM1), which corresponds to cell T1 6 of Table 2
- YCOM1 : composite factors to produce goods and services (COM1)
- XCOM1, COM1 : intermediate input of goods and services (COM1) used to produce goods and services (COM1), which corresponds to cell T6 6 of Table 2
- XCOM1, COM2 : intermediate input of goods and services (COM2) used to produce goods and services (COM1), which corresponds to cell T6 6 of Table 2
- XCOM1, COM3 : intermediate input of goods and services (COM3) used to produce goods and services (COM1), which corresponds to cell T6 6 of Table 2
- ZCOM1 : output of goods and services (COM1)
- MCOM1 : import of goods and services (COM1), which corresponds to cell T10 6 of Table 2
- ECOM1 : output of goods and services (COM1) and are exported, which corresponds to cell I T6 10 of Table 2
- DCOM1 : goods and services (COM1) marketed domestically
- QCOM1 : composite goods and services (COM1)
- XpCOM1 : composite good (COM1) consumed by household, which corresponds to cell T6 3 of Table 2
- XgCOM1 : composite good (COM1) consumed by government, which corresponds to cell T6 5 of Table 2
- XvCOM1 : composite good (COM1) used for investment, which corresponds to cell T6 7 of Table 2
- $\sum_j X_{pCOM1j}$: composite good (COM1) used as intermediate inputs for production process
- UUr : r-th household utility
- WL : aggregate household utilities

nature of CGE that can form a connection between macro and micro economic, while econometric model works on macro-economic variables only. Besides, CGE model does not require long series and high consistency among variables. Data series in such characteristics are not easily available especially in developing or less developed countries (Oktaviani, 2008, pp. 5-7) The CGE model also provides a good framework to analyze matters related to structural adjustment: impact of a shock that works through a price change and market incentive in influencing allocation and structure of demand, production, and trade (Robinson, 2006, pp. 205-232).

Despite those advantages, CGE also has a limitation that CGE simulations are not unconditional predictions but rather work as thought experiments relied on the assumed circumstances and time reference. Besides, CGE models are quantitative yet theoretical and not empirical in the sense of econometric modeling (GTAP, 2017).

The following scheme (Picture 1) explains six stages of CGE model used in this research:

- (1) Formation of composite factors of production in each sector. At this stage, production sector determines the composite factors (Y) by optimizing the amount of labor (F_{LAB}) and capital (F_{CAP}). The optimization process is carried out by minimizing cost. This is assumed to follow Cobb-Douglas production function.
- (2) Formation of gross domestic output production functions for each sector. Composite production factors from stage 1 are combined with intermediate inputs (ΣX^p) to produce gross output of good and/or service (Z). This is assumed to follow Leontief production function.
- (3) Transformation stage refers to a function describing that outputs from stage 2 are either consumed domestically (D) and/or exported (E). This choice is described by a function of constant elasticity of transformation (CET).
- (4) Formation of composite good. Production outputs that are marketed domestically will be combined with imported products (M) to form composite good (Arm). This process is assumed to follow a function of constant elasticity of substitution (CES).
- (5) Composite good market equilibrium. At this stage, the composite of goods and services will be used for consumption of household (X^p), government (X^g), investment (X^v), and intermediate inputs (ΣX^p) consumption of production. The level of goods required follows demand function of those agents..
- (6) Utility calculation. The amount of composite goods and services required for household

consumption determines the value of utility of each household. Values of all households' utility are then aggregated to form total household utility (WL) and used as an indicator of the level of satisfaction for the aggregate household.

Equations used in the model mostly adapts to the work of Winardi (2013), which it was a modified model introduced by Hosoe et al. (2010, pp. 106-112). A minor revision applied on the treatment for variables related to inter household transfers and variable containing equations. The variable, which was previously considered as a constant, in this model is treated as an endogenous variable with equation as follows:

$$trhohhoh(q,r) = rtrhohhoh(q,r) * (\sum(h, pf(h) * FF(r,h)) + Tr(r) + trhohest(r) + trhohgov(r) + \epsilon * trhohext(r) - Td(r) - Sp(r) - tresthoh(r)) \dots \dots \dots (1)$$

- $trhohhoh(q,r)$: transfer from r-th household to q-th household
- $rtrhohhoh(q,r)$: rate of transfer from r-th household to q-th household
- $pf(h)$: price of h-th production factor
- $FF(r,h)$: h-th endowment factor owned by r-th household
- $Tr(r)$: total of inter household transfers received by r-th household
- $trhohest(r)$: transfer from corporation to r-th household
- $trhohgov(r)$: transfer from government to r-th household
- ϵ : exchange rate (Rupiah/USD)
- $trhohext(r)$: transfer from rest of the world to r-th household
- $Td(r)$: direct taxes paid by r-th household
- $Sp(r)$: saving of r-th household
- $tresthoh(r)$: transfer from r-th household to corporation

Transformation of inter household transfers from a constant into an endogenous variable is coupled with an inclusion of a new parameter, i.e. rate of inter household transfers ($rtrhohhoh(q,r)$). Rate of inter household transfers is a ratio of inter household transfers to total income of each group of household.

Overall, the model consists of 1186 equations and model solution is carried out by maximizing the utility of households (WL) with the non-linear model. Software General Algebraic Modeling System (GAMS) with solver CONOPT was used for the purpose.

Furthermore, based on the formulated equation system, the impact of the increase of entire inter

household transfers as much as 25 percent, 50 percent, and 100 percent will be calculated. This model applies an assumption of *ceteris paribus*, which implies that except inter household transfers, all other parameters in the model are assumed to remain unchanged. The degree of impact is measured based on percentage change of a particular variable after simulation i.e. increasing the rate of transfers compared to the initial value (baseline) of the same variable.

RESULT AND DISCUSSION

Impacts of Inter Household Transfers on Household Income

Simulation results showed that an increase of inter household transfers rate had positive impact on income of entire households. In this case, the increase of inter household transfers rate as much as 25 percent, 50 percent, and 100 percent would increase overall household income as much as 0.29 percent, 0.57 percent, and 1.15 percent respectively. This suggests that the higher the transfer rate within and among group of household, the higher the income gained by each group of households.

Furthermore, agricultural labor household experienced the highest increase in its income level, while the smallest increase was on urban high category household. It is interesting that eventhough the additional income received by high category

household has been higher, the growth of income compared to low category household was still lower. Financial power of low categories households increase as they received transfer from higher income households. Thereby they could increase their consumption, transfers, and saving as well as improve their production capacity by doing investment.

This statement was finely confirmed by the simulation result on an increase of inter household transfers as much as 25 percent, 50 percent, and 100 percent. For example, at the simulation of 25 percent increase, the income of agricultural employer household would increase (0.24 percent), which is lower than agricultural labor household (1.71 percent). The increase of income of rural high category household (0.04 percent) is lower than non-labor household (0.64 percent) and rural low category household (0.43 percent). The increase of income of urban high category household (0.02 percent) is lower than the income increase of non-labor household (0.27 percent) and urban low category household (0.26 percent). Nevertheless, those results indicate that the increase of inter household transfers would cause an improvement on receivable income of all household groups (Table 4).

The above results seem interestingly coherent with a widely-believed traditional philosophy that the more you give, the more you receive. From the point of economy, the more a household donate money to

Table 4. The Impact of Increase of Inter Household Transfers Rate of 25 percent, 50 percent, and 100 percent on Household Income, Tax Receipt of Government, and Composite Price Change, percent

Description	Increase of Transfer Rate (%)		
	25	50	100
Household Income:	0.29	0.57	1.15
1. Agricultural Labor	1.71	3.44	6.89
2. Agricultural Employer	0.24	0.48	0.97
3. Non Agricultural Rural Low Category	0.43	0.86	1.73
4. Rural Non-labor	0.64	1.28	2.58
5. Non Agricultural Rural High Category	0.04	0.07	0.14
6. Non Agricultural Urban Low Category	0.26	0.53	1.06
7. Urban Non-labor	0.27	0.54	1.09
8. Non Agricultural Urban High Category	0.02	0.04	0.09
Tax Receipt of Government:	0.14	0.28	0.56
1. Net Indirect Tax	0.10	0.21	0.42
2. Direct Tax	0.27	0.54	1.08
3. Import Tariff	0.00	0.00	-0.01
Composite Price Change	-0.007	-0.014	-0.028

Source: Simulation result, 2016.

Table 5. Impact of Increase of Inter Household Transfers Rate by 25 percent, 50 percent, and 100 percent on Economic Structure, percent

Component of Expenditure	Base Line	Increase of Transfers Rate (%)		
		25	50	100
Household Consumption	63.07	63.05	63.04	63.01
Government Consumption	5.60	5.60	5.60	5.61
Investment	28.68	28.69	28.71	28.74
Export of goods and services	28.27	28.26	28.26	28.25
Import of goods and services	25.62	25.61	25.61	25.60
GDP by Expenditure	100.00	100.00	100.00	100.00

Source: Simulation result, 2016

other household, the better economic circumstances would be; and it would also bring benefits back to the donating household. Therefore, it is envisaged that high category household should have stronger compassion to the less fortunate; meanwhile those of low category household should be caring to each other despite their economic limitation. This seems to be in line with religious teaching suggesting that real welfare does not refer to on how much that we own but rather on how much we can share with other people in needs.

The simulation results also suggest that increasing the level of inter household rate would cause income distribution more equal among household transfers, as it can be seen on higher increase of income low household category compared to the relatively low increase of income in high category. The result of Williamson index, which is 0.56032 at the base line, would be improved to become 0.55763, 0.55497, and 0.54966 at transfer rate consecutively as follows: 25 percent, 50 percent, and 100 percent. Besides that, increasing household transfers was predicted to evenly distribute income within rural areas. In general, non-agricultural low category and rural non-labor category experience higher increase of income compared to other household types.

Other that evenly distribute income of households, simulation results also suggest that increasing inter household transfers improve distribution income between urban and rural areas. Effect of improvement in income is more significant in rural rather than that in urban areas. For example, an increase of transfer rate in 25 percent would cause an increase of rural household income of 0.61 percent, compared to that of urban household income of 0.18 percent. This result indicates that increase of inter household transfer could help resolve current income distribution problem in Indonesia, either between income groups or areas (urban-rural).

This confirms Hussein and Kajiba (2011)'s finding that inter household transfers have positive effect on poverty reduction, especially in rural areas. Better income

distribution, especially achieved by natural process of redistribution out of altruism, will hopefully support the efforts to maximize rising average incomes and rising incomes of the poor (UNDP, 2013). Research by OECD (2015) also indicates that more even income distribution condition would provide more advantages for economy.

Not only the increase of inter household transfers would positively affect the increase in entire household income; it also causes an increase in tax receipt by government. The result showed that an increase of inter household transfers by 25 percent, 50 percent, and 100 percent would raise government total tax receipt to 0.14 percent, 0.28 percent, and 0.56 percent consecutively.

The increase of government tax receipt originates from indirect and direct taxes, whereas government receipt from import tariff would likely to decline. This is beneficial considering indirect and direct taxes are among the largest posts within government income. Increase of direct tax would be higher than indirect tax. It is showed by the simulation result on an increase of inter household transfers by 25 percent, 50 percent, and 100 percent. As an example, at the increase of inter household transfers by 25 percent, net direct tax would increase 0.27 percent, indirect tax would raise 0.10 percent, whereas there would likely be no impact on import tariff. Magnitude of the increase of direct tax is proportional to the increase of household income. This result shows that an increase on inter household transfers would favor tax receipt by government without leveling the ongoing tax rate.

Impacts of Inter Household Transfers on Economic Structure

Table 5 suggests that as inter household transfers rate increases, household consumption proportion to GDP will decline. At the base line, the proportion of household consumption is 63.07 percent. At the simulation of increased transfer of 25 percent, 50

percent and 100 percent, the household consumption proportion to GDP declines into 63.05 percent, 63.04 percent, and 63.01 percent accordingly. Since household consumption is the largest component of GDP, 0.01 percent, a small change would significantly affect the economy. The declining role of household consumption can be significant by considering that the economy has been long sustained by a larger portion of household consumption without being balanced by sufficient domestic supply. In a longer time frame, this may endanger economic situation.

The increase of transfer rate among household reduces household consumption. It works in a way that the consumption increase occurs on the low category household, whereas the consumption of high category household declines. This is coherent with the research of Haushofer and Shapiro (2016) that scrutinized the response of poor households in rural Kenya to unconditional cash transfers from the NGOs. The results suggest that unconditional cash transfers have significant impacts on economic outcomes and psychological well-being. The result is in accordance with religion and inherited cultural values, which suggest people to care for the less advantaged and to avoid extravagant life style. At the same simulation, investment behaves differently. An increase of inter household transfers entered to the equation would increase the proportion of investment accordingly, as shown on the above table.

The increasing transfer rate could play a role as a counterbalance of the negative effect of economic development, which tends to favor high level income household due to ownership and easier access to endowment factors. In the circumstance of fixed saving rate due to *ceteris paribus* assumption, the increase of household income would increase household saving while household consumption would decline. Government consumption behaves a bit different in this model. The increase of government income would increase government saving while the government consumption remains relatively unchanged. The increase of those institutions saving would increase investment. Impact to increasing investment becomes more important considering Indonesia experiencing demographic bonus which peaks in 2030 (Bappenas et al., 2013, pp. 31). At this condition, Indonesia requires sufficient level of investment to meet the abundant labor force. If the amount of investment is not sufficient, existing labor force will not optimally be absorbed within market.

The incremental magnitude of investment is important due to the specific characteristics of investment compared to consumption, i.e. it has multiplier effect on its acquisition, after that, when it is in service, it renews old and damage assets and increases the national economic capacity. Subsequently, it therefore increases

competitive advantage. On the other hand, consumption only brings benefit at the time of acquisition. This is important in Indonesia since inadequate supply of infrastructure still become most problematic factors for doing business (WEF, 2016). The report also states that the inadequate supply of infrastructure ranks on the 3rd place as an important business issue in Indonesia in 2016.

The increase of inter household transfers should become a movement, which enables domestic provision of resources for development. In the uncertainty of unstable global financial environment, inter household transfers could alternatively become an appropriate resolving instrument.

Effect of the decline in household consumption is larger since it compensates the impact of the increase in government consumption and investment. This is due to the fact that share of final demand of household is higher than investment and government consumption. This leads to a declining final demand, which in turn would suppress the composite price. Overall, this suggest that inter household transfers would back up government policy, especially in controlling composite price. The increase of transfer rate among household as much as 25 percent, 50 percent, and 100 percent would expectedly decrease the composite price 0.007 percent, 0.014 percent, and 0.028 percent consecutively (Table 4).

Contraction in final demand (especially for high category household consumption) would also cause a reduction in import. With the decline in import, government receipts from import tariff also tend to remain stable or even drop. However, the decline of import does not have significant impact if it is related to domestic production and currency, particularly if the import tariff portion is relatively small compared to other type of government income.

CONCLUSION

Simulation results indicate that increasing level of inter household transfers could lead to an improvement of economic condition, particularly increasing household and government income, reducing the level of composite price, improving household income distribution, and revitalizing economic structure. This seems to corroborate the traditional and religious belief that transfer is such a good deed from the moral point of view. Besides, it could also serve as an act to improve economic condition in various aspects: increasing household income, tax receipt of government, reducing the composite price, improving household income distribution, and revitalizing economic structure.

Simulation results also indicate that inter household transfer may be potential to become non budget solution for development. Experience has taught that during the hard times and slow growth of domestic economy,

efforts to meet the targeted government income from tax is getting more difficult. Subsequently, this limits the government's option to interfere. Therefore, it is required to find any solution alternatives for development which is not necessary based on budget.

According to SAM, the rate of inter household transfers is between 0.13 percent and 2.33 percent (or an average rate of 1.14 percent). Those figures are considered low if they are confronted with religious conception of an obligation to donate in between 2.5 percent to 10.00 percent for charity. Therefore, there is still considerable gap between current levels (of transfers) to the level requested by the religious teaching.

With regards to that context, the government along with religious scholars, and other relevant stakeholders, could utilize the facts to encourage wider community to increase participation in this good deed. There are rooms for further researches such as on inclusion of discussion of finding sought policies to encourage the increase of inter household transfers.

This research however is still subject to further possible improvement. For example, regarding data source, the unavailability of an official up-to-date SAM as the main database is still an issue, since most updated available official SAM was compiled with data of year 2008. Another improvement should also be made due to the fact that current model does not involve the potential of increasing social capital caused by inter household transfers as well as the potential of increasing endowment factors.

Beside the impact on economic indicators as described in the research, the increase of inter household transfers also has intangible potential to strengthen care and trust among people; leading to a better inter human relationship. Moreover, the increase of inter household transfers also has potential to expand the ownership of endowment factors by low category household, which is in line with the increasing saving power of household. Future research may take into accounts those potential impact of inter household transfers.

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